

13 Appendices

13.1 Lease Agreement

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13.1.1 Lease Number 4245

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

2,923.45 Acres

MULTIPLE AGENCY LEASE AGREEMENT

OKALOACOCHEE SLOUGH

Lease Number 4245

This lease is made and entered in this 20th day of March, 2000, between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, hereinafter referred to as "LESSOR", and the STATE OF FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, hereinafter referred to as the "LEAD AGENCY", and the STATE OF FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, DIVISION OF FORESTRY, hereinafter referred to as the "COOPERATING AGENCY", hereinafter collectively referred to as the "MANAGING AGENCIES".

WITNESSETH:

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

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

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

1. DELEGATIONS OF AUTHORITY: LESSOR'S responsibilities and obligations herein shall be exercised by the Division of State Lands, Department of Environmental Protection.
2. DESCRIPTION OF PREMISES: The property subject to this lease, is situated in the County of Hendry, State of Florida and

is more particularly described in Exhibit "A" attached hereto and hereinafter referred to as the "leased premises".

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

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

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

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

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

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8. MANAGEMENT PLAN: The LEAD AGENCY with assistance from the COOPERATING AGENCY shall prepare and submit a Management Plan for the leased premises, in accordance with Section 253.034, Florida Statutes, and subsection 18-2.021(4), Florida Administrative Code, within twelve months of the effective date of this lease. The Management Plan shall be submitted to LESSOR for approval through the Division of State Lands, Department of Environmental Protection. The leased premises shall not be developed or physically altered in any way other than what is necessary for security and maintenance of the leased premises without the prior written approval of LESSOR until the Management Plan is approved. The Management Plan shall emphasize the original management concept as approved by LESSOR at the time of acquisition which established the primary purpose for which the leased premises were acquired. The approved Management Plan shall provide the basic guidance for all management activities and shall be reviewed jointly by the LEAD AGENCY, COOPERATING AGENCY, Land Management Advisory Committee, and LESSOR at least every five years. The MANAGING AGENCIES 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.

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

10. INSURANCE REQUIREMENTS: The MANAGING AGENCIES shall procure and maintain fire and extended risk insurance coverage in accordance with Chapter 284, F.S., for any buildings and improvements located on the leased premises by preparing and

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delivering to the Division of Risk Management, Department of Insurance, a completed Florida Fire Insurance Trust Fund Coverage Request Form and a copy of this lease immediately upon erection of any structures as allowed by paragraph 4 of this lease. A copy of said form and immediate notification in writing of any erection or removal of structures or other improvements on the leased premises and any changes affecting the value of the improvements shall be submitted to the following: Bureau of Public Land Administration, Division of State Lands, Department of Environmental Protection, Mail Station 130, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000.

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

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

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archaeological and historic sites and properties on the leased premises.

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

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

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

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

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

c. Unless otherwise agreed to by MANAGING AGENCIES, LESSOR shall, at its sole cost and expense, make a diligent effort to resolve all issues pertaining to all title defects, survey matters or environmental contamination associated with the leased premises, including but not limited to trash and debris, which were either known or should have been reasonably known by LESSOR at the time LESSOR acquired the leased premises. Notwithstanding

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the foregoing, LESSOR will not be responsible for any of MANAGING AGENCIES' attorney's fees, costs, or liability or damages incurred by the MANAGING AGENCIES in resolving any issue in which the MANAGING AGENCIES are named as a party in any litigation or other legal or administrative proceeding.

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

16. SURRENDER OF PREMISES: Upon termination or expiration of this lease, the MANAGING AGENCIES shall surrender the leased premises to LESSOR. The MANAGING AGENCIES hereby agree that in the event no further use of the leased premises or any part thereof is needed, written notification shall be made to the Bureau of Public Land Administration, Division of State Lands, Department of Environmental Protection, Mail Station 130, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, at least six months prior to the release of all or any part of the leased premises. Notification shall include a legal description, this lease number and an explanation of the release. The release shall only be valid if approved by LESSOR through execution of a

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release of lease instrument with the same formality as this lease. Upon release of all or any part of the leased premises or upon termination or expiration of this lease, all permanent improvements, including both physical structures and modifications to the leased premises, shall become the property of LESSOR, unless LESSOR gives written notice to the MANAGING AGENCIES to remove any or all such improvements at the expense of the MANAGING AGENCIES. The decision to retain any improvements upon termination of this lease shall be at LESSOR'S sole discretion. Prior to surrender of all or any part of the leased premises, a representative of the Division of State Lands shall perform an on-site inspection and the keys to any buildings on the leased premises shall be turned over to the Division. If the leased premises do not meet all conditions as set forth in paragraphs 19 and 22 herein, the MANAGING AGENCIES shall pay all costs necessary to meet the prescribed conditions.

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

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

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

20. 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.

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

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

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

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

25. 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.

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

27. 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

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"covenants" as though the words specifically expressing or imparting covenants and conditions were used in each separate provision.

28. DAMAGE TO THE PREMISES: (a) MANAGING AGENCIES shall not do, or suffer to be done, in, on, or upon the leased premises or as affecting said leased premises or adjacent properties, any act which may result in damage or depreciation of value to the leased premises or adjacent properties, or any part thereof. (b) MANAGING AGENCIES shall not generate, store, produce, place, treat, release or discharge any contaminants, pollutants or pollution, including, but not limited to, hazardous or toxic substances, chemicals or other agents on, into, or from the leased premises or any adjacent lands or waters in any manner not permitted by law. For the purposes of this lease, "hazardous substances" shall mean and include those elements or compounds defined in 42 USC Section 9601 or which are contained in the list of hazardous substances adopted by the United States Environmental Protection Agency (EPA) and the list of toxic pollutants designated by the United States Congress or the EPA or defined by any other federal, state or local statute, law, ordinance, code, rule, regulation, order or decree regulating, relating to, or imposing liability or standards of conduct concerning any hazardous, toxic, or dangerous waste, substance, material, pollutant or contaminant. "Pollutants" and "pollution" shall mean those products or substances defined in Chapters 376 and 403, Florida Statutes, and the rules promulgated thereunder, all as amended or updated from time to time. In the event of the MANAGING AGENCIES' failure to comply with this paragraph, the MANAGING AGENCIES shall, at their sole cost and expense, promptly commence and diligently pursue any legally required closure, investigation, assessment, cleanup, decontamination, remediation, restoration and monitoring of (1) the leased premises, and (2) all off-site ground and surface waters and lands affected by

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MANAGING AGENCIES' failure to comply, as may be necessary to bring the leased premises and affected off-site waters and lands into full compliance with all applicable federal, state or local statutes, laws, ordinances, codes, rules, regulations, orders and decrees, and to restore the damaged property to the condition existing immediately prior to the occurrence which caused the damage. MANAGING AGENCIES' obligations set forth in this paragraph shall survive the termination or expiration of this lease. Nothing herein shall relieve MANAGING AGENCIES of any responsibility or liability prescribed by law for fines, penalties and damages levied by governmental agencies, and the cost of cleaning up any contamination caused directly or indirectly by MANAGING AGENCIES' activities or facilities. Upon discovery of a release of a hazardous substance or pollutant, or any other violation of local, state or federal law, ordinance, code, rule, regulation, order or decree relating to the generation, storage, production, placement, treatment, release, or discharge of any contaminant, MANAGING AGENCIES shall report such violation to all applicable governmental agencies having jurisdiction, and to LESSOR, all within the reporting period of the applicable governmental agencies.

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

30. RIGHT OF AUDIT: The MANAGING AGENCIES shall make available to LESSOR all financial and other records relating to this lease and LESSOR shall have the right to audit such records at any reasonable time. This right shall be continuous until this lease expires or is terminated. This lease may be terminated by LESSOR

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should the MANAGING AGENCIES fail to allow public access to all documents, papers, letters or other materials made or received in conjunction with this lease, pursuant to Chapter 119, Florida Statutes.

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

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

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

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

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

36. ADMINISTRATIVE FEE: The LEAD AGENCY 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.

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

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

Judy Woodard
Witness

Judy Woodard
Print/Type Witness Name

[Signature]
Witness

Heissa Vickers
Print/Type Witness Name

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

"LESSOR"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 20th day of March, 2000, by Gloria C. Nelson, as Operations and Management Consultant Manager, Bureau of Public Land Administration, Division of State Lands, Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida.



Sylvia S. Roberts
MY COMMISSION # 00354087 EXPIRES
July 25, 2001
BUNDED TIRAU TROY FARM INSURANCE, INC.

Sylvia S. Roberts
Notary Public, State of Florida

Print/Type Notary Name

Commission Number:

Commission Expires:

Approved as to Form and Legality

By: [Signature]
DEP Attorney

STATE OF FLORIDA FISH AND WILDLIFE
CONSERVATION COMMISSION

Brenda Collins
Witness
Brenda Collins
Print/Type Witness Name

By: *Victor J. Heller* (SEAL)

Victor J. Heller
Print/Type Name

Cynthia Ward
Witness
Cynthia Ward
Print/Type Witness Name

Its: ASSISTANT Ex. Director

"LEAD AGENCY"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this
22nd day of February, 2000, by Victor J. Heller, as
Assistant Executive Director, State of Florida Fish and
Wildlife Conservation Commission, who is personally known to me
or who has produced _____ as
identification.

Jimmie C. Bevis
Notary Public, State of Florida

JIMMIE C. BEVIS
Print/Type Notary Name

Commission Number: _____
Commission Expires: _____
Jimmie C. Bevis
MY COMMISSION # CC022882 EXPIRES
December 28, 2001
BONDED THROUGH FAIR INSURANCE, INC.

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY
Jimmie C. Bevis
Notary Public

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

By: Mike Gresham (SEAL)

Mike Gresham
Type/Print Name

Its: Director of Administration

"COOPERATING AGENCY"

Ben C. Brown
Witness

Ben C. Brown
Print/Type Witness Name

Susie P. Burch
Witness

Susie P. Burch
Print/Type Witness Name

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this
7th day of March, 2000, by MIKE GRESHAM,
as DIRECTOR OF ADMINISTRATION, Division of Forestry, State of
Florida Department of Agriculture and Consumer Services, who is
personally known to me or who has produced
_____ as identification.



Karen A. Meyer
MY COMMISSION # CC588277 EXPIRES
October 20, 2000
BONDED TWENTY THOUSAND DOLLAR INSURANCE, INC.

Karen A. Meyer
Notary Public, State of Florida

KAREN A. MEYER
Print/Type Notary Name

Commission Number:

Commission Expires:

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13.1.2 Legal Description

Exhibit "A"
(Premises)

Tract No. L1-100-012

A parcel of land located in portions of Sections 20, 21, 22, 23, 26, 27, 28, 33 and 34, Township 44 South, Range 30 East in Hendry County, Florida.

Commencing at the Northwest corner of said Section 20; thence along the North boundary line of said Section 20 a distance of 1745.27 feet; thence South 00°14'30" West a distance of 50.00 feet to the South boundary line of the right-of-way of Sears Road and the POINT OF BEGINNING of this description; thence continue South 00°14'30" West a distance of 3836.83 feet; thence South 89°47'14" East a distance of 3349.85 feet; thence South 31°13'10" East a distance of 1565.02 feet; thence South 32°19'45" East a distance of 1421.49 feet; thence South 27°44'17" East a distance of 4505.44 feet; thence South 51°17'07" East a distance of 2279.99 feet; thence South 41°31'25" East a distance of 1179.06 feet; thence South 80°19'30" East a distance of 1033.60 feet; thence South 87°50'05" East a distance of 863.62 feet; thence North 33°31'12" East a distance of 56.70 feet; thence North 23°37'14" East a distance of 161.33 feet; thence North 10°43'53" East a distance of 478.28 feet; thence North 10°07'34" East a distance of 776.39 feet; thence North 12°06'03" East a distance of 196.98 feet; thence North 30°08'54" East a distance of 141.35 feet; thence North 40°50'16" East a distance of 462.41 feet; thence North 34°33'51" East a distance of 187.35 feet; thence North 17°30'23" East a distance of 180.28 feet; thence North 12°54'56" East a distance of 550.45 feet; thence North 25°29'25" East a distance of 161.11 feet; thence North 29°47'37" East a distance of 688.86 feet; thence North 29°26'56" East a distance of 1377.24 feet; thence North 36°53'55" East a distance of 131.80 feet; thence North 50°41'42" East a distance of 154.16 feet; thence North 61°52'25" East a distance of 1329.13 feet; thence North 52°58'38" East a distance of 160.00 feet; thence North 41°07'41" East a distance of 201.35 feet; thence North 26°07'56" East a distance of 223.43 feet; thence North 19°00'58" East a distance of 1230.11 feet; thence North 04°51'29" East a distance of 154.83 feet; thence North 08°00'22" West a distance of 174.16 feet; thence North 17°21'27" West a distance of 282.71 feet; thence North 14°18'31" West a distance of 170.41 feet; thence North 09°11'38" West a distance of 1105.01 feet; thence North 09°14'11" West a distance of 1273.11 feet; thence North 05°54'47" West a distance of 125.23 feet; thence North 04°15'27" East a distance of 130.43 feet; thence North 10°33'25" East a distance of 788.75 feet; thence North 03°00'23" East a distance of 150.00 feet; thence North 02°44'04" West a distance of 678.07 feet; thence North 09°15'57" West a distance of 145.29 feet; thence North 28°00'57" West a distance of 122.67 feet; thence North 36°43'12" West a distance of 508.38 feet; thence North 02°26'31" West a distance of 119.08 feet to an intersection with the said South right-of-way line of Sears Road;

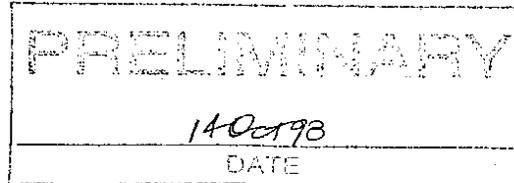


Exhibit "A"
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thence along said right-of-way line South 88°43'17" West a distance of 903.43 feet; thence continuing along said right-of-way line South 88°50'34" West a distance of 5303.03 feet; thence continuing along said right-of-way line South 88°51'12" West a distance of 5299.78 feet; thence continuing along said right-of-way line South 89°19'25" West a distance of 3387.60 feet to the said POINT OF BEGINNING of this description.

Containing 2923.45 acres, more or less.

Exhibit "A"
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OKA\Alico to TIF (Game & Fresh Water Fish Comm.)

H:\data\oka\100-012-premises-exhibit A.lgl
October 13, 1998

13.1.3 Establishment Orders

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Establishment Order No.: WMA I 02-19

Okaloacoochee Slough Type I
Wildlife Management Area

The Fish and Wildlife Conservation Commission of the State of Florida, under Article IV, Section 9 of the Florida Constitution and the rules and regulations of the Commission, hereby re-establishes the Okaloacoochee Slough Type I Wildlife Management Area in Hendry and Collier counties, Florida, with the following described area:

The legal description for the Okaloacoochee Slough Type I Wildlife Management Area are located within the Fish and Wildlife Conservation Commission (FWC) Contract Number 99162 with the Board of Trustees (BOT) executed March 20, 2000 (BOT Lease Number 4245); FWC Contract Number 99226 with the Board of Trustees executed May 4, 2000 (BOT Lease Number 4246) and Contract Number 99227 with the Board of Trustees and the South Florida Water Management District (50% interest) executed July 14, 2000 (BOT Lease Number 4247) and a Letter from Department of Agriculture and Consumer Services, Division of Forestry requesting addition. Legal descriptions for all properties within the leases and the request are located in Central Files of the FWC as well as the Division of State Lands for the BOT.

<u>Lease 4245 FWC Lead Manager</u>	<u>2,923 Acres</u>
<u>Lease 4246 DOF Lead Manager</u>	<u>9,784 Acres</u>
<u>Lease 4247 DOF Lead Manager</u>	<u>19,455 Acres</u>
<u>Request from DOF to add land</u>	<u>2,560 Acres New for Sep. 2002</u>

All lands comprising approximately 34,722 acres and posted as a Type I Wildlife Management Area.

Authority: Article IV, Section 9, Florida Constitution
History: New WMA I 99-25; WMA I 02-19
Effective Date: September 6, 2002

GIVEN UNDER MY HAND AND SEAL OF
THE FISH AND WILDLIFE CONSERVATION
COMMISSION OF THE STATE OF FLORIDA
THIS 6th DAY OF SEPTEMBER, 2002.


Kenneth D. Haddad
Executive Director

Establishment Order No.: WMA I 99-25

Okaloacoochee Slough Type I
Wildlife Management Area

The Fish and Wildlife Conservation Commission of the State of Florida, under Article IV, Section 9 of the Florida Constitution and the rules and regulations of the Commission, has established the Okaloacoochee Slough Type I Wildlife Management Area in Hendry and Collier counties, Florida, with the following described area:

Tract No. L1-100-001, 15,819.17 Acres

A parcel of land situate in Hendry County, Florida, more particularly described as follows: All that portion of Sections 24, 25 and 36, Township 44 South, Range 29 East, said Hendry County, lying Easterly of the former Atlantic Coast Railroad right of way.

TOGETHER WITH: The west half (W ½) of Section 19, Sections 29, 30, 31 and 32, Township (T) 44 South (S), Range (R) 30 East (E)

TOGETHER WITH: All that portion of Sections 1, 12, 13 and the North (N) ½ of Section 24, T45S, R29E, Hendry County, lying Easterly of the former Atlantic Coast Line Railroad right of way less the right of way for County Road S-832.

TOGETHER WITH: The W ½ of Section 5, and that portion of the E ½ of Section 5 lying Northerly of the Northerly right of way line of State Road S-832, Sections 6, 7, the W ½ of Section 8, Sections 17, 18, 19, 20, 21, the W ½ of section 22, Sections 27, 28, 29, the N ½ of Section 30, The E ½ of Section 32, Sections 33, 34, 35 and 36, T 45 S, R 30 E, said Hendry County, less the right of way for County Road S-832.

TOGETHER WITH: The W ½ of Section 31, T 24 S, R 31 E, Hendry County

TOGETHER WITH: All that portion of Sections 24, 25 and 36, T 44 S, R 29 E, and Sections 1, 12, 13 and the N ½ of Section 24, T 45 S, R 29 E, Hendry County, Florida lying within those certain parcels described in OR Book 345, pages 679 through 683, and OR Book 445, pages 420 through pages 428, Public Records of Hendry County.

Tract No. L1-100-002, 3,635.06 Acres

Lands situated in Collier County, Florida, in Township 46 South, Range 30 East:

Beginning at a concrete monument marking the common township corner which is the Southeast corner of Township 45 South of Range 30 East; the Southwest corner of Township 45 South of Range 33. East the Northeast corner of Township 46 South of Range 30 East and the Northwest corner of Township 46 South of Range 31 East; thence Southerly along the East boundary of Township 46 South of Range 30 East, South 0°52'54" East a distance of 10,610.76 feet to a concrete monument; thence continuing South 0°52'54" E a distance of 468.98 feet to a concrete monument (and an existing old barbed wire fence); thence westerly along said barbed wire fence for the following five (5) courses:

Bearings	Distance (ft)	Monument
S 89°59'25" W	2,333.98 to	Found conc. mon.
S 89°45'13" W	2,654.70 to	Found conc. mon.
S 89°46'11" W	2,656.49 to	Found conc. mon.
S 89°24'21" W	2,657.14 to	Found conc. mon.
N 89°42'35" W	2,745.92 to	Found conc. mon.

thence North 0°17'25" East leaving the old barbed wire fence a distance of 5,644.35 feet to a concrete monument; thence North 02°23'33" East a distance of 2,693.75 feet to a 1-1/4" metal pipe; thence North 87°25'28" West a distance of 2,810.00 feet to a concrete monument; thence North 89°53'14" West a distance of 2,667.50 feet to a concrete monument; thence North 08°47'26" West a distance of 2,670.77 feet to a 1-1/4" metal pipe marking the South one quarter corner (SW corner of SE 1/4 and SE corner of the SW 1/4) of Section 33, Township 45 South of Range 30 East (which point is also on the North boundary line of Township 46 South of Range 30 East); thence Easterly along the said North line of Township 46 South of Range 30 East, being North 89°58'32" E a distance of 18,619.29 feet to the Point of Beginning. containing 3,635.06 acres, more or less.

Bearings based on the east boundary line of Township 46 South, Range 30 East, being assumed at S 0°52'54" E.

Tract No. L1-100-008. North of County Road 832 (Keri Road), 1,913.0 Acres

A parcel of land located in portions of Sections 19, 20, 21, 28, 33 and 34, Township 44 South, Range 30 East and in Sections 3 and 4 in Township 45 South, Range 30 East in Hendry County, Florida.

