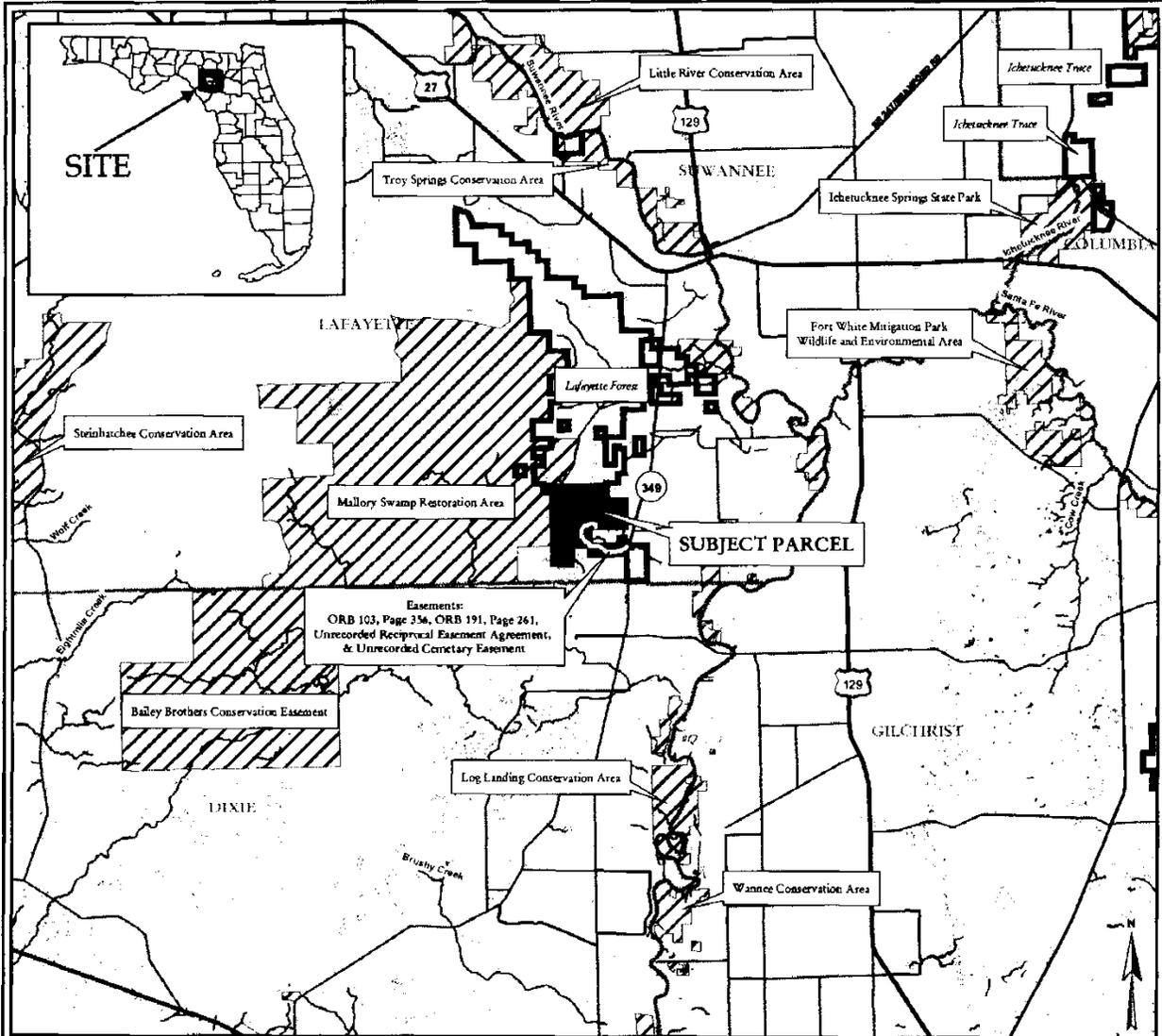
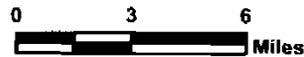


12 Appendices

12.1 Lease Agreement



-  Florida Forever Project Boundary
-  State Managed Conservation Lands
-  Subject Parcel



Florida Fish & Wildlife Conservation Commission
Fish & Wildlife Habitat Acquisition Program
Land Acquisition Trust Fund
Trust for Public Lands / Lafayette Timberland, LLC
 Sections 22-26, 35, & 36, Township 7 South, Range 13 East
 Lafayette County, Florida

SAL2

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

2,144.80 acres

LEASE AGREEMENT

LAFAYETTE FOREST WILDLIFE AND ENVIRONMENTAL AREA

Lease Number 4608

This lease is made and entered into this 16th day of JANUARY,
2009, between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND
OF THE STATE OF FLORIDA, hereinafter referred to as "LESSOR", and FLORIDA
FISH AND WILDLIFE CONSERVATION COMMISSION, hereinafter referred to as
"LESSEE".

WITNESSETH:

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

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

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

1. DELEGATIONS OF AUTHORITY: LESSOR'S responsibilities and obligations
herein shall be exercised by the Division of State Lands, State of Florida
Department of Environmental Protection.
2. DESCRIPTION OF PREMISES: The property subject to this lease is
situated in the County of Lafayette, State of Florida and is more
particularly described in Exhibit "A" attached hereto and hereinafter
referred to as "leased premises". Unless stated otherwise, all sovereignty
lands located within the boundaries of Exhibit "A" shall be considered a
part of leased premises.
3. TERM: The term of this lease shall be for a period of fifty years,
commencing on JANUARY 16, 2009, and ending on JANUARY 15, 2059.
unless sooner terminated pursuant to the provisions of this lease.

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

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

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

7. MANAGEMENT PLAN: LESSEE shall prepare and submit a Management Plan for the leased premises in accordance with Section 253.034, Florida Statutes, within twelve months of the effective date of this lease. The Management Plan shall be submitted for approval to the State of Florida Department of Environmental Protection, Division of State Lands, Office of Environmental Services, Mail Station 140, 3800 Commonwealth Boulevard, Tallahassee, Florida 32399-3000. The leased premises shall not be developed or physically altered in any way other than what is necessary for security and maintenance of the leased premises without the prior written approval of LESSOR until the Management Plan is approved. The Management Plan shall emphasize the original management concept as approved by LESSOR at the time of acquisition, which established the primary public purpose for which the leased premises were acquired. The approved Management Plan shall provide the basic guidance for all management activities and shall be reviewed jointly by LESSEE and LESSOR. LESSEE shall not use or alter the leased premises except as provided for in the approved Management Plan without the prior written approval of LESSOR. The Management Plan prepared under this lease shall identify management strategies for exotic species, if present. The introduction of exotic species is prohibited, except when specifically authorized by the approved Management Plan.

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Lease No.4608

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8. RIGHT OF INSPECTION: LESSOR or its duly authorized agents shall have the right at any and all times to inspect the leased premises and the works and operations thereon of LESSEE, in any matter pertaining to this lease.
9. INSURANCE REQUIREMENTS: LESSEE shall procure and maintain fire and extended risk insurance coverage, in accordance with Chapter 284, F.S., for any buildings and improvements located on the leased premises by preparing and delivering to the Division of Risk Management, State of Florida Department of Insurance, a completed Florida Fire Insurance Trust Fund Coverage Request Form and a copy of this lease immediately upon erection of any structures as allowed by paragraph 4 of this lease. A copy of said form and immediate notification in writing of any erection or removal of structures or other improvements on the leased premises and any changes affecting the value of the improvements shall be submitted to the following: Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, Mail Station 130, 3800 Commonwealth Boulevard, Tallahassee, Florida 32399-3000.
10. LIABILITY: LESSEE shall assist in the investigation of injury or damage claims either for or against LESSOR or the State of Florida pertaining to LESSEE'S respective areas of responsibility under this lease or arising out of LESSEE'S respective management programs or activities and shall contact LESSOR regarding the legal action deemed appropriate to remedy such damage or claims.
11. ARCHAEOLOGICAL AND HISTORIC SITES: Execution of this lease in no way affects any of the parties' obligations pursuant to Chapter 267, Florida Statutes. The collection of artifacts or the disturbance of archaeological and historic sites on state-owned lands is prohibited unless prior authorization has been obtained from the State of Florida Department of State, Division of Historical Resources. The Management Plan prepared pursuant to Section 253.034, Florida Statutes, shall be reviewed by the Division of Historical Resources to insure that adequate measures have been planned to locate, identify, protect and preserve the archaeological and historic sites and properties on the leased premises.
12. EASEMENTS: All easements including, but not limited to, utility

easements are expressly prohibited without the prior written approval of LESSOR. Any easement not approved in writing by LESSOR shall be void and without legal effect.

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

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

- a. After consultation with the LESSEE, LESSOR agrees to provide the LESSEE with the title, survey and environmental products procured by the LESSOR, prior to closing.
- b. LESSOR will initiate surveying services to locate and mark boundary lines of specific parcels when necessary for immediate agency management and will provide a boundary survey of the entire acquisition project at the conclusion of all acquisitions within the project boundary. Provided, however, the LESSEE may request individual parcel boundary surveys, if necessary, prior to the conclusion of acquisition activities within the project boundaries.
- c. Unless otherwise agreed to by LESSEE, LESSOR shall at its sole cost and expense, make a diligent effort to resolve all issues pertaining to all title defects, survey matters or environmental contamination associated with the leased premises, including but not limited to trash and debris, which were either known or should have been reasonably known by LESSOR at the time LESSOR acquired the leased premises. Notwithstanding the foregoing, LESSOR will not be responsible for any of LESSEE'S attorney's fees, costs, or liability or damages incurred by the LESSEE in resolving any issue in which the LESSEE is named as a party in any litigation or other legal or administrative proceeding.

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

15. SURRENDER OF PREMISES: Upon termination or expiration of this lease LESSEE shall surrender the leased premises to LESSOR. In the event no further use of the leased premises or any part thereof is needed, written notification shall be made to the Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, Mail Station 130, 3800 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, at least six months prior to the release of all or any part of the leased premises. Notification shall include a legal description, this lease number and an explanation of the release. The release shall only be valid if approved by LESSOR through execution of a release of lease instrument with the same formality as this lease. Upon release of all or any part of the leased premises or upon expiration or termination of this lease, all permanent improvements, including both physical structures and modifications to the leased premises, shall become the property of LESSOR, unless LESSOR gives written notice to LESSEE to remove any or all such improvements at the expense of LESSEE. The decision to retain any improvements upon termination of this lease shall be at LESSOR'S sole discretion. Prior to surrender of all or any part of the

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leased premises, a representative of the Division of State Lands shall perform an on-site inspection and the keys to any buildings on the leased premises shall be turned over to the Division. If the leased premises and improvements located thereon do not meet all conditions set forth in paragraphs 18 and 21 herein, LESSEE shall pay all costs necessary to meet the prescribed conditions.

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

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

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

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

20. PLACEMENT AND REMOVAL OF IMPROVEMENTS: All buildings, structures, improvements, and signs shall be constructed at the expense of LESSEE in accordance with plans prepared by professional designers and shall require the prior written approval of LESSOR as to purpose location, and design. Further, no trees, other than non-native species, shall be removed or major land alterations done without the prior written approval of LESSOR. Removable equipment placed on the leased premises by LESSEE which do not

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

21. MAINTENANCE OF IMPROVEMENTS: LESSEE shall maintain the real property contained within the leased premises and any improvements located thereon, in a state of good condition, working order and repair including, but not limited to, removing all trash or litter, maintaining all planned improvements as set forth in the approved Management Plan, meeting all building and safety codes. LESSEE shall maintain any and all existing roads, canal, ditches, culverts, risers and the like in as good condition as the same may be on the effective date of this lease.

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

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

24. NO WAIVER OF BREACH: The failure of LESSOR to insist in any one or more instances upon strict performance of any one or more of the covenants, terms and conditions of this lease shall not be construed as a waiver of such covenants, terms and conditions, but the same shall continue in full force and effect, and no waiver of LESSOR of any one of the provisions hereof shall in any event be deemed to have been made unless the waiver is set forth in writing, signed by LESSOR.

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

to, mortgages or construction liens against the leased premises or against any interest of LESSOR therein.

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

27. NOTICES: All notices given under this lease shall be in writing and shall be served by certified mail including, but not limited to, notice of any violation served pursuant to Section 253.04, Florida Statutes, to the last address of the party to whom notice is to be given, as designated by such party in writing. LESSOR and LESSEE hereby designate their address as follows:

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

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

28. DAMAGE TO THE PREMISES: (a) LESSEE shall not do, or suffer to be done, in, on or upon the leased premises or as affecting said leased premises or adjacent properties, any act which may result in damage or depreciation of value to the leased premises or adjacent properties, or any part thereof.

(b) LESSEE shall not generate, store, produce, place, treat, release or discharge any contaminants, pollutants or pollution, including, but not limited to, hazardous or toxic substances, chemicals or other agents on, into, or from the leased premises or any adjacent lands or waters in any manner not permitted by law. For the purposes of this lease, "hazardous substances" shall mean and include those elements or compounds defined in 42 USC Section 9601 or which are contained in the list of hazardous substances adopted by the United States Environmental Protection Agency (EPA) and the list of toxic pollutants designated by the United States Congress or the EPA or defined by any other federal, state or local statute, law, ordinance, code, rule, regulation, order or decree regulating, relating to, or imposing

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

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

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

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

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

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

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

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

36. ADMINISTRATIVE FEE: LESSEE shall pay LESSOR an annual administrative fee of \$300 pursuant to subsection 18-2.020(8), Florida Administrative Code. The initial annual administrative fee shall be payable within thirty days from the date of execution of this lease agreement and shall be prorated based on the number of months or fraction thereof remaining in the fiscal year of execution. For purposes of this lease agreement, the fiscal year shall be the period extending from July 1 to June 30. Each annual payment thereafter shall be due and payable on July 1 of each subsequent year.

37. SPECIAL CONDITIONS: The following special conditions shall apply to this lease: None.

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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

David Fewell
Witness

DAVE FEWELL
Print/Type Witness Name

Judy Woodard
Witness

Judy Woodard
Print/Type Witness Name

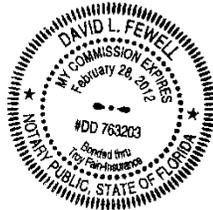
By: Gloria C. Barber (SEAL)
GLORIA C. BARBER, OPERATIONS AND MANAGEMENT CONSULTANT MANAGER, BUREAU OF PUBLIC LAND ADMINISTRATION, DIVISION OF STATE LANDS, STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

"LESSOR"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 16th day of JANUARY 2009, by Gloria C. Barber, as Operations and Management Consultant Manager, Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, acting as agent on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida.

David L. Fewell
Notary Public, State of Florida



Print\Type Notary Name

Commission Number:

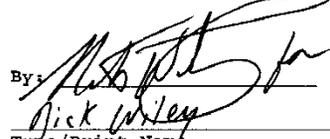
Commission Expires:

Approved as to Form and Legality

By: Sam H. Hoke
DEP Attorney

FLORIDA FISH AND WILDLIFE
CONSERVATION COMMISSION


Witness
C. Lemoka Beady
Print/Type Witness Name

By:  (SEAL)
Nick Wiley
Type/Print Name
Title: Asst. Executive Director


Witness
Sidnea Thompson
Print/Type Witness Name

"LESSEE"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 14 day of January 2009, by Nick Wiley, as Asst. Exec. Dir., on behalf of the Florida Fish and Wildlife Conservation Commission, who is/are personally known to me or who has produced _____ as identification.

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


Notary Public, State of Florida
Kathleen L. Hampton
Print/Type Notary Name
Commission Number: DD568288
Commission Expires: 6/26/10

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY

Commission Attorney

Please Return To:

Chris R. Strohenger, Esq.
Rogers Towers, P.A.
1301 Riverplace Blvd., Suite 1500
Jacksonville, Florida 32207

Inst: 200834001768 Date: 9/4/2008 Time: 8:50 AM
Doc Stamp-Deed: 0.70
DC, Ricky Lyons, Lafayette County Page 1 of 3

SPECIAL WARRANTY DEED

THIS INDENTURE, made this 29th day of August, A.D. 2008, between THE TRUST FOR PUBLIC LAND, a nonprofit California corporation, whose post office address is 306 N. Monroe Street, Tallahassee, Florida 32301, Grantor, and the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, whose post office address is c/o Florida Department of Environmental Protection, Division of State Lands, 3900 Commonwealth Boulevard, Mail Station 115, Tallahassee, FL 32399-3000, Grantee,

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

WITNESSETH: That the said grantor, for and in consideration of the sum of \$10.00 and other good and valuable considerations to said grantor in hand paid by said grantee, the receipt whereof is hereby acknowledged, has granted, bargained and sold to the said grantee, and grantee's successors and assigns forever, the following described land situate, lying and being in Lafayette County, Florida, to-wit: See Exhibit "A" attached hereto and by reference made a part hereof.

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

Property Appraiser's Parcel ID Number: 22-07-13-0000-0000-00101; 23-07-13-0000-0000-00200; 24-07-13-0000-0000-00401; 25-07-13-0000-0000-00600; 25-07-13-0000-0000-00601; 26-07-13-0000-0000-00100; 35-07-13-0000-0000-00300; 36-07-13-0000-0000-00103

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

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

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

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

Signed, sealed and delivered in the presence of:

[Signature]
(Signature of First Witness)

Angela Corder
Printed name of First Witness

[Signature]
(Signature of Second Witness)

AYALA RODRIGUEZ
Printed name of Second Witness

GRANTOR:
THE TRUST FOR PUBLIC LAND, a nonprofit California corporation

By: [Signature]
By: Robert C. McClymonds
As Its: Vice President

(CORPORATE SEAL)

Exhibit "A"
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Lease No. 4608

STATE OF FLORIDA
COUNTY OF Leon

The foregoing instrument was acknowledged before me this 25 day of August, 2008, by Robert C. McClymonds, as Vice President of The Trust for Public Land, a nonprofit California corporation, on behalf of said corporation. Such person (notary Public must check applicable box):

- is personally known to me
- produced a current driver's license
- produced _____ as identification

(NOTARY PUBLIC SEAL)

NOTARY PUBLIC
Stacy Savoie Gayhart
Commission # DD571623
Expires October 31, 2010
STATE OF FLORIDA
Bonded Notary Public - Tallahassee, FL 904-365-7019

[Signature]
Notary Public
STACY SAVOIE GAYHART
(Printed, Typed or Stamped Name of Notary Public)
Commission No.: DD571623
My Commission Expires:

MS0902JL 0101

NOTE TO CLERK: This deed evidences a conveyance of unencumbered property from a Section 501(c)(3) Internal Revenue Code nonprofit organization, as defined in Section 201.02(6), Florida Statutes, for no consideration and is, therefore, subject only to minimum documentary stamp taxes pursuant to Florida Administrative Code Rules 12B-4.01 4(14) and Section 201.2(6), Florida Statutes.