Commencing at the Northwest corner of said Section 20; thence along the North boundary line of said Section 20 a distance of 1745.27 feet; thence South 00°14'30" West a distance of 50.00 feet to the South boundary line of the right-of-way of Sears Road and the POINT OF BEGINNING of this description; thence continuing South 00°14'30" West a distance of 3836.83 feet; thence South 89°47'14" East a distance of 3349.85 feet to an intersection with the Section line between said Sections 20 and 21; thence South 31°13'10" East a distance of 1565.02 feet to an intersection with the Section line between said Sections 21 and 28; thence South 32°19'45" East a distance of 1421.49 feet; thence South 27°44'17" East a distance of 4505.44 feet to an intersection with the Section line between said Sections 28 and 33; thence South 51°17'07" East a distance of 2279.99 feet to an intersection with the Section line between said Sections 33 and 34; thence South 41°31'25" East a distance of 1179.06 feet; thence South 80°19'30" East a distance of 1033.60 feet; thence South 87°50'05" East a distance of 863.62 feet; thence South 33°31'12" West a distance of 1402.46 feet; thence South 39°42'57" West a distance of 147.92 feet; thence South 46°20'38" 1284.09 feet; thence South 38°24'49" West a distance of 1562.64 feet; thence South 46°42'12" West a distance of 203.58 feet; thence South 59°47'56" West a distance of 988.65 feet; thence South 56°55'25" West a distance of 631.01; thence South 49°25'02" West a distance of 773.87 feet; thence South 31°24'08" West a distance of 178.02 feet; thence South 18°28'53" West a distance of 314.81 feet; thence South 05°05'04" West a distance of 555.08 feet; thence South 09°40'35" feet; thence South West a distance of feet; thence South West a distance of feet; thence South 09°40'35" West a distance of feet; thence South West a distance of 93.64 feet; thence South 23°27'40" West a distance of 89.19 feet to an intersection with the Northerly right-of-way of County Road No.832 (Keri Road); thence along said right-of-way of County Road No.832, North 60°31'34" West a distance of 654.86 feet to the beginning of a curve, concave Southwesterly, having a radius of 11,509.16 feet, whose long chord bears North 62°34'54" West; thence Northwesterly along the arc of said curve a distance of 825.69 feet, through a central angle of 04°06'38"; thence continuing along said right-of-way of County Road No.832, North 64°38'13" West a distance of 1135.48 feet to the beginning of a curve, concave Northeasterly, having a radius of 5679.58 feet, whose long chord bears North 62°4'02" West, thence Northwesterly along the arc

of said curve a distance of 443.43 feet, through a central angle of 04°28'24" to an intersection with the West boundary line of said Section 4; thence non-tangent and non-radial to the aforementioned curve, North 00°25'16" West along the West boundary line of said Section 4 a distance of 1934.55 feet to the Northwest corner of said Section 4; thence North 01°01'49" West along the West boundary line of said Section 33 a distance of 5210.53 feet to the Northwest corner of said Section 33; thence North 01°18'37" West along the West boundary line of said Section 28 a distance of 5211.06 feet to the Northwest corner of said Section 28; thence North 89°38'26" West along the South boundary line of said Section 20 a distance of 5345.81 feet to the Southwest corner of said Section 20; thence South 89°31'08" West along the South boundary line of said Section 19 a distance of 2663.96 feet to the South quarter corner of said Section 19; thence North 00°54'56" East along the North-South quarter Section line of said Section 19 a distance of 5181.39 feet to an intersection with the South boundary line of the right-of-way of said Sears Road; thence North 89°25'57" East along said South boundary line of the right-of-way of Sears Road, said line being parallel and 50.00 feet South of the North boundary line of said Section 19, a distance of 2867.18 feet; thence South 89°19'25" East along said South boundary line of the right-of-way of Sears Road, said line being parallel and 50.00 feet South of the North boundary line of said Section 20, a distance of 1745.27 feet to the said POINT OF BEGINNING of this description.

Containing 1913.00 acres, more or less.

Tract No. L1-100-008. South of County Road 832 (Kerri Road), 5,249.06 Acres
Parcel of land in portions of Sections 3, 4, 5, 8, 9, 10, 11, 14, 15, 16, 22, 23, 25 and 26 in Township 45 South, Range 30 East, Hendry County, Florida.

Beginning at the Southwest corner of said Section 25, thence North 89°46'16" East along the South boundary line of said Section 25 a distance of 1406.50 feet; thence North 48°59'48" West a distance of 199.87 feet; thence South 80°25'17" West a distance of 803.28 feet; thence North 59°24'41" West a distance of 627.22 feet; thence North 73°29'26" West a distance of 255.78 feet; thence North 50°03'48" West a distance of 235.25 feet; thence North 12°10'47" East a distance of 463.37 feet; thence North 02°29'03" East a distance of 538.46 feet; thence North 01°40'28" West a distance of 1004.39 feet; thence North 27°26'09" West a distance of 419.77 feet; thence North 19°09'42" West a distance of 827.90 feet; thence North 25°37'06" West a distance of 1748.65 feet; thence North 38°17'20" West a distance of 687.36 feet; thence North 19°50'50" West a distance of 1654.83 feet; thence North 23°45'15" East a distance of 407.37 feet; thence North 58°32'25" East a distance of 313.82 feet; thence North 41°33'02" East a distance of 208.32 feet; thence North 14°41'41" East a distance of 606.90 feet; thence North 10°35'41" West a distance of 526.10 feet; thence North 70°50'31" West a distance of 812.11 feet; thence North 03°04'31" East a distance of 646.27 feet; thence North 45°09'56" East a distance of 890.59 feet; thence North 42°28'06" East a distance of 500.47 feet; thence North 25°39'48" East a distance of 1511.54 feet; thence North 29°34'18" West a distance of 798.00 feet; thence North 40°36'56" West a distance of 1175.21 feet; thence North 03°18'36" East a distance of 1776.89 feet; thence North 20°01'59" West a distance of 757.90 feet; thence North 26°17'58" West a distance of 1764.33 feet; thence North 28°59'45" West a distance of 637.51 feet; to an intersection with the Southerly right-of-way line of County Road No. 832 (Kerri Road); thence along said right-of-way line of County Road No. 832, North 63°08'31" West a distance of 6175.66 feet to the beginning of a curve of said

right-of-way line, concave Southwesterly, having a radius of 5679.58 feet, whose long chord bears North 66°56'32" West, thence Northwesterly along the arc of said curve a distance of 753.42 feet, through a central angle of 07°36'02"; thence continuing along said right-of-way line North 70°44'35" West a distance of 1028.75 feet to the beginning of a curve of said right-of-way line, concave Southwesterly, having a radius of 11,409.16 feet, whose long chord bears North 71°54'05" West, thence Northwesterly along the arc of said curve a distance of 461.31 feet, through a central angle of 02°19'00"; thence continuing along said right-of-way line North 73°03'35" West a distance of 1235.68 feet to the beginning of a curve of said right-of-way line, concave Northeasterly, having a radius of 2914.79 feet, whose long chord bears North 66°47'34" West, thence Northwesterly along the arc of said curve a distance of 637.60 feet, through a central angle of 12°32'00"; thence continuing along said right-of-way line North 60°31'34" West a distance of 1336.36 feet to the beginning of a curve of said right-of-way line, concave Southwesterly, having a radius of 11,409.16 feet, whose long chord bears North 62°34'54" West, thence Northwesterly along the arc of said curve a distance of 818.51 feet, through a central angle of 04°06'38"; thence continuing along said right-of-way line North 64°38' 13" West a distance of 1135.48 feet to the beginning of a curve of said right-of-way line, concave Northeasterly, having a radius of 5779.58 feet, whose long chord bears North 60°20'28" West, thence Northwesterly along the arc of said curve a distance of 866.70 feet, through a central angle of 08°35'31"; thence continuing along said right-of-way line North 56°02'42" West a distance of 612.17 feet to the beginning of a curve of said right-of-way line, concave Northeasterly, having a radius of 5139.07 feet, whose long chord bears North 52°53'08" West, thence Northwesterly along the arc of said curve a distance of 535.97 feet, through a central angle of 05°58 '32"; thence continuing along said right-of-way line North 49°44'43" West a distance of 388.20 feet to the beginning of a curve of said right-of-way line, concave Southwesterly, having a radius of 1117.96 feet, whose long chord bears North 63°13'34" West, thence Northwesterly along the arc of said curve a distance of 526.59 feet, through a central angle of 26°59'17"; thence continuing along said right-of-way line North 76°38' 17" West a distance of 588.97 feet to an intersection with the North-South quarter line of said Section 5; thence South 00°23'32" East along the said North-South quarter line of said Section 5 a distance of 4802.11 feet to the South quarter corner of said Section 5; thence along the North-South quarter line of said Section 8, South 00°31'05" East a distance of 5311.55 feet to the South quarter corner of said Section 8; thence along the South boundary line of said Section 8, North 89°39'47" East a distance of 2664.81 feet to the Southeast corner of said Section 8; thence along the West boundary line of said Section 16, South 00°19'34" East a distance of 5315.19 feet to the Southwest corner of said Section 16; thence along the South boundary line of said Section 16, South 89°57'59" East a distance of 5320.22 feet to the Northwest corner of said Section 22; thence along the North boundary line of said Section 22, North 89°45'44" East a distance of 2661.44 feet to the North quarter corner of said Section 22; thence along the North-South quarter line of said Section 22, South 00°25'52" East a distance of 5316.66 feet to the South quarter corner of said Section 22; thence along the South boundary line of said Section 22, North 89°49'58" East a distance of 2665.66 feet to the Southeast corner of said Section 22; thence along the West boundary line of said Section 26, South 0°25'13" East a distance of 5319.95 feet to the Southwest corner of said

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Section 26; thence along the South boundary line of said Section 26, North 89°59'32" East a distance of 5323.52 feet to the said Southwest corner of said Section 25 and the POINT OF BEGINNING of this description.

Containing 5269.06 acres, more or less.

LESS and EXCEPT the following parcel:

Parcel of land in Section 4, Township 45 South, Range 30 East, in Hendry County, Florida.

Commencing at the Northwest corner of said Section 4; thence South 0°25'16" East along the West boundary line of said Section 4 a distance of 2064.82 feet; thence South 64°38'13" East a distance of 1021.92 feet to the POINT OF BEGINNING of this description, this point being on the South boundary line of the right-of-way line of County Road No. 832 Kerri Road); thence continuing South 64°38'13" East along said right-of-way line a distance of 499.88 feet to the beginning of a curve of said right-of-way line, concave Southwesterly, having a radius of 11,409.16 feet, whose long chord bears South 62°34'54" East, thence Southeasterly along the arc of said curve a distance of 818.51 feet, through a central angle of 04°06'38"; thence South 60°31'34" East continuing along said right-of-way line a distance of 91.46 feet; thence South 26°51'20" West a distance of, 608.35 feet; thence North 63°08'40" West a distance of 1409.37 feet; thence North 26°51'20" East a distance of 607.55 feet to the said POINT OF BEGINNING of this description.

Containing 20.00 acres, more or less.

Containing a net area (5269.06 - 20.00) equal to 5249.06 acres.

Tract No. L1-100-013, 1,486.59 Acres

That Portion of the South half of Section 24, Township 45 South, Range 29 East, East of the Right-of-Way of the Atlantic Coast Line Railroad described in Official Record Book 345, pages 679 to 683, of the Public Records of Hendry County, Florida. (This right-of-way is now abandoned).
Containing 252.74 Acres.

TOGETHER WITH:

That Portion of the North half of Section 25, Township 45 South, Range 29 East, East of the Right-of-Way of the Atlantic Coast Line Railroad described in Official Record Book 345, pages 679 to 683, of the Public Records of Hendry County, Florida (This right-of-way is now abandoned).
Containing 267.54 Acres.

TOGETHER WITH:

That Portion of the South half of Section 25, Township 45 South, Range 29 East, East of the Right-of-Way of the Atlantic Coast Line Railroad described in Official Record Book 345, pages 679 to 683, of the Public Records of Hendry County, Florida (This right-of-way is now abandoned).

LESS

The south 1009.89 feet thereof.
Containing 173.47 Acres.

TOGETHER WITH:

The South half of Section 30, Township 45 South, Range 30 East.
Containing 312.36 Acres.

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TOGETHER WITH:

The Northeast quarter of Section 31, Township 45 South, Range 30 East.
Containing 156.01 Acres.

TOGETHER WITH:

The Northwest quarter of Section 32, Township 45 South, Range 30 East.
Containing 162.30 Acres.

TOGETHER WITH:

The Southwest quarter of Section 32, Township 45 South, Range 30 East.
Containing 162.17 Acres. All in Hendry County, Florida
Containing a total of 1486.59 acres.

Tract No. L1-100-014, 1,073.41 Acres

A parcel of land in Township 46 South, Range 30 East, lying in Collier County, Florida, described as follows:

Beginning at the South quarter corner of Section 33, Township 45 South, Range 30 East, thence Westerly along the Township line common to Township 45 South and Township 46 South, for the following three courses, South 89°58'32" West, a distance of 2,659.90 feet to the Southwest corner of said Section 33; thence continuing South 89°58'32" West, a distance of 2,659.90 feet to the South quarter corner of Section 32; thence continuing South 89°58'32" West, a distance of 50.00 feet; thence South 0°01'28" East, a distance of 50.00 feet; thence North 89°58'32" East, a distance of 520.13 feet to an existing fence leading Southerly; thence along said fence South 02°46'32" West, a distance of 1,911.91 feet; thence continuing along said fence South 65°10'51" West, a distance of 870.39 feet; thence continuing along said fence and its extension South 08°08'25" East, a distance of 1,135.13 feet; thence: North 89°41'57" West, a distance of 593.67 feet; thence South 0°18'03" West, a distance of 1,951.97 feet; thence South 89°41'57" East, a distance of 11,945.94 feet; thence North 02°23'33" East, a distance of 2,693.75 feet; thence North 87°25'28" West, a distance of 2,810.00 feet; thence North 89°53'14" West, a distance of 2,667.50 feet; thence North 08°47'26" West, a distance of 2,670.77 feet to the POINT OF BEGINNING.

Containing 1073.41 acres, more or less.

Tract No. L1-100-015, 62.03 Acres

A 130 foot wide strip of land over and across portions of Sections 1, 12, 13, 24 and 25 in Township 45 South, Range 29 East, situated in the same physical location as the former Atlantic Coast Line Railroad right-of-way (now abandoned), as described in Official Records Book 445, Pages 420 to 428, Hendry County Public Records.

Said strip located South of the "Woodyard" parcel as described below and extending South to a line located 1009.89 feet North of and parallel with the South line of said Section 25. All in Hendry County, Florida.

Containing 62.03 acres, more or less.

"Woodyard" Parcel

Parcel of land in portion of Section 1, Township 45 South, Range 29 East, Hendry County, Florida, described as follows:

Begin at the intersection of the North line of the Southwest quarter of said Section 1 with the West right-of-way line of the former Atlantic Coast Line Railroad; thence, Southerly, along said West right-of-way line, a distance of

2300 feet; thence, Easterly, along a line lying perpendicular to said West right-of-way line, a distance of 400 feet; thence, Northerly, along a line 400 feet East of and parallel with said West right-of-way line, a distance of 1500 feet, more or less, to a point on a line lying 1300 feet Southerly of and parallel with the Southerly right-of-way line of County Road 832; thence, Northeasterly, along said line, a distance of 600 feet; thence, Northwesterly, along a line lying perpendicular to said Southerly right-of-way line, a distance of 1300 feet to a point on said Southerly right-of-way line; thence, Southwesterly, along said Southerly right-of-way line, a distance of 500 feet, more or less, to a point on said West right-of-way line of said former Atlantic Coast Line Railroad; thence, Southerly, along said West right-of-way line, a distance of 550 feet, more or less, to the POINT OF BEGINNING.

Tract No. L1-100-12, 2,923.45 Acres

A parcel of land located in portions of Sections 20, 21, 22, 23, 26, 27, 28, 33 and 34, Township 44 South, Range 30 East in Hendry County, Florida.

Commencing at the Northwest corner of said Section 20; thence along the North boundary line of said Section 20 a distance of 1745.27 feet; thence South 00°14'30" West a distance of 50.00 feet to the South boundary line of the right-of-way of Sears Road and the POINT OF BEGINNING of this description; thence continue South 00°14'30" West a distance of 3836.83 feet; thence South 89°47'14" East a distance of 3349.85 feet to an intersection with the Section line between said Sections 20 and 21; thence South 31°13'10" East a distance of 1565.02 feet to an intersection with the Section line between said Sections 21 and 28; thence South 32°19'45" East a distance of 1421.49 feet; thence South 27°44'17" East a distance of 4505.44 feet to an intersection with the Section line between said Sections 28 and 33; thence South 51°17'07" East a distance of 2279.99 feet to an intersection with the Section line between said Sections 33 and 34; thence South 41°31'25" East a distance of 1179.06 feet; thence South 80°19'30" East a distance of 1033.60 feet; thence South 87°50'05" East a distance of 863.62 feet; thence North 33°31'12" East a distance of 56.70 feet; thence North 23°37'14" East a distance of 161.33 feet; thence North 10°43'53" East a distance of 478.28 feet; thence North 10°07'34" East a distance of 776.39 feet; thence North 12°06'03" East a distance of 196.98 feet; thence North 30°08'54" East a distance of 141.35 feet; thence North 40°50'16" East a distance of 462.41 feet; thence North 34°33'51" East a distance of 187.35 feet; thence North 17°30'23" East a distance of 180.28 feet; thence North 12°54'56" East a distance of 550.45 feet; thence North 25°29'25" East a distance of 161.11 feet; thence North 29°47'37" East a distance of 688.86 feet; thence North 29°26'56" East a distance of 1377.24 feet; thence North 36°53'55" East a distance of 131.80 feet; thence North 50°41'42" East a distance of 154.16 feet; thence North 61°52'25" East a distance of 1329.13 feet; thence North 52°58'38" East a distance of 160.00 feet; thence North 41°07'41" East a distance of 201.35 feet; thence North 26°07'56" East a distance of 223.43 feet; thence North 19°00'58" East a distance of 1230.11 feet; thence North 04°51'29" East a distance of 154.83 feet; thence North 08°00'22" West a distance of 174.16 feet; thence North 17°21'27" West a distance of 282.71 feet; thence North 14°18'31" West a distance of 170.41 feet; thence North 09°11'38" West a distance of 1105.01 feet; thence North 09°14'11" West a distance of 1273.11 feet; thence North 05°54'47" West a distance of 125.23 feet; thence North 04°15'27" East a distance of 130.43 feet; thence North 10°33'25" East a distance of 788.75 feet; thence North 03°00'23" East a distance of 150.00 feet; thence North 02°44'04" West a distance of 678.07 feet; thence North 09°15'57" West a distance of 145.29 feet; thence North 28°00'7" West a distance of 122.67 feet; thence North 36°43'2" West a distance of 508.38 feet; thence North 02°26'1" West a distance of 119.08 feet to an intersection with the said

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Southern right-of-way line of Sears Road; thence along said right-of-way line South 88°43'7" West a distance of 903.43 feet; thence continuing along said right-of-way line South 88°50'5" est a distance of 5303.03 feet; thence continuing along said right-of-way line South 88°51'12" West a distance of 5299.78 feet; thence continuing along said right-of-way line North 89°19'25" West a distance of 3387.60 feet to the said POINT OF BEGINNING of this description.

All lands comprising approximately 32,162 acres and posted as a Type I Wildlife Management Area.

Authority: Article IV, Section 9, Florida Constitution

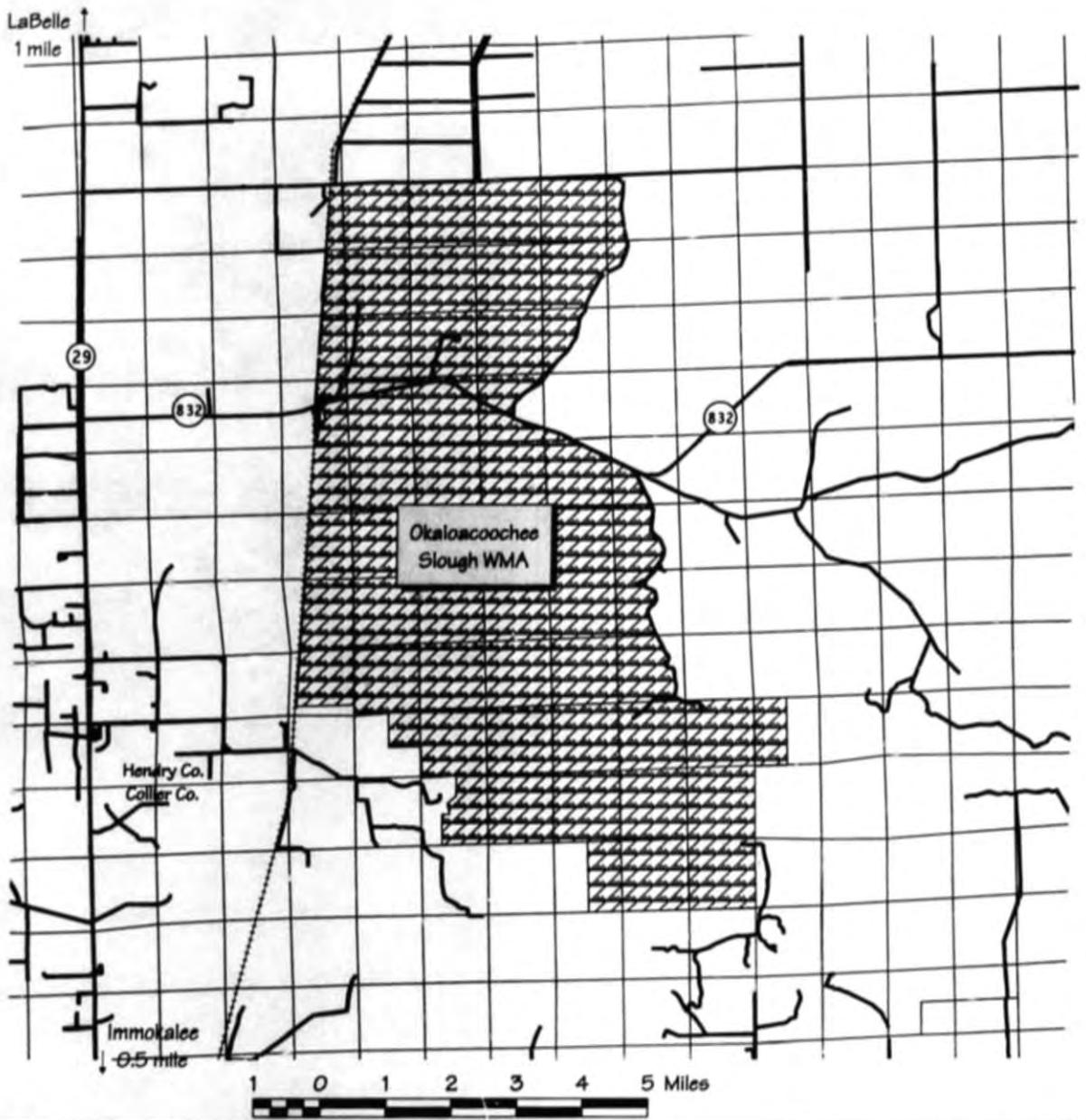
History: New WMA I 99-25

Effective Date: October 10, 1999

GIVEN UNDER MY HAND AND SEAL OF
THE FISH AND WILDLIFE
CONSERVATION COMMISSION OF THE
STATE OF FLORIDA THIS 10th DAY
OF October, 1999.


Allan L. Egbert, Ph.D.
Executive Director

g:\share\I99-25



<p>LEGEND</p> <ul style="list-style-type: none"> County line Sections Roads Railroads Okaloacoochee Slough WMA 	<p>Acreage</p> <p>Okaloacoochee Slough Wildlife Management Area 32,162</p>	<p>Hendry Co. Collier Co.</p>
	<p>Location of the Okaloacoochee Slough Wildlife Management Area, Hendry and Collier counties. Boundaries are approximate.</p>	

13.2 Public input

13.2.1 Management Advisory Group Meeting Results

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**Okaloacoochee Slough Wildlife Management Area (OSWMA)
Management Advisory Group (MAG)
Consensus Meeting Results**

April 11, 2012 in Clewiston, Florida

The intent of convening a consensus meeting is to involve a diverse group of stakeholders in assisting the Florida Fish and Wildlife Conservation Commission (FWC) in **development of a rational management concept for lands within the agency’s managed area system**. FWC does this by asking spokespersons for these stakeholders to participate in a half-day meeting to provide ideas about how FWC-managed lands should be protected and managed.

The OSWMA consensus meeting was held on the morning of April 11, 2012 at the John B. Boy Auditorium in Clewiston, Florida in Hendry County. The ideas found below were provided by stakeholders for consideration in the 2012 - 2022 Management Plan (MP) for OSWMA with priority determined by vote. These ideas represent a valuable source of information to be used by biologists, planners, administrators, and others during the development of the MP. Upon approval by FWC, the Acquisition and Restoration Council (ARC), and the Trustees of the Internal Improvement Trust Fund (Governor and Cabinet), the OSWMA MP will guide the activities of FWC personnel over the ten-year duration of the management plan and will help meet agency, state, and federal planning requirements.

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

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

<u>Rank</u>	<u># of Votes</u>	<u>Score</u>	<u>Idea</u>
1.	[8]	[15]	1. Develop an exotic species plan and continue to treat exotic plant species for restoration of fish and wildlife. FWC treats Class I and II exotics and has started taking on torpedo grass and pasture grasses. This should be a high priority.

<u>Rank</u>	<u># of Votes</u>	<u>Score</u>	<u>Idea</u>
2.	[6]	[15]	9. Continued prescribed burning with an emphasis on scale size to create a landscape mosaic effect. Burning is one of the most important things we can do to maintain native species and it is becoming more and more difficult to do. We need to conduct prescribed burning at a scale and mosaic that is appropriate for ground nesting birds.
3.	[4]	[16]	15. Allow for continuity of users and purposes for this area and surrounding public land and create a combined user map for the region's public areas. We need to make sure we have connectivity between the various public areas in the region with regard to trails and recreational facilities. Parking, for example, can be provided in one location with trail connections to other areas, without having to provide parking at all areas.
4.	[3]	[5]	12. Provide recreational use and access simultaneously without time or space separation. Non-consumptive users do not need to be afraid to use the area at the same time as consumptive users and all users can co-exist at the same time on the area.
5.	[3]	[9]	4. Restore natural communities and re-plant native vegetation. FWC has done a great job removing exotics, but also needs to bring back native plants. That will also help keep exotics out.
6.	[3]	[10]	16. Develop a hydrologic plan and manage the area to restore and protect the OK Slough watershed including restoration of the ditches, trails and berms. The primary purpose for acquisition of OK Slough WMA was to protect the slough and we need to continue to make sure we do that and that it's a priority.
7.	[3]	[11]	24. Increase level of land management staffing on the area. Self explanatory.

<u>Rank</u>	<u># of Votes</u>	<u>Score</u>	<u>Idea</u>
8.	[2]	[6]	20. Provide adequate parking areas including increasing number of pull-overs along roads and providing educational kiosks. Clearly mark and maintain hiking trails. It's not just about adequate car parking, but we need to provide parking compatible for trailers.
9.	[2]	[7]	25. Implement WCPR program for focal and imperiled plant and animal species as well as game species management and monitoring and exotic animal monitoring and control as needed. We need to do survey and monitoring for imperiled species, but also need to consider focal and some game species, such as hog and deer.
10.	[2]	[10]	2. Increase the level of public use and access to better relationships for all stakeholders. Self explanatory.
11.	[1]	[2]	7. Increase the level of public outreach on the area and create partnerships with user organizations. We need to make public aware of the unique features of OSWMA.
12.	[1]	[5]	11. Provide nest boxes/structures for birds and bats. This would be a way to improve and provide habitat for cavity nesting birds as well as bats. Bluebirds, wood ducks, barn owls and bats would be the primary species. Ideally, it would be where the birds and bats could be viewed by the public.

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

3. **Build a wildlife viewing tower.** One of largest roosts of tree swallows with thousands of swallows is north of OK Slough on Collins Slough and a wildlife viewing tower would help people view/document these swallows.
5. **Protect fish and wildlife species for the benefit of the public in perpetuity.** Self explanatory.

<u>Rank</u>	<u># of Votes</u>	<u>Score</u>	<u>Idea</u>
			10. Increase the amount of youth programs. Self explanatory.
			19. Consider hunting quota analysis and adjustment. Self explanatory.
			21. Increase law enforcement presence on area. A greater presence of law enforcement will both provide law enforcement duties and provide positive public interaction.
			26. Increase educational awareness in traditional settings. State agency staff should be involved with traditional educational settings, such as school career days and 4H clubs.
			28. Allow for exploratory drilling for minerals. Self explanatory.

**Okaloacoochee Slough Wildlife Management Area
MAG Meeting Participants**

Name

Affiliation

Active Participants

Jean McCollom	FWC Area Biologist
Commissioner Karson Turner	Hendry County Commission
Sarah Catala	Hendry County Planning and Zoning Department
Jeanne Cornele	Sunshine State Horse Council
Margaret England	Birding Audubon (Hendry-Glades)
Sherry Furnari	Florida Trail Association – Alligator Amblers
Ricky Lackey	National Wild Turkey Foundation – Florida Chapter
Byron Maharrey	Everglades Coordinating Council
Dexter Sowell	Florida Forest Service

Supportive Participants

Michael Anderson	FWC Habitat and Species Conservation (HSC), Regional Biologist
Beth Morford	FWC HSC, District Biologist
Sarah Franklin	FWC HSC, Conservation Biologist

Invited but Unable to Attend

Lt. Pam Steelman	FWC, Law Enforcement
Kim Willis	South Florida Water Management District
Daniel Rutledge	Hendry Soil and Water Conservation District
Dan Hipes	Florida Natural Areas Inventory
Ms. Plair	Alico, Inc.
Franklin Adams	Florida Wildlife Federation
Napole Ryan	Conservancy of Southwest Florida
Michael Wisenbaker	Department of State, Division of Historical Resources

FWC Planning Personnel

Gary Cochran	Conservation Acquisition and Planning Administrator, Meeting Facilitator
Michael Hallock-Solomon	Recorder

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13.2.2 Public Hearing Notice and Press Release

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NOTICE

The Florida Fish and Wildlife Conservation Commission
Announces a

PUBLIC HEARING

For the FWC Lead Managed Portion of
Okaloacoochee Slough

Wildlife Management Area

(2,923 acres represented by Lease Number 4245)

Management Plan

Hendry County, Florida

7:00 P.M. Thursday, May 24, 2012

John B. Boy Auditorium
1200 S W C Owens Ave
Clewiston FL, 33440

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

A Management Prospectus for the Okaloacoochee Slough WMA is available upon request. For a copy, please contact Rebecca Shelton, Florida Fish and Wildlife Conservation Commission, Conservation Acquisition and Planning, 620 South Meridian Street, Tallahassee, Florida 32399-1600. Telephone: (850) 487-9982.

For immediate release: May 4, 2012
Contact: Carli Segelson, 772-215-9459

Public hearing for FWC lead managed portion of the Okaloacoochee Slough WMA

The Florida Fish and Wildlife Conservation Commission (FWC) will hold a public hearing for the FWC lead managed portion of the Okaloacoochee Slough Wildlife Management Area (WMA) Management Plan on Thursday, May 24, 2012. The meeting will be at 7 p.m. at the John B. Boy Auditorium 1200 S W C Owens Ave, Clewiston FL, 33440. The FWC lead managed area is 2,923 acres represented by Lease Number 4245.

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 FWC lead managed portion of the Okaloacoochee Slough WMA, in Hendry 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 Okaloacoochee Slough Wildlife WMA is available upon request from the FWC's Conservation Acquisition and Planning group. Call Rebecca Shelton at 850-487-9982, or Michael Hallock-Solomon at 850-487-9767, or e-mail Rebecca.Shelton@MyFWC.com for the prospectus. For [more information](http://myfwc.com/conservation/terrestrial/management-plans/), go to <http://myfwc.com/conservation/terrestrial/management-plans/>.

RS/HSC

CSS/SRO

13.2.3 Public Hearing Report

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PUBLIC HEARING REPORT

FOR THE

**OKALOACOCHEE SLOUGH WILDLIFE MANAGEMENT AREA
MANAGEMENT PLAN**

HELD BY THE

**OKALOACOCHEE SLOUGH WMA MANAGEMENT ADVISORY
GROUP**

**AND THE
FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION**

MAY 24, 2012 – HENDRY COUNTY, FLORIDA

The following report documents the public input that was received at the Okaloacoochee Slough Wildlife Management Area (OSWMA) Management Advisory Group's (MAG) Public Hearing for the update to the Management Plan for OSWMA that was held at 7:00-9:00 PM, on May 24, 2012, at the Hendry County John B. Boy Auditorium in Clewiston, Florida.

OSWMA Management Advisory Group Introduction:

The meeting was introduced by Ms. Sarah Catala, an OSWMA MAG participant, who represented the Hendry County Planning & Zoning Department. Ms. Catala indicated that she was one of nine stakeholders that attended the Florida Fish and Wildlife Conservation Commission (FWC) facilitated MAG meeting held on April 11, 2012. Ms. Catala 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. Ms. Catala 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 OSWMA; FWC's planning process, and the draft components of the Management Plan.

Presentation on an Overview of OSWMA 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 OSWMA, 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 OSWMA 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 OSWMA, 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 OSWMA Overview and FWC's

Planning Process: Mr. Cochran then facilitated an informal question and answer 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 OSWMA, and not to discuss area hunting, fishing and use regulations. No question or comments were received after the presentation for this part of the public hearing.

Presentation of the OSWMA Draft Management Plan

At this point, Ms. Jean McCollom, the OSWMA Area Biologist began the presentation of the draft management plan. Ms. McCollom then completed and concluded the presentation of the OSWMA Draft Management Plan.

Questions and Comments on the OSWMA Draft Management Plan

Presentation

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

Public Question: An anonymous gentleman asked if the plan covered FWC's 2,900 acres along with the overall acres of OSWMA and if the twentieth century lumber mill on the property was covered in the management plan. He also wanted to know if any grasshopper sparrows had been discovered there.

FWC Response: Ms. McCollom told him that the plan covered the 3,000 acres of OSWMA and that the lumber mill is on both of the properties so OSWMA will help to maintain it. Ms. McCollom informed him that the grasshopper sparrows had been discovered on the property and they're planning on doing surveys to identify more about the sparrows to create a better habitat for them. Ms. McCollom informed the gentleman that one way they will be doing this is by keeping the area open rather than planting pine trees because this is the ideal habitat for the sparrows. She informed him that the trees are mostly perches for the hawks.

Public Question: The gentleman also wanted to know if OSWMA was planning on cutting down the oak trees like had been done on Three Lakes WMA.

FWC Response: Ms. McCollom informed him that OSWMA is planning on doing community plant surveys to see if those oak trees were historically occurring native trees on the property before the historic native plant communities on the property were altered or if they are considered an off-site species that did not occur on the area historically and if they are then historically native to OSWMA, FWC, and other experts will sit down and come up with ways to keep those trees there.

Public Question: An anonymous woman asked about the management challenges and strategies and she wanted to know if the strategies were listed in priority order. She made the comment that staffing was a major issue at the MAG meeting and was listed out of order on the Draft Plan.

FWC Response: Mr. Cochran informed her that the strategies are not listed in priority order and that the challenges would be worked on as feasible.

Public Testimony on the OSWMA Draft Management Plan: Two 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 OSWMA Draft Management Plan, and called the first speaker to the podium.

Public Testimony Comment and Question: An anonymous gentleman had a question directed toward Dr. Dexter, Florida Forest Service Biologist for the adjacent Okaloacoochee Slough State Forest (OSSF), who was also a OSWMA MAG participant. He wanted to know when he plans on holding his next meeting.

MAG Participant Response: Dr. Dexter informed the gentleman that he was unsure of the exact date but that his supervisor and the forester in the field office have been working on it. Ms. McCollom informed the gentleman that there is a meeting for the public on July 11th and the MAG meeting is either the 10th or the 12th.

Public Testimony Comment: Dr. Dexter, FFS, OSSF commented that he wanted to acknowledge Ms. Jean McCollom, FWC OSWMA Biologist Manager and those who work with her by applauding the wonderful job they do to take care of the OSWMA property. <The crowd then gave Ms. McCollom a round of applause>

Adjournment: Mr. Cochran asked if there were any other members of the public that wished to give public testimony. No other speakers offered further comments. Then Mr. Cochran declared the public hearing adjourned.

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13.2.4 Management Prospectus

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Management Prospectus

Okaloacoochee Slough Wildlife Management Area

May 2012

Florida Fish and Wildlife Conservation Commission



Introduction

The Okaloacoochee Slough Wildlife Management Area (OSWMA) is located in Hendry County, Florida and is managed by the Florida Fish and Wildlife Conservation Commission (FWC).

Forming the headwaters of the waterways that eventually supply the Fakahatchee Strand and the mangrove swamps of Ten Thousand Islands, Okaloacoochee Slough is a large, nearly pristine sawgrass marsh surrounded by a vast landscape of pinelands, hammocks, and marshes set within conservation and agricultural lands. This region is one of the few places in Florida where the pre-Columbian landscape can be observed. Connecting the Big Cypress Swamp with the Caloosahatchee River to the north, Okaloacoochee Slough and the adjacent Okaloacoochee Slough Wildlife Management Area (OSWMA) and Okaloacoochee Slough State Forest conserve habitat and provide a wildlife corridor critical to the survival of the Florida panther and to protecting the watershed and natural systems of downstream conservation lands, Fakahatchee Strand and Ten Thousand Islands, that are dependent on it.

The OSWMA, managed by the Florida Fish and Wildlife Conservation Commission (FWC), lies just to the east of its namesake slough. The OSWMA, along with FWC-managed Spirit of the Wild Wildlife Management Area and Dinner Island Ranch Wildlife Management Area and the Department of Agriculture and Consumer Services, Florida Forest Service (FFS) managed Okaloacoochee Slough State Forest, provide over 64,000 acres of contiguous habitat for a variety of wildlife species. OSWMA is managed by the FWC to conserve habitat for an array of imperiled and other native wildlife including the Florida panther Florida black bear, Audubon's crested caracara, Florida sandhill crane, and wood stork, among others, while also providing stellar opportunities for wildlife viewing and other fish and wildlife based public outdoor recreation opportunities such as hunting and hiking.

The OSWMA is a diamond shaped parcel that is approximately 2,923 acres in size. As shown in Figure 1, the OSWMA lies within Sections 20, 21, 22, 23, 26, 27, 28, 33 and 34, Township 44 South, Range 30 East, in Hendry County, Florida.

The OSWMA is located in west-central Hendry County, eight miles southeast of Port La Belle, five miles east of State Road (SR) 29, 8.5 miles south of SR 80, and 1.3 miles north of County Road (CR) 832. Access to OSWMA is available from Twin Mills Grade off of CR 832.

The OSWMA is bordered to the south and west by the Okaloacoochee Slough State Forest. To the north and east of the OSWMA lie privately owned rural agricultural land, primarily citrus and pasture. The OSWMA is located approximately 7.5 miles north of the Big Cypress Area of Critical State Concern.

As shown in Figure 2, the OSWMA is in the vicinity of a large number of publicly owned conservation areas and several Florida Forever Projects. Tables 1 and 2 list the conservation lands and Florida Forever projects within a 20-mile radius of the OSWMA, including lands managed by public and private entities, that conserve cultural and natural resources within this region of south Florida.

Table 1. Conservation Lands in Proximity to the OSWMA

State of Florida	Managing Agency
Babcock Ranch Preserve	FWC/FFS/Babcock Ranch Management, LLC
Caloosahatchee Regional Park	Lee County
Dinner Island Ranch Wildlife Management Area	FWC
Fisheating Creek Wildlife Management Area	FWC
Lake Okeechobee Sanctuaries	National Audubon Society, Inc.
Spirit of the Wild Wildlife Management Area	FWC
Water Management District	Managing Agency
C-43 Basin Storage Reservoir - Part 1	SFWMD
Caloosahatchee Basin Water Storage Reservoir	SFWMD
Caloosahatchee River Basin Water Quality Treatment and Testing Facility	SFWMD
Corkscrew Regional Ecosystem Watershed	SFWMD
Corkscrew Regional Mitigation Bank	SFWMD
Deer Fence Canal	SFWMD
Fisheating Creek	SFWMD
Lake Trafford Impoundment	SFWMD
Okaloacoochee Slough State Forest	FFS/SFWMD
River of Grass	SFWMD
County	Managing Agency
Alva Cypress Preserve	Lee County
Alva Scrub Preserve	Lee County
Caracara Prairie Preserve	Collier County

Table 1. Conservation Lands in Proximity to the OSWMA

Charlie's Marsh Preserve	Lee County
Daniels Preserve at Spanish Creek	Lee County
Flint Pen Strand	Lee County
Greenbriar Swamp Preserve	Lee County
Hickey Creek Wildlife and Environmental Area	Lee County/FWC
Hickey's Creek/Greenbriar Connector	Lee County
Hickey's Creek Mitigation Park	Lee County
Imperial Marsh Preserve	Lee County
Limpkin Marsh Preserve	Collier County
Meadowbrook Park	Lee County
Panther Walk Preserve	Collier County
Pepper Ranch Preserve	Collier County
Persimmon Ridge Preserve	Lee County
Sam Galloway Tract at Imperial Marsh Preserve	Lee County
Savannah Lakes	Lee County
Telegraph Creek Preserve	Lee County

Private Conservation Organization

Managing Agency

Corkscrew Swamp Sanctuary	National Audubon Society, Inc.
Florida Panther Conservation Bank Conservation Easement	Florida Panther Conservation, LLC
Florida Panther Conservation Bank II Conservation Easement	Florida Panther Conservation, LLC
Moya Preserve	Floraglates Foundation

Conservation Easement

Monitoring Agency

BR Bar Ranch Conservation Easement	DEP
Fisheating Creek/Lykes Brothers Conservation Easement	FWC
Floraglates Preserve	Floraglates Foundation
Florida Panther Conservation Bank Conservation Easement	USDI-FWS
Florida Panther Conservation Bank II Conservation Easement	USDI-FWS
LaBelle Ranch, Inc. Conservation Easement	DEP
Nicodemus Slough Flowage Easement	SFWMD
Panther Passage Conservation Bank Conservation Easement	FWC

Acronym Key	Agency Name
DACS	Florida Department of Agriculture and Consumer Services
DEP	Florida Department of Environmental Protection
FWC	Florida Fish and Wildlife Conservation Commission
SFWMD	South Florida Water Management District

Table 1. Conservation Lands in Proximity to the OSWMA

USDI-FWS	United States Department of the Interior, Fish and Wildlife Service
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Table 2. Florida Forever Projects in Proximity to the OSWMA

Project Name	Project Acres	Percent Complete
Caloosahatchee Ecoscape	18,497	16%
Corkscrew Regional Ecosystem Watershed	69,500	38%
Devil’s Garden	82,995	0%
Fisheating Creek Ecosystem	177,319	34%
Half Circle L Ranch	11,203	0%
Panther Glades	64,809	34%
Twelvemile Slough	15,967	47%

This resource and management prospectus has been developed in conformance with the requirements of Section 259. 032, Florida Statutes, to provide the Management Advisory Group stakeholders and the general public with a general understanding of and purpose for the OSWMA, prior to the required public hearing to solicit public input on the OSWMA management plan. This prospectus covers only the 2,923 acres of the OSWMA on which FWC is lead managing agency of and does not include the approximately 32,349 acres of the Okaloacoochee Slough State Forest, managed by the FFS. The management intent for the Okaloacoochee Slough State Forest can be found in the Okaloacoochee Slough State Forest Management Plan prepared by the FFS.

Acquisition History and the Purpose for Acquisition

The OSWMA is owned by the State of Florida. Title is held by the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees). The initial acquisition of 2,923 acres of the OSWMA was made in 1999 under the FWC Preservation 2000 Inholdings and Additions land acquisition program.

The OSWMA was purchased to protect the water shed and waters of Okaloacoochee Slough, its dependent imperiled and other native wildlife, provide resource-based public outdoor recreation including mitigation for the loss of hunting opportunities on Brown’s Farm Wildlife Management Area (BFWMA) in Palm Beach County. In 1994, the

SFWMD removed Brown’s Farm from the wildlife management area system to be used as a part of the Everglades Restoration Project. As a provision of the Everglades Forever Act, Chapter 94-115, there was a requirement that the loss of hunting opportunities on BFWMA be mitigated by acquiring lands within the Okaloacoochee Slough Preservation 2000 program project which included the lands within the OSWMA and additional lands within Okaloacoochee Slough State Forest. Those additional lands were acquired by the Board of Trustees, SFWMD and the FFS; and are managed by the FFS as the Okaloacoochee Slough State Forest.