Exhibit "A"

Southeast ¼ of Northeast ¼ of Section 22, Township 7 South, Range 13 East, Lafayette County, Florida;

AND

All of Section 23, Township 7 South, Range 13 East, less the North ½ of the North ¼;

AND

All of Lots 7 and 8, the South ½ of Lot 5, the South ½ of Lot 6, the South ½ of Lot 9 and the South ½ of Lot 10, Section 24, Township 7 South, Range 13 East, Lafayette County, Florida;

AND

All of Lots 3, 4, 5 and 6 and the South ½ of Lot 10, Section 25, Township 7 South, Range 13 East, Lafayette County, Florida;

AND

All of Section 26, Township 7 South, Range 13 East, Lafayette County, Florida, less and except the Northwest ¼ of the Southeast ¼;

AND

The Northwest ¼ of Section 35, Township 7 South, Range 13 East, Lafayette County, Florida;

AND

The North ½ of Lots 2, 3, 4, 5 and 6, lying West of Hwy 349 of Section 36, Township 7 South, Range 13 East, Lafayette County, Florida;

Together with an easement for ingress, egress and utilities over across and through the following described parcel:

Commence at an iron pipe marking the Southwest corner of Section 25, Township 7 South, Range 13 East, Lafayette County, Florida and run North 01 degrees 22 minutes 13 seconds West, along the West boundary of said Section 25, a distance of 80.00 feet to a point, thence leaving the West boundary of said Section 25, run South 66 degrees 47 minutes 04 seconds East, a distance of 192.45 feet to a point on the South boundary of said Section 25, thence run South 88 degrees 39 minutes 15 seconds West, along the South boundary of said Section 25, a distance of 175.00 feet to the Point of Beginning.

Gopher Tortoise Mitigation Park
FFWCC land acquisition
(Lafayette Forest Florida Forever)
Trust for Public Land / Lafayette Timberland, LLC

BSM
By EB Date 7.3.08

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Exhibit "A"
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Lease No. 4608

EXHIBIT "B"

ACCEPTANCE OF TRANSFER OF TITLE TO DONATED LANDS

Board of Trustees of the Internal Improvement Trust Fund of the State of Florida hereby accepts this conveyance as a transfer of title of the real property as described in this Deed in accordance with F. S. 259.04(10)(a).

Terry Johnson
(SIGNATURE OF FIRST WITNESS)

Terry Johnson
(PRINTED, TYPED OR STAMPED NAME OF FIRST WITNESS)

Lynda I. Godfrey
(SIGNATURE OF SECOND WITNESS)

Lynda I. Godfrey
(PRINTED, TYPED OR STAMPED NAME OF SECOND WITNESS)

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

BY: Deborah Poppell
Deborah Poppell, Division Director
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

8/29/08

Date Signed

APPROVED FOR CLOSING

AUG 29 2008

WCR

STATE OF FLORIDA _____)

COUNTY OF LEON _____)

The foregoing instrument was acknowledged before me this 29th day of August 2008, by, Deborah Poppell, Division Director, Division of State Lands, Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida. She is personally known to me.

(NOTARY PUBLIC SEAL)



Lynda I. Godfrey
Notary Public

Lynda I. Godfrey
(Printed, Typed, or Stamped Name of Notary Public)

Commission No.: DD 755865

My Commission Expires: 2-6-2012

Exhibit "A"
Page 15 of 15 Pages
Lease No. 4608

12.2 Public input

12.2.1 Management Advisory Group Meeting Results

**Lafayette Forest Wildlife and Environmental Area (LFWEA)
Management Advisory Group (MAG)
Consensus Meeting Results**

October 5, 2011 in Mayo, 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 LFWEA consensus meeting was held on the morning of October 5, 2011 at R. O. Ranch, in Mayo, Florida in Lafayette County. The ideas found below were provided by stakeholders for consideration in the 2011 - 2021 Management Plan (MP) for LFWEA 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 LFWEA MP will guide the activities of FWC personnel over the ten-year duration of the management plan and will help meet agency, state, and federal planning requirements.

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

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

<u>Rank</u>	<u># of Votes</u>	<u>Score</u>	<u>Idea</u>
1.	[8]	[21]	1. Restore natural communities focusing on upland Gopher tortoise habitat. Primary focus should be upland communities providing gopher tortoise habitat.
2.	[8]	[22]	15. Restore natural hydrological function including wetlands. Natural hydrology of area has been modified in past with ditching. We need to restore the hydrological function of the area and protect wetland resources.

<u>Rank</u>	<u># of Votes</u>	<u>Score</u>	<u>Idea</u>
3.	[6]	[24]	23. Control of exotic plant and animal species, especially feral hogs. We need to control exotic and invasive plant and animal species. Hunting is not enough to control feral hogs.

Two items of equal rank:

4T.	[5]	[13]	4. Continue to manage deer and turkey population for quality game management. Self explanatory.
4T.	[5]	[13]	12. Identify, manage and promote compatible uses to minimize conflict and maximize public access for compatible activities. Need to identify what uses are compatible first. Gather public input and explore all potential uses for the property. This will provide long-term public support for the area.
6.	[4]	[10]	2. Integrate management with neighboring public areas. The LFWEA Management Plan should be integrated with other public land management plans in the surrounding area, such as Mallory Swamp.
7.	[3]	[9]	10. Conduct a forest inventory. Consider other factors, other than current location, for determining where trees should be (consider soil types, etc).
8.	[3]	[11]	7. Consider other management options with other agencies. Explore options for joint management with other agencies and consider transferring management completely to another agency, such as SRWMD.

Four items of equal rank:

9T.	[2]	[6]	3. Protect natural habitat. Self explanatory.
9T.	[2]	[6]	17. Continue to provide quality recreational opportunities. All recreational opportunities at LFWEA should be maintained, including both hunting and non-hunting opportunities.
9T.	[2]	[6]	18. Develop a prescribed burn plan Self explanatory.

<u>Rank</u>	<u># of Votes</u>	<u>Score</u>	<u>Idea</u>
9T.	[2]	[6]	19. Ensure hiking trails access all habitats. Make sure that all habitats found on LFWEA are accessible via hiking trails.
13.	[2]	[10]	25. Consider primitive camping opportunities. Consider adding opportunities for primitive, remote camping (not vehicle camping).
14.	[1]	[1]	13. Connect recreational opportunities with adjacent public land. Connecting with Mallory Swamp will provide a wider range of public recreational opportunities, such as a long backpacking trail.
15.	[1]	[3]	9. Perform a cultural resource inventory. Need to do a comprehensive cultural assessment of the property. This will gain knowledge from locals who have knowledge of the area's historical activities and will celebrate the local history.
16.	[1]	[4]	24. Develop optimal boundary for LFWEA for management purposes. Acquisition of particular inholdings and adjacent properties will help management of LFWEA.

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

- 11. **Maintain as much plant community diversity as possible.** Self explanatory.
- 21. **Manage for regionally unique and/or significant natural communities.** Some wide-ranging species such as whooping cranes are using habitat in the area (Mallory Swamp). We should make sure to consider these types of species in addition to gopher tortoise.

**Lafayette Forest Wildlife and Environmental Area
MAG Meeting Participants**

<u>Name</u>	<u>Affiliation</u>
Active Participants	
Chris Tucker	FWC Area Biologist
Lt. Jeff Swan	FWC Law Enforcement
Steve Dopp	North Central Florida Regional Planning Council
Doug Longshore	Florida Forest Service
Dan Pearson	Florida Department of Environmental Protection
Jerry Krummrich	Four Rivers Audubon Society
Wally Davis	National Wild Turkey Federation
Robert Kelly	Hatchbend Hunt Club
R. J. Sikora	Florida Trail Association
Bob Heeke	Suwannee River Water Management District
Melvin DeShazor	Natural Resource Conservation Service
Supportive Participants	
Matt Pollock	FWC Habitat and Species Conservation (HSC), Regional Biologist
Scott Johns	FWC HSC, District Biologist
Bill Harden	FWC HSC, Biologist
Scotland Talley	FWC HSC, Conservation Biologist
Bryan Humphries	FWC Law Enforcement
Matthew Chop	FWC Division of Hunting and Game Management
Rich Noyes	FWC Office of Recreation Services
Tom M. Matthews	FWC Office of Recreation Services
Stephanie Sikora	Florida Trail Association
Invited but Unable to Attend	
Commissioner Jack Byrd	Lafayette County Commissioner
Wendy Matthews	The Nature Conservancy
Mary Glowacki	Florida Department of State, Division of Historical Resources
Preston Robertson	Florida Wildlife Federation
Edwin McCook	Suwannee Bicycle Association
Dan Hipes	Florida Natural Areas Inventory
Christian Newman	Gopher Tortoise Council
Joseph Prenger	FWC HSC, Landowner Assistance Program, Regional Coordinator
Kris Cathey	FWC HSC, Landowner Assistance Program
Nell Hughes	Adjacent landowner
Alan Howell	Adjacent landowner
Donna Creamer	Pure Water Wilderness
Catherine Whiteacre	Equestrian interests
Alan Howell	R. O. Ranch/Equestrian interests

FWC Planning Personnel

Michael Hallock-Solomon
Tom Houston
Gary Cochran

Meeting facilitator
Recorder
Conservation Acquisition and Planning Administrator

12.2.2 Public Hearing Notice

NOTICE

The Florida Fish and Wildlife Conservation Commission
Announces a

PUBLIC HEARING

For the

Lafayette Forest

Wildlife and Environmental Area

Lafayette County, Florida

7:00 - 9:00 P.M. Tuesday, November 8, 2011

Lafayette County Commission Chambers

Courthouse 2nd Floor

120 W. Main Street

Mayo, Florida 32066

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

A Management Prospectus for the Lafayette Forest WEA 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.

12.2.3 Public Hearing Press Release

For immediate release: October 12, 2011
Contact: Karen Parker, 386-758-0525

Public hearing for Lafayette Forest WEA plan is November 8, 2011

The Florida Fish and Wildlife Conservation Commission (FWC) will hold a public hearing for the Lafayette Forest Wildlife and Environmental Area (WEA) Management Plan on Tuesday, November 8, 2011. The meeting will be from 7 to 9 p.m. at the Lafayette County Commission Chambers, Courthouse 2nd Floor, 120 W. Main Street, Mayo, Florida.

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 Lafayette Forest WEA, in Lafayette 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 Lafayette Forest WEA is available upon request from the FWC's Conservation Acquisition and Planning group. Call Rebecca Shelton at 850-487-9982, or Michael Hallock-Soloman at 850-487-9767, or e-mail Rebecca.Shelton@MyFWC.com for the prospectus.

For [more information](#), go to
<http://myfwc.com/conservation/terrestrial/management-plans/>.

LF/HSC
PCB/SCB
WBD/SCB

12.2.4 Public Hearing Advertisements

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NOTICE:

The Florida Fish and Wildlife Conservation Commission announces a PUBLIC HEARING for the Lafayette Forest Wildlife and Environmental Area located in Lafayette County, Florida.

7:00 P.M. Tuesday, November 8th, 2011
Lafayette County Commission Chambers
Courthouse 2nd Floor
120 West Main Street
Mayo, FL 32066

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

This hearing is designed exclusively for discussion of the draft management plan. A Management Prospectus for Lafayette Forest WEA is available upon request from the Florida Fish and Wildlife Conservation Commission, Conservation Planning Group, 620 South Meridian Street, Tallahassee, Florida 32399-1600. Telephone: (850) 487-9767 or by e-mail at Michael.Hallock-Solomon@MyFWC.com.

12.2.5 Public Hearing Report

**PUBLIC HEARING REPORT
FOR THE
LAFAYETTE FOREST WILDLIFE AND ENVIRONMENTAL AREA
MANAGEMENT PLAN
HELD BY THE
LAFAYETTE FOREST WILDLIFE AND ENVIRONMENTAL AREA
MANAGEMENT ADVISORY GROUP**

November 8, 2011 – MAYO, FLORIDA

Mr. Jerry Krummrich, representing the Lafayette Forest Wildlife and Environmental Area (LFWEA) Management Advisory Group (MAG), opened the public hearing at 7:00 p.m., and briefly described the stakeholder meeting for the LFWEA. He informed the public that the LFWEA MAG, had met with the Florida Fish and Wildlife Conservation Commission (FWC) planners and biologists in Mayo on October 5, 2011. He provided a brief overview of the meeting and explained its purpose, which was to have an opportunity for the public at large to hear, understand, and comment on the elements of the management plan, and thus provide further guidance to FWC in its planning efforts.

Following the MAG meeting, FWC personnel met and developed the elements of their draft plan. Copies of this draft plan were also available at the door. Following approval by the Governor and Cabinet, the plan will be the official management guidance document for the next ten years. The public hearing was hosted by the LFWEA MAG, but the other group members, some of whom were in attendance at the public hearing, were to rely on Michael Hallock-Solomon, Chris Tucker, Gary Cochran, and others from the FWC to present the plan elements and the process. The public hearing had been advertised in compliance with Chapter 259.032 (10), Florida Statutes.

Mr. Krummrich thanked the audience for participating, for their interest, attendance, and taking their personal time to be involved in the planning process. He then turned the proceedings over to Michael Hallock-Solomon, Conservation Planner for the FWC.

Mr. Hallock-Solomon thanked the MAG and participants, and reviewed the public hearing agenda for those in attendance. The agenda, management plan prospectus, and draft management plan was made available at the start of the meeting. Mr. Hallock-Solomon provided information about the public hearing to participants. Mr. Hallock-Solomon had FWC participants introduce themselves, and explained the evening's agenda. Eight employees of the FWC were present at the public hearing. These participants included Division of Habitat and Species Conservation staff for the North Central Region of Florida, including managers of LFWEA, Conservation Acquisition and Planning staff, Division of Law Enforcement, and Office of Recreation Services staff.

Mr. Hallock-Solomon then provided a brief presentation of the process by which the FWC develops area management plans, and how the plans are reviewed and approved by other entities in accordance with statutory and administrative procedures for state-owned lands.

He displayed an area vicinity map, showing surrounding conservation lands and Florida Forever projects. He then went over the acquisition history and that LFWEA was acquired in 2008 to

establish a Gopher tortoise mitigation park to help to ensure the survival of wildlife, including the Gopher tortoise and other wildlife resources.

LFWEA is managed as a wildlife and environmental area for the purposes of natural resource conservation including soil, water, air, fish and wildlife, and for fish-and wildlife-based public recreation. LFWEA is composed of a mosaic of uplands and wetlands represented by at least 11 vegetative communities including pine plantation, dome swamp, ruderal (primarily cut line plantation), depression marsh, and floodplain swamp. Rare and imperiled wildlife species that occur on the area include Gopher tortoise, and the area has potential habitat for Eastern indigo snake.

Mr. Hallock-Solomon explained that the GIS data provided by the Department of State, Division of Historical Resources did not include any recorded cultural sites within or adjacent to LFWEA. However, a future survey project could indicate the presence of, or establish the historical value of, cultural resources, such as the Frazier Cemetery located within LFWEA. Recreational opportunities on LFWEA currently include hunting, fishing, wildlife viewing, hiking, biking, and horseback riding. Potential recreational uses could include Geocaching and astronomy. Current recreational facilities on LFWEA include an entrance kiosk with map and interpretive panel, parking area with handicap parking pad, and interior roads which provide hiking/biking/equestrian access.

Mr. Hallock-Solomon then directed participants to refer to the draft management plan handout provided at the door and introduced Mr. Chris Tucker, FWC Area Biologist for LFWEA, who presented the management intent of the FWC. Mr. Tucker outlined the intent, goals, short and long-term objectives, challenge statements, and solution strategies (Addendum 1). He explained that in general, the FWC management intent for LFWEA is to restore and maintain natural communities in a condition that sustains ecological processes and conserves biological diversity, especially fish and wildlife resources. In conjunction with this primary emphasis, it is FWC's intent to provide quality fish and wildlife based recreational opportunities on LFWEA. Mr. Tucker then went over the goals and objectives as outlined in Addendum 1.

Mr. Tucker concluded his presentation, and asked if anyone had questions. Several questions were asked by participants and answered by FWC staff as follows:

Question: What are the plans for the stripped area around the boundary of Lafayette Forest?

Answer: Mr. Tucker explained that that area is a firebreak and it will be mowed and maintained that way to protect neighboring property during prescribed burns and provide access during prescribed burns.

Question: Does the feral hog depletion strategy include hunting?

Answer: Mr. Tucker explained that given the limited number of hunting days, that hunters will likely never completely control the feral hogs. USDA or contract hog trappers would be necessary to control the hog population year-round.

Question: What does the "other" category in the budget include?

Answer: Mr. Tucker explained that the management intent of the property is to restore the natural vegetative communities and that this is a very labor and cost intensive process. This category includes a lot of those restoration costs.

Question: Will the canal be filled in?

Answer: Mr. Scott Johns of the FWC explained that the canal was put in in the late 1950's or early '60's, prior to permitting from the Suwannee River Water Management District (SRWMD), according to historical satellite photography. Removal of the canal would have to be a collaborative effort with the SRWMD and neighboring private landowners.

Question: How is private property adjacent to LFWEA shown on the hunting maps?

Answer: Mr. Matthew Chopp of the FWC stated that it is assumed that areas outside of the area boundary is private property and that only inholdings are shown with a different hatch pattern on the maps.

Mr. Hallock-Solomon then asked if there were any more questions. Since none were asked, he then asked if any participant wanted to present testimony. One participant provided testimony.

Mr. Randy Matthews stated that more money should be dedicated to law enforcement. It is a large area and it needs more attention than the budgeted amount for law enforcement can provide.

No one else offered testimony, and the meeting was concluded at approximately 8:00 PM.

12.2.6 Management Prospectus

**Management Prospectus
Lafayette Forest Wildlife and Environmental Area
October 8, 2011**



**Florida Fish and Wildlife Conservation Commission
Conservation Acquisition and Planning**

Introduction

Located within a landscape interspersed with pinelands, basin swamp, marshes and hardwood forest, other public conservation lands and Florida Forever project lands, Lafayette Forest Wildlife and Environmental Area (LFWEA) provides habitat for a wide diversity of wildlife species including the gopher tortoise. The LFWEA also provides an array of fish and wildlife based public outdoor recreational opportunities, all within close proximity to the Suwannee River. Wetland and mesic forests within this larger landscape also provide potential habitat for far roaming species such as the Florida black bear (*Ursus americanus floridanus*) state listed as Threatened, America swallow-tailed kite (*Elanoides forficatus*) and Eastern indigo snake (*Drymarchon corias corias*), federally and state listed as Threatened. With the connection between Mallory Swamp and potentially, the Suwannee River, LFWEA also aids in conserving a corridor for wildlife movement that will become increasingly important over time.

As shown in Figure 1, LFWEA consists of approximately 2,148 acres and is managed by the Florida Fish and Wildlife Conservation Commission (FWC). LFWEA is located in Lafayette County and lies in all or parts of Sections 22, 23, 24, 25, 26, 35, and 36 in Township 7 South, Range 13 East. LFWEA is located approximately 7.5 miles south of Branford, 15.5 miles northeast of Cross City, and 17 miles southeast of Mayo. Other municipalities near LFWEA include Lake City (30 miles northeast) in Columbia County; Trenton (18 miles southeast) in Gilchrist County; Chiefland (26 miles southeast) in Levy County; Live Oak (30 miles north) in Suwannee County; and Gainesville (40.5 miles southeast) in Alachua County.