Natural Resources

The majority of Hendry County, and all of the OSWMA, lies within the Immokalee Rise physiographic province. This province is located between the Caloosahatchee Valley to the north and west, the Everglades to the east, and Big Cypress Spur and Southwestern Slope to the south. The Immokalee Rise is primarily composed of medium fine sand and silt and numerous depressions and sinks.

The lands comprising and surrounding the OSWMA contain two slightly elevated ridges that support flatwoods flanking the central slough system that is the namesake of the area. The easternmost ridge supports most of the upland vegetation because most of the western ridge has been cleared for agricultural uses. Several topographically-higher islands occur within the central slough.

The primary vegetative communities found within the OSWMA are semi-improved pasture, improved pasture, depression marsh, ruderal (primarily former agricultural fields), mesic flatwoods and swale.

The FWC has completed historic and natural community mapping of OSWMA through the work of the Florida Natural Areas Inventory (FNAI). Through the work of both the FWC and the FNAI, a total of six historic and ten current plant communities, eight rare plant species, and thirteen exotic invasive plant species within the OSWMA have been identified. Following are tables listing native, rare and exotic invasive plant species known to occur on the OSWMA. Descriptions of the plant communities located on the OSWMA and shown in Figure 3 are provided immediately following the plant species tables presented in Tables 3, 4 and 5.

Table 3. Native Plant Species Observed on the OSWMA

Common Name	Scientific Name
Arrowhead	<i>Sagittaria lancifolia</i>
Beaksedge	<i>Rhynchospora fasciculata</i>
Blackroot	<i>Pterocaulon pycnostachyum</i>
Blue maidencane	<i>Amphicarpum muhlenbergianum</i>
Blue water-hyssop	<i>Bacopa caroliniana</i>

Table 3. Native Plant Species Observed on the OSWMA

Common Name	Scientific Name
Bluejoint panic grass	<i>Panicum tenerum</i>
Bottlebrush threeawn	<i>Aristida spiciformis</i>
Broomsedge bluestem	<i>Andropogon virginicus</i>
Bushy bluestem	<i>Andropogon glomeratus</i>
Cabbage palm	<i>Sabal palmetto</i>
Camphorweed	<i>Pluchea rosea</i>
Cardinal airplant	<i>Tillandsia fasciculata</i>
Cinnamon fern	<i>Osmunda cinnamomea</i>
Clustered bushmint	<i>Hyptis alata</i>
Clustered mille graine	<i>Hedyotis uniflora</i>
Coastalplain St. John's-wort	<i>Hypericum brachyphyllum</i>
Cutthroat grass	<i>Panicum abscissum</i>
Dogfennel	<i>Eupatorium</i> sp.
Dwarf live oak	<i>Quercus minima</i>
Erect-leaf witch grass	<i>Dichantherium erectifolium</i>
False pennyroyal	<i>Piloblephis rigida</i>
Fireflag	<i>Thalia geniculata</i>
Flattened pipewort	<i>Eriocaulon compressum</i>
Floating-hearts	<i>Nymphoides aquatica</i>
Florida bully	<i>Sideroxylon reclinatum</i>
Florida jointtail grass	<i>Coelorachis ecristata</i>
Fourpetal St. John's-wort	<i>Hypericum tetrapetalum</i>
Gallberry	<i>Ilex glabra</i>
Giant airplant	<i>Tillandsia utriculata</i>
Giant orchid	<i>Pteroglossaspis ecristata</i>
Groundsel tree	<i>Baccharis halimifolia</i>
Hog plum	<i>Ximenia americana</i>
Hog-fennel	<i>Oxypolis filiformis</i>
Huckleberry	<i>Gaylussacia dumosa</i>
Laurel oak	<i>Quercus laurifolia</i>
Leafless beaked ladiestresses	<i>Sacoila lanceolata</i> var. <i>lanceolata</i>
Licoriceweed	<i>Scoparia dulcis</i>
Little marsh elder	<i>Iva microcephala</i>
Live oak	<i>Quercus virginiana</i>
Maidencane	<i>Panicum hemitomum</i>
Malaysian false pimpernel	<i>Lindernia crustacea</i>

Table 3. Native Plant Species Observed on the OSWMA

Common Name	Scientific Name
Marsh goldenrod	<i>Solidago fistulosa</i>
Marsh mermaidweed	<i>Proserpinaca palustris</i>
Myrsine	<i>Myrsine guianensis</i>
Narrowfruit horned beaksedge	<i>Rhynchospora inundata</i>
Pale meadowbeauty	<i>Rhexia mariana</i>
Panic grasses	<i>Dichanthelium</i> sp.
Pawpaw	<i>Asimina reticulata</i>
Peelbark St. John's-wort	<i>Hypericum fasciculatum</i>
Pickerelweed	<i>Pontederia cordata</i>
Pokeweed	<i>Phytolaca americana</i>
Pond apple	<i>Annona glabra</i>
Purple bluestem	<i>Andropogon glomeratus</i> var. <i>glaucopsis</i>
Queen's delight	<i>Stillingia aquatica</i>
Rattlesnakemaster	<i>Eryngium yuccaefolium</i>
Redmargin zephyrlily	<i>Zephyranthes simpsonii</i>
Redroot	<i>Lachnanthes caroliniana</i>
Rushes	<i>Juncus</i> sp.
Saffron plum	<i>Sideroxylon celastrinum</i>
Sand cordgrass	<i>Spartina bakeri</i>
Saw palmetto	<i>Serenoa repens</i>
Sawgrass	<i>Cladium jamaicense</i>
Seaside primrose willow	<i>Ludwigia maritima</i>
Shiny blueberry	<i>Vaccinium myrsinites</i>
Shiny lyonia	<i>Lyonia lucida</i>
Shortbristle horned beaksedge	<i>Rhynchospora corniculata</i>
Slash pine	<i>Pinus elliottii</i>
Slender goldenrod	<i>Euthamia caroliniana</i>
Spadeleaf	<i>Centella asiatica</i>
Spanish stopper	<i>Eugenia foetida</i>
Spikerush	<i>Eleocharis</i> sp.
Stagger bush	<i>Lyonia fruticosa</i>
Strangler fig	<i>Ficus aurea</i>
Swamp fern	<i>Blechnum serrulatum</i>
Tenangle pipewort	<i>Eriocaulon decangulare</i>
Thin paspalum	<i>Paspalum setaceum</i>
Thistle	<i>Cirsium horridulum</i>

Table 3. Native Plant Species Observed on the OSWMA

Common Name	Scientific Name
Three-awn	<i>Aristida</i> sp.
Tickseed	<i>Coreopsis</i> sp.
Tracy's beaksedge	<i>Rhynchospora tracyi</i>
Twinberry	<i>Myrcianthes fragrans</i>
Umbrella sedge	<i>Fuirena scirpoidea</i>
Virginia chain fern	<i>Woodwardia virginica</i>
Water dropwort	<i>Oxypolis filiformis</i>
Waterhyssop	<i>Bacopa caroliniana</i>
Wax myrtle	<i>Myrica cerifera</i>
Willow	<i>Salix caroliniana</i>
Winged sumac	<i>Rhus copallinum</i>
Wiregrass	<i>Aristida stricta</i>
Yellow bladderworts	<i>Utricularia</i> sp.
Yellow-eyed grass	<i>Xyris</i> sp.

Table 4. Rare Plant Species Observed on the OSWMA

Common Name	Scientific Name	Status
Cardinal airplant	<i>Tillandsia fasciculata</i>	SE
Cinnamon fern	<i>Osmunda cinnamomea</i>	SCE
Cutthroat grass	<i>Panicum abscissum</i>	SE
Florida jointtail grass	<i>Coelorachis ecristata</i>	ST
Giant airplant	<i>Tillandsia utriculata</i>	SE
Giant orchid	<i>Pteroglossaspis ecristata</i>	ST
Leafless beaked ladiestresses	<i>Sacoila lanceolata</i> var. <i>lanceolata</i>	ST
Redmargin zephyrlily	<i>Zephyranthes simpsonii</i>	ST

Abbreviation	Status
SCE	State Commercially Exploited
SE	State Endangered
ST	State Threatened

Table 5. Exotic Invasive Plant Species Observed on the OSWMA

Common Name	Scientific Name
Brazilian pepper	<i>Schinus terebinthifolius</i>
Caesar weed	<i>Urena lobata</i>
Cogongrass	<i>Imperata cylindrica</i>
Grand eucalyptus	<i>Eucalyptus grandis</i>
Melaleuca	<i>Melaleuca quinquenervia</i>
Old World climbing fern	<i>Lygodium microphyllum</i>
Para grass	<i>Urochloa mutica</i>
Smutgrass	<i>Sporobolus indicus</i>
Torpedo grass	<i>Panicum repens</i>
Tropical soda apple	<i>Solanum viarum</i>
Vasey grass	<i>Paspalum urvillei</i>
West Indian marsh grass	<i>Hymenachne amplexicaulis</i>
Wright's nut-rush	<i>Scleria lacustris</i>

Depression Marsh

Depression marshes are isolated, herbaceous wetlands situated in shallow, relatively small and often rounded or oval shaped depressions. They are characterized by concentric zones of vegetation that reflect drier, more fluctuating hydrological conditions in the outer rings and wetter conditions proceeding to the center. The substrate is usually acid sand with deepening peat toward the center. Hydrological conditions vary, with most depression marshes drying in most years. Hydroperiods range widely from as few as 50 days or less to more than 200 days per year.

Depression marshes are scattered throughout the OSWMA and range in size from 0.5 acres to 70 acres. The largest marshes appear to be a convergence of two or more historically separate depressions. They are irregular in shape and still retain multiple deeper water centers with the outer zones forming shallower connections.

Because water depth in depression marshes usually increases toward the center, vegetation typically forms distinctive zones corresponding to depth. On the OSWMA, there is usually an inner, central zone occupied by arrowhead, pickerelweed, or both. Deeper depression marshes may contain fireflag, sawgrass, and occasionally willow. The zone encircling the center is often dominated by maidencane and queen's delight with blue maidencane commonly dominating the outermost herbaceous edge. Other herbaceous species found mainly in the outer zones include flattened and tenangle pipeworts, yellow-eyed grass, beakrushes, blue water-hyssop, yellow bladderworts,

floating-hearts, water dropwort, little marsh elder, umbrella sedge, erect-leaf witch grass, and bluejoint panic grass. The outermost zone often includes scattered St. John's-wort and queen's delight.

Torpedo grass, an invasive exotic, has created a monoculture around some of the marshes. Soil disturbance and fragmentation of its creeping rhizomes only encourages further spreading of this noxious species. Fire is important in maintaining the open herbaceous character of depression marshes by restricting shrub invasion to encourage flowering and reproduction of grasses, sedges, and the formation of peat. Almost all of the marshes in the western half of the OSWMA have been affected to some degree by an inter-connecting network of small drainage ditches that likely impede the natural hydroperiod. The invasion of torpedo grass into the marshes, the alteration of the hydroperiod, and the exclusion of fire have affected the natural integrity of depression marshes on the OSWMA.

Mesic Flatwoods

Mesic flatwoods on the OSWMA are upland areas with an open pine canopy or no canopy, scattered cabbage palm subcanopy, and an understory dominated by saw palmetto or gallberry, with a variety of other shrubs, herbs, grasses, and sedges, including pasture grasses depending on their location. They comprise approximately 219 acres on the OSWMA. The largest area, approximately 150 acres, occurs between the main road running southeast to northwest off Twin Mills Road and the southern boundary of the WMA. The remaining acreage of mesic flatwoods occurs as small remnant patches in the pasture matrix. Historically, mesic to wet flatwoods, interspersed with depression marshes, comprised the majority of the OSWMA landscape.

The largest area of flatwoods on the OSWMA is also the area least effected by past cattle operations. The area was logged and cleared in the early 1990s, but not altered for cattle grazing. These flatwoods now have a shrubby understory with various amounts and differing composition of canopy and subcanopy cover depending on the relatively recent clearing activities. Slash pine and/or cabbage palm are generally present in the canopy, although some sites have no canopy. Oaks typically occur in the subcanopy or as a tall shrub layer. The shrub cover is generally dense and may include saw palmetto, gallberry, wax myrtle, shiny lyonia, stagger bush, winged sumac, St John's-wort, shiny blueberry, huckleberry, myrsine, and dwarf live oak. The herbaceous cover is generally sparse to moderate although a few areas are exceptions to this. Species include blackroot, bottlebrush threeawn, blue maidencane, panic grasses, spikerush, pale meadowbeauty, and redroot. Weedy species are generally sparse to moderate and include bluestem, slender goldenrod, and groundsel tree. Some areas within this larger flatwoods seem to be a mixture of hammock and flatwoods and are difficult to categorize.

Eight other areas were delineated as mesic flatwoods and total approximately 70 acres, with an average size of 8.5 acres. One area, approximately 15 acres, also appears to have been cutover but not “improved”. This area is one of the few places where wiregrass is found. This area also has low areas with more hydric species. Some spots appear to have been created when the site was logged but other areas may be natural wet prairie. Additional species not mentioned above include Malaysian false pimpernel, false pennyroyal, marsh goldenrod, thistle, rattlesnakemaster. Most of the other flatwoods are smaller and have dense pockets of saw palmetto and a more disturbed groundcover often dominated by bahia. The pasture areas have additional areas where pockets of pines have been left or young pines are abundant.

Fire is an important natural element in the control of the high shrub density at most of the flatwoods sites. Fire will also help increase the herbaceous cover, including wiregrass. Some of the flatwoods are sandwiched between depression marshes or are adjacent to the main swale system in the southern central portion of the OSWMA. These areas may naturally be subject to more moist conditions and less frequent fires because of their location.

Swales

Swales are situated in broad shallow channels with slow flowing water. They are generally dominated by emergent grasses, sedges, and herbs. Swales resemble basin marshes and depression marshes in vegetation, except that they are typically dominated by large areas of sawgrass. Sloughs may form deeper channels within swales and typically consist of willow, pond apple, and fireflag. Soils in swales may be peat, unless they have been removed by severe fire during drought, or sands.

Two areas within the OSWMA were classified as swale communities. Both areas are located on the southwestern boundary, south of the canal, and connect to Okaloacoochee Slough on the adjacent Okaloacoochee Slough State Forest. These marshes form mostly shallow fingers off the main slough and exhibit characteristics of depression marsh communities, especially the southernmost point. Herbaceous cover is moderate to high and includes maidencane, waterhyssop, rushes, hog-fennel, three-awn, little marsh elder, and yellow-eyed grass. Wax myrtle and queen’s delight are sparse. Patches of fire flag and sawgrass with pond apple and willow are visible. More extensive swaths of sawgrass can be seen looking west from the main finger.

Wet Flatwoods

Wet flatwoods comprise only 22 acres of the OSWMA, although historically it probably made up a large portion of the flatwoods matrix community. The remnant parcels have a sparse canopy of slash pine with a relatively open understory of scattered shrubs and dense groundcover of hydrophytic herbs, or a dense shrubby understory and a sparse groundcover. One area described below has no pine canopy.

A feature of wet flatwoods that distinguishes them from mesic flatwoods is the absence, or small amount, of saw palmetto. Because of the open understory and generally wet soil conditions, wet flatwoods support a rich ground layer of grasses, forbs, and sedges. Three areas are classified as wet flatwoods, and two of them are approximately three acres each. The largest, approximately 16 acres, consists of scattered cabbage palm and very dense, tall wax myrtle and saw palmetto with some shiny lyonia and gallberry. Swamp fern and Virginia chain fern are also present. This area has been cutover and lacks a pine overstory, but does not appear to have been improved for cattle grazing. Two small patches of wet flatwoods are located on the northeastern boundary and do have a “pasture” component. These areas have sparse to abundant canopy cover of younger mature to mature slash pine and a moderate shrub cover that includes wax myrtle, saw palmetto, laurel oak, pawpaw, and cabbage palm. The herbaceous cover is high and includes bahia grass, wiregrass, blue maidencane, maidencane, thin paspalum, bluestem, camphorweed, dogfennel, umbrella sedge, spadeleaf, beaksedge, seaside primrose willow, tickseed, queen’s delight, pokeweed, clustered mille graine, clustered bushmint, and swamp fern. Vasey grass, smutgrass, and Caesar weed are several exotic species that occur in these flatwoods. One grand eucalyptus is known within the wet flatwoods community on OSWMA.

Mesic Hammocks

Mesic hammocks are closed-canopy forests usually dominated by live oak and with a diverse shrub layer that may include tropical species. Mesic hammocks are naturally protected from fire by their position on the landscape. On the OSWMA, they typically occur as “tree islands” in a wetland or sandwiched among wetlands. Soils in mesic hammocks are moist because of a dense litter layer and the humid conditions that prevail under the closed canopy, but are rarely inundated.

All of the hammocks within the OSWMA were classified as mesic. The canopy and subcanopy are generally comprised of live oak, laurel oak, cabbage palm and/or slash pine. Most hammocks have a moderate to high shrub strata dominated by cabbage palm, saw palmetto, and myrsine. Occasional species include citrus, wax myrtle, hackberry, swamp bay, hog plum, and Florida bully. Some of the tropical species found in the understory include myrsine, strangler fig, Spanish stopper, and twinberry. Herbaceous cover is typically sparse and mostly found in canopy gaps or ground disturbance caused by natural or artificial means. Some of the herbs present are swamp fern, marshpennywort, and graminoids. Most of the hammocks observed have an abundance of oak leaf litter and palm fronds covering the ground.

Hog rooting is especially pervasive in the larger hammocks along the southwest boundary substantially altering the native ground cover. Caesar weed is occupying the areas disturbed by the hogs and is abundant in these hammocks.

Wet Prairie

Wet prairie on the OSWMA occurs prominently in the northwest portion of the OSWMA. Historically, this area was a broad, shallow prairie/swale between two deeper portions of Okaloacoochee Slough. Drainage and agriculture has greatly altered the natural hydrology of this area. Extensive orange groves lie north of this section of the management area. What remains is approximately 100 acres of wet prairie, depression marshes, and small hammocks mostly on the western boundary of the OSWMA. The rest of the former prairie, approximately 200 acres east to the canal, is an old agricultural field. Smaller examples of wet prairie occur east of the canal as low herbaceous ecotones around marshes or small openings in flatwoods communities. Wet prairies are seasonally inundated or saturated for 50 to 100 days each year and burn every 2 to 4 years.

Shrub cover is generally moderate to high with queen's-delight and saffron plum common but sparsely distributed in the large western wet prairie, and wax myrtle and saw palmetto common in the smaller prairies. Herbaceous cover is high and includes a variety of Asteraceae spp., little marsh elder, marsh mermaidweed and others. Grasses and sedges are abundant and may include gulfdune paspalum, blue maidencane, maidencane, three awn, beakrushes, flatsedges, and umbrella sedge.

The invasive exotics, West Indian marsh grass and torpedo grass were frequent in the margins of the wet prairie community. Torpedo grass was dominant in the adjacent old agriculture fields.

Pastures

Improved and semi-improved pastures make up approximately 1,540 acres of the OSWMA. The pasture types found on the area are identified as improved and semi-improved depending on the presence of native vegetation, which corresponds to the severity of disturbance sustained by the historical community. The management area was periodically logged from the early part of the 20th century until 1992. By 1990, the improved area had been converted to pasture with a few pockets of pines left standing, usually adjacent to depression marshes. The semi-improved portion appears to have been logged and cleared of most of the palmetto cover, and presumably other groundcover, by 1994. It had been managed primarily for cattle from the late 1980s until State acquisition and management.

Improved pastures are dominated by bahia grass, bluestems, slender goldenrod, and dogfennel. Shrub species are occasional and tree species are infrequent, although there are some areas that are largely comprised of wax myrtle with a groundcover of bahia grass, and also small patches where slash pine is the overstory. Additional herbaceous species present include smutgrass, vasey grass, beakrush, licoriceweed, Caesar weed, and others. The few shrub species that occur are usually wax myrtle, saw palmetto,

and groundsel tree. Slash pine and cabbage palm are infrequent and typically found as young seedlings.

Semi-improved pasture shares many of the same species as improved pasture but shows more affinity to the historic natural community. More species typical of mesic flatwoods are present in greater abundance. Semi-improved pasture has greater potential for restoration and should be spared from establishment of food plots.

Vegetation occurring in the semi-improved pastures includes bahia grass, but often in less abundance than in improved pasture, smutgrass, vasey grass, carpetgrass, flat top sedge, rushes, bluestems, beaksedges, spikerushes, blue maidencane, three awn, sand cordgrass, panic grasses, yellow-eyed grass, slender goldenrod, dogfennel, spadeleaf, false pennyroyal, licoriceweed, Malaysian false pimpernel, rattlesnakemaster, goldenrod, red root, Caesar weed, pale meadowbeauty, clustered bushmint, blackroot, tickseed, camphorweed, and others. Shrub species that occur are wax myrtle, saw palmetto, gallberry, shiny lyonia, winged sumac, St. John’s-wort, running oak, and beautybush. Slash pine and cabbage palm are infrequent and typically found as young seedlings.

A small patch of cutthroat grass was found in the eastern part of the semi-improved pasture. An additional location has since been found in the improved pasture. Giant orchid was possibly located in an improved pasture area, although verification is necessary.

Fish and Wildlife

Rare and Imperiled Species

A diversity of wildlife species is found on the OSWMA. While no long-term vertebrate studies have been conducted yet on the area, the imperiled species that have been documented to occur on the OSWMA are listed below in Figure 4 and Table 6. In addition to the documented species occurrences, the OSWMA provides habitat suitable for eastern indigo snake (*Drymarchon corais couperi*).

Table 6. Imperiled Wildlife Species Documented on the OSWMA

Common Name	Scientific Name	Status
American alligator	<i>Alligator mississippiensis</i>	FT(S/A)
Big Cypress fox squirrel	<i>Sciurus niger avicennia</i>	ST

Table 6. Imperiled Wildlife Species Documented on the OSWMA

Common Name	Scientific Name	Status
Burrowing owl	<i>Athene cunicularia</i>	SSC
Crested caracara	<i>Polyborus plancus</i>	FT
Florida black bear	<i>Ursus americanus floridanus</i>	ST
Florida panther	<i>Felis concolor coryi</i>	FE
Florida sandhill crane	<i>Grus canadensis pratensis</i>	ST
Limpkin	<i>Aramus guarauna</i>	SSC
Little blue heron	<i>Egretta caerulea</i>	SSC
Roseate spoonbill	<i>Ajaia ajaia</i>	SSC
Snail kite	<i>Rostrhamus sociabilis plumbeus</i>	FE
Snowy egret	<i>Egretta thula</i>	SSC
White ibis	<i>Eudocimus albus</i>	SSC
Wood stork	<i>Mycteria americana</i>	FE

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

An inventory of bird species occurring on the OSWMA is not yet available. However, a list of bird species breeding within Hendry County is taken from the Florida Breeding Bird Atlas as listed below in Table 7. Opportunities for bird watching abound on the OSWMA.

Table 7. Breeding Bird Atlas – Confirmed Breeding – Hendry County

Common Name	Scientific Name	Status
Anhinga	<i>Anhinga anhinga</i>	NL
Barn owl	<i>Tyto alba</i>	NL
Barn swallow	<i>Hirundo rustica</i>	NL
Barred owl	<i>Strix varia</i>	NL
Black vulture	<i>Coragyps atratus</i>	NL
Black-necked Stilt	<i>Himantopus mexicanus</i>	NL
Blue jay	<i>Cyanocitta cristata</i>	NL
Blue-gray gnatcatcher	<i>Poliopitila caerulea</i>	NL
Boat-tailed grackle	<i>Quiscalus major</i>	NL
Brown thrasher	<i>Toxostoma rufum</i>	NL
Burrowing owl	<i>Speotyto cunicularia</i>	SSC

Table 7. Breeding Bird Atlas – Confirmed Breeding – Hendry County

Common Name	Scientific Name	Status
Carolina wren	<i>Thryothorus ludovicianus</i>	NL
Cattle egret	<i>Bubulcus ibis</i>	NL
Chuck-will's-widow	<i>Caprimulgus carolinensis</i>	NL
Common grackle	<i>Quiscalus quiscula</i>	NL
Common ground dove	<i>Columbina passerina</i>	NL
Common moorhen	<i>Gallinula chloropus</i>	NL
Common yellowthroat	<i>Geothlypis trichas</i>	NL
Crested caracara	<i>Caracara plancus</i>	FT
Double-crested cormorant	<i>Phalacrocorax auritus</i>	NL
Downy woodpecker	<i>Picoides pubescens</i>	NL
Eastern bluebird	<i>Sialia sialis</i>	NL
Eastern kingbird	<i>Tyrannus tyrannus</i>	NL
Eastern meadowlark	<i>Sturnella magna</i>	NL
Eastern screech-owl	<i>Otus asio</i>	NL
Eastern towhee	<i>Pipilo erythrophthalmus</i>	NL
European starling	<i>Sturnus vulgaris</i>	NL
Fish crow	<i>Corvus ossifragus</i>	NL
Glossy ibis	<i>Plegadis falcinellus</i>	NL
Great crested flycatcher	<i>Myiarchus crinitus</i>	NL
Great egret	<i>Casmerodius albus</i>	NL
Green heron	<i>Butorides striatus</i>	NL
House sparrow	<i>Passer domesticus</i>	NL
Killdeer	<i>Charadrius vociferus</i>	NL
King rail	<i>Rallus elegans</i>	NL
Limpkin	<i>Aramus guaranauna</i>	SSC
Little blue heron	<i>Egretta caerulea</i>	SSC
Loggerhead shrike	<i>Lanius ludovicianus</i>	NL
Mallard	<i>Anas platyrhynchos</i>	NL
Mottled duck	<i>Anas fulvigula</i>	NL
Mourning dove	<i>Zenaida macroura</i>	NL
Northern bobwhite	<i>Colinus virginianus</i>	NL
Northern cardinal	<i>Cardinalis cardinalis</i>	NL
Northern flicker	<i>Colaptes auratus</i>	NL
Northern mockingbird	<i>Mimus polyglottos</i>	NL
Pied-billed grebe	<i>Podilymbus podiceps</i>	NL
Pileated woodpecker	<i>Dryocopus pileatus</i>	NL
Pine warbler	<i>Dendroica pinus</i>	NL
Purple martin	<i>Progne subis</i>	NL
Red-bellied woodpecker	<i>Melanerpes carolinus</i>	NL
Red-shouldered hawk	<i>Buteo lineatus</i>	NL
Red-winged blackbird	<i>Agelaius phoeniceus</i>	NL
Rock dove	<i>Columba livia</i>	NL
Ruby-throated hummingbird	<i>Archilochus colubris</i>	NL
Sandhill crane	<i>Grus canadensis</i>	ST
Smooth-billed ani	<i>Crotophaga ani</i>	NL

Table 7. Breeding Bird Atlas – Confirmed Breeding – Hendry County

Common Name	Scientific Name	Status
Snowy egret	<i>Egretta thula</i>	NL
Summer tanager	<i>Piranga rubra</i>	NL
Swallow-tailed kite	<i>Elanoides forficatus</i>	NL
Tricolored heron	<i>Egretta tricolor</i>	SSC
Tufted titmouse	<i>Parus bicolor</i>	NL
Turkey vulture	<i>Cathartes aura</i>	NL
White-eyed vireo	<i>Vireo griseus</i>	NL
Wild turkey	<i>Meleagris gallopavo</i>	NL
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	NL

Abbreviation	Status
FT	Federal Threatened
SSC	State Species of Special Concern
ST	State Threatened
NL	Not Listed

All abbreviations and status determinations were derived from *Florida’s Endangered and Threatened Species List* published by FWC in May 2011. The FWC maintains the state list of animals designated as Federally-designated endangered or threatened, State-designated threatened, or State-designated species of special concern, in accordance with Rules 68A-27.003, and 68A-27.005, respectively, Florida Administrative Code (F.A.C.), <https://www.flrules.org/Default.asp>.

On November 8, 2010, new threatened species rules approved by the Commission went into effect. The list of wildlife presented here reflects those changes to the rules. All federally listed species that occur in Florida are now included on Florida’s list as Federally-designated endangered or Federally-designated threatened species. In addition, the State has a listing process to identify species that are not federally listed but at risk of extinction. These species will be called State-designated Threatened. All State-designated species that have recently undergone status reviews were presented and approved at the June 2011 Commission meeting. FWC will continue to maintain a separate Species of Special Concern category until all the species have been reviewed and those species are either designated as State-threatened or given a management plan and removed from the list.

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

Management Intent

Management of wildlife on the OSWMA includes efforts designed to perpetuate all species of wildlife native to the area. The FWC uses a comprehensive resource management approach to managing FWC-managed areas. Restoring the form and function of Florida's natural communities is the foundation of this management philosophy. FWC uses Objective-based Vegetation Management (OBVM) to monitor how specific vegetative parameters are responding to FWC management. OBVM includes the delineation of management units and quantification of the desired future condition for the natural community.

In addition, FWC uses the Wildlife Conservation Prioritization and Recovery (WCPR) program to ensure management is having the desired effect on wildlife as another important component of FWC's comprehensive resource management approach to managing FWC-managed areas. The goal of WCPR is to provide assessment, recovery, and planning support for the FWC-managed areas to enhance management of focal species and recovery of imperiled species. The WCPR program objectives include prioritizing what FWC does for imperiled and focal species on FWC-managed areas; ensuring the actions taken on these areas are part of statewide conservation programs and priorities; and informing others about the work accomplished on lands FWC manages.

Conditions Affecting Intensity of Management

Resources described in this management prospectus indicate conditions affecting intensity of management. These include natural community types, topography and soils, surface and ground water conditions, extent of historic disturbance, and already existing improvements. Environmentally sensitive areas, such as erosion-prone sites, important habitats, and outstanding natural areas and wetlands shall be identified, appropriately managed, and protected.

The FWC conducts analysis of historic vegetation of natural community types when necessary to determine appropriate desired future conditions. Upland wildlife management concentrates on appropriate vegetative manipulations, primarily the application of prescribed fire, to achieve conditions acceptable to a broad range of wildlife species. Areas sometimes require ecological restoration of ground cover, control of invasive species, and reforestation. Such resource management projects may be necessary to accomplish restoration objectives to attain the desired future condition. This is especially important for conservation of habitats and populations of imperiled or rare species. Landscape ecology is also important. Land use changes in the vicinity of a managed area may affect attainment of resource conservation goals for the area, and effectiveness of necessary resource management projects.

Biotic surveys shall be important to accomplish during the early part of plan development and implementation because imperiled or rare species are expected to occur.

Timetable for Implementing Management Provisions

A management plan has been developed by FWC describing the management goals and objectives necessary to implement future resource management. The management plan also establishes the current and future roles of cooperating entities including governmental agencies, non-governmental organizations and other stakeholders.}

Long-range plans will stress ecosystem management, and the protection and management of focal, species of special concern, rare and imperiled species. Historic analysis of natural communities and vegetation types may be conducted if deemed necessary. Quantified vegetation management objectives shall then be developed. The FWC shall assess the condition of wildlife resources and provide planning support to enhance management of focal species and recovery of imperiled species on the OSWMA. Use of prescribed fire and other resource management activities shall maintain and restore natural communities and vegetation types to benefit native wildlife resources.

Estimate of Revenue-Generating Potential

The revenue generating potential of the OSWMA is not known and will depend upon future uses to be approved in the management plan. Revenue from such environmental lands can include sales of various permits and recreational user fees and ecotourism activities, if such projects could be economically developed. Long-term value of ecosystem services to local and regional land and water resources, and to human health, are expected to be significant. The Legislature appropriates funds for land management.

Recommendations as to Other Governmental Agency Involvement

FWC should cooperate with other state and local governmental agencies including the Department of Environmental Protection, the Florida Department of Agriculture and Consumer Services' Florida Forest Service, the South Florida Water Management District, and Hendry County in management of the property.

Estimate of Costs

Following is an estimate of costs to operate and manage the OSWMA under the OSWMA Management Plan. Optimal Management of the OSWMA would require two full-time equivalent (FTE) positions to optimally manage the area. Salary requirements for these FTE positions, as well as those of other needed FWC staff, and costs to operate and manage the OSWMA are reflected in the cost estimate below. All land management funding is dependent upon annual legislative appropriations.

Okaloacoochee Slough WMA Management Plan Cost Estimate
Maximum expected one year expenditure

Resource Management

Exotic Species Control	\$181,482
Prescribed Burning	\$38,089
Cultural Resource Management	\$0
Timber Management	\$0
Hydrological Management	\$28,298
Other (Restoration, Enhancement, Surveys, Monitoring, etc.)	\$97,012
Subtotal	\$344,881

Priority schedule:

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

Administration

General administration	\$8,528
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Support

Land Management Planning	\$13,617
Land Management Reviews	\$0
Training/Staff Development	\$0
Vehicle Purchase	\$29,575
Vehicle Operation and Maintenance	\$19,419
Other (Technical Reports, Data Management, etc.)	\$8,682
Subtotal	\$71,293

Capital Improvements

New Facility Construction	\$0
Facility Maintenance	\$22,551
Subtotal	\$22,551

Visitor Services/Recreation

Info./Education/Operations	\$7,810
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Law Enforcement

Resource protection	\$2,670
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Total	\$457,732 *
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* Based on the characteristics and requirements of this area, two (2) full time equivalent (FTE) positions would be optimal to fully manage the area covered by this prospectus. All land management funding is dependent upon annual legislative appropriations.

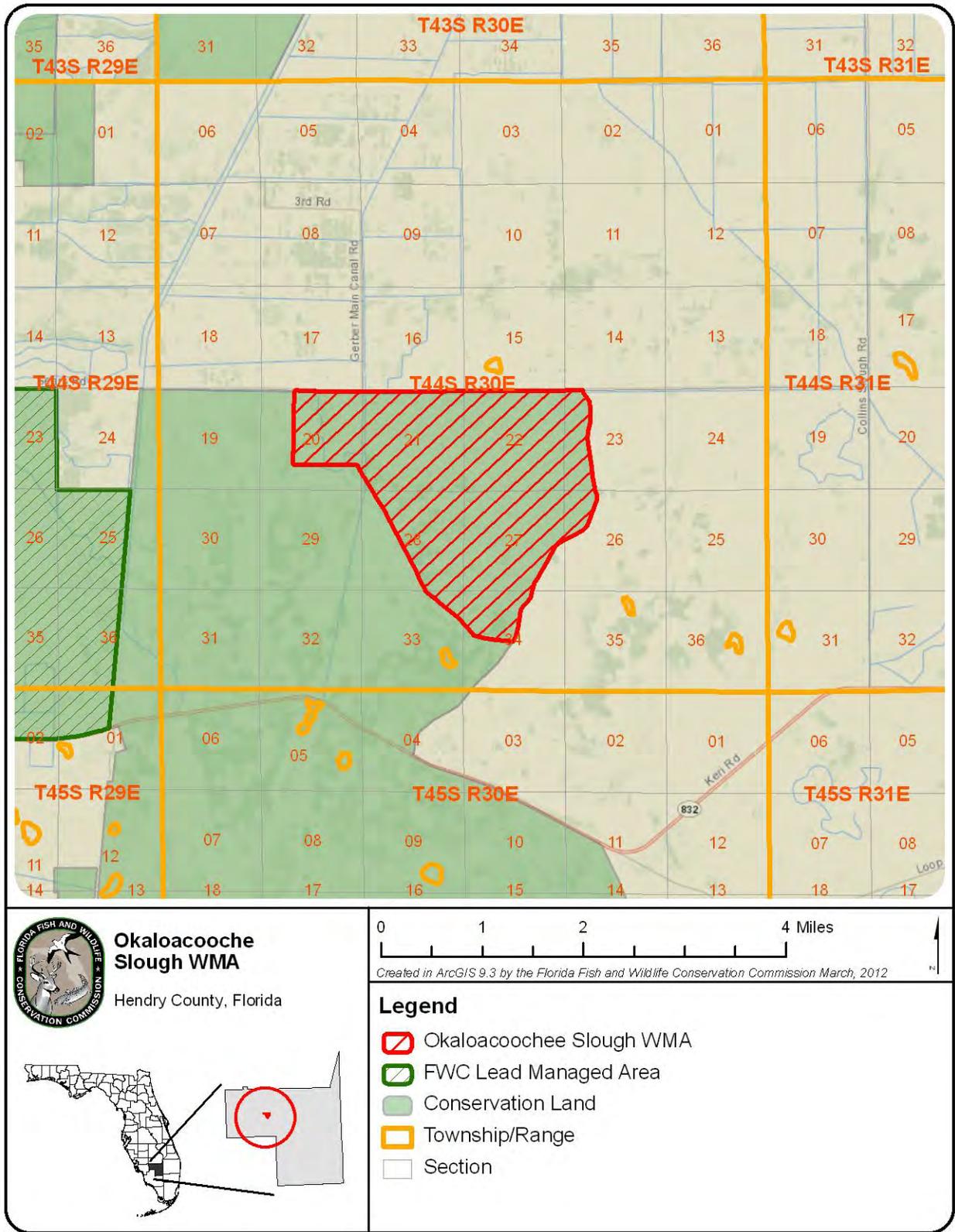


Figure 1. OSWMA Proximity Map with Section, Township, and Range

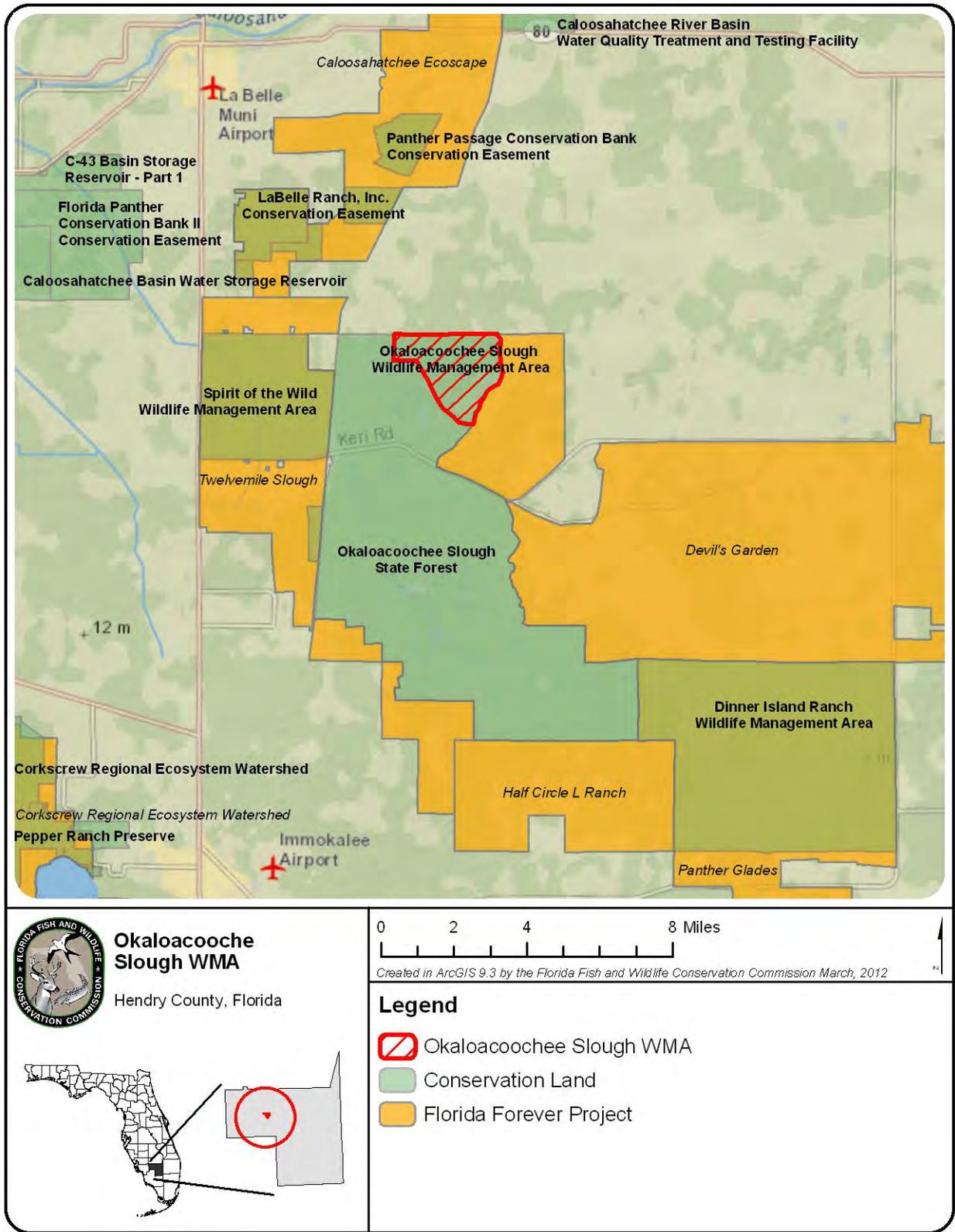


Figure 2. OSWMA Proximity Map with Conservation Land and Florida Forever Projects

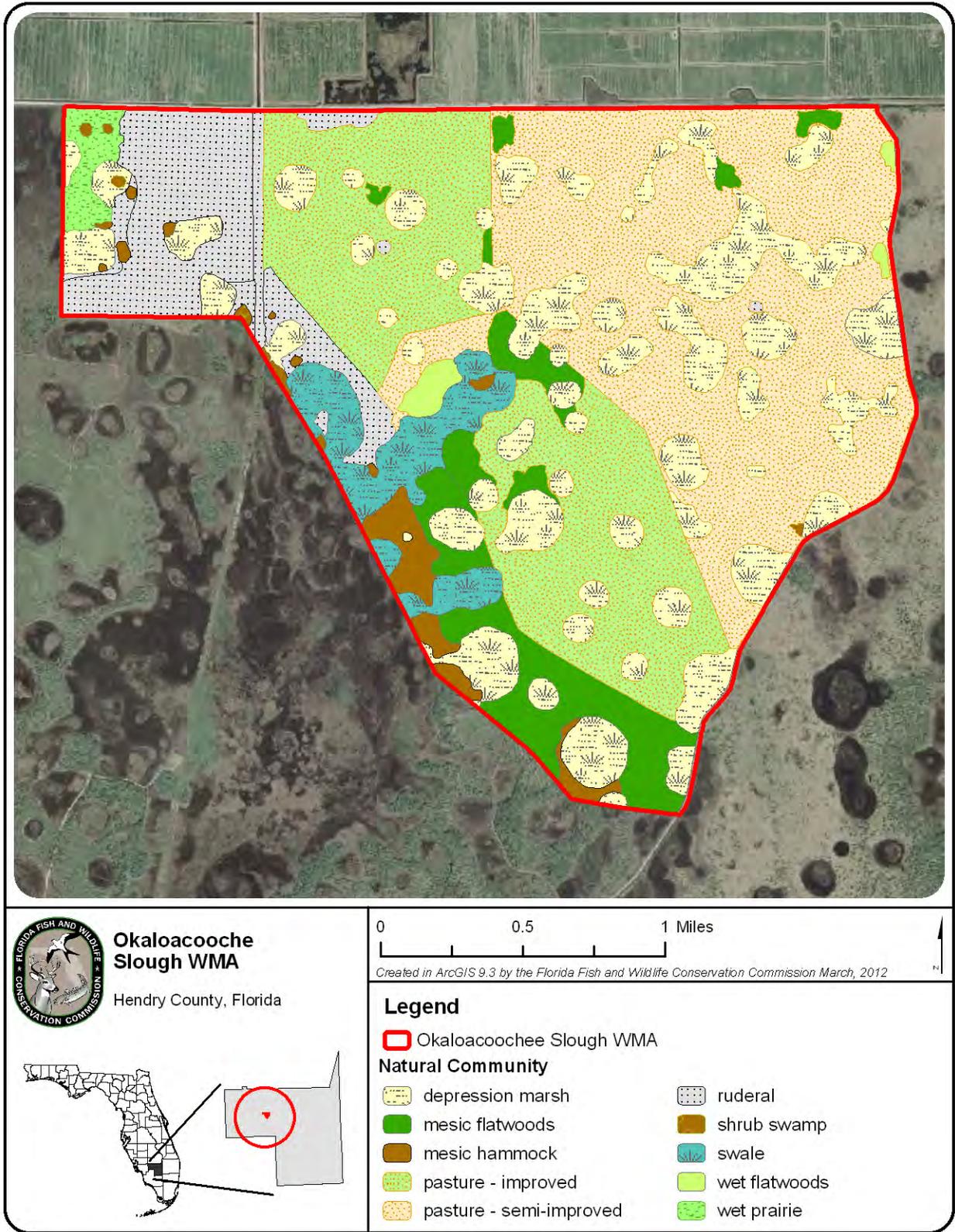


Figure 3. FNAI Natural Communities Vegetative Cover Map



Figure 4. FWC Wildlife Observations and FNAI Element Occurrences

13.3 Soil Series Descriptions

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Map Unit Description

Hendry County, Florida

Map unit: 1 - Boca sand

Component: Boca (85%)