LFWEA is bordered on the north by privately owned silviculture pinelands (mostly pine plantation) interspersed with abundant forested wetlands with smaller areas of marsh and open water lying within sections 22, 23, and 24. Immediately west of LFWEA lies the Mallory Swamp Restoration Area, which is titled to and managed by the Suwannee River Water Management District (SRWMD) in cooperation with FWC for the management of Mallory Swamp Wildlife Management Area. The remainder of land adjacent to LFWEA is privately owned.

As shown in Figure 2, other private lands adjoining the northern boundary of LFWEA lie within the Lafayette Forest Florida Forever Project. The eastern boundary of LFWEA borders rural areas of predominantly pastures and pine plantation, with interspersed isolated herbaceous and forested wetlands and sparse residential and commercial uses within sections 24 and 25. LFWEA is bordered on the south primarily by pinelands (mostly pine plantation) interspersed with sparse, isolated wetlands and areas of open water (primarily in sections 26, 27 and 34 - 35). The western boundary of LFWEA borders an extensive mosaic of forested uplands, wetlands,

and marshes within the Mallory Swamp Restoration Area (sections 22 and 27), except for the southernmost 0.5 mi of western boundary, which adjoins privately owned lands within Section 34, Township 7 South, Range 13 East.

FWC approved the acquisition of LFWEA for the establishment of a Gopher Tortoise Mitigation Park in April, 2008. FWC acquired the tract in cooperation with The Trust For Public Land and closed on the property in August, 2008, concurrent with the Florida Department of Environmental Protection (DEP), Division of State Lands (DSL), accepting title via delegation on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida (Board of Trustees) which is comprised of the Governor and Cabinet.

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

Lafayette Forest Florida Forever Project

As noted above, though it was not acquired with Florida Forever funds, LFWEA does lie within the larger Lafayette Forest Florida Forever Project. In order to qualify under the Florida Forever Act (Section 259.105, F.S.), each approved project must be determined to meet two or more goals of the Act. When approved, the Lafayette Forest Florida Forever Project was deemed to contribute to the following goals in accordance with the Florida Forever Act (259.105(4), F.S.):

- (a) Increase the protection of Florida's biodiversity at the species, natural community, and landscape levels.
- (b) Protect, restore, and maintain the quality and natural functions of land, water, and wetland systems of the state.
- (c) Ensure that sufficient quantities of water are available to meet the current and future needs of natural systems and the citizens of the state.
- (d) Increase natural resource-based public recreational and educational opportunities.
- (e) Preserve significant archaeological or historic sites.
- (f) Increase the amount of forestland available for sustainable management of natural resources.

Natural Resources

The LFWEA comprises 2,148 acres and is located in southeastern Lafayette County immediately east of Mallory Swamp and west of Highway 349. The site forms part of the eastern uplands that border the Mallory Swamp Restoration Area. The FWC has completed historic and natural community mapping on LFWEA through the work of the Florida Natural Areas Inventory (FNAI). FNAI mapped ten communities that are characterized as occurring historically, while 11 community types were mapped as occurring presently at the LFWEA.

Two species of invasive exotic plants were documented including Japanese climbing fern (*Lygodium japonicum*) and mimosa (*Albizia julibrissin*). Thirty-one incidental observations were documented for the imperiled gopher tortoise during this mapping effort. This forest contains a substantial population of gopher tortoise, most of which occur in areas that were formerly sandhill.

The vast majority of this site has been converted to pine plantation and has been logged and/or cleared in the past. Many formerly cleared areas have not been replanted with pines and a highly disturbed natural community, or successional hardwood forest, has developed. Woody encroachment and fire suppression disturbances can be found throughout the entire site. Hydrologic alterations are also significant. The western boundary of this site contains a deep ditch that drains many areas of LFWEA and the Mallory Swamp Restoration Area. Following are descriptions of the natural and altered communities found by FNAI on LFWEA.

Basin Marsh

Basin Marsh at LFWEA occurs within a matrix of swamp. This community is often too deep to support trees and shrubs but floating aquatic bed species are common. Depression marsh differs from basin marsh by its adjacency to a pyrogenic community or communities. Depression marshes commonly occur within a matrix of a pyrogenic community and often receive fire events when the surrounding landscape burns. Basin marshes documented at the LFWEA occur within the deeper water areas of the dome swamp community. These areas often contain widely scattered shrubs and trees. Wax myrtle (*Myrica cerifera*), common buttonbush (*Cephalanthus occidentalis*), and coastalplain willow (*Salix caroliniana*) are infrequently observed in this habitat. Floating aquatic bed plants are the primary vegetation type found in these permanent water features and include yellow pondlily (*Nuphar advena*), white waterlily (*Nymphaea odorata*), pickerelweed (*Pontederia cordata*), and combleaf mermaidweed (*Proserpinaca pectinata*). Emergent species are much less frequent and are represented by falsefennel (*Eupatorium leptophyllum*) and maidencane (*Panicum hemitomon*).

Bottomland Forest

Bottomland forest is a hydric forest community that does not receive fire and is dominated by hardwood species. This community is similar to a swamp habitat but is less frequently inundated and lacks a dominance of cypress or tupelo in the canopy. The bottomland forest primarily occurs along the blackwater stream that bisects LFWEA. This stream flows from west to east and drains the eastern section of Mallory Swamp. This community changes to floodplain swamp upstream and to upland hardwood forest downstream. This is due to the width of the floodplain and the depth of the flowing water as it cuts deeper into the landscape. Scattered inclusions of both floodplain swamp and upland hardwood forest occur infrequently throughout the bottomland forest. This community also occurs in a few locations outside of the stream corridor. These areas often are positioned between swamp communities where historic fires would have occurred infrequently and where inundation was not significant enough to support a tupelo or cypress canopy.

The canopy of this community often contains a diverse assemblage of tree species, due largely to the wide range of water depth and hydroperiods that occur within. Dominant canopy species include red maple (*Acer rubrum*), Carolina ash (*Fraxinus caroliniana*), sweetgum (*Liquidambar*

styraciflua), sweetbay (*Magnolia virginiana*), blackgum (*Nyssa sylvatica*), loblolly pine (*Pinus taeda*), swamp laurel oak (*Quercus laurifolia*), water oak (*Quercus nigra*), live oak (*Quercus virginiana*), and pond cypress (*Taxodium ascendens*). Bottomland forest contains a sparse subcanopy composed of younger individuals that are also found in the canopy layer. Shrubs are often sparse as well and are represented by American hornbeam (*Carpinus caroliniana*), swamp dogwood (*Cornus foemina*), American holly (*Ilex opaca*), sweetgum, wax myrtle (*Myrica cerifera*), Virginia willow (*Itea virginica*), and fetterbush (*Lyonia lucida*). Herbs are documented infrequently due to natural canopy shading. Common species include switchcane (*Arundinaria gigantea*), bristlystalked sedge (*Carex leptalea*), dogfennel (*Eupatorium capillifolium*), partridgeberry (*Mitchella repens*), cinnamon fern (*Osmunda cinnamomea*), sawtooth blackberry (*Rubus argutus*), and lizard's tail (*Saururus cernuus*). Vines are observed occasionally and include yellow jessamine (*Gelsemium sempervirens*) and muscadine (*Vitis rotundifolia*).

Depression Marsh

Depression marshes are typically small and circular wetlands, dominated by herbaceous species, and maintained by frequent fires that may occur from one to 10 years. Depression marsh is similar to basin marsh, but occupies depressions within a pyrogenic community matrix. Depression marshes at LFWMA commonly occur in and around the former sandhill communities. These depressional situations are generally dominated by trees and are categorized as dome swamp in most areas in the eastern half of the property. These areas are generally found in a matrix of flatwoods. The depression marsh community present at this site appears quite ephemeral. Water levels vary greatly throughout the year and standing water may be absent or restricted to the deeper centers of these marshes. Trees are uncommon in this community and are represented by red maple (*Acer rubrum*), swamp tupelo (*Nyssa sylvatica* var. *biflora*), slash pine (*Pinus elliottii*), swamp laurel oak (*Quercus laurifolia*), and pond cypress (*Taxodium ascendens*). Past clearcutting of dome swamps often makes the determination of a swamp or a marsh community difficult. Historic aerial photography aids in this determination but is not always definitive. Shrubs are found in varying densities and are typically sparser in larger depression marshes in the eastern half of the site. Common shrubs include groundsel tree (*Baccharis halimifolia*), peelbark St. John's wort (*Hypericum fasciculatum*), bedstraw St. John's wort (*Hypericum galioides*), myrtleleaf St. John's wort (*Hypericum myrtifolium*), gallberry (*Ilex glabra*), Piedmont staggerbush (*Lyonia mariana*), sparkleberry (*Vaccinium arboreum*), common buttonbush (*Cephalanthus occidentalis*), titi (*Cyrilla racemiflora*), fetterbush (*Lyonia lucida*), wax myrtle (*Myrica cerifera*), coastalplain willow (*Salix caroliniana*), and occasionally pond cypress (*Taxodium ascendens*). Herbaceous cover is often moderate to dense and is dominated by bushy bluestem (*Andropogon glomeratus*), bluestem (*Andropogon* sp.), broomsedge bluestem (*Andropogon virginicus*), chalky bluestem (*Andropogon virginicus* var. *glaucus*), big carpetgrass (*Axonopus furcatus*), spadeleaf (*Centella asiatica*), witchgrass (*Dichanthelium* sp.), dogfennel (*Eupatorium capillifolium*), falsefennel (*Eupatorium leptophyllum*), clustered bushmint (*Hyptis alata*), soft rush (*Juncus effusus* ssp. *solutus*), Small's bogbutton (*Lachnocaulon minus*), yellow pondlily (*Nuphar advena*), white waterlily (*Nymphaea odorata*), beaked panicum (*Panicum anceps*), maidencane (*Panicum hemitomom*), fascicled beaksedge (*Rhynchospora fascicularis*), sugarcane plumegrass (*Saccharum giganteum*), sand cordgrass (*Spartina bakeri*), and Virginia chain fern (*Woodwardia virginica*).

Dome Swamp

Dome swamps are typically small forested wetlands found within a pyrogenic community matrix. Shrubs may be sparse or dense and often occur on hummocks with mucky soil or open water between them. The majority of dome swamps at LFWEA have been severely disturbed by logging. Most communities only contain stumps or a few scattered trees.

Common trees include red maple (*Acer rubrum*), Carolina ash (*Fraxinus caroliniana*), swamp tupelo (*Nyssa sylvatica* var. *biflora*), and primarily pond cypress (*Taxodium ascendens*). A few examples of this community are not logged and contain closed canopies formed by younger mature to mature pond cypress. The shrub layer of the dome swamp community is often irregularly dense and includes disturbance species resulting from past logging operations. Common species include groundsel tree (*Baccharis halimifolia*), titi (*Cyrilla racemiflora*), dahoon (*Ilex cassine*), swamp doghobble (*Leucothoe racemosa*), swamp doghobble (*Leucothoe racemosa*), sweetgum (*Liquidambar styraciflua*), fetterbush (*Lyonia lucida*), wax myrtle (*Myrica cerifera*), coastalplain willow (*Salix caroliniana*), common buttonbush (*Cephalanthus occidentalis*), peelbark St. John's wort (*Hypericum fasciculatum*), myrtleleaf St. John's wort (*Hypericum myrtifolium*), Virginia willow (*Itea virginica*), and swamp bay (*Persea palustris*). The herb layer of this community is often densely vegetated due to the amount of sun exposure this community receives while typically lacking a canopy. Common herbaceous species include broomsedge bluestem (*Andropogon virginicus*), chalky bluestem (*Andropogon virginicus* var. *glaucus*), clustered sedge (*Carex glaucescens*), Walter's sedge (*Carex striata*), spadeleaf (*Centella asiatica*), sawgrass (*Cladium jamaicense*), dogfennel (*Eupatorium capillifolium*), falsefennel (*Eupatorium leptophyllum*), clustered bushmint (*Hyptis alata*), cinnamon fern (*Osmunda cinnamomea*), royal fern (*Osmunda regalis* var. *spectabilis*), beaked panicum (*Panicum anceps*), maidencane (*Panicum hemitomon*), swamp smartweed (*Polygonum hydropiperoides*), pickerelweed (*Pontederia cordata*), fascicled beaksedge (*Rhynchospora fascicularis*), slender beaksedge (*Rhynchospora gracilentia*), sugarcane plumegrass (*Saccharum giganteum*), lizard's tail (*Saururus cernuus*), and Virginia chain fern (*Woodwardia virginica*). When trees are present in this community epiphytes are fairly common and include Spanish moss (*Tillandsia usneoides*) and Bartram's air-plant (*Tillandsia bartramii*).

Floodplain Swamp

Floodplain swamp is a natural community that is inundated long enough during the growing season to support a canopy of cypress and/or tupelo. This community occurs within the floodplain of stream and river courses. Floodplain swamp at LFWEA occurs along the blackwater stream that bisects the property. As this stream flows to the east, a deeper and more distinct stream channel forms, and floodplain swamp grades into bottomland forest.

The closed canopy of this community commonly contains red maple (*Acer rubrum*), swamp tupelo (*Nyssa sylvatica* var. *biflora*), slash pine (*Pinus elliottii*), and pond cypress (*Taxodium ascendens*). A poorly formed and often sparse subcanopy containing species present in the canopy as well as Carolina ash (*Fraxinus caroliniana*) and swamp laurel oak (*Quercus laurifolia*). Shrubs are also sparse due to dense overstory shading. Common shrubs include dahoon (*Ilex cassine*), sweetgum (*Liquidambar styraciflua*), wax myrtle (*Myrica cerifera*), and American elm (*Ulmus americana*). Herbs species are uncommon and consist of a sedge (*Carex* sp.) and lizard's tail (*Saururus cernuus*). Vines are observed occasionally and include climbing

hydrangea (*Decumaria barbara*) and eastern poison ivy (*Toxicodendron radicans*). This community, spared from past logging and other significant disturbances, contains some of the best examples of floodplain swamp on the property. As the blackwater stream leaves this Wildlife and Environmental Area, most of the associated floodplain exists in a high quality, natural state.

Pine Plantation

Pine plantation at LFWEA is defined as densely planted pines occurring in rows and lacking a significant or diverse assemblage of groundcover/ herbaceous species. Prior to acquisition by the state of Florida, pines were planted in areas that were historically sandhill, mesic flatwoods, and wet flatwoods communities. Naturally pyrogenic communities at LFWEA have nearly all been converted to pine plantation. Only small areas that lack planted pines can still be classified as a natural community.

The canopy is commonly slash pine (*Pinus elliottii*) but extreme southeastern sections of the forest contain sand pine (*Pinus clausa*) plantations. The canopy within these sand pine plantations is often quite dense and the understory is generally species depauperate. The canopies of the slash pine plantations can also contain scattered sand live oak (*Quercus geminata*), laurel oak (*Quercus laurifolia*), water oak (*Quercus nigra*), and live oak (*Quercus virginiana*). Oaks often occur in rows that remained uncut after the site was prepared for planting pines. Logging and replanting efforts within the pine plantations have occurred at this site for multiple harvests. Small blocks of pines have been replanted opportunistically throughout the WEA. The areas of former pine plantation that have not been replanted typically contain disturbance stands of oaks and these are classified as successional hardwood forest. Pine plantations occurring on former sandhill habitat often support thin canopies, presumably due to the poor growing conditions. This factor has allowed enough light to reach the forest floor to encourage minimal herbaceous species growth. Enough ground cover resources persist to support a fair-sized population of gopher tortoises (*Gopherus polyphemus*). Future gopher tortoise surveys should be conducted in these habitats to accurately assess this population. The pine plantation community commonly contains trees of various heights, but lacks a true subcanopy layer. Shrubs are often dense and openings within the understory are common. Typical shrub species include gallberry (*Ilex glabra*), American holly (*Ilex opaca*), sweetgum (*Liquidambar styraciflua*), rusty staggerbush (*Lyonia ferruginea*), coastalplain staggerbush (*Lyonia fruticosa*), fetterbush (*Lyonia lucida*), wax myrtle (*Myrica cerifera*), sand live oak, turkey oak (*Quercus laevis*), swamp laurel oak, water oak, live, saw palmetto (*Serenoa repens*), horse sugar (*Symplocos tinctoria*), sparkleberry (*Vaccinium arboreum*), Elliott's blueberry (*Vaccinium elliottii*), flatwoods St. John's wort (*Hypericum microsepalum*), dwarf live oak (*Quercus minima*), myrtle oak (*Quercus myrtifolia*), cabbage palm (*Sabal palmetto*), shiny blueberry (*Vaccinium myrsinites*), and deerberry (*Vaccinium stamineum*). The herb layer is often sparse and populated with weedy species. Higher quality groundcover species are occasionally present in small, localized areas. Common herbaceous species include broomsedge bluestem (*Andropogon virginicus*), chalky bluestem (*Andropogon virginicus* var. *glaucus*), bottlebrush threeawn (*Aristida spiciformis*), wiregrass (*Aristida stricta* var. *beyrichiana*), coastalplain chaffhead (*Carphephorus corymbosus*), yankeeweed (*Eupatorium compositifolium*), slender flattop goldenrod (*Euthamia caroliniana*), narrowleaf silkgrass (*Pityopsis graminifolia*), bracken fern (*Pteridium aquilinum*), blackroot (*Pterocaulon pycnostachyum*), whip nutrush (*Scleria*

triglomerata), sweet goldenrod (*Solidago odora*), and Virginia chain fern (*Woodwardia virginica*). Vines are often abundant and are good indicators of disturbance. Common vines species include yellow jessamine (*Gelsemium sempervirens*), earleaf greenbrier (*Smilax auriculata*), saw greenbrier (*Smilax bona-nox*), and muscadine (*Vitis rotundifolia*). The invasive exotic Japanese climbing fern (*Lygodium japonicum*) was documented in pine plantation on Lafayette Forest Mitigation Park. Despite heavy amounts of disturbance, invasive exotic species are generally not present within this community.

Ruderal

Ruderal communities are areas where the natural community has been overwhelmingly altered as a result of human activity. Three ruderal types were mapped on LFWEA: clearing, ditch/canal, and clearcut/early regeneration. The ditch that occurs along the western boundary has drastically affected the hydrology of this and other properties. Historic communities here have been converted to drier habitats with shorter hydroperiods. Clearcut areas that contain pre-reproductive pines are classified as ruderal – clearcut early regeneration. Nearly all of the groundcover in these areas has been removed by site preparation, bedding, and logging. These areas are heavily disturbed and are considered ruderal despite the presence of immature planted pines. LFWEA also contains numerous small areas cleared of native vegetation and commonly replanted with pasture grasses that are now classified as ruderal – clearing. The structure of these habitats is often disturbed and irregular.