The Boca component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on flatwoods on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits over limestone. Depth to a root restrictive layer, bedrock, lithic, is 24 to 40 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 8 inches during June, July, August, September. Organic matter content in the surface horizon is about 2 percent. This component is in the R155XY003FL South Florida Flatwoods ecological site. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 2 - Pineda sand, limestone substratum

Component: Pineda, limestone substratum (80%)

The Pineda, limestone substratum 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. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer, bedrock, lithic, is 40 to 80 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 3 inches during June, July, August, September. Organic matter content in the surface horizon is about 2 percent. This component is in the R155XY011FL Slough ecological site. Nonirrigated land capability classification is 5w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 4 - Oldsmar sand, 0 to 2 percent slopes

Component: Oldsmar (85%)

The Oldsmar component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on flatwoods, 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 12 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 2 percent. This component is in the R155XY003FL South Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 6 - Wabasso sand, 0 to 2 percent slopes

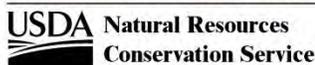
Component: Wabasso (89%)

The Wabasso component makes up 89 percent of the map unit. Slopes are 0 to 2 percent. This component is on -- Error in Exists On --. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer, strongly contrasting textural stratification, is 9 to 50 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 12 inches during June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 3 percent. This component is in the R155XY003FL South Florida Flatwoods ecological site. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 7 - Immokalee sand, 0 to 2 percent slopes

Component: Immokalee (90%)

The Immokalee component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flatwoods, coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches



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Map Unit Description

Hendry County, Florida

Map unit: 7 - Immokalee sand, 0 to 2 percent slopes

Component: Immokalee (90%)

during June, July, August, September, October, November. Organic matter content in the surface horizon is about 2 percent. This component is in the R155XY003FL South Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 8 - Malabar sand

Component: Malabar (85%)

The Malabar component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately 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 3 inches during June, July, August, September. Organic matter content in the surface horizon is about 2 percent. This component is in the R155XY011FL Slough ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 9 - Riviera fine sand

Component: Riviera (85%)

The Riviera component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately 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 3 inches during June, July, August, September. Organic matter content in the surface horizon is about 1 percent. This component is in the R155XY011FL Slough ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 10 - Pineda fine sand, 0 to 2 percent slopes

Component: Pineda (93%)

The Pineda component makes up 93 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 3 percent. This component is in the R155XY011FL Slough ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 12 - Winder fine sand

Component: Winder (85%)

The Winder component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately 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 3 inches during June, July, August, September. Organic matter content in the surface horizon is about 1 percent. This component is in the R155XY011FL Slough ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map Unit Description

Hendry County, Florida

Map unit: 13 - Gentry fine sand, depressional

Component: Gentry (90%)

The Gentry 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 loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 4 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 14 - Wabasso sand, limestone substratum

Component: Wabasso, limestone substratum (83%)

The Wabasso, limestone substratum component makes up 83 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, bedrock, lithic, is 40 to 80 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 12 inches during June, July, August, September, October. Organic matter content in the surface horizon is about 3 percent. This component is in the R155XY003FL South Florida Flatwoods ecological site. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 15 - Myakka sand

Component: Myakka (83%)

The Myakka component makes up 83 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 12 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 2 percent. This component is in the R155XY003FL South Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 17 - Basinger sand

Component: Basinger (83%)

The Basinger component makes up 83 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during June, July, August, September. Organic matter content in the surface horizon is about 1 percent. This component is in the R155XY011FL Slough ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 18 - Pompano sand

Component: Pompano (80%)

The Pompano 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. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 3

Map Unit Description

Hendry County, Florida

Map unit: 18 - Pompano sand

Component: Pompano (80%)

inches during June, July, August, September. Organic matter content in the surface horizon is about 3 percent. This component is in the R155XY011FL Slough ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 19 - Gator muck

Component: Gator (87%)

The Gator component makes up 87 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 loamy and 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 low. 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, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 70 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 20 - Okeelanta muck

Component: Okeelanta, undrained (50%)

The Okeelanta, undrained component makes up 50 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of 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 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 75 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

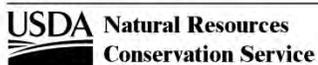
Component: Okeelanta, drained (37%)

The Okeelanta, drained component makes up 37 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 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 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 75 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 21 - Holopaw sand

Component: Holopaw (85%)

The Holopaw component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during June, July, August, September. Organic matter content in the surface horizon is about 3 percent. This component is in the R155XY011FL Slough ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.



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Map Unit Description

Hendry County, Florida

Map unit: 22 - Valkaria sand

Component: Valkaria (82%)

The Valkaria component makes up 82 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during June, July, August, September. Organic matter content in the surface horizon is about 3 percent. This component is in the R155XY011FL Slough ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 23 - Hallandale sand

Component: Hallandale (90%)

The Hallandale component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy marine deposits over limestone. Depth to a root restrictive layer, bedrock, lithic, is 7 to 20 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 8 inches during August, September, October. Organic matter content in the surface horizon is about 2 percent. This component is in the R155XY003FL South Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 24 - Pomello fine sand, 0 to 5 percent slopes

Component: Pomello (85%)

The Pomello component makes up 85 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 33 inches during July, August, September, October, November. Organic matter content in the surface horizon is about 1 percent. This component is in the R155XY001FL Sand Pine Scrub ecological site. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 26 - Holopaw sand, limestone substratum

Component: Holopaw, limestone substratum (83%)

The Holopaw, limestone substratum component makes up 83 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer, bedrock, lithic, is 50 to 80 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 3 percent. This component is in the R155XY011FL Slough ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 27 - Riviera sand, limestone substratum

Component: Riviera, limestone substratum (83%)

The Riviera, limestone substratum component makes up 83 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer, bedrock, lithic, is 50 to 80 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A

Map Unit Description

Hendry County, Florida

Map unit: 27 - Riviera sand, limestone substratum

Component: Riviera, limestone substratum (83%)

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 R155XY011FL Slough ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 28 - Boca sand, depressionnal

Component: Boca, depressionnal (77%)

The Boca, depressionnal component makes up 77 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 over limestone. Depth to a root restrictive layer, bedrock, lithic, is 24 to 40 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 low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 2 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 29 - Oldsmar sand, limestone substratum

Component: Oldsmar, limestone substratum (87%)

The Oldsmar, limestone substratum component makes up 87 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, bedrock, lithic, is 60 to 73 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during June, July, August, September, October. Organic matter content in the surface horizon is about 2 percent. This component is in the R155XY003FL South Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 32 - Riviera sand, depressionnal

Component: Riviera, depressionnal (80%)

The Riviera, depressionnal 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 low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 1 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 33 - Holopaw sand, depressionnal

Component: Holopaw, depressionnal (75%)

The Holopaw, depressionnal component makes up 75 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 high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 3 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map Unit Description

Hendry County, Florida

Map unit: 34 - Chobee fine sandy loam, limestone substratum, depressional

Component: Chobee, depressional, limestone subst. (80%)

The Chobee, depressional, limestone subst. 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 loamy alluvium. Depth to a root restrictive layer, bedrock, lithic, is 40 to 79 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October. Organic matter content in the surface horizon is about 9 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 37 - Tuscawilla fine sand

Component: Tuscawilla (82%)

The Tuscawilla component makes up 82 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 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 8 inches during June, July, August, September, October. Organic matter content in the surface horizon is about 2 percent. This component is in the R155XY003FL South Florida Flatwoods ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 39 - Udifluvents

Component: Udifluvents (92%)

The Udifluvents component makes up 92 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 alluvium. Depth to a root restrictive layer is greater than 60 inches. 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. This soil does not meet hydric criteria.

Map unit: 42 - Riviera sand, limestone substratum, depressional

Component: Riviera, depressional, limestone subst. (80%)

The Riviera, depressional, limestone subst. 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, bedrock, lithic, is 40 to 80 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 June, July, August, September, October, November. Organic matter content in the surface horizon is about 1 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 44 - Jupiter fine sand

Component: Jupiter (78%)

The Jupiter component makes up 78 percent of the map unit. Slopes are 0 to 1 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy marine deposits over limestone. Depth to a root restrictive layer, bedrock, lithic, is 8 to 20 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 3 percent. This component is in the R155XY005FL Cabbage Palm Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium

Map Unit Description

Hendry County, Florida

Map unit: 44 - Jupiter fine sand

Component: Jupiter (78%)

adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 45 - Pahokee muck, drained, 0 to 1 percent slopes

Component: Pahokee, drained (90%)

The Pahokee, drained component makes up 90 percent of the map unit. Slopes are 0 to 1 percent. This component is on marine terraces on coastal plains. The parent material consists of herbaceous organic material over limestone. Depth to a root restrictive layer, bedrock, lithic, is 36 to 51 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 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 June, July, August, September, October, November. Organic matter content in the surface horizon is about 83 percent. This component is in the R156AY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 47 - Udorthents

Component: Udorthents (90%)

The Udorthents component makes up 90 percent of the map unit. Slopes are 0 to 5 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 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. This soil does not meet hydric criteria.

Map unit: 49 - Aquents, organic substratum

Component: Aquents (92%)

The Aquents component makes up 92 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 over organic material over sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 1 percent. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 50 - Delray sand, depressional

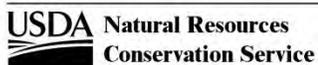
Component: Delray (82%)

The Delray component makes up 82 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 4 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 51 - Malabar fine sand, high

Component: Malabar, high (82%)

The Malabar, high component makes up 82 percent of the map unit. Slopes are 0 to 2 percent. This component is on flatwoods on



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Survey Area Version Date: 12/23/2013

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Map Unit Description

Hendry County, Florida

Map unit: 51 - Malabar fine sand, high

Component: Malabar, high (82%)

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 July, August, September. Organic matter content in the surface horizon is about 2 percent. This component is in the R155XY003FL South Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 53 - Adamsville fine sand

Component: Adamsville (80%)

The Adamsville component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on rises on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 33 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 56 - Terra Ceia muck

Component: Terra Ceia (88%)

The Terra Ceia component makes up 88 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of herbaceous organic material. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 75 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 57 - Chobee fine sandy loam, depressional

Component: Chobee, depressional (88%)

The Chobee, depressional component makes up 88 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 loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 6 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 58 - Oldsmar sand, depressional

Component: Oldsmar, depressional (87%)

The Oldsmar, depressional component makes up 87 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 2 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons

Map Unit Description

Hendry County, Florida

Map unit: 58 - Oldsmar sand, depressional

Component: Oldsmar, depressional (87%)

within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 59 - Winder fine sand, depressional

Component: Winder, depressional (87%)

The Winder, depressional component makes up 87 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October. Organic matter content in the surface horizon is about 2 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 60 - Myakka sand, depressional

Component: Myakka, depressional (87%)

The Myakka, depressional component makes up 87 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 moderate. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 2 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 61 - Malabar sand, depressional

Component: Malabar, depressional (87%)

The Malabar, depressional component makes up 87 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October. Organic matter content in the surface horizon is about 2 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 62 - Pineda sand, depressional

Component: Pineda, depressional (87%)

The Pineda, depressional component makes up 87 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October. Organic matter content in the surface horizon is about 3 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map Unit Description

Hendry County, Florida

Map unit: 63 - Jupiter-Ochopee-Rock outcrop complex

Component: Jupiter (50%)

The Jupiter component makes up 50 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on marine terraces on coastal plains. The parent material consists of sandy marine deposits over limestone. Depth to a root restrictive layer, bedrock, lithic, is 8 to 20 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 3 percent. This component is in the R155XY006FL Everglades Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Ochopee (25%)

The Ochopee component makes up 25 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on marine terraces on coastal plains. The parent material consists of loamy marine deposits over limestone. Depth to a root restrictive layer, bedrock, lithic, is 6 to 20 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 4 percent. This component is in the R155XY006FL Everglades Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 25 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Rock outcrop (15%)

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

Map unit: 64 - Hallandale sand, depressional

Component: Hallandale, depressional (87%)

The Hallandale, depressional component makes up 87 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 over limestone. Depth to a root restrictive layer, bedrock, lithic, is 7 to 20 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October. Organic matter content in the surface horizon is about 4 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 65 - Plantation muck

Component: Plantation (78%)

The Plantation component makes up 78 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 over limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 35 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map Unit Description

Hendry County, Florida

Map unit: 66 - Margate sand

Component: Margate (87%)

The Margate component makes up 87 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on marine terraces on coastal plains. The parent material consists of sandy marine deposits over limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 3 percent. This component is in the R155XY011FL Slough ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 67 - Lauderhill muck

Component: Lauderhill (87%)

The Lauderhill component makes up 87 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 limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 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 June, July, August, September, October, November. Organic matter content in the surface horizon is about 75 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 68 - Dania muck

Component: Dania (87%)

The Dania component makes up 87 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 limestone. Depth to a root restrictive layer, bedrock, lithic, is 8 to 20 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 75 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 5 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 69 - Denaud-Gator mucks

Component: Denaud (50%)

The Denaud component makes up 50 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits 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 moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 55 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 5 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Gator (25%)

The Gator component makes up 25 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 loamy and sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is not flooded. It is

Map Unit Description

Hendry County, Florida

Map unit: 69 - Denaud-Gator mucks

Component: Gator (25%)

frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 70 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 70 - Denaud muck

Component: Denaud (85%)

The Denaud component makes up 85 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits 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 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 January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 55 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 5 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 73 - Adamsville variant sand

Component: Adamsville Variant (85%)

The Adamsville Variant component makes up 85 percent of the map unit. Slopes are 0 to 5 percent. This component is on rises on marine terraces on coastal plains. The parent material consists of sandy marine deposits over with a thin layer of buried organic material. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 33 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 99 - Water

Component: Water (100%)

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

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13.4 FNAI Data Usage Permission 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

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13.5 FWC Agency Strategic Plan

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

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

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

Strategies:

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

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

Strategies:

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

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

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

Strategies:

1. Develop, acquire and use the appropriate biological and sociological science necessary to provide sustainable fishing, hunting, boating and wildlife viewing opportunities that meet the needs and expectations of user groups while providing for the sustainability of those resources.
2. Manage fish and wildlife populations to provide sustainable fishing, hunting, and wildlife viewing opportunities.
3. Develop and maintain widely available, diverse and accessible fishing, hunting, boating and wildlife viewing opportunities that meet the needs and expectations of residents and visitors while providing for the sustainability of those resources and emphasizing partnerships with both public and private landowners.
4. Recruit and manage sustainable levels of resident and visitor participation in fishing, hunting, boating and wildlife viewing.
5. Provide targeted fishing, hunting, boating and wildlife viewing programs for youth, the disabled and veterans.

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

Strategies:

1. Provide and promote opportunities for residents, and visitors to learn safety practices for fishing, hunting, boating and wildlife viewing.
2. Enhance the boating safety and waterway experience of residents and visitors through improved access, management, education and enforcement.
3. Promote Florida's outdoor environment as a safe and healthy recreational option for residents and visitors.
4. Address the growing disconnect between people and nature by marketing and providing opportunities and education for diverse age, race, gender, ethnic and other demographic sectors.

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

Strategies:

1. Continually evaluate proposed and existing regulations, based on resource management benefits, public safety concerns, and economic and social impacts, to improve or eliminate regulations as warranted.
2. Coordinate with partners and stakeholders to ensure that appropriate authorities and regulations exist to maintain sustainable fish and wildlife populations.
3. Implement and enforce regulations in an informative, proactive and influential manner to enrich resident and visitors' outdoor experience while safeguarding the natural resources.

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

Strategies:

1. Manage species and their habitats, as well as species and human interactions, to eliminate or reduce the adverse environmental, social, economic and health and safety impacts from native and non-native fish, wildlife and plants.
2. Effectively communicate to residents, visitors and businesses how to be safe and act responsibly when interacting with or possessing fish, wildlife and plants.
3. Manage captive and non-native wildlife movement and trade through proactive and responsive enforcement, regulation and education, with an emphasis on species that pose a high risk to our native fish and wildlife.
4. Enhance partnerships to address adverse environmental, social, economic and health and safety impacts from fish, wildlife and plants and ensure a consistent and integrated approach with FWC.

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

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

Strategies:

1. Expand and promote the Florida Youth Conservation Centers Network through leveraging FWC programs and staff, and developing public and private partnerships and sponsorships.
2. Develop and deliver standardized youth conservation curricula and fishing, hunting, boating and wildlife viewing outdoor activity programs, and assist with adapting programs and curricula to meet the needs of diverse communities.
3. Foster stewardship and shared responsibility for fish and wildlife conservation through conservation education programs.
4. Expand marketing and outreach to reach diverse audiences and engage all staff in priority outreach initiatives.

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

Strategies:

1. Foster a common vision among partners and the FWC to maintain and enhance fish and wildlife populations and their habitats through interagency coordination, mutually beneficial goals and initiatives.
2. Engage residents, visitors, stakeholders and partners to understand their perspectives, develop and implement conservation programs, and implement fishing, hunting, boating and wildlife viewing management activities.
3. Use citizen science to enhance conservation programs.

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

Strategies:

1. Inform residents and visitors about conservation stewardship and encourage their active involvement in achieving conservation of fish and wildlife.
2. Provide and promote opportunities for residents and visitors, especially youth, to participate in conservation stewardship activities, including FWC volunteer opportunities.

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

Strategies:

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

2. Provide residents and visitors with relevant information on the social and economic benefits of conservation, fishing, hunting, boating, and wildlife viewing.
3. Support community events and programs that promote fish and wildlife conservation.

Theme Four – Responsive Organization and Quality Operations

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

Strategies:

1. Identify and implement ways to support Florida businesses and job growth while managing fish and wildlife.
2. Identify and promote opportunities for staff to benefit local communities through participation in approved activities where FWC resources can be used (for example, the Florida State Employees' Charitable Campaign, the Guardian ad Litem Program, mentoring programs, FWC Disaster Response Teams, and American Red Cross Disaster Services).
3. Provide residents and visitors with reliable and current information on Florida's fish and wildlife.
4. Continue to attract visitors by providing top-quality fishing, hunting, boating and wildlife viewing opportunities.

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

Strategies:

1. Identify existing and emerging risks to the safety of residents and visitors and foster internal collaboration and external partnerships necessary to effectively manage, reduce or eliminate those risks.
2. Provide immediate and effective disaster response and recovery through mutual-aid efforts with local, state and federal partners.
3. Provide search, rescue, and recovery services in coordination with local, state and federal entities to ensure the safety of residents and visitors.
4. Protect natural and cultural resources through proactive and responsive enforcement efforts.

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

Strategies:

1. Address emerging biological, social and economic trends, anticipate impacts and take advantage of opportunities to accomplish FWC's mission.
2. Expect each employee to be an ambassador for FWC and its mission to Florida's diverse residents and visitors.
3. Provide efficient and effective service to Florida's diverse residents, visitors, and FWC staff.
4. Foster a diverse, accountable, responsive and skilled workforce who effectively serves Florida's residents and visitors.
5. Manage existing and secure additional resources necessary to achieve fish and wildlife conservation and meet residents, visitor and stakeholder needs.
6. Create and maintain an effective business model that supports the FWC's mission by using continuous improvement approaches that foster a collaborative and professional culture.

13.6 WCPR Strategy

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**Dinner Island Ranch WMA
Spirit of the Wild WMA
Okaloacoochee Slough WMA
Species Management Strategy
December 16, 2010**

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 and Wildlife Conservation Commission's (FWC) Terrestrial Habitat Conservation and Restoration section (THCR) takes a proactive, science-based approach to species management on lands in the Wildlife Management Area/Wildlife and Environmental Area (WMA/WEA) system. This approach uses information from statewide models in conjunction with input from species experts and people with knowledge of the area to create site-specific wildlife assessments of a number of focal species. Staff combines these assessments with management considerations to develop a wildlife management strategy for the area. FWC intends for this strategy to: 1) provide land managers with information on actions they should take provided the necessary resources are available, 2) promote the presence of and ensure the persistence of focal wildlife species on the area, and 3) provide measurable species objectives that can be used to evaluate the success of wildlife management on the area.

This document presents the results of an approach to evaluating focal species needs within an ecosystem management approach for the WMA complex that includes Dinner Island Ranch Wildlife Management Area (DIR), the Spirit of the Wild Wildlife Management Area (SOW), and the Okaloacoochee Slough Wildlife Management Area (OKS). Natural community management focused on a set of focal species provides benefits to a host of species reliant upon these natural communities. Monitoring select species provides information that verifies whether natural community management is having the desired effect on wildlife. Throughout the process, the role of the WMA complex in regional and statewide conservation initiatives was considered to maximize the potential benefit.

[Section 1](#) informs the reader about the process used to generate this document. [Section 2](#) describes the historic and ongoing management actions on the property. [Section 3](#) provides a list of the focal and listed species on these areas, and an assessment of each species' level of opportunity/need. This includes species-specific goals and objectives when appropriate. Objectives are identified for 4 species on this area: Bachman's sparrow, Florida grasshopper sparrow, Florida sandhill crane, and wading birds. [Section 4](#) describes specific land management actions recommended for focal species. This includes Strategic Management Areas (SMA) and Objective-Based Vegetation Management (OBVM) considerations. An SMA is an area in which FWC will apply a specific land or species management action(s) to facilitate conservation of a species or group of species. This section also discusses management necessary to ensure continued persistence of focal species. Staff designated a Florida Panther SMA and identified the need to designate an SMA for dry prairie restoration. [Section 5](#) describes species-specific management (e.g., restocking, nest structures), the species monitoring prescribed for the area, and research that would be necessary to guide future management efforts. No species-specific management actions are recommended for this suite of species. We describe monitoring efforts for Bachman's sparrow, Florida grasshopper sparrow, Florida sandhill crane, and wading birds. Opportunistic monitoring is suggested for a number of other focal and imperiled species. The conservation of DIR, OKS, and SOW's wildlife requires interaction with other entities beyond local staff. Intra-agency coordination with 6 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 provide for most of the land management recommended in this document. The FWC will use a combination of private sector contract work and efforts of area staff to accomplish these activities. Some of the monitoring recommendations will require additional resources, while FWC can accomplish others with continuation of existing resources. Additional resources will be required to achieve optimal burn intervals in natural communities.

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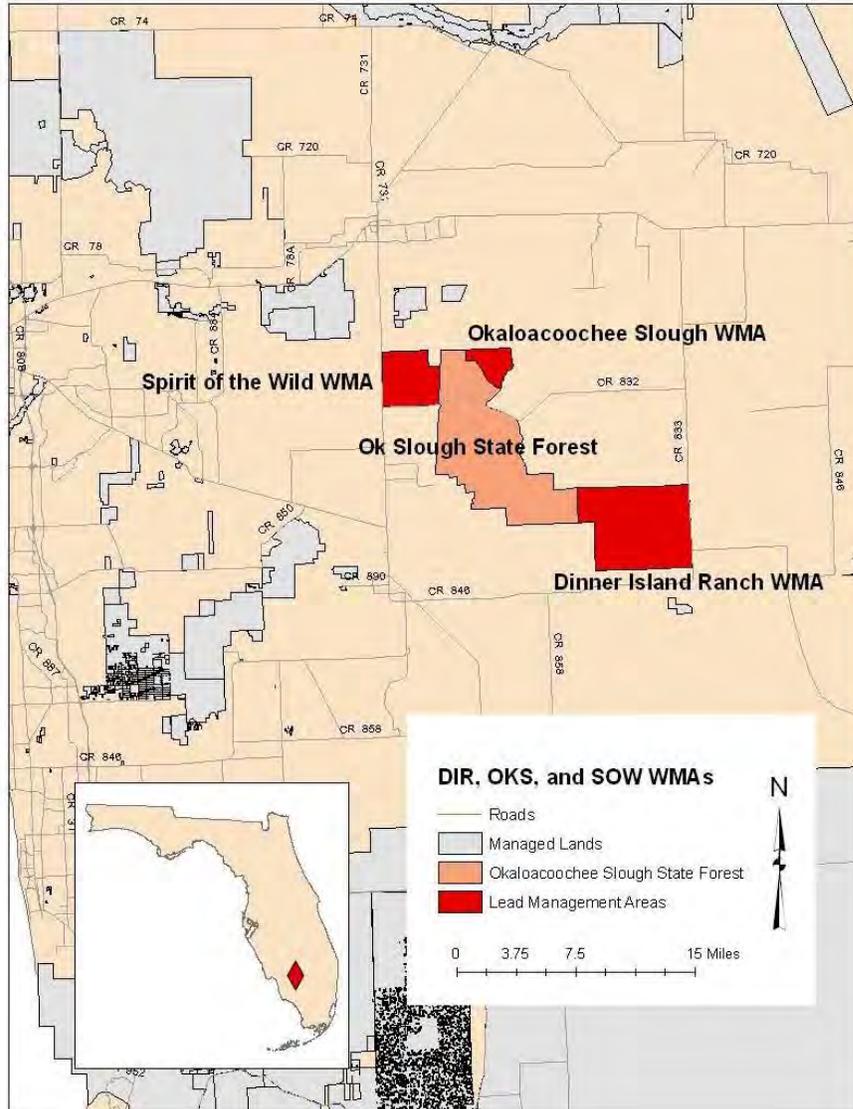
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Acronym List

DEP	Department of Environmental Protection
DFC	Desired Future Condition
DIR	Dinner Island Ranch WMA
DOF	Division of Forestry
FNAI	Florida Natural Areas Inventory
FWC	Florida Fish and Wildlife Conservation Commission
FWRI	Florida Wildlife Research Institute
GCR	Groundcover Restoration
HCSS	Habitat Conservation Scientific Services (section)
MU	Management Unit(s)
NRCS	U.S. Department of Agriculture - Natural Resources Conservation Service
OBVM	Objective Based Vegetation Management
OKS	Okaloacoochee Slough Wildlife Management Area (FWC lead acres)
OKSSF	Okaloacoochee Slough State Forest (DOF lead acres)
OKSWMA	Okaloacoochee Slough Wildlife Management Area (all acres, DOF & FWC lead)
PGP	Panther Glade Florida Forever Land Acquisition Project
PLCP	Public Lands Conservation Planning (project)
PVA	Population Viability Assessment
SCP	Species Conservation Planning (section)
SFWMD	South Florida Water Management District
SHCA	Strategic Habitat Conservation Area
SMA	Strategic Management Area
SOW	Spirit of the Wild Wildlife Management Area
THCR	Terrestrial Habitat Conservation and Restoration (section)
TSFFP	Twelvemile Slough Florida Forever Project
WCA	Water Conservation Area
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 they should take provided the necessary resources are available, 2) promote the presence and facilitate the persistence of focal wildlife species on the area, and 3) provide measurable species objectives managers can use to evaluate the success of wildlife management on the area. On FWC lead areas, we reference goals and objectives included in the Management Plan (formerly known as Conceptual Management Plan) when discussing the species and drafting the Strategy; therefore this Strategy will help guide and support the goals of the Management Plan. The species-specific objectives identified in this Strategy will be incorporated into the Management Plan and this Strategy will be appended to the Management Plan. This document presents a strategy for a complex of lands that include three management areas where FWC is the lead managing agency. Although each area is a unique management area, we recognize that these lands function together ecologically and their significance to wildlife is as a complex, rather than as individual management areas.

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

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

The primary focus of this approach is non-game species; however, 2 of the focal species are game birds. Specific game management actions are not included in this Strategy, although 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

DIR, SOW, and OKS, it considers the role of the areas within the larger State and/or regional context. Similarly, while the Strategy has species-specific objectives and actions, it does not endorse single-species management. The FWC's land management focuses on natural community management that benefits the host of species that naturally occur in each natural community. However, some species may need directed actions if they are to recover from past declines or be restored to habitat from which they were extirpated. By implementing the Strategy, FWC believes our management will benefit the largest suite of native wildlife by keeping common species common and aiding in the recovery of listed species.

Section 2: Current and Historic Management Actions

The WMA complex made up of DIR, OKS, and SOW is located in Hendry County. The FWC manages a total of 32,039 acres combined on the 3 areas. The 32,162-acre Okaloacoochee Slough State Forest (OKSSF) in Hendry and Collier counties, where the Florida Division of Forestry (DOF) is the lead managing agency and FWC acts as a cooperater, connects the areas. The northwest portion of DIR shares about 2 miles of border with OKSSF. The eastern boundary of SOW and the southern boundary of OKS are contiguous with the state forest.

Private lands adjacent to the property are rural, with citrus to the north and south of DIR and cattle ranching to the east. Agriculture and cattle ranching operations have flourished in the area since the 19th century. Today, agriculture is the base of Hendry County's economy. Sugarcane and citrus, followed by cattle and tomato farming are the county's most valuable commodities.

Management for each of these areas requires a unique approach. The current condition of each management area is a result of the property's historic land uses, as well as more current management actions. FWC's goal for management of these lands is to restore, where appropriate, the natural form and function of the natural communities while maintaining a mosaic of thick and open habitats that meet the needs of the area's wildlife.

2.1: Dinner Island Ranch

The State of Florida acquired DIR through 2 purchases occurring in 2002 and 2004. The initial acquisition totaled 19,667 acres and the subsequent acquisition totaled 2,047 acres, bringing the total acreage to 21,714. All lands were purchased under the Panther Glades Florida Forever Land Acquisition Project (PGP). The purpose of acquisition for the PGP is to provide critical linkage between conservation lands for wide-ranging species, such as the Florida panther (*Puma concolor coryi*). The project area includes 64,701 acres of land with multiple owners, and as of March 2010, the State had acquired 22,289 acres of the PGP. DIR is part of a network of publicly managed lands, including the OKSSF. Many species occurring on DIR are dependent upon this network of conservation lands for persistence.

Historic land use practices included vegetable, cattle, citrus, and sugarcane production, as well as extensive ditching and draining to facilitate these activities. Previous landowners converted all historic prairie and 98% of the flatwoods cover types to improved pasture. Active citrus production remains on 737 acres and generated an average yearly revenue of \$113,000 from 2006 - 2009. These previous management actions have affected the entire property. There are only 38 acres of actively managed natural community types

remaining on DIR; 34 acres of mesic flatwoods and 4 acres of wet flatwoods (Table 1). Due to the limited size of the patches, FWC does not use the OBVM process to monitor these communities. Other upland communities actively managed on the area include semi-improved pasture (32 acres) and improved pasture (11,760 acres).

The primary vegetation management tool used on DIR is cattle grazing. The FWC maintains 2 cattle grazing leases that cover roughly 19,184 acres and generate over \$350,000 annually. With 11,792 acres classified as improved or semi-improved pasture and the cost of restoration at over \$850 per acre, cattle have proven to be the most economical means with which to control vegetation development and ecological succession. Currently, FWC does not have a grazing lease exit strategy in place but does reserve the right to remove acreage that FWC deems necessary for wildlife management from the lease.

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

Community Type	Estimated Current Acreage	Estimated Historic Acreage	Monitored via OBVM ¹	# of focal species that use the NC
Basin marsh	1,791	3,703	No	7
Depression marsh	1,912	2,059	No	5
Dome swamp	613	869	No	3
Mesic flatwoods	34	2,005	No	3
Pasture - improved	11,760	0	No	5
Pasture - semi-improved	31	0	No	5
Prairie hammock	1,421	657	No	0
Ruderal	3,105	0	No	8
Swale	1030	1,317	No	7
Wet flatwoods	3.8	399	No	4
Wet prairie	0	5,334	No	5
Dry prairie	0	5,360	No	6
TOTAL ACRES	21,706			

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

The FWC excluded cows from 1,571 acres for groundcover restoration (GCR) projects or early-succession habitat improvements. Staff contracted for the restoration of a 100-acre block of former wet and dry prairie within the eastern half of DIR and initiated a 22-acre in-house restoration project bordering the contracted area. After establishing native plants in these restoration areas, staff will maintain the restoration areas using prescribed fire during the growing season. Early-succession habitat improvements are generally limited to the removal of sod forming ground covers and allowing the areas to go fallow. This practice results in a number of native plant species germinating in the area, which creates an enhanced wildlife habitat. These areas are maintained using prescribed fire, mowing, and disking.

The extent of previous land alteration and continuation of cattle grazing limit FWC's ability to use prescribed fire as a management tool. With the exception of the GCR and habitat improvement areas, conducting burns on the property is limited to the dormant season

and generally only after a frost when the low groundcover is dry enough to carry a fire. Staff has administered 11 burns totaling 2,118 acres since 2001.

The FWC recently completed a cooperative project with the U.S. Department of Agriculture-Natural Resources Conservation Service (NRCS) to fill 15.5 miles of drainage ditches within and north of a former sugarcane field. The objective was to retain water on site and restore the natural sheet-flow. Staff is currently in the beginning stages of a similar restoration project within a 580-acre former vegetable farm. Staff will continue to identify hydrologic restoration opportunities and procure the necessary permits to achieve restoration and management goals. A comprehensive hydrologic assessment of the area is needed.

In an effort to provide a diversity of mast producing species and improve vertical vegetative development, staff contracted the planting of over 24,000 trees and shrubs along the edges of and within current prairie hammock areas. Species included gallberry (*Illex glabra*), beautyberry (*Callicarpa americana*), Spanish stopper (*Eugenia foetida*), sugarberry (*Celtis laevigata*), fetterbush (*Lyonia lucida*), myrsine (*Rapanea guinensis*), saw palmetto (*Serenoa repens*), live oak (*Quercus virginiana*), and gumbo limbo (*Bursera simaruba*). Additionally, staff annually plant 100 acres in millet for public mourning dove (*Zenaidura macroura*) hunts.

Staff has contracted for the control of tropical soda apple (*Solanum viarum*), caeserweed (*Urena lobata*), wetland nightshade (*Solanum tampicense*), Brazilian pepper (*Schinus terebinthifolius*), rosary pea (*Abrus precatorius*), air potato (*Dioscorea bulbifera*), lantana (*Lantana camara*), old world climbing fern (*Lygodium microphyllum*), wandering jew (*Tradescantia fluminensis*), and pothos vine (*Epipremnum aureum*) on over 20,000 acres at a cost of over \$400,000. To prevent re-infestation, staff spot treat exotics as encountered.

Ongoing species management and monitoring actions include white-tailed deer (*Odocoileus virginianus*) spotlight surveys. From 2002 through 2008, deer observed during surveys increased from 404 in 2002 to 492 in 2008. During these same surveys, demographic rates such as percentage of bucks and percentage of spotted fawns remained similar. Staff conducted a presence/absence survey for round-tailed muskrats (*Neofiber alleni*) in February of 2009. Staff systematically sampled 5 random survey sites and identified round-tailed muskrats at 1 survey site. Staff collected morphological data on white-tailed deer during 28 days of public deer hunts. In 2010, staff banded 25 mourning doves as part of the statewide banding effort.

2.2: Spirit of the Wild

The State of Florida purchased the 7,486 acres that make up SOW in 2002 as a portion of 15,683 total acres proposed for acquisition under the Twelvemile Slough Florida Forever Project (TSFFP). SOW was established as a WMA in June 2003. The TSFFP connects to the OKSSF, enhancing the potential size of a significant complex of State conservation lands and providing habitat for several endangered species. The principal purposes of the TSFFP are to protect significant natural habitat important to numerous species of concern, as well as to preserve the hydrological connection with public lands to the east and south. More specifically for SOW, the primary management intent is to perpetuate naturally functioning plant communities within the context of the hydrological regime of the area and to promote a diversity of wildlife habitats. Part of the justification for State acquisition of SOW was the area had been identified as Strategic Habitat Conservation Area

(SHCA; see [Section 7](#) for a description of SHCA) for the Florida panther, American swallow-tailed kite (*Elanoides forficatus*), Florida sandhill crane (*Grus canadensis*), limpkin (*Aramus guarana*), and snail kite (*Rostrhamus sociabilis plumbeus*). Much of the land to the south and west of SOW consists of cattle ranches and vegetable farms, while much of the land to the east is in public ownership, including OKSSF, OKS and DIR.

Beginning in the 1920's and lasting until the 1940's, SOW and adjacent lands experienced extensive timber harvests. This resulted in the clearing of old trees from the flatwoods. The result of this clearing is a lack of mature pine trees on SOW. Landowners began draining SOW for agricultural purposes during the mid 1940's. The dredging of Robert's Canal began in 1948 and was completed in 1949. The purpose of the canal was to drain surface water from the surrounding area northward into the Caloosahatchee River. Canoe Slough and other wetlands within SOW were ditched to drain into the canal. Previous landowners incorporated many agricultural practices including cattle ranching, farming (watermelons, tomatoes, and various other crops), sod/hay harvesting and hunting. These practices continued until 2002 when the state of Florida purchased the land.

The current state of SOW's natural communities is drastically different from their historic condition ([Table 2](#)). Hydrologic alterations in conjunction with agricultural activities have resulted in the conversion of much of the historic mesic flatwoods community to the improved and semi-improved pasture found today.

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

Community Type	Estimated Current Acreage	Estimated Historic Acreage	Actively Managed ¹	# of focal species that use the NC
Basin marsh	253	476	No	7
Depression marsh	495	493	No	5
Dome swamp	3	0	No	3
Mesic flatwoods	992	4700	Yes	3
Mesic hammock	15	0	No	1
Pasture - improved	4287	0	No	5
Pasture - semi-improved	838	0	No	5
Ruderal	147	0	No	8
Wet flatwoods	434	0	No	4
Wet prairie	18	1816	Yes	5
TOTAL ACRES	7,486			

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

SOW contains 1,010 acres in actively managed natural communities. Most of the area's acreage is pasture rather than native plant communities. Current actively managed natural communities include mesic flatwoods and wet prairie ([Table 2](#)). FWC manages these communities with prescribed fire and mechanical and chemical vegetation control. Through the OBVM workshop process, staff delineated Management Units (MUs) and defined desired future conditions (DFC) for the actively managed natural communities. Other fire

maintained communities (e.g., depression marsh, wet flatwoods) occur within actively managed communities and receive the benefits of prescribed fire, even though not monitored via the OBVM process.

Previous landowners used fire to achieve ideal forage for cattle operations on SOW. Dyess Roberts with the Red Cattle Company, the first registered owner of the property, used controlled burns in the 1920's to clear underbrush while harvesting timber from the area. Prior to State acquisition, landowners primarily conducted burning during the dormant season to prepare the pastures for spring growth.

The FWC implemented a prescribed burn program in early 2004 to reduce heavy fuel loads, lessen the chance of catastrophic wildfires, and enhance natural communities for the benefit of wildlife. The objective of the burn program on SOW is to maintain the area's ground cover in a mosaic dominated by early-succession vegetation. FWC designated 37 MUs ranging in size from 50 to 700 acres in order to facilitate a safe burn program. Flatwoods and wet prairies are the natural communities maintained using prescribed fire on SOW. The current burn programs places priority on actively managed natural communities. In order to meet the OBVM DFCS, these communities are set on a 2-3 year burn rotation; however, some units have gone as much as 5 years between treatments, and there are limited records of burning prior to 2005. To date, FWC has burned a total of 4,710 acres on SOW, and the current goal is to average approximately 336 acres of natural community burns per year. All mesic flatwoods on the property have been burned at least once, and 3 mesic flatwoods units have been burned twice since 2005. When pasture is included, a total of 6,135 acres exist in burnable communities. A preferred burn rotation for non-native communities has not been identified; however, staff plans to burn approximately 1,025 acres of pasture per year to achieve a 5 year burn interval, although natural communities are the first priority. A combination of growing and dormant season burns is preferred, but staff utilizes dormant season burns to ensure fire frequency is maintained as conditions are often unsuitable for fire during the growing season. Impediments to burning include seasonal inundation and SOW's proximity to a number of roads, including Highway 29, County Road 832, and Sears road. Fence remaining from grazing is also a consideration; however, efforts to remove this fence are underway.

FWC completed multiple restoration projects on SOW since 2004. Staff created an invasive exotic vegetation control plan and initiated control actions on the area in 2004. The plan calls for a combination of chemical and mechanical treatments. The exotic species initially targeted for control were Brazilian pepper, tropical soda apple, and cogongrass (*Imperata cylindrical*). Staff used funds provided by FWC and the Department of Environmental Protection (DEP) to provide for the initial treatment of these exotic species on all 7,487 acres and follow-up treatment on 800 acres. FWC supplemented this action with cost share agreements with NRCS that funded mechanical treatments of 4,460 acres of tropical soda apple and 113 acres of Brazilian pepper. All areas within SOW received initial treatments for the 3 targeted exotic vegetation species; however, continued maintenance treatments are necessary to control re-infestations.

The FWC entered into the Wetlands Reserve Program with NRCS in 2006 to restore the natural hydrology on the area. This project resulted in the installation of 38 plugs and the filling of nearly 46 miles of ditches. These practices have left the landscape much wetter than when it was acquired, with longer hydroperiods. Hydrologic alterations beginning around 1900 contributed to succession of wet prairie to mesic flatwoods and pasture,

although the original extent of flatwoods on the area is unclear. Restoration of hydrology (and damage from hurricanes), has resulted in fewer live pine trees, than were previously present in the 20th century, though staff believe the restoration to wet prairie more closely resembles historic natural communities.

The majority of the area's trees are young, although there are a few pockets of older growth. Managers recognize there may be a need for planting trees if natural regeneration is not sufficient to restore the area's pine flatwoods. Past management has left the landscape heavily altered with pasture dominating the acreage. Most of the groundcover is bahiagrass (*Paspalum notatum*); although some areas classified as mesic flatwoods do contain native groundcover. There are a few areas (< 50 acres) where slash pine (*Pinus elliottii*, var. *densa*) and palmetto occur with bahia groundcover.

One of the primary management objectives for SOW is to restore native vegetation to the open pastures. A GCR project began in 2007. In an attempt to reclaim a 100 acre improved pasture, FWC began herbicide treatments to eliminate the exotic and highly invasive bahiagrass followed by reseeded with native grasses and forbs. FWC finished the native species reseeded in the GCR plot in February of 2010 and conducted follow-up exotic treatments in March and April.