Common trees occurring in these areas include swamp laurel oak (*Quercus laurifolia*) and live oak (*Quercus virginiana*). Shrubs are common in the clearcut habitats and include sweetgum (*Liquidambar styraciflua*), wax myrtle (*Myrica cerifera*), slash pine (*Pinus elliottii*), turkey oak (*Quercus laevis*), swamp laurel oak, water oak (*Quercus nigra*), gallberry (*Ilex glabra*), sand blackberry (*Rubus cuneifolius*), saw palmetto (*Serenoa repens*), Elliott's blueberry (*Vaccinium elliottii*), and shiny blueberry (*Vaccinium myrsinites*). Herbs are often quite weedy and include broomsedge bluestem (*Andropogon virginicus*), witchgrass (*Dichanthelium* sp.), lovegrass (*Eragrostis* sp.), centipede grass (*Eremochloa ophiuroides*), yankeeweed (*Eupatorium compositifolium*), bahiagrass (*Paspalum notatum*), crowngrass (*Paspalum* sp.), sweet everlasting (*Pseudognaphalium obtusifolium*), whip nutrush (*Scleria triglomerata*), and knotroot foxtail (*Setaria parviflora*). Vines, including yellow jessamine (*Gelsemium sempervirens*), earleaf greenbrier (*Smilax auriculata*), and muscadine (*Vitis rotundifolia*), are common and abundant. Despite heavy amounts of disturbance, invasive exotic species are generally not present in this community. One roadside occurrence of mimosa (*Albizia julibrissin*) was recorded for ruderal habitats at LFWEA.

Scrubby Flatwoods

Scrubby flatwoods typically support an open canopy of pines over a shrubby understory that includes scrub oaks and occasional herbaceous species within open patches of white sand. These communities are found on excessively drained sands. Scrubby flatwoods at LFWEA occurs at a single location. This area is small and lacks planted pines.

The thin canopy is composed of young slash pine (*Pinus elliottii*) and there is no subcanopy. Tall shrubs account for most of the vegetation cover in this community at 66-75 percent cover. The tall shrub layer includes coastalplain staggerbush (*Lyonia fruticosa*) and sand live oak

(*Quercus geminata*). Short shrubs are also dense and are represented by fetterbush (*Lyonia lucida*), sand live oak, saw palmetto (*Serenoa repens*), and shiny blueberry (*Vaccinium myrsinites*). Herbs are very sparse but include broomsedge bluestem (*Andropogon virginicus*), coastalplain chaffhead (*Carphephorus corymbosus*), and bracken fern (*Pteridium aquilinum*). Vines are documented occasionally and include one species, earleaf greenbrier (*Smilax auriculata*). There is one other area on the LFWEA that was formerly scrubby flatwoods. This area is planted with pines and is better classified currently as pine plantation.

Successional Hardwood Forest

Uplands that are dominated by oaks (*Quercus* spp.) due to lack of fire and other anthropologic disturbances are classified as successional hardwood forest. At LFWEA, this community is common around wetlands where pine plantation is not established. The hammock communities found around some of the larger depression marshes are believed to be anthropogenic in nature. Fire reduction and silvicultural activities in this area of the state has allowed for unnatural successional hardwood hammocks to form. Fire would have presumably swept across the sandhill and depression marsh habitats. Only in some of the most sheltered areas would a thin natural hammock-like situation have formed. Except where recent forestry operations have created gaps, the canopies in these areas are typically closed.

Common species composition in the canopy includes sweetgum (*Liquidambar styraciflua*), slash pine (*Pinus elliottii*), swamp laurel oak (*Quercus laurifolia*), water oak (*Quercus nigra*), and live oak (*Quercus virginiana*). These areas generally lack a true subcanopy. Shrubs are often dense and include coastalplain staggerbush (*Lyonia fruticosa*), wax myrtle (*Myrica cerifera*), wild olive (*Osmanthus americanus*), swamp laurel oak, water oak, live oak, sparkleberry (*Vaccinium arboreum*), saw palmetto (*Serenoa repens*), deerberry (*Vaccinium stamineum*), and Adam's needle (*Yucca filamentosa*). Herbaceous cover is sparse due to overstory shading. Common herbs include broomsedge bluestem (*Andropogon virginicus*), switchgrass (*Dichanthelium* sp.), bracken fern (*Pteridium aquilinum*), and forked bluecurls (*Trichostema dichotomum*). Vines are often abundant and include yellow jessamine (*Gelsemium sempervirens*), earleaf greenbrier (*Smilax auriculata*), cat greenbrier (*Smilax glauca*), and muscadine (*Vitis rotundifolia*).

Upland Hardwood Forest

Upland hardwood forest contains a diverse assemblage of upland species that prefer rich soils and fire exclusion. This community is common in and around steep valleys created by stream channels. Upland hardwood forest occurs adjacent to the blackwater stream channel that bisects LFWEA. The extreme eastern section of the stream cuts deep into the surrounding landscape and supports a rich, stable habitat that is naturally excluded from fire. The narrowing of the stream channel reduces the floodplain and apparently has reduced fire events historically.

The result is an upland hardwood forest community with a closed, mixed age class canopy of pignut hickory (*Carya glabra*), southern magnolia (*Magnolia grandiflora*), swamp laurel oak (*Quercus laurifolia*), and American elm (*Ulmus americana*). The fairly well formed subcanopy contains the same canopy species in addition to American hornbeam (*Carpinus caroliniana*), eastern hophornbeam (*Ostrya virginiana*), swamp chestnut oak (*Quercus michauxii*), water oak (*Quercus nigra*), and live oak (*Quercus virginiana*). Shrubs are sparse and the understory of this community is most open. Shrubs include American hornbeam, red bay (*Persea borbonia*),

swamp laurel oak, sparkleberry (*Vaccinium arboreum*), needle palm (*Rhapidophyllum hystrix*), bluestem palmetto (*Sabal minor*), saw palmetto (*Serenoa repens*), and Elliott's blueberry (*Vaccinium elliotii*). Only two herbs – slender woodoats (*Chasmanthium laxum*) and sarsaparilla vine (*Smilax pumila*) – form the sparse groundcover layer. Vines are present but are uncommon and include rattan vine (*Berchemia scandens*), yellow jessamine (*Gelsemium sempervirens*), and muscadine (*Vitis rotundifolia*). Although this community is small, it contains few disturbances and has not been logged recently. This forest provides an attractive natural buffer for the blackwater stream contained within.

Wet Flatwoods

Wet flatwoods are forests with an open pine canopy and an understory of hydrophytic herbs and shrubs. Wet flatwoods that burn frequently typically have a sparse understory of shrubs and a dense complement of herbs. One area of wet flatwoods was mapped at LFWEA. It is unclear if this area was selectively logged or was thinned in the wildfires that impacted Mallory Swamp in 2001. The structure and general character of this area provided enough credence to classify it as a natural community rather than a pine plantation.

The thin canopy contains younger mature slash pine (*Pinus elliotii*) and lacks a subcanopy. Shrubs are often dense and shade much of the groundcover. Common shrubs include titi (*Cyrtia racemiflora*), sweetgum (*Liquidambar styraciflua*), fetterbush (*I.yonia lucida*), sweetbay (*Magnolia virginiana*), swamp bay (*Persea palustris*), water oak (*Quercus nigra*), flatwoods St. John's wort (*Hypericum microsepalum*), gallberry (*Ilex glabra*), saw palmetto (*Serenoa repens*), and shiny blueberry (*Vaccinium myrsinites*). Herbs are infrequent and include broomsedge bluestem (*Andropogon virginicus*), pink sundew (*Drosera capillaris*), bracken fern (*Pteridium aquilinum*), and a yellow-eyed grass (*Xyris* sp.). Vines are common and are represented by two species: earleaf greenbrier (*Smilax auriculata*) and laurel greenbrier (*Smilax laurifolia*).

Rare and Imperiled Species and Element Occurrences

Known locations of FWC wildlife occurrences and Florida Natural Areas Inventory (FNAI) element occurrences from the most recent GIS databases of the respective agencies are displayed in Figure 3. As defined by FNAI, an “element” is any exemplary or rare component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave, or other ecological feature. An element occurrence is a single extant habitat which sustains or otherwise contributes to the survival of a population or a distinct, self-sustaining example of a particular element. A gopher tortoise survey was conducted by FWC and other gopher tortoise surveys work was done by private consultants prior to purchase of the property. The gopher tortoise survey and other analysis done by FWC verified the suitability of the site for establishment as a gopher tortoise mitigation park.

LFWEA has a diverse assortment of plant and animal species. FNAI has identified 2,144.8 acres of potential habitat for several plant and animal species including two that are listed as imperiled or threatened and endangered. During natural communities mapping, FNAI documented thirty-one incidental gopher tortoise observations. LFWEA contains a substantial population of gopher tortoise, most of which occur in areas that were formerly sandhill. Currently, this is the only imperiled species that has been documented on-site.

Management Intent

Currently, LFWEA is managed for the conservation and protection of fish and wildlife habitat and fish and wildlife based public outdoor recreation. A wide range of operational and resource management actions are conducted on LFWEA each year including activities such as: prescribed burning; wildlife habitat restoration and improvement; exotic-invasive species maintenance and control; road repairs and maintenance; imperiled species management, monitoring and protection; facilities and infrastructure maintenance and repair; conservation acquisition and stewardship activities; archeological and historic resources monitoring and protection; and research related activities. Ongoing recreational opportunities provided on LFWEA currently include hunting, fishing, wildlife viewing, hiking, bicycling, and horseback riding.

Land management goals for LFWEA will seek to optimize the potential for the conservation of gopher tortoise ecology. Such goals will take into consideration relative values of various resources, buffering of areas requiring special protection, and other special management needs. Conservation and protection of environmentally unique native habitats, and imperiled and rare species, should be important management goals for the area. Management programs would conserve, protect, and restore important ecosystems, forests, landscapes, wildlife populations, and water resources. Programs would provide for public education, regulation of uses of resources, and fish and wildlife-based recreation.

Priority will be given to the use of an objective-based vegetation management process for the area. Objective-based vegetation management includes the delineation of management units, quantification of the desired future condition for each unit, selection of an indicator-based management objective for each unit and monitoring of the indicator to determine attainment or progress towards accomplishing the objective. In this way, management can be adapted to best accomplish the management objective for each vegetation management unit. Management objectives, which apply to several vegetation management units, or the entire management area, may also be developed through a similar process.

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.

FWC conducts analysis of historic natural community types to determine appropriate desired future conditions. LFWEA includes natural areas requiring application of resource management methods such as prescribed fire where appropriate. 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. Development of facilities, as on all FWC Wildlife and Environmental Areas, will be kept to the minimum level necessary to assure protection of the resources and compatible recreational experiences. Any such development would be confined to areas of previous disturbance.

Timetable for Implementing Management Provisions

During the first year after acquisition, emphasis will be placed on site security, posting boundaries, public access, fire management, resource inventory, exotic species control, and removal of refuse. A management plan will be developed by FWC describing the management goals and objectives necessary to implement future resource management. The management plan will also establish future roles of cooperating entities including governmental agencies and other stakeholders.

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

Programs providing multiple recreational uses will also be implemented. These public outdoor fish and wildlife based recreational uses will enhance the public's understanding of LFWEA while providing public enjoyment of outdoor recreational opportunities. A master recreation plan will be developed for LFWEA that is consistent and compatible with the purposes of acquisition. Essential roads will be stabilized to provide all weather public access and management operations. Unnecessary roads, fire lanes, and hydrological disturbances will be abandoned or restored as practical. Infrastructure development shall be as necessary to allow public access and to provide facilities, security, and management of the property. Any archaeological and historic sites will be managed in coordination with the Florida Department of State, Division of Historical Resources.

Estimate of Revenue-Generating Potential

The revenue generating potential of LFWEA is not known and will depend upon future uses to be approved in the management plan. However, revenue from such environmental lands might 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 will cooperate with other state and local governmental agencies including the SRWMD, DEP, the Florida Department of Agriculture and Consumer Services, Florida Forestry Service, and Lafayette County in management of the property.

Estimate of Costs

Following is an estimate of costs to operate and manage LFWEA under the proposed LFWEA Management Plan. Costs listed below are projected estimates necessary to fully implement the LFWEA Management Plan and reflect the actual annual operating budget of LFWEA. All land management funding is dependent upon annual legislative appropriations.

Lafayette Forest WEA Management Plan Cost Estimate

Maximum expected one year expenditure

Resource Management

Exotic Species Control	\$2,140
Prescribed Burning	\$20,226
Cultural Resource Management	\$3,778
Timber Management	\$2,112
Hydrological Management	\$3,667
Other	\$127,367
Subtotal	\$159,290

Priority schedule:

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

Administration

General administration	\$545
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Support

Land Management Planning	\$1,685
Land Management Reviews	\$4,549
Training/Staff Development	\$990
Vehicle Purchase	\$10,222
Vehicle Operation and Maintenance	\$5,445
Other	\$1,462
Subtotal	\$24,353

Capital Improvements

New Facility Construction	\$45,893
Facility Maintenance	\$14,771
Subtotal	\$60,665

Visitor Services/Recreation

Info./Education/Operations	\$2,902
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Law Enforcement

Resource protection	\$1,502
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Total	\$249,256 *
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* Based on FWC's current staffing ratio of approximately one full time employee (FTE) per 5,000 acres of managed area, one FTE position would be optimal to fully manage the area covered by this prospectus. All land management funding is dependent upon annual legislative appropriations.

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

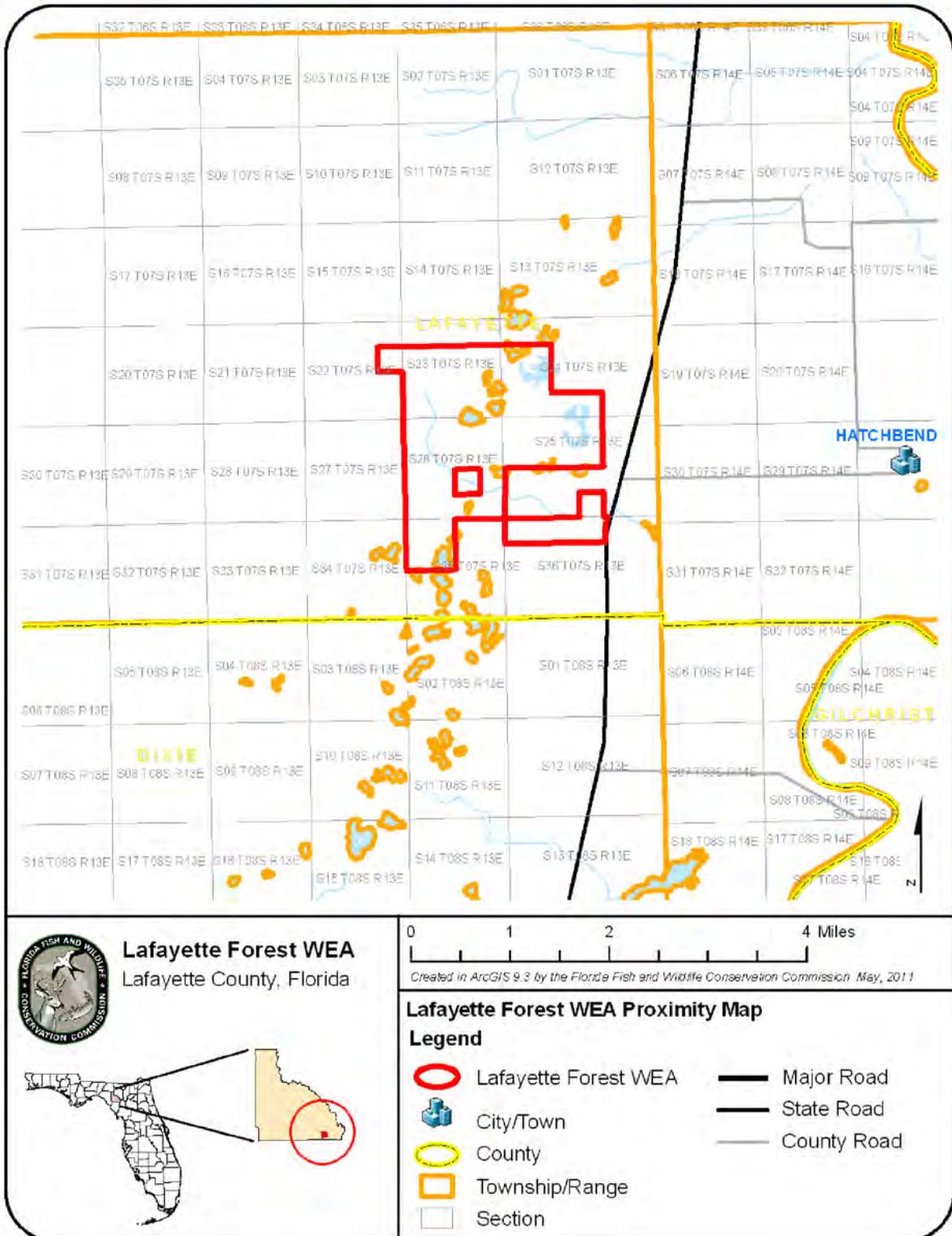


Figure 2. LFWEA Proximity Map with Conservation Land and Florida Forever Projects

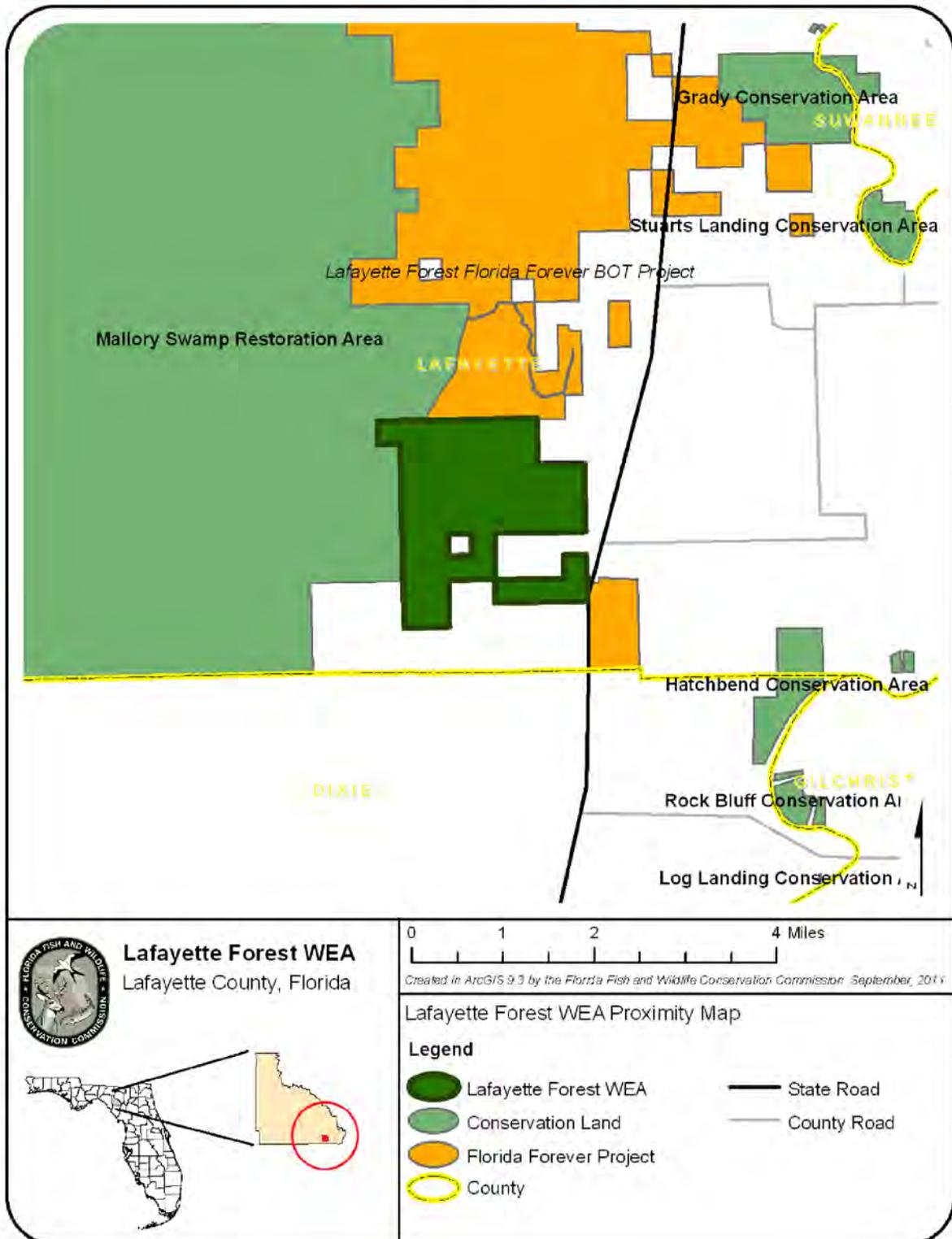


Figure 3. LFWEA FWC Wildlife Observations and FNAI Element Occurrences

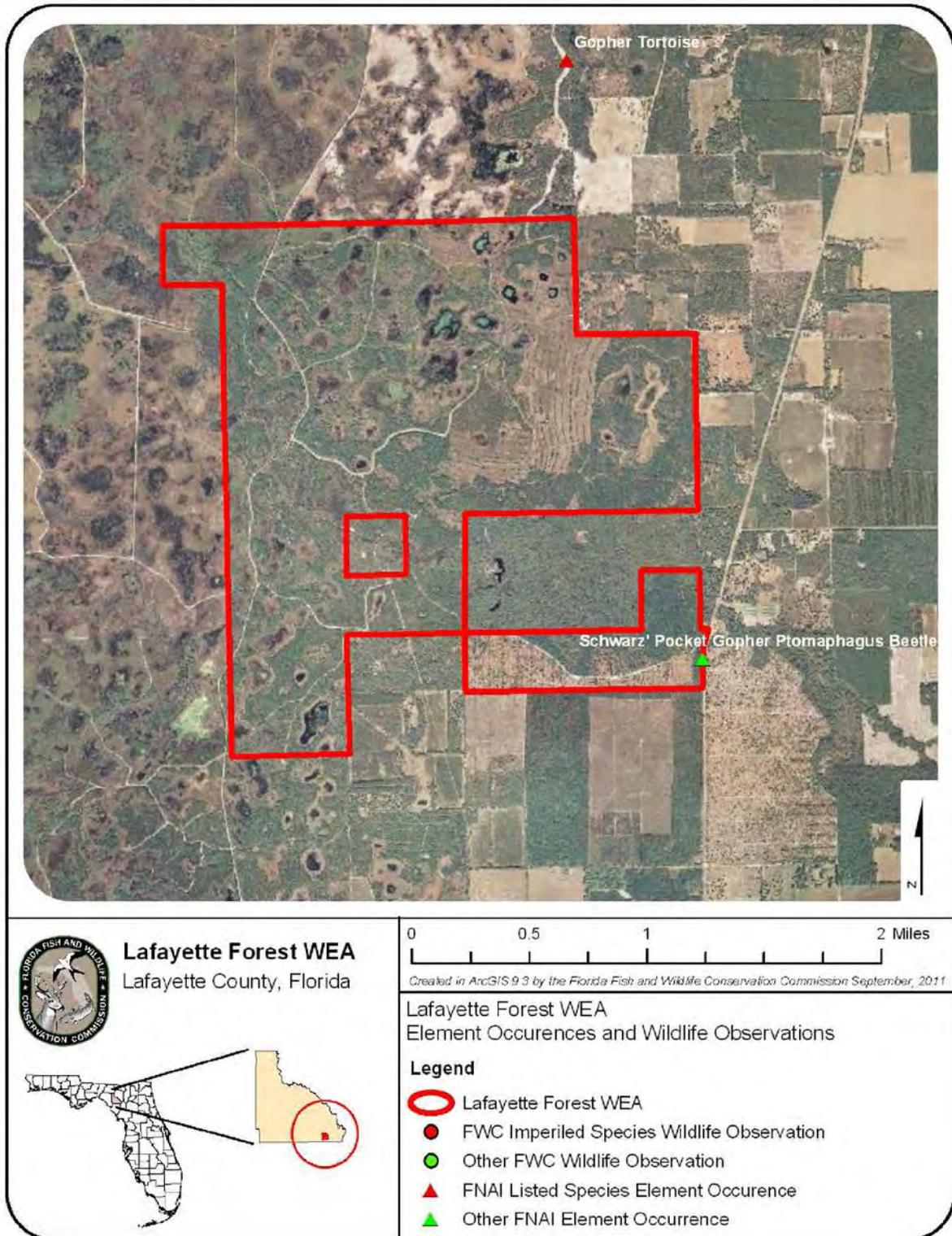
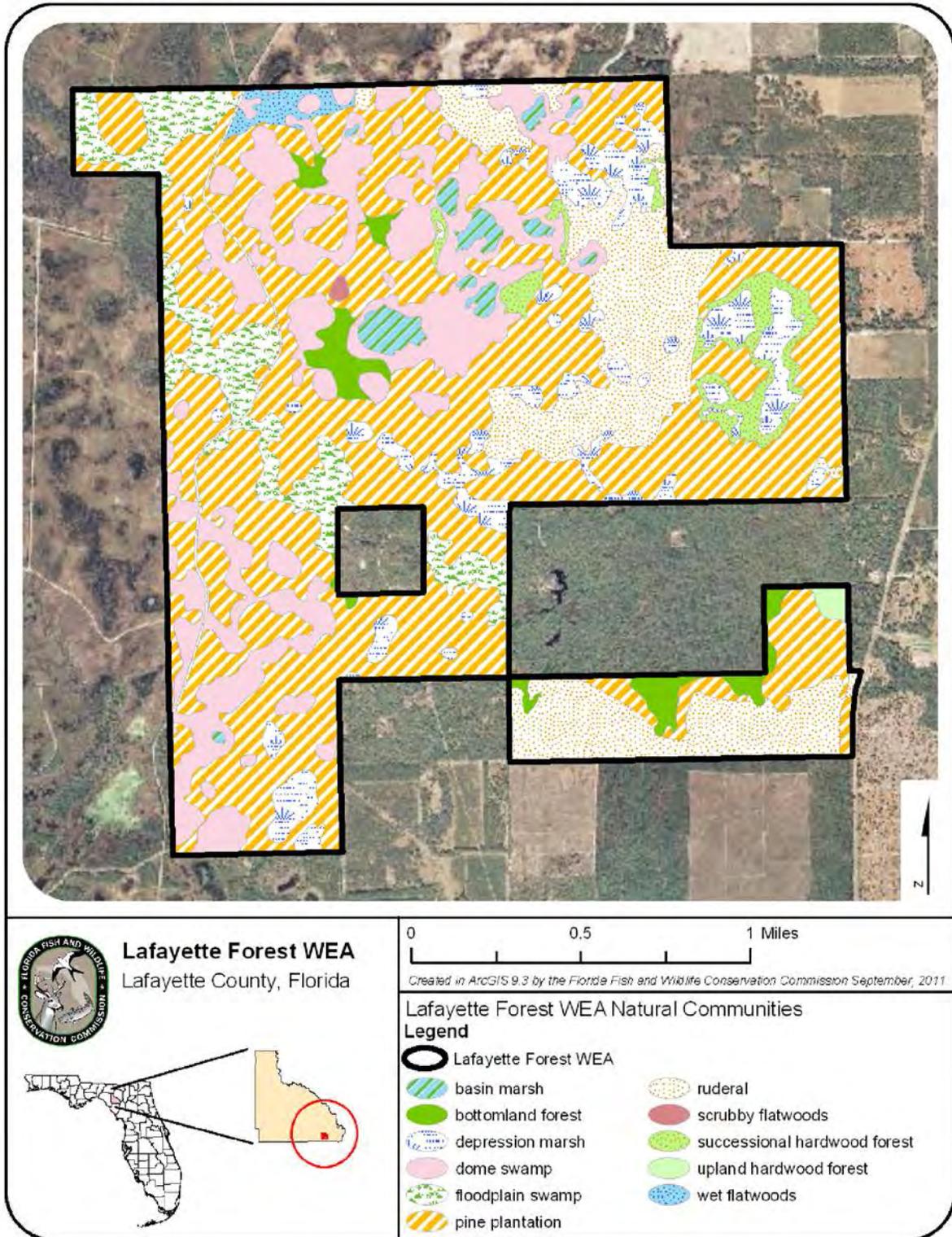


Figure 4. LFWEA Natural Communities



12.3 Soil Series Descriptions

Map Unit Description

Lafayette County, Florida

[Minor map unit components are excluded from this report]

Map unit: 2 - Penney sand, 0 to 5 percent slopes

Component: Penney (90%)

The Penney component makes up 90 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of eolian or sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively 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 80 inches during June, July, August, September. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 4 - Blanton-Ortega complex, 0 to 5 percent slopes

Component: Blanton (55%)

The Blanton component makes up 55 percent of the map unit. Slopes are 0 to 5 percent. This component is on rises on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is 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 44 inches during June, July, August, September. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Ortega (26%)

The Ortega component makes up 26 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 eolian or sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is 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 52 inches during June, July, August, September. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 5 - Otela-Penney complex, 0 to 5 percent slopes

Component: Otela (55%)

The Otela component makes up 55 percent of the map unit. Slopes are 0 to 5 percent. This component is on rises on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well 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 48 inches during June, July, August. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Penney (43%)

The Penney component makes up 43 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of eolian or sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively 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 80 inches during June, July, August. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map Unit Description

Lafayette County, Florida

Map unit: 11 - Pamlico and Dorovan soils, depressional

Component: Pamlico, depressional (55%)

The Pamlico, depressional component makes up 55 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of herbaceous organic material over sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September. Organic matter content in the surface horizon is about 50 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Dorovan, depressional (43%)

The Dorovan, depressional component makes up 43 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 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 moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September. Organic matter content in the surface horizon is about 50 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 14 - Leon fine sand

Component: Leon (90%)

The Leon component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flatwoods on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 8 inches during June, July, August. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 15 - Wesconnett and Lynn Haven soils, depressional

Component: Wesconnett (55%)

The Wesconnett component makes up 55 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is 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. Organic matter content in the surface horizon is about 15 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Lynn Haven (43%)

The Lynn Haven component makes up 43 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is 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. Organic matter content in the surface horizon is about 11 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map Unit Description

Lafayette County, Florida

Map unit: 18 - Surrency, Plummer, and Clara soils, depressional

Component: Surrency, depressional (34%)

The Surrency, depressional component makes up 34 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately 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. Organic matter content in the surface horizon is about 15 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Clara, depressional (24%)

The Clara, depressional component makes up 24 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is 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. Organic matter content in the surface horizon is about 14 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Plummer, depressional (23%)

The Plummer, depressional component makes up 23 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately 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 January, February, March, April, May, June, July, August, September. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 26 - Ridgewood-Hurricane complex, 0 to 5 percent slopes

Component: Ridgewood (65%)

The Ridgewood component makes up 65 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 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 26 inches during June, July, August. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Hurricane (26%)

The Hurricane component makes up 26 percent of the map unit. Slopes are 0 to 5 percent. This component is on rises on marine terraces on coastal plains, flats on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is 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 26 inches during June, July, August. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 27 - Albany-Ridgewood complex, 0 to 5 percent slopes

Component: Albany (66%)

The Albany component makes up 66 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high.

Map Unit Description

Lafayette County, Florida

Map unit: 27 - Albany-Ridgewood complex, 0 to 5 percent slopes

Component: Albany (66%)

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 18 inches during June, July, August. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Ridgewood (30%)

The Ridgewood component makes up 30 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 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 29 inches during June, July, August. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 31 - Chaires, low-Meadowbrook complex

Component: Chaires, low (55%)

The Chaires, low component makes up 55 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during June, July, August, September. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Meadowbrook (35%)

The Meadowbrook component makes up 35 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during June, July, August, September. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 34 - Ortega fine sand, 0 to 5 percent slopes

Component: Ortega (80%)

The Ortega component makes up 80 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of eolian or sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is 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 52 inches during June, July, August. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 41 - Meadowbrook and Harbeson soils, depressional

Component: Meadowbrook (65%)

The Meadowbrook component makes up 65 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately 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 January, February, March, April, May, June, July, August, September. Organic matter content in the surface horizon is about 15 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria.

Map Unit Description

Lafayette County, Florida

Map unit: 41 - Meadowbrook and Harbeson soils, depressional

Component: Meadowbrook (65%)

The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Harbeson (25%)

The Harbeson component makes up 25 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on manne 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 January, February, March, April, May, June, July, August, September. Organic matter content in the surface horizon is about 14 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 44 - Albany-Ousley-Meadowbrook complex, 0 to 5 percent slopes, occasionally flooded

Component: Albany, occasionally flooded (45%)

The Albany, occasionally flooded component makes up 45 percent of the map unit. Slopes are 0 to 5 percent. This component is on stream terraces on flood plains on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat 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 occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during June, July, August. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Ousley (25%)

The Ousley component makes up 25 percent of the map unit. Slopes are 0 to 5 percent. This component is on stream terraces on flood plains on marine terraces on coastal plains. The parent material consists of sandy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during June, July, August. Organic matter content in the surface horizon is about 0 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Meadowbrook, occasionally flooded (15%)

The Meadowbrook, occasionally flooded component makes up 15 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on flood plains on manne terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is occasionally flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 53 - Penney sand, 5 to 8 percent slopes

Component: Penney (90%)

The Penney component makes up 90 percent of the map unit. Slopes are 5 to 8 percent. This component is on ridges on manne terraces on coastal plains. The parent material consists of eolian or sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively 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 72 inches during June, July, August. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map Unit Description

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

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

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

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

12.4 FNAI Data Usage Permission Letter

FLORIDA NATURAL AREAS INVENTORY

1018 Thomasville Road, Suite 200-C · Tallahassee, Florida 32303 · (904) 224-8207

RECEIVED

MAR 14 1997

March 3, 1997

Hugh Boyter
Bureau of Wildlife Management
Division of Wildlife, GFC
620 South Meridian
Tallahassee, FL 32399-1600

BUREAU OF
WILDLIFE MANAGEMENT

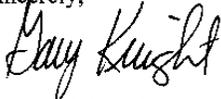
Dear Hugh:

By virtue of this letter we are agreeing that it is unnecessary for your office to request FNAI element data for each management plan you prepare if the following condition is met.

An update of the Florida Natural Areas Inventory's Biological Conservation Database will be performed on a quarterly basis.

Our database manager, Lance Peterson, will provide the appropriate FGFWFC staff with the updated Biological Conservation Database and your staff will assure that it is incorporated into all management plans. Hopefully, this new procedure will eliminate wasted time and effort at both organizations. Mr. Peterson told me he has provided FGFWFC personnel a database update within the last few weeks so this procedure can begin immediately.

Sincerely,



Gary Knight, Director
Florida Natural Areas Inventory

cc: Lance Peterson, FNAI
MAF/FGFWFC/general/agreemnt.gfc

The Nature Conservancy and the Florida Department of Environmental Protection

12.5 Gopher Tortoise Burrow Surveys

12.5.1 FWC Gopher Tortoise Burrow Survey (2007)

MITIGATION PARK PROGRAM

ACTIVITY REPORT

**Gopher Tortoise Burrow Survey at the
Itera Tract, Lafayette County**



FEBRUARY 2007

Mitigation Park Activity Report

Date: February 22, 2007
Prepared by: Shane Belson
Site: Itera Tract, Lafayette County
Subject: Gopher Tortoise Burrow Survey

Project Summary

A gopher tortoise burrow survey was conducted by FWC on January 25, 2007, at the Itera Tract, a 2,122-acre privately owned property in southeast Lafayette County. Survey work by FWC was conducted primarily in the central portion of the site and served to supplement efforts and confirm results of a 2006 survey that was performed by Pope Environmental, Inc. ("Pope"), the landowner's private consultant (Figure 1). A total of 63 transects covering 75.6 acres were surveyed by FWC, resulting in approximately 8% coverage of an estimated 955 acres of uplands. The 8% FWC coverage supplements the roughly 70% complete coverage survey conducted by Pope. FWC survey results indicate an estimated average tortoise density of 1.0 tortoise per acre.

Methods

1. Transect locations were plotted on an infrared aerial photograph (DOQ) in ArcView GIS computer software. Typically, a sufficient number of transects is located to provide approximately 15% coverage of suitable gopher tortoise habitat. In this case, however, 60% of the uplands at the site were previously surveyed by Pope. The FWC survey was intended to cover the remainder of the tract and to confirm or disprove results from the Pope survey.
2. Each observer within a transect group is placed along a line approximately 100 feet apart. One observer monitors the length of the transect with the aid of a hip chain and signals to the other observers when to terminate the transect at the end of the 250 meters.
3. Each transect belt is 250 meters long and 20 meters wide. Burrows found within 10 meters of either side of the transect are recorded and examined for status and age class. The area covered by an individual transect is 0.5 hectares (1.2 acres). Active, inactive, and abandoned burrows are recorded to allow for density calculation using two different formulas.

4. Tortoise density was determined using two calculations (for comparative analysis) as follows:

$$\text{Formula 1: } \frac{(\text{Active} + \text{Inactive})}{(1.2 \text{ acres}) (\text{No. of observers})} \times (0.614) = \text{tortoises/acre}$$

$$\text{Formula 2: } \frac{(\text{Active} + \text{Inactive} + \text{Abandoned})}{(1.2 \text{ acres}) (\text{No. of observers})} \times (0.5) = \text{tortoises/acre}$$

The density values from the two calculations were then averaged to determine the estimated density within the survey area.

Results

The survey was conducted by two teams, one consisting of four surveyors (Team 1) and the other of three surveyors (Team 2). The combined total coverage of the survey was 75.6 acres, which is 8% of the estimated 955 acres of uplands.

Team 1 completed 43.2 acres in the central portion of the tract in bedded pine plantation where upland soils consist primarily of Leon find sand (depth to water rating: 0-25 cm). The estimated tortoise density in the area surveyed by Team 1 is roughly 0.43 tortoise per acre. Team 2 completed 32.4 acres to the east of Team 1, also in pine plantation, but where upland soils consist primarily of the Ridgewood-Hurricane complex (depth to water table rating: 50-100 cm). The estimated tortoise density in the area surveyed by Team 2 is roughly 1.85 tortoises per acre.