Another project involves the creation of wildlife corridors by planting "tree islands" in open pastures to connect isolated hammocks, wetlands, and pine flatwoods. To initiate this project, a cost share agreement with NRCS provided \$85,104 to plant 3,546 trees. To create tree islands, we planted approximately 107 plants each in a number of 1-acre patches. Planted species include live oak, laurel oak (*Quercus laurifolia*), hackberry (*Celtis laevigata*), red bay (*Persea borbonia*), swamp bay (*Persea palustris*), sweet bay (*Magnolia virginiana*), red maple (*Acer rubrum*), dahoon holly (*Ilex cassine*), pop ash (*Fraxinus caroliniana*), common persimmon (*Diospyros virginiana*), and south Florida slash pine. These islands were spaced 100 - 200 yards apart and linked together by planting thin corridors of south Florida slash pines. Islands were surveyed one year after planting and mortality was found to be less than 10%. Staff will introduce dormant-season fire into the islands after a 5-year establishment period, and will use specific firing techniques to ensure low intensity fire. These sheltered pathways will improve habitat for most native wildlife, especially the endangered Florida panther and its primary food source, the white-tailed deer.

Current species monitoring includes yearly round-tailed muskrat lodge surveys conducted to document presence of the species. Staff surveyed 5 ponds each in 2008 and 2009. Surveyors documented 1 lodge in 2008 and 1 "possible" lodge in 2009. Staff conducts a yearly spotlight survey for white-tailed deer. The purpose of the survey is to track the population trend. The results of the surveys indicate that the population is increasing. Annual aerial transects were flown to count the deer population in 2004, 2006, and 2010. Camera trap surveys were conducted for wild turkey (*Meleagris gallopavo osceola*) from 2004 to 2007. These surveys documented numerous turkeys; however, this method of detection is not reliable for population estimates and has been discontinued.

2.3: Okaloacoochee Slough

In this document, we will refer to the land leased to DOF as the OKSSF, the 2,968 acres on which FWC is lead agency as OKS. When discussing both (the entire management area), we will use OKSWMA. Most of the information in this section is specific to OKS.

The OKSWMA consists of 34,962 acres of State conservation lands. The State purchased the 2,923-acre portion of OKS on which FWC is lead manager from Alico Corporation in December 1998. Preservation 2000 Inholdings and Additions funds made the acquisition possible. The Trustees of the South Florida Water Management District (SFWMD) own the remainder of the OKSWMA, and lease these acres to DOF for management.

Logging began in the early part of the century and continued until 1992. Aerial photography from 1948/49 shows the area logged, but no roads, fences, or ditches. Virtually no changes occurred until after 1957, when photography shows citrus groves planted to the north, and much of the land making up OKS was converted to farm fields and pastures. Aerial photographs after 1968 show large canals were constructed on OKS during this time. Between 1968 and 1984, internal wetlands were connected with ditches.

Under the OBVM program, actively managed natural communities include mesic flatwoods, wet flatwoods, wet prairie and depression marsh (Table 3). Based on estimates of historic acres of these communities, there is the potential to have 2,353 acres of actively managed communities if management can result in the restoration of all acres. Staff is actively restoring semi-improved and improved pasture to appropriate natural communities. Staff uses prescribed fire, mechanical and chemical vegetation control, and GCR to manage plant communities and facilitate restoration. Through the OBVM workshop process, staff delineated MUs and defined DFCs for the actively managed natural communities.

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

Community Type	Estimated Current Acreage	Estimated Historic Acreage	Actively Managed ¹	# of focal species that use the NC
Basin marsh	0	110	No	6
Depression marsh	631.8	459.9	Yes	5
Hydric hammock	0	36.9	No	2
Mesic flatwoods	318.8	1825.3	Yes	3
Mesic hammock	74.1	18.4	No	1
Pasture - improved	369.2	0	No	5
Pasture - semi-improved	883.1	0	No	5
Ruderal	291.2	0	No	7
Shrub swamp	2.8	0	No	1
Swale	147.2	450.1	No	7
Wet flatwoods	213.1	48.7	Yes	4
Wet prairie	37.2	19.2	Yes	4
TOTAL ACRES		2,968.5		

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

The FWC has implemented a prescribed burn program to reduce heavy fuel loads, lessen the chance of catastrophic wildfires, and enhance natural communities for the benefit of wildlife. A combination of growing and dormant season burns is preferred, but staff use dormant season burns for initial fuel reduction and to maintain fire frequency when

conditions are not conducive to growing season fire. Approximately 1,201 acres exist in fire-maintained natural communities on OKS, but prior to alteration, most of the area was fire maintained. FWC conducted the first prescribed burn in January 2003. To date, staff has treated approximately 2,140 acres with prescribed fire 1 or more times. The only unburned acres include a deeply ditched and furrowed field on the west side of the property and a wet area adjacent to the slough along the upper part of the southwest boundary. One management consideration designed to improve conditions for panther is to allow select MUs to receive a longer than typical fire return interval to provide more cover. Yearly burn acreage has averaged 325 acres/year and ranged from 21 to 942 acres/year. Environmental conditions dictate great variation in year-to-year burnable acreage.

Habitat restoration is concentrated on semi-improved and improved pastures and includes groundcover restoration, shrub reduction, and tree and shrub planting. Staff converted approximately 300 acres from improved pasture to native flatwoods groundcover by removing exotic grasses and planting native seed collected from intact natural areas. The FWC has treated another 600 acres of bahiagrass-dominated improved and semi-improved pasture with herbicide 1 or more times, and native species have recolonized the sites providing improved natural habitat. These native plants provide fuel that allows the application of prescribed fire, which further enhances the function of the community.

Wax myrtles (*Morella cerifera*) can dominate abandoned pastures and this reduces the habitat value for a number of species. The FWC used root raking, mowing, and herbicide applications on approximately 1,600 acres to reduce the extent of wax myrtle in abandoned pastures to maintain the open condition preferred by many species.

The logging conducted by previous landowners removed trees and altered the vertical structure of the habitat on OKS. To overcome this modification, the FWC has planted over 14,700 trees and shrubs (13 species). Trees and shrubs were planted around wetlands in “fire shadows” to create hammocks, while cypress was planted in depression wetlands to create “domes.” Staff designed these plantings to provide structure and cover for wildlife and function within the natural burn regime.

On OKS, invasive exotic plant control began with FWC funding in spring 2003 that provided for the treatment of the whole property. All plants identified by the Florida Exotic Pest Plant Council as Category I and II exotics, except torpedo grass (*Panicum repens*) and caesarweed, were treated on OKS during this initial treatment. Every year since 2003, staff has used Upland Invasive funding to conduct maintenance treatments on OKS. In winter 2006/07 caesarweed was added to the list of species treated. While cogongrass and Brazilian pepper were the primary targets for the initial treatments, due to the success of treatments in controlling these species, caesarweed is currently the primary target. Continued maintenance treatments are necessary to control re-infestations.

An archeological survey and report was completed for the FWC property in 2002 (Dunbar, James S. et al. December 2002. Assessment and Documentation of Cultural Resources of the Okaloacoochee Slough Wildlife Management Area, CARL Archeological Program, Bureau of Archaeological Research. 62 pages). Two sites were located; one in MU 1 (contained only animal bones, no pottery or artifacts so the site was not aged, but most likely a Glades culture site, possibly older) and another in MU 22 (20th century, ca 1930s, portable sawmill site and large sawdust pile). Aerial photographs have been studied to determine when land use changes occurred. The Florida Natural Areas Inventory (FNAI) completed plant community mapping in 2004 and the property has been part of FWC's

OBVM program since 2005. FWC has developed a plant list for OKSWMA containing over 500 species.

Staff has conducted a number of wildlife surveys and monitoring events on OKSWMA. FWC conducted helicopter surveys to monitor white-tailed deer and feral hog (*Sus scrofa*) from 2001 through 2006 and in 2010 using the same protocol used by FWC in the Big Cypress National Preserve. The primary purpose of this monitoring effort is to monitor percent fawns and buck-doe ratios. For the 7 years sampled, fawns averaged 17% of the deer recorded, with a yearly range from 3% to 28%. The ratio of bucks-to-does was 1 buck to 3.8 does, with a yearly range from 1:1.7 to 1:8.7. FWC conducted infrared camera surveys using FWC protocol for turkey monitoring from 2001 through 2007; however, FWC has determined that the survey methodology was not adequate for determining population estimates, so staff discontinued use of the survey.

Frog call surveys were conducted using the Southwest Florida Amphibian Monitoring Network protocol in 2002 and 2009. Surveyors heard 12 species in 2002 and 10 in 2009; no exotic Cuban tree frogs (*Osteopilus septentrionalis*) were recorded.

A large wading bird roost averaging over 1,000 birds has been monitored since 2002; on the 22 evening counts, the average number of birds seen was 1,102 (SD 653) with counts ranging from 0 birds to 2,686 birds. The most common species, in descending order of occurrence, were white ibis (*Eudocimus albus*), glossy ibis (*Plegadis falcinellus*), little blue heron (*Egretta caerulea*), great egret (*Ardea alba*), tricolored heron (*Egretta tricolor*), snowy egret (*Egretta thula*), cattle egret (*Bubulcus ibis*), and anhinga (*Anhinga anhinga*). Black-crowned night herons (*Nycticorax nycticorax*) were seen leaving the roost and limpkins and American bitterns (*Botaurus lentiginosus*) were often heard or seen near the roost during these counts.

The OKSWMA bird list includes 128 species including boblink (*Dolichonyx oryzivo*), scarlet tanager (*Piranga olivacea*), red-headed woodpecker (*Melanerpes erythrocephalus*), and rose-breasted grosbeak (*Pheucticus ludovicianus*). The North American Migratory Bird Survey was conducted on OKSWMA from 2007 to 2009; 38 - 45 species were seen on OKSWMA including purple gallinule (*Porphyrio martinica*), black-necked stilt (*Himantopus mexicanus*), and eastern towhee (*Pipilo erythrophthalmus*). Unofficial bird surveys using the National Audubon Society Christmas Bird Count protocol were conducted in 2003, 06, 07, 08, and 09. On these counts, 55 - 60 species were recorded, including snail kite and roseate spoonbill (*Platalea ajaja*); many thousands of tree swallows (*Tachycineta bicolor*) that form funnel formations and land on wax myrtle bushes were seen and counted.

The University of Georgia has sampled exterior insect parasites from deer, hog and small mammals, including the armadillo cyst mite (*Echimyopus dasyypusa*), possibly the first at-large collection of this mite in North America. Bat monitoring with echolocation recorders began in 2007 resulting in 6 bat species being identified using the area. The eastern pipistrelle (*Perimyotis subflavus*) was the most abundant, while the Brazilian free-tailed bat (*Tadarida brasiliensis*), northern yellow bat (*Lasiurus intermedius*), and evening bat (*Nycticeius humeralis*) were common and the Seminole (*Lasiurus seminolus*) and Big brown bats (*Eptesicus fuscus*) were recorded least often. A round-tailed muskrat survey was conducted in 2009, and lodges were found in 2 of the 4 sampled wetlands.

The FWC Panther Team has been monitoring panthers on the lands that make up OKSWMA, even prior to State acquisition. From May 1986 - January 2009, biologists recorded 1,861 panther locations from 26 different collared cats on OKSWMA. On OKS, 72

locations were recorded including 9 different cats. OKSWMA provides good panther habitat with 8 dens found and 21 kittens tagged and checked. This summer a den with 3 kittens was located on OKS and this is the first den recorded north of County Road 832.

Section 3: Area Focal Species

The FWC's land management focuses on restoring the natural form and function of natural communities. However, in some instances, it is important to consider the needs of specific species, and it is necessary to monitor the impacts of natural community management on select wildlife to ensure management is having the desired effect. To ensure a focused, science-based approach to species management, the FWC uses the focal species concept embraced by the Wildlife Habitat Conservation Needs in Florida project ([Wildlife Habitat Conservation Needs in Florida Web Information](#)). The focal species approach incorporates a variety of concepts and considerations that, if applied correctly, allow one to identify the needs of wildlife collectively by strategically selecting a subset of wildlife species. The species selected as focal species includes umbrella species, keystone species, habitat specialists, and indicator species. The Public Lands Conservation Planning (PLCP) project selected 60 focal species for the statewide assessment. The PLCP project used potential habitat models to create statewide potential habitat maps for each species. Models were created using relevant available data. The base layer for all models was the FWC 2003 landcover data. Staff selected additional data layers such as the species range, soils, land use, etc. based on the natural history of the species. As such, each model is species specific. Once statewide potential habitat maps were available, a PVA was conducted for each focal species.

When using the statewide landcover based habitat maps, models identified 17 of the 60 focal species as having potential habitat on this complex of lands. The models identified potential habitat for 15 focal species on OKS, 13 on SOW, and 12 on DIR ([Section 3.1](#)). 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. In addition to the species modeled to occur on each area, several additional species were identified by the area managers as having been documented on the property and in need of conservation consideration: the Florida sandhill crane, burrowing owl, limpkin, snail kite (DIR, OKS), and Florida grasshopper sparrow (DIR, OKS).

The South Region Wildlife Conservation Prioritization and Recovery (WCPR) Workshop held May 25 - 26, 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 discuss 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](#), [Table 2](#), and [Table 3](#)), 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: Dinner Island Ranch, OK Slough, and Spirit of the Wild Focal Species

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

Gopher tortoise (*Gopherus polyphemus*)*

American swallow-tailed kite (*Elanoides forficatus*)

Bachman's sparrow (*Aimophila aestivalis*)^{1,2}

Burrowing owl (*Speotyto cunicularia floridiana*)

Cooper's hawk (*Accipiter cooperii*)

Crested caracara (*Caracara cheriway*)

Florida grasshopper sparrow (*Ammodramus savannarum floridamus*)^{1,2}

Florida mottled duck (*Anas fulvigula*)

Florida sandhill crane (*Grus canadensis pratensis*)²

Limpkin (*Aramus guarauna*)

Northern bobwhite (*Colinus virginianus*)

Snail kite (*Rostrhamus sociabilis plumbeus*)

Southern bald eagle (*Haliaeetus leucocephalus*)

Wading birds (*Multiple spp.*)^{1,2}

Big Cypress fox squirrel (*Sciurus niger avicennia*)

Florida black bear (*Ursus americanus floridamus*)

Florida panther (*Puma concolor coryi*)

3.2: Focal Species Opportunity/Needs Assessment

This section provides an assessment of the opportunity 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.

3.2.1: American Swallow-Tailed Kite

The American swallow-tailed kite is occasionally observed on all 3 WMAs. While nesting has not been documented, nesting behavior was observed on DIR in 2009. The status of this species on the OKSSF is not known. Staff believes nesting

is possibly occurring throughout the complex as kites are commonly observed during the nesting season. A habitat generalist, swallow-tailed kites utilize a variety of natural communities throughout the WMA complex. 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.

The swallow-tailed kite is not listed at either the state or federal level. 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). Models indicate 20,320 acres of potential habitat for swallow-tailed kites within current natural communities (12,440 acres on DIR, 1,762 acres on OKS, and 6,118 acres on SOW). Current FNAI natural community data is not available for OKSSF; however, current landcover models estimate 5,269 acres of potential habitat on the OKSSF. When using historic natural community data, models identified 9,399 acres on the three lead WMAs with an additional 10,126 acres modeled on the OKSSF. The decrease in modeled potential habitat is an artifact of the model, and restoration would not actually decrease the amount of habitat available to this species.

This complex of lands occurs within 20 miles of Fisheating Creek WMA - a major migratory stopover for the swallow-tailed kite. While suitable nesting habitat does exist, all 3 WMAs and the OKSSF were extensively logged. Therefore, the majority of slash pine trees in the vicinity are small, young trees. While this WMA complex has potential to support more nesting habitat as natural communities are restored and pines mature, the majority of the swallow-tailed kite habitat in the area is foraging habitat.

American swallow-tailed kites are not typically considered management-dependent and the opportunity to affect this species at the management-unit level on any of the WMAs is low. Therefore, there is no need to designate a Strategic Management Area (SMA). However, prescribed fire, exotic vegetation control, and natural community restoration will increase nesting habitat and enhance foraging opportunities. The planned management that aims for restoring the form and function of natural communities would provide the mosaic of thick and open habitats this species prefers. However, even though FWC manages these areas to accommodate the needs of this species, the continued presence of this species is dependent on conditions that influence the regional population of American swallow-tailed kites.

The WMA complex goal is to promote suitable foraging and nesting habitat for the American swallow-tailed kite that will allow the kites using DIR, SOW, and OKS to function as part of a regional population. This species is more appropriately monitored at the regional level so local monitoring is not recommended. Should nests be detected, management considerations around these sites will be used ([Section 4.3.1](#)). If kite activity is observed during nesting season (particularly if kites are observed carrying nesting material, mobbing, or in groups of 3 or more) this information should be documented ([Section 5.2.5](#)). See [Sections 6.3](#) and [6.6](#) for coordination recommendations for this species.

3.2.2: *Bachman's Sparrow*

Bachman's sparrows have not been documented on DIR, SOW, or OKS, although there are isolated records of occurrence on the OKSSF. However, staff have not initiated robust efforts to document presence on the lead WMAs. Five Christmas bird counts on OKS were conducted from 2004 to 2010, and Bachman's sparrows were not documented; however, this time of year is not ideal for detection of Bachman's sparrows. The nearest confirmed breeding Bachman's sparrow populations occur in Glades and Charlotte counties. The Breeding Bird Atlas did not record any possible or probable populations in Hendry County, and this area is at the southern extent of the species' range.

This species prefers mature pine forests with a healthy herbaceous groundcover maintained with frequent fire or early succession old-field habitat. Use of an area by Bachman's sparrows declines rapidly around 18 months post-fire. Pockets of open ground are an important component of this species' nesting habitat, and singing males need small clumps of shrubs for perching sites.

The Bachman's sparrow is not listed at either the state or federal level. The species triggers 2 of the 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. Models indicate 1,724 acres of potential habitat for this Bachman's sparrows within current natural communities (38 acres on DIR, 240 acres on OKS, and 1,445 acres on SOW). Current FNAI natural community data is not available for OKSSF; however, current landcover models estimate 4,810 acres of potential habitat on the OKSSF. Using historic natural community data, models identified 16,129 acres on the 3 lead WMAs with an additional 12,074 acres modeled on the OKSSF.

This complex provides a significant block of habitat that would greatly increase the likelihood of regional persistence of the species, should it occur in the area. In fact, the areas contain enough potential habitat to support a viable population if the habitat is enhanced to meet the needs of the species and the bird can colonize the area.

Area managers believe the occurrence of Bachman's sparrows on DIR is unlikely due to current habitat conditions. Staff believes Bachman's sparrows were widespread in the dry prairie and mesic flatwoods within this WMA complex prior to conversion of the landscape. However, the groundcover is currently a near-monoculture of bahiagrass. The thick sod-like condition of this grass is not conducive to the needs of this species. The GCR sites and the proposed dry prairie SMA ([Section 4.1.2](#)) will provide future habitat for the species on DIR.

Most current potential habitat on OKS is marginal. The flatwoods in the southern portion of the WMA are overgrown with oaks, and most remnant stands of pines are overgrown. Most of the area's flatwoods are not suitable for Bachman's sparrow and will not become suitable without groundcover improvements. Actions to improve groundcover are limited in these units by management for other species, such as the Florida panther. The OKS and SOW GCR sites provide the native groundcover preferred by Bachman's sparrow, and the restoration work in the semi-improved pastures is improving sparrow habitat. Therefore, OKS and SOW may

provide some future potential habitat for Bachman's sparrows. The plans for frequent prescribed fire, GCR and managing for mature stands will improve habitat for Bachman's sparrow.

The area goal for the 3 WMAs is to restore and maintain upland communities in a mosaic that includes patches with a low basal area and open native groundcover that could be utilized by a regional Bachman's sparrow population. However, a primary need across the WMA complex is to determine whether the species occurs in the area. Therefore, the measurable objective for Bachman's sparrows is to:

- 1) Conduct a baseline survey to determine presence or absence in the WMA complex by 2012.

If sparrows are detected, a monitoring effort that provides information on a suite of avian species, including Bachman's sparrows, would be recommended if resources and/or volunteers become available. [Section 5.2.2](#) describes detailed monitoring recommendations, and [Section 6.6](#) describes coordination recommendations.

3.2.3: Burrowing Owl

Burrowing owls were documented on OKS from 2003 – 2005 near the GCR sites. In 2003, staff identified burrows in one 1-acre vegetation research plot just north of the 2003 restoration, and additional burrows were identified after restoration in 2004. The owls were present the first two years following the restoration but have not been documented since. Preparation activities for the GCR sites provided temporary habitat for the owls. Breeding has not been documented on the WMA, although a few burrows were identified in 2003 on a spoil pile north of the initial 2003 GCR and just south of the second restoration site. Staff have observed burrowing owls on DIR on a spoil bank near a GCR site in the northeast section of the property and have been seen in low numbers throughout the WMA. Burrowing owls were documented on SOW in the GCR site and nearby on some artificial spoil banks and along a fence. However, there has been no evidence of burrowing owl presence on SOW since the hydrologic restoration. The hydrologic restoration of the area increased the hydroperiod and removed the spoil banks, which decreased the potential for the area to be suitable for burrowing owls in the future. Breeding has not been documented in the WMA complex.

Burrowing owls require open, treeless areas with low groundcover and sandy soils for excavating burrows. Historically, burrowing owls predominately utilized dry prairie habitat. However, most modern burrowing owl populations utilize non-native habitats and are frequently found on altered landscape features, such as berms or canal banks. This species uses underground burrows extensively particularly during the spring for nesting and in the winter for protection from predators. Optimal habitat for this species includes soils that remain dry during times of peak burrow use. Much of current burrowing owl habitat occurs on private land and in urban areas in danger of development. Therefore, even small populations occurring on public land are significant.