The estimated overall (Team 1 + Team 2) average tortoise density at the site is 1.04 tortoises per acre. Tortoise densities within transects ranged from 0 to 4.6 individuals per acre. The location of each transect group is roughly depicted in Figure 2. Survey data are presented in Table 1. Soil survey and depth to water table maps for the site is found in Appendix I.

Discussion

Survey data indicate that the uplands of the Itera Tract support a gopher tortoise population that exceeds the 0.8 tortoise per acre minimum density criterion that is generally used to evaluate potential FWC Mitigation Parks. The tortoise-supporting habitats on the site consist primarily of upland hardwood forest, sandhills, and pine plantation. According to the NRCS web soil survey, roughly 764 acres (≈36%) of the tract contain soils with depth to high water table (DHWT) values of >31 cm (12 in), which typically support upland natural communities. Of these soils, 731 acres (96% of uplands; 34% of tract) have a DHWT of >61 cm (24 in).

Data provided by Pope suggest that upland habitats comprise 1,146 acres (54%) of the tract. The difference between NRCS and Pope data may be due to varying classifications of marginal soils and/or habitats. For the purpose of data analyses contained in this report, the average of the two values $[(1,146+764)/2]=955$ was used.

The tract consists of both relatively intact native habitats and areas of intensive timber production. Inspection of aerial photographs reveals the signature of tree rows on the majority of the upland acreage. The area surveyed by FWC was bedded for pine production and contained a high percentage of weedy species. However, as observed during the initial site inspection, ground cover distribution and composition are fair to good on most of the site. No significant exotic species infestations were observed. The site is apparently not under a prescribed burning program and the only sign of recent fire was an apparent wildfire near the western boundary of the tract.

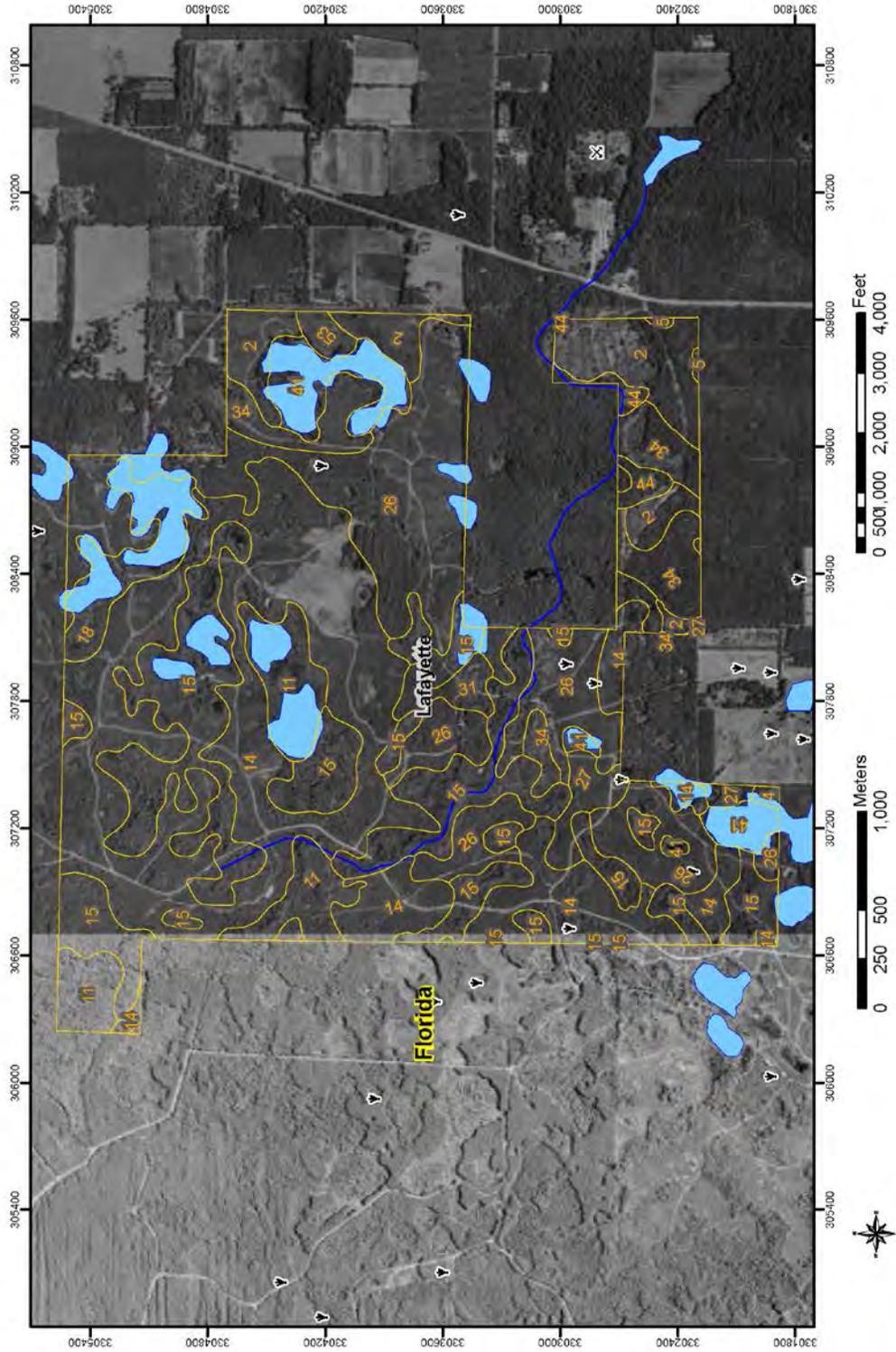
The Itera Tract is located approximately 11 miles (straight line) from the Fort White Mitigation Park WEA office, which is the headquarters for FWC mitigation park operations in the North Central Region. The current condition of the property would allow for a relatively seamless transition to mitigation park management operations, which are specifically tailored to benefit listed upland species. While some degree of timber harvest may be employed to reduce canopy cover, the use of prescribed fire would be possible following the improvement and/or construction of fire lines. The closest smoke sensitive feature is US 129, which is 6 miles to the east and sufficiently far so as to not impact prescribed burning. In addition, the tract shares a common boundary to the west with existing public lands, the 30,501-acre Mallory Swamp Restoration Area (MSRA) which is managed by the Suwannee River Water Management District. This juxtaposition of public lands greatly enhances management operations by eliminating the potential for future adjacent development, providing a buffer from private lands and/or smoke sensitive areas, and by promoting potential partnerships with other land managing agencies.

Tract qualities such as size, habitat condition, estimated gopher tortoise density, and proximity to other FWC land management operations all make this site an appealing candidate for inclusion in the FWC Mitigation Park Program. However, boundary configuration as it relates to access from public roadways, along with a 40-acre in-holding, must be reconciled to ensure unimpeded FWC management of the site. In addition, acquisition efforts should proceed only if the overall upland to wetland acreage ratio is considered acceptable. If appropriate, the project may be further enhanced if acquired in a cooperative manner with the Suwannee River Water Management District.

APPENDIX I

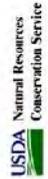
Soil Survey Map
and
Depth to Water Table Map

SOIL SURVEY OF LAFAYETTE COUNTY, FLORIDA



11/22/2006
Page 1 of 3

Web Soil Survey 1.1
National Cooperative Soil Survey



SOIL SURVEY OF LAFAYETTE COUNTY, FLORIDA

MAP LEGEND

- Soil Map Units
- Cities
- Detailed Counties
- Detailed States
- Interstate Highways
- Rails
- Water
- Hydrography
- Oceans
- Escarpment, barrock
- Escarpment, non-bedrock
- Gully
- Levee
- Slope
- Blowout
- Borrow Pit
- Clay Spot
- Depression, closed
- Eroded Spot
- Gravel Pit
- Gravelly Spot
- Gully
- Lava Flow
- Landfill
- Marsh or Swamp
- Miscellaneous Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Slide or Slip
- Sinkhole
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Perennial Water
- Well Spot

MAP INFORMATION

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: UTM Zone 17
 Soil Survey Area: Lafayette County, Florida
 Spatial Version of Data: 1
 Soil Map Compilation Scale: 1:24000

Map comprised of aerial images photographed on these dates:
 1/11/1999, 1/16/1999

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



Web Soil Survey 1.1
 National Cooperative Soil Survey

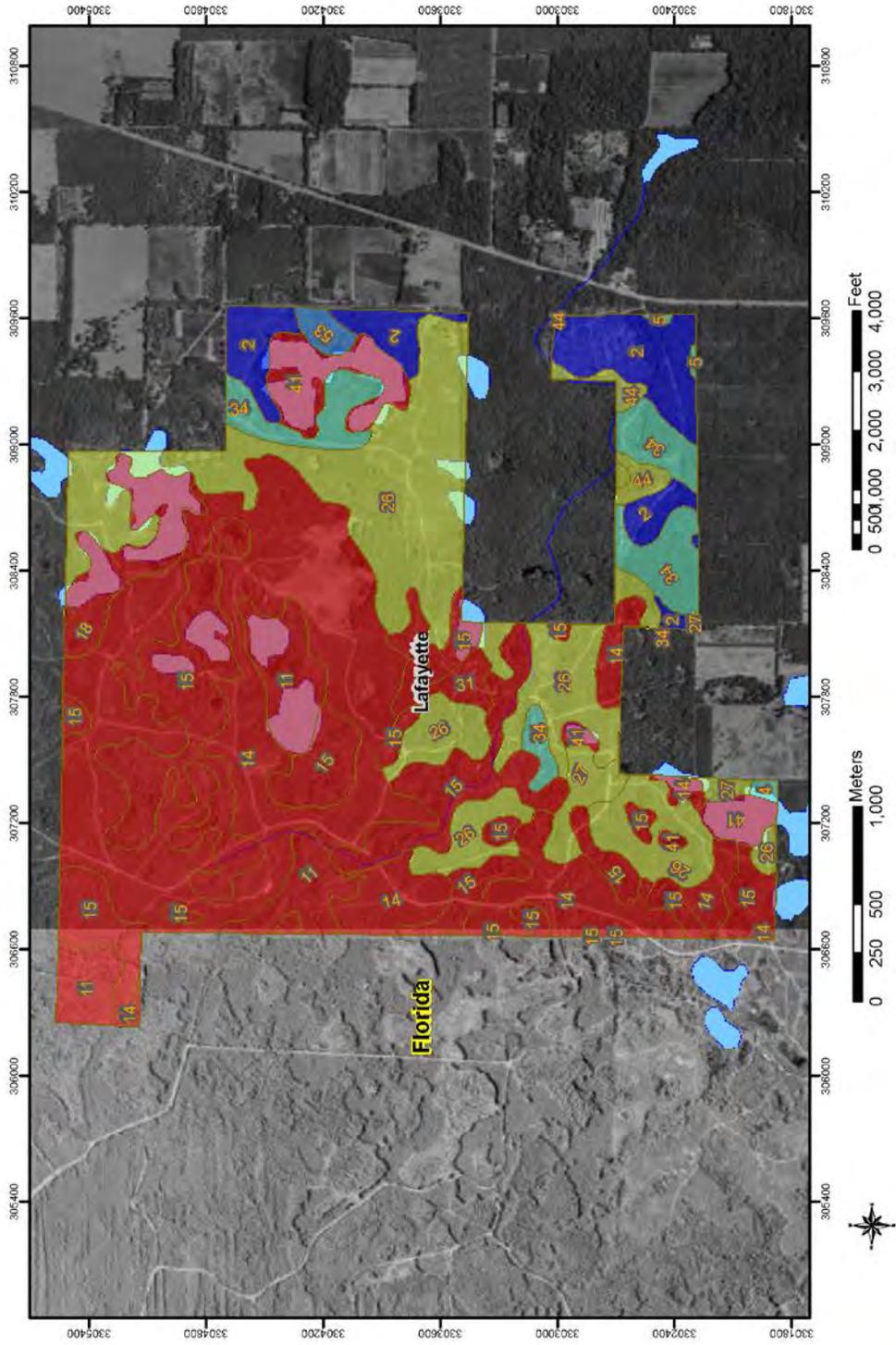
11/22/2006
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Map Unit Legend Summary

Lafayette County, Florida

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
2	Penney sand, 0 to 5 percent slopes	143.9	6.6
4	Blanton-Ortega complex, 0 to 5 percent slopes	3.3	0.1
5	Otela-Penney complex, 0 to 5 percent slopes	2.4	0.1
11	Panlico and Dorovan soils, depressional	123.4	5.6
14	Leon fine sand	662.8	30.2
15	Wesconnett and Lynn Haven soils, depressional	447.0	20.3
18	Surrency, Plummer, and Clara soils, depressional	67.5	3.1
26	Ridgewood-Hurricane complex, 0 to 5 percent slopes	464.5	21.1
27	Albany-Ridgewood complex, 0 to 5 percent slopes	33.4	1.5
31	Chaires, low-Meadowbrook complex	23.2	1.1
34	Ortega fine sand, 0 to 5 percent slopes	114.8	5.2
41	Meadowbrook and Harbeson soils, depressional	80.1	3.6
44	Albany-Onsley-Meadowbrook complex, 0 to 5 percent slopes, occasionally flooded	18.8	0.9
53	Penney sand, 5 to 8 percent slopes	12.0	0.5

DEPTH TO WATER TABLE RATING FOR LAFAYETTE COUNTY, FLORIDA



Web Soil Survey 1.1
National Cooperative Soil Survey

11/22/2006
Page 1 of 4

Tables - Depth to Water Table

Summary by Map Unit - Lafayette County, Florida

Soil Survey Area Map Unit Symbol	Map Unit Name	Rating (centimeters)	Total Acres in AOI	Percent of AOI
2	Penney sand, 0 to 5 percent slopes	203	143.9	6.6
4	Blanton-Ortega complex, 0 to 5 percent slopes	112	3.3	0.1
5	Otela-Penney complex, 0 to 5 percent slopes	122	2.4	0.1
11	Pamlico and Dorovan soils, depressional	0	123.4	5.6
14	Leon fine sand	20	662.8	30.2
15	Wesconnett and Lynn Haven soils, depressional	0	447.0	20.3
18	Surrency, Plummer, and Clara soils, depressional	0	67.5	3.1
26	Ridgewood-Hurricane complex, 0 to 5 percent slopes	66	464.5	21.1
27	Albany-Ridgewood complex, 0 to 5 percent slopes	53	33.4	1.5
31	Chaires, low-Meadowbrook complex	8	23.2	1.1
34	Ortega fine sand, 0 to 5 percent slopes	132	114.8	5.2
41	Meadowbrook and Harbeson soils, depressional	0	80.1	3.6
44	Albany-Ousley-Meadowbrook complex, 0 to 5 percent slopes, occasionally flooded	64	18.8	0.9
53	Penney sand, 5 to 8 percent slopes	183	12.0	0.5

Description - Depth to Water Table

This attribute represents the depth to a water table in the soil during the specified months. Water Table refers to a saturated zone in the soil. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

In the underlying database, this attribute is actually recorded as three separate values. A low value and a high value indicate the range of this attribute for the corresponding component. A "representative" value indicates the expected value of this attribute for the corresponding component. For this soil property, only the representative value is used.

Parameter Summary - Depth to Water Table

Units of Measure: centimeters

Aggregation Method: Dominant Component

Component Percent Cutoff:

Tie-break Rule: Lower

Interpret Nulls as Zero: No

Beginning Month: January

Ending Month: December

**12.5.2 WRS Infrastructure and Environment, Inc. Gopher Tortoise Burrow
Survey (2012)**



Florida Fish & Wildlife Conservation Commission

GOPHER TORTOISE BURROW SURVEY AND BASELINE VEGETATION SURVEY



LAFAYETTE FOREST WILDLIFE ENVIRONMENTAL AREA

Lafayette County, Florida

FDEP Contract No: PL074

WRS Project No: 32-61-120001



Submitted by:

**WRS Infrastructure
& Environment, Inc.**

May 23, 2012

Mr. Scott Johns
District Wildlife Biologist
Florida Fish and Wildlife Conservation Commission
Lake City Regional Office
3377 E. US Hwy 90
Lake City, FL 32055

**GOPHER TORTOISE BURROW SURVEY AND BASELINE
VEGETATION SAMPLING
Lafayette Forest Wildlife and Environmental Area
Lafayette County, Florida
WRS Project No. 32-61-120001**

Dear Mr. Johns:

The Florida Fish and Wildlife Conservation Commission (FFWCC) contracted WRS Infrastructure & Environment, Inc. (WRS), doing business as WRScompass to conduct a gopher tortoise burrow survey and baseline vegetation sampling for the area of interest (AOI) as outline in the “Scope of Work to Perform Additional Assessment Activities – Gopher Tortoise Burrow Survey, Baseline Vegetation Sampling, and Surface Water Modeling” submitted to FFWCC on December 22, 2011. The Gopher Tortoise Burrow Survey, Baseline Vegetation Sampling, and Surface Water Modeling were authorized under Purchase Order Number A536D6 of FDEP contract PL074. WRS is pleased to present the FFWCC with this letter report detailing the activities and findings of the gopher tortoise burrow survey and baseline vegetation sampling.

GOPHER TORTOISE BURROW SURVEY ACTIVITIES

WRS conducted the gopher tortoise burrow survey activities from January 30 through February 2, 2012. Prior to conducting the gopher tortoise survey, WRS conducted hydrologic observations of the wetlands within the area of interest to determine the extent to which these wetlands could be characterized as potential gopher tortoise habitat. Wetland margins are utilized by gopher tortoises during dry periods depending on soils, available forage, and groundwater table levels. The inner-most boundaries of gopher tortoise habitat within these wetlands were determined based on these criteria.

WRS conducted a gopher tortoise burrow survey on all gopher tortoise habitat within the area of interest as follows:

- Within 50 meters of either side of the St. Regis Ditch.

- Wetlands; from the inner-most boundary of gopher tortoise habitat to 25 meters into adjacent pine plantation.
- Within 16 meters of road edges.

The purpose of conducting the burrow survey within these confines is to identify those burrows which would be most at risk of being impacted by changes in hydrology due to the proposed modifications outlined in the Hydrology Assessment and Conceptual Restoration Plan (2011).

The burrow survey was performed based on the procedures outlined in Appendix 4, Methods for Burrow Surveys on Development and Donor Sites, found in the 2008 (Revised November 2011) FFWCC Gopher Tortoise Permitting Guidelines. One-hundred percent of the identified potential gopher tortoise habitat within the boundaries of the burrow survey will be covered by travelling parallel transects spaced appropriately for the habitat conditions. WRS utilized two to three personnel per transect, depending on vegetation cover, to ensure complete visual coverage.

All located burrows were identified as either **potentially occupied** or **abandoned**. The classification of **potentially occupied** combines the active and inactive categories and, therefore, includes burrows with obvious signs of use and those with minimal or no obvious sign of use. A potentially occupied burrow is in good repair and has the classic half-moon shaped entrance. These burrows may have tortoise tracks or plastron scrapes clearly visible on the burrow floor or on the mound, or may have subtle or no tortoise sign. The lack of observable tortoise signs may be due to weather or season. The burrow floor may contain loose soil caused by tortoise activity, or it may be hard packed. The burrow mound may or may not have vegetation growing on it, and it may be partially covered by fallen leaves. An **abandoned** burrow appears unused and dilapidated. The entrance is partially or completely collapsed, and the burrow is partially or completely filled with leaves or soil. Recent rains, or recent activity by livestock or humans, do not appear to be the primary reason for burrow collapse. There are no trails into the burrow that might indicate that a tortoise recently passed through the leaf litter or that a small tortoise is using a dilapidated, adult burrow.

WRS identified 57 potentially occupied burrows and 5 abandoned burrows within the above outlined boundaries. WRS also identified 12 burrows in close proximity to the boundaries. These burrows were identified and plotted on the burrow location map to show clusters of burrows that extend beyond the boundaries of the survey area.

All burrow locations, Global Positioning System (GPS) coordinates, burrow label, and burrow status were logged with a handheld data collection device. The Gopher Tortoise Burrow Location Map is included in **Appendix A**.

The gopher tortoise occupies a wide range of open, upland habitats with well-drained, deep sandy substrate for borrowing. These habitats usually include longleaf pine, xerophytic oak, and sandhill habitats, but gopher tortoises may also be found within xeric hammocks, sand pine and

oak scrub, pine flatwoods, coastal grasslands, and dry prairies. They can also be found in disturbed habitats such as roadsides, fencerows, old fields and the edges of overgrown (unburned) uplands. These habitats are suitable for the construction of its extensive burrows, contain ample herbaceous vegetation for food, and provide sunny areas for nesting and thermoregulation (*Species Profile: Gopher Tortoise on Military Installations in Southeastern United States, Wilson & Mushinsky, 1997*). During extended dry periods, wetland margins can be utilized by gopher tortoises depending on soils, available forage, and groundwater table levels. The majority of burrows identified during this survey were found along roadsides and edges of pinelands, some in relatively high densities. Three burrows were identified along wetland margins within the AOI. These burrows consisted of two potentially occupied burrows and one abandoned burrow.

The gopher tortoise usually abandons densely canopied areas. Upland habitats with extensive canopy cover can decrease sunlight penetration and hamper the ability of tortoises to attain minimal thermal requirements for normal daily activities. Low sunlight can also decrease herbaceous vegetation essential for tortoise growth, development, and reproduction (Wilson & Mushinsky, 1997). This appeared to be the case in much of the potential habitat identified within the AOI of this survey.

During the burrow survey activities, extensive thinning of the sub-canopy and underbrush was observed occurring in the flatwoods along the southern portion of the AOI. High densities of burrows were observed over the extreme southwestern portion of the AOI where thinning had occurred. It can be expected that, with proper management, increased sunlight will filter through to the ground in these areas and will allow for a level of herbaceous growth that is advantageous for gopher tortoises, allowing the population to spread out into these areas.

SOIL CLASSIFICATION

Four soil map units were identified within the AOI based on a review of the Soil Survey of Lafayette County, Florida, Soil Conservation Survey 1992 (SCS, 1990) and the Custom Soil Resource Report for Lafayette County, Florida, Natural Resource Conservation Service (NRCS). This soil type is briefly described below.

Leon fine sand – The Leon series consists of very deep, poorly and very poorly drained, moderately to moderately slowly permeable soils on upland flats, depressions, stream terraces and tidal areas. They formed in sandy marine sediments of the Atlantic and Gulf Coastal Plain. Slopes range from 0 to 5 percent. The water table is at depths of 6 to 18 inches for 1 to 4 months during most years. In low flats or sloughs it is at a depth of 0 to 6 for periods of more than 3 weeks during most years. It is between depths of 18 and 36 inches for 2 to 10 months during most years. It is below 60 inches during the dry periods of most years. Depressional areas are covered with standing water for periods of 6 months or more in most years.

Pamlico and Dorovan (depressional) – The Pamlico series consists of very poorly drained soils that formed in decomposed organic material underlain by dominantly sandy sediment. The soils

are on nearly level flood plains, bays, and depressions of the Coastal Plain. Slopes are less than 1 percent. The Dorovan series consists of very poorly drained, moderately permeable soils on densely forested flood plains, hardwood swamps, and depressions in the Atlantic Coast Flatwoods, Eastern Gulf Coast Flatwoods, and Southern Coastal Plain Major Land Resource Areas. They formed in highly decomposed acid-organic materials. Slopes are less than 1 percent. These soils are saturated to the surface most of the time.

Ridgewood and Hurricane Complex – The Ridgewood series consists of very deep, somewhat poorly drained soils on uplands. They formed in beds of sandy marine deposits. Slopes range from 0 to 8 percent. The Hurricane series consists of very deep, somewhat poorly drained, moderately rapid permeable soils on broad areas that are slightly higher than the adjacent flats of the Lower Coastal Plain. They formed in sandy marine sediments. Slopes range from 0 to 5 percent. The water table is 24 to 40 inches for 2 to 4 months or more during most years. It rises to depths of 15 to 24 inches for brief periods of less than 3 weeks. It is below a depth of 40 inches when extremely dry.

Wesconnett and Lynn Haven (depressional) – The Wesconnett series consists of very deep, very poorly drained sandy soils that formed in sandy deposits on marine terraces. These soils are in depressions and on flood plains. Slope ranges from 0 to 2 percent. The Lynn Haven series consists of very deep, poorly and very poorly drained, moderate or moderately rapid permeable soils in low areas and depressions the Gulf Coast and Atlantic Flatwoods. They formed in thick deposits of sandy marine sediments. Slopes range from 0 to 5 percent. The water table is at 0 to 6 inches for periods of 2 to 6 months annually and within a depth of 40 inches for more than 6 months during most years; during extended dry periods it is below 40 inches. Depressional areas are ponded for long duration in most years.

A depth to water table (DWT) and a map showing the soil types underlying the AOI are included in **Appendix B**.

ECOLOGICAL COMMUNITIES AND GOPHER TORTOISE HABITAT

The concept of ecological communities is based on the awareness that a specific soil type commonly supports a specific vegetation community, which in turn provides the habitat needed by a specific wildlife species. These ecological communities are classified by their distinct and reoccurring assemblage of populations of plants, animals, fungi and microorganisms naturally associated with each other and their physical environment.

Ecological community land covers are classified by distinct assemblages of plants naturally and their physical environment, as well as altered land covers such as silvicultural lands. Land covers were classified according to the Florida Land Use, Cover and Forms Classification System (FLUCCS), which was developed by the Florida Department of Transportation. The communities observed in the AOI are listed by acreage in the following table and defined by FLUCCS code in detail below.

FLUCCS Code	FLUCCS Name	Acreage
UPLANDS		
4340	Hardwood Coniferous - Mixed	3.30
4410	Coniferous Plantations	122.46
4430	Forest Regeneration Areas	36.60
WETLANDS		
6130	Gum Swamps	3.18
6250	Hydric Pine Flatwoods	4.12
6300	Wetland Forested Mixed	51.87
6410	Freshwater Marshes	1.88
6440	Emergent Aquatic Vegetation	1.09
6460	Mixed Scrub-shrub Wetland	111.59

Hardwood-Conifer Mixed Forest (FLUCCS 4340): This class is used for those forested areas in which neither upland conifers nor hardwoods achieve 67 percent crown canopy dominance. The Uplands hardwoods class may include forest communities such as oak-pine-hickory, brazilian pepper, live oak, wax myrtle-willow (not hydric), mixed temperate or tropical hardwoods, and beech-magnolia. Upland pine communities include slash, longleaf, and sand pines. Mixed forests often occur on the upland areas adjacent to streams or water ways or surrounding wetland depressions. Mixed forests tend to prefer mesic environments.

Coniferous Plantations (FLUCCS 4410): This class is used for pine plantations. Pine plantations are artificially generated by planting seedling stock or seeds. The stands are characterized by high numbers of trees per acre. Row patterns are almost always apparent. Pine plantations may also occur on wetland sites. Pine plantations occur most often on sites formerly occupied by former flatwoods communities.

Forest Regeneration Areas (FLUCCS 4430): These are areas in which it is clear that open areas will be reforested through prescribed silvicultural practices rather than another land use or abandonment. Windrows (lines of piled up slash and debris) and other evidence of site preparation are indicators of intended regeneration. Pine plantations occur most often on sites formerly occupied by former flatwoods communities.

Gum Swamps (FLUCCS 6130): This class is composed of swamp tupelo (blackgum) or water tupelo (tupelogum), or Ogeechee tupelo which is pure or predominant. Associate species may include bald cypress and a great variety of wet site tolerant hardwood species widely variant in composition.

Hydric Pine Flatwoods (FLUCCS 6250): This class is for wetland forests with a canopy dominated by Slash pine. It may be naturally generated, or the result of pine plantations that are planted in rows through flatwoods depressions. The understory is grasses, wiregrass, forbs, and sometimes sparse saw palmetto. Wet flatwoods appear similar to mesic pine communities, but on careful inspection show decreased vigor and height. The high water table favors hydrophytic

shrubs, grasses, and herbs, and inhibits the establishment of saw palmetto, gallberry and other typical upland species. Under stories are comprised mostly of grasses, with subdued color tones, and surface water is sometimes visible. In the absence of fire, species such as loblolly bay may be visible in the understory.

Wetland Forested Mixed (FLUCCS 6300): This class is used for forested wetland communities in which neither hardwoods nor evergreen conifers achieve 67 percent dominance of the crown canopy composition. Mixed wetland forests occur on a wide variety of soil moisture conditions, from permanently wet to seasonally or infrequently wet. The tree species assemblages range from cypress/gum/maple to pine/cabbage palm/bay, reflecting this range in conditions. A combination of hardwoods and evergreen conifers can occur in nearly all the foregoing forested wetlands communities, including cypress, bay swamps, hardwood swamps, hammocks and depressions, floodplains and bottomlands.

Freshwater Marshes (FLUCCS 6410): This class is used for wetlands communities having a representative suite of plant species, listed below. Freshwater marshes tend to be open expanses of grasses, sedges, rushes and other types of herbaceous plants. Periods of inundation are intermediate between deep marshes and wet prairies. Sites are usually covered with water at least two months of the year, and undergo prolonged periods of soil saturation. Freshwater marshes occur on flat, low lying areas subject to prolonged seasonal flooding and occasional fire. They are found adjacent to slow-moving streams, along edges of lakes or ponds, or in tidally influenced freshwater areas.

Wet Praires (FLUCCS 6430): Wet Praires are communities of grasses, sedges, rushes, and herbs typically dominated by sand cordgrass, maidencane, or a mixture of species. They are subject to frequent fire, and naturally occur on mineral soils that are inundated for a relatively short duration each year, but with prolonged soil saturation. This classification is composed of predominantly grassy vegetation on wet soils and is usually distinguished from marshes by having less water and shorter herbage. Wet prairies occur in depressions in the landscape within flatwoods and pastures, and are also found at the edges of cypress domes and marshes. Conditions supporting wet prairies may also support forested depressions or wetland savannahs under other management and fire regimes. Wet prairies may also result from alterations of hydrology, such as former marshes that are drying out from artificial drainage or groundwater drawdowns; or former low flatwoods with a rising water table due to impoundment or precipitation.

Emergent Aquatic Vegetation (FLUCCS 6440): This class is for flooded (aquatic) areas with emergent or floating vegetation. It includes communities otherwise known as deep marsh or floating marsh. In the absence of vegetation these areas would be classed as water bodies, which indeed they are. Emergent aquatics are found in depressed areas, solution holes, ponds, lakes, canals, rivers, streams and other areas where persistent water prevents the growth of other plants. These areas are permanently inundated and only dry out during extended droughts or artificial drawdowns.

Mixed Shrub-scrub Wetland (FLUCCS 6460): This class is used for wetlands areas that are dominated by woody vegetation less than 20 feet in height. This can occur in many situations, but in most cases involves transitional or disturbed communities on drier sites. Persistent examples of shrub wetlands include shrub bogs and willow swamps. Shrubs may proliferate when forested communities are regenerating after natural or induced die-offs; or it may occur when water tables are lowered in marshes or swamps; or when upland or free flowing areas are flooded or impounded. Many types of disturbance or change can alter vegetation and result in a phase of shrubby growth.

A Land Cover Map illustrating the Natural Communities and SRWMD FLUCCS categories found within the area of interest is included in **Appendix C**.

Of the land covers described above, hardwood-conifer mixed forest, coniferous plantation, and forest regeneration areas were identified as communities which could serve as potential habitat for gopher tortoises. The Gopher Tortoise Habitat Map, included in **Appendix D**, shows a delineation of all potential gopher tortoise habitat within the area of interest and provides acreages by landcover type.

BASELINE VEGETATION SAMPLING

WRS performed the baseline vegetation sampling on March 28 and 29, 2012. The purpose of baseline vegetation sampling is to establish and document current vegetation conditions as they pertain to gopher tortoise forage quality and quantity, so that follow-up monitoring may be conducted in the event that vegetation is impacted by changes in local hydrology.

The baseline vegetation sampling was conducted throughout the identified gopher tortoise habitat based on the procedures found in Appendix 7, Methods for Baseline Vegetation Sampling on Recipient Sites, found in the 2008 (Revised November 2011) FFWCC Gopher Tortoise Permitting Guidelines. Although established for recipient sites, the fundamentals of these methods are well suited for this particular application and were only modified slightly. A large area of the southwestern portion of the AOI consisting of high quality habitat and containing a high number of burrows was not included in the vegetation survey due to current management activities occurring throughout this area. High quality gopher tortoise habitat is generally preferred for vegetation monitoring purposes. Suitable habitat found within the survey area is primarily restricted to road edges, the southwestern portion of the AOI, and the southeastern portion of the AOI. Due to the relatively small amount of suitable habitat within the gopher tortoise survey boundaries, WRS also conducted baseline vegetation sampling in areas of potential habitat. Potential habitat consists of upland areas which with proper management activities could potentially support a population of gopher tortoises.

Six belt transects, each 16m X 250m were distributed throughout the gopher tortoise survey boundaries of the AOI. Canopy cover, shrub cover, and ground cover were sampled at sampling stations every 75 meters along each transect. Ground cover estimates included coverage

estimates for each of the following: broadleaf grasses, wiregrass, forbes (non-grasses), saw palmetto, woody vegetation (less than 1 meter height), bare ground, and debris. Exotic vegetation known to be problematic to gopher tortoises were not identified within any belt transects. Photographs were taken at each sampling station to display the general setting of the transect and vegetation being sampled.

The Vegetative Transects Map showing the distribution of vegetative transects throughout the survey area and sample stations within each transect is included in **Appendix E**. Photographs of the sampling stations within each belt transect are also included in **Appendix E**. The Baseline Vegetative Data Table which includes percent coverage's for each vegetation stratum measured at each sample station, are included in **Appendix F**.

Populated shape files, each with metadata files and associated tables are provided in CD format, attached as **Appendix G**. Shape files are ArcView compatible with a projection of Albers Equal-Area. Metadata includes a description of the file types, scale, projection, attributes, derivation methods and limitations.

Should you have any questions or require additional information, please contact me at (850) 531-9860.

Sincerely,
WRS Infrastructure & Environment, Inc.

James Parker
Project Manager

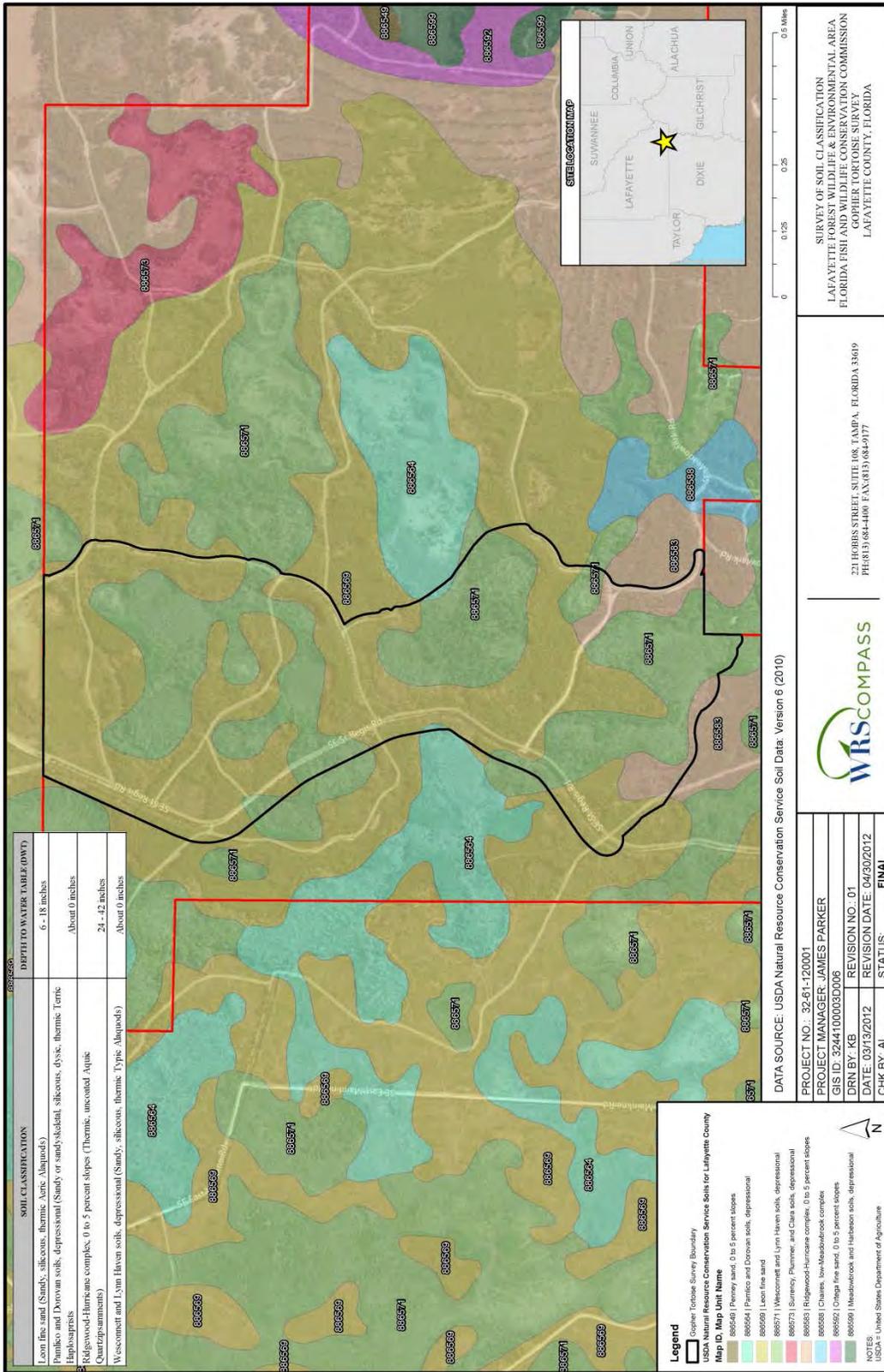
- Appendices:
- Appendix A – Gopher Tortoise Burrow Location Map
 - Appendix B – Depth to Water Table and Soils Map
 - Appendix C – FLUCCS/Natural Community Map
 - Appendix D – Gopher Tortoise Habitat Map
 - Appendix E – Vegetative Transects Map/Photographs
 - Appendix F – Baseline Vegetation Data Table
 - Appendix G – WRS Geospatial Datasets

APPENDIX A
Gopher Tortoise Burrow Location Map

WRS Infrastructure & Environment, Inc.

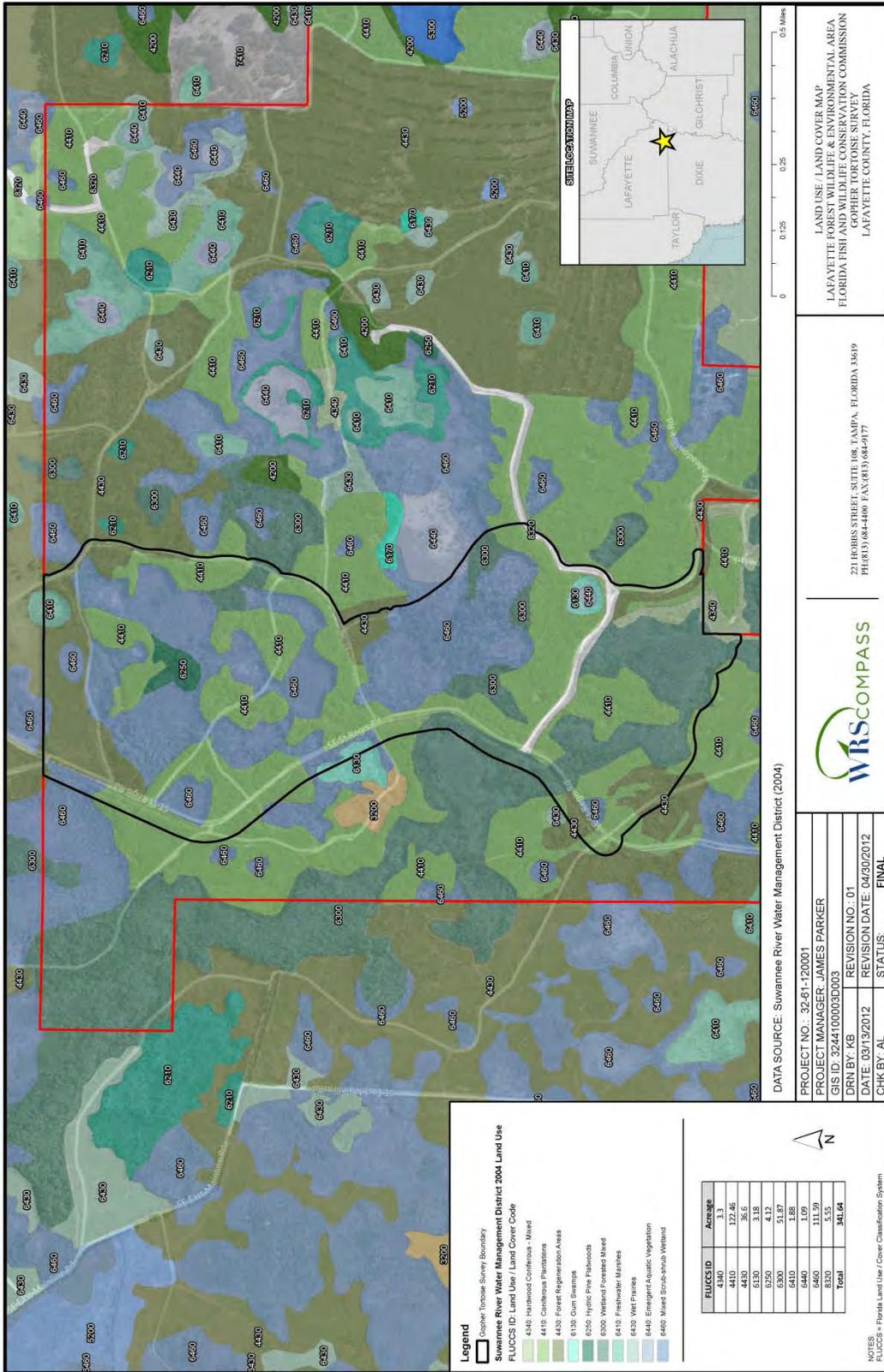
APPENDIX B
Depth to Water Table and Soils Map

WRS Infrastructure & Environment, Inc.



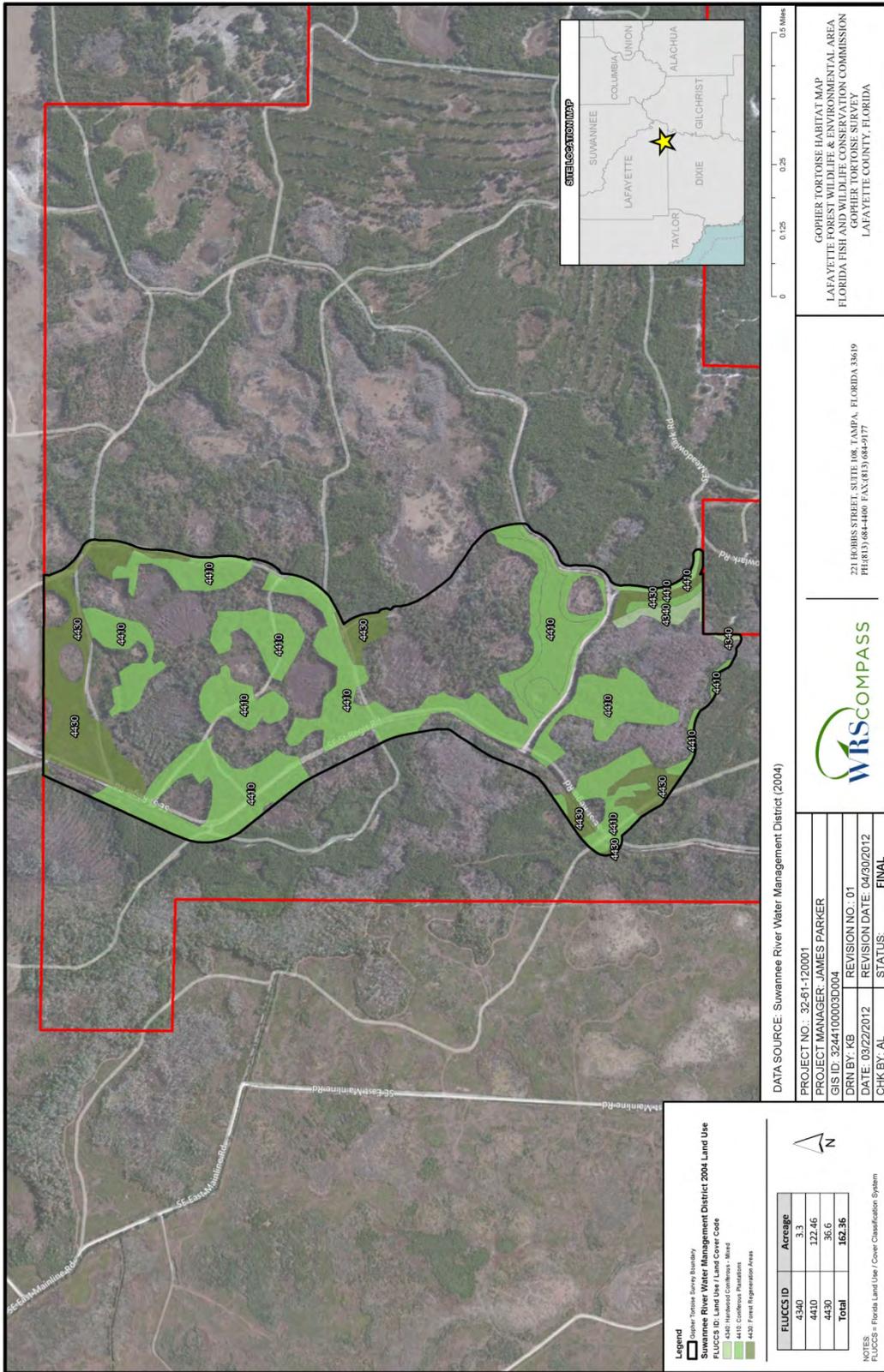
APPENDIX C
FLUCCS/Natural Community Map

WRS Infrastructure & Environment, Inc.



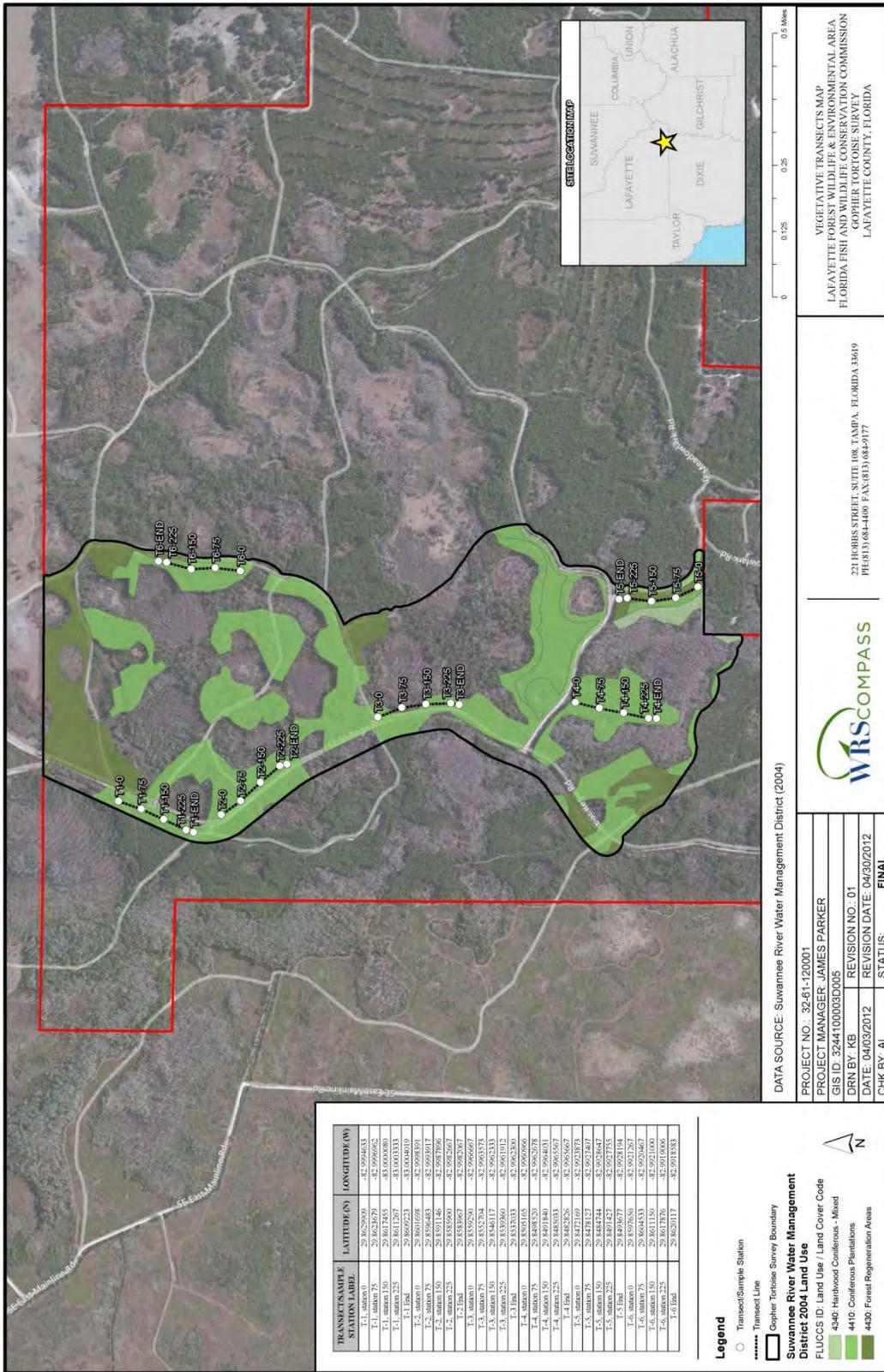
APPENDIX D
Gopher Tortoise Habitat Map

WRS Infrastructure & Environment, Inc.



APPENDIX E
Vegetative Transects Map/Photographs

WRS Infrastructure & Environment, Inc.





Photograph 1: Overview of Transect 1 (T-1), station 0 sampling quadrat.



Photograph 2: Looking forward from T-1, station 0.



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SITE PHOTOGRAPHS 1 & 2
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NO.: 32-61-120001



Photograph 3: Looking rearward from T-1, station 0.



Photograph 4: Overview of T-1, station 75 quadrat.



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SITE PHOTOGRAPHS 3 & 4
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
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Photograph 5: Looking forward from T-1, station 75.



Photograph 6: Looking rearward from T-1, station 75.



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SITE PHOTOGRAPHS 5 & 6
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
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Photograph 7: Overview of T-1, station 150 quadrat.



Photograph 8: Looking forward from T-1, station 150.



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SITE PHOTOGRAPHS 7 & 8
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
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Photograph 9: Looking rearward from T-1, station 150.



Photograph 10: Overview of T-1, station 225 quadrat.



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SITE PHOTOGRAPHS 9 & 10
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
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Photograph 11: Looking forward from T-1, station 225.



Photograph 12: Looking rearward from T-1, station 225.



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SITE PHOTOGRAPHS 11 & 12
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
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Photograph 13: Overview of Transect 2 (T-2), station 0 quadrat.



Photograph 14: Looking forward from T-2, station 0.



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SITE PHOTOGRAPHS 13 & 14
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
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Photograph 15: Looking rearward from T-2, station 0.



Photograph 16: Overview of T-2, station 75 quadrat.



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SITE PHOTOGRAPHS 15 & 16
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
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Photograph 17: Looking forward from T-2, station 75.



Photograph 18: Looking rearward from T-2, station 75.



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SITE PHOTOGRAPHS 17 & 18
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NO.: 32-61-120001



Photograph 19: Overview of T-2, station 150 quadrat.



Photograph 20: Looking forward from T-2, station 150.



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SITE PHOTOGRAPHS 19 & 20
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
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WRS PROJECT NO.: 32-61-120001



Photograph 21: Looking rearward from T-2, station 150.



Photograph 22: Overview of T-2, station 225 quadrat.



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SITE PHOTOGRAPHS 21 & 22
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NO.: 32-61-120001



Photograph 23: Looking forward from T-2, station 225.



Photograph 24: Looking rearward from T-2, station 225.



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SITE PHOTOGRAPHS 23 & 24
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NO.: 32-61-120001



Photograph 25: Overview of Transect 3 (T-3), station 0 quadrat.



Photograph 26: Looking forward from T-3, station 0.



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SITE PHOTOGRAPHS 25 & 26
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
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Photograph 27: Looking rearward from T-3, station 0.



Photograph 28: Overview of T-3, station 75, quadrat.



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SITE PHOTOGRAPHS 27 & 28
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NO.: 32-61-120001



Photograph 29: Looking forward from T-3, station 75.



Photograph 30: Looking rearward from T-3, station 75.



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SITE PHOTOGRAPHS 29 & 30
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NO.: 32-61-120001



Photograph 31: Overview of T-3, station 150 quadrat.



Photograph 32: Looking forward from T-3, station 150.



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SITE PHOTOGRAPHS 31 & 32
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NO.: 32-61-120001



Photograph 33: Looking rearward from T-3, station 150.



Photograph 34: Overview of T-3, station 225 quadrat.



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SITE PHOTOGRAPHS 33 & 34
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
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WRS PROJECT NO.: 32-61-120001



Photograph 35: Looking forward from T-3, station 225.



Photograph 36: Looking rearward from T-3, station 225.



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SITE PHOTOGRAPHS 35 & 36
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
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Photograph 37: Overview of Transect 4 (T-4), station 0 quadrat.



Photograph 38: Looking forward from T-4, station 0.



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SITE PHOTOGRAPHS 37 & 38
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NO.: 32-61-120001



Photograph 39: Looking rearward from T-4, station 0.



Photograph 40: Overview of T-4, station 75 quadrat.



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SITE PHOTOGRAPHS 39 & 40
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NO.: 32-61-120001



Photograph 41: Looking forward from T-4, station 75.



Photograph 42: Looking rearward from T-4, station 75.



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SITE PHOTOGRAPHS 41 & 42
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NO.: 32-61-120001



Photograph 43: Overview of T-4, station 150, quadrat.



Photograph 44: Looking forward from T-4, station 150.



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SITE PHOTOGRAPHS 43 & 44
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NO.: 32-61-120001



Photograph 45: Looking rearward from T-4, station 150.



Photograph 46: Overview of T-4, station 225, quadrat.



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SITE PHOTOGRAPHS 45 & 46
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NO.: 32-61-120001



Photograph 47: Looking forward from T-4, station 225.



Photograph 48: Looking rearward from T-4, station 225.



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SITE PHOTOGRAPHS 47 & 48
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NO.: 32-61-120001



Photograph 49: Overview of Transect 5 (T-5), station 0 quadrat.



Photograph 50: Looking forward from T-5, station 0.



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SITE PHOTOGRAPHS 49 & 50
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NO.: 32-61-120001



Photograph 51: Looking rearward from T-5, station 0.



Photograph 52: Overview of T-5, station 75 quadrat.



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SITE PHOTOGRAPHS 51 & 52
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NO.: 32-61-120001



Photograph 53: Looking forward from T-5, station 75.



Photograph 54: Looking rearward from T-5, station 75.



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SITE PHOTOGRAPHS 53 & 54
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
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Photograph 55: Overview of T-5, station 150 quadrat.



Photograph 56: Looking forward from T-5, station 150.



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SITE PHOTOGRAPHS 55 & 56
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NO.: 32-61-120001



Photograph 57: Looking rearward from T-5, station 150.



Photograph 58: Overview of T-5, station 225 quadrat.



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SITE PHOTOGRAPHS 57 & 58
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
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Photograph 59: Looking forward from T-5, station 225.



Photograph 60: Looking rearward from T-5, station 225.



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SITE PHOTOGRAPHS 59 & 60
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NO.: 32-61-120001



Photograph 61: Overview of Transect 6 (T-6), station 0 quadrat.



Photograph 62: Looking forward from T-6, station 0.



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SITE PHOTOGRAPHS 61 & 62
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NO.: 32-61-120001



Photograph 63: Looking rearward from T-6, station 0.



Photograph 64: Overview of T-6, station 75, quadrat.



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SITE PHOTOGRAPHS 63 & 64
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NO.: 32-61-120001



Photograph 65: Looking forward from T-6, station 75.



Photograph 66: Looking rearward from T-6, station 75.



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SITE PHOTOGRAPHS 65 & 66
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NO.: 32-61-120001



Photograph 67: Overview of T-6, station 150 quadrat.



Photograph 68: Looking forward from T-6, station 150.



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SITE PHOTOGRAPHS 67 & 68
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NO.: 32-61-120001



Photograph 69: Looking rearward from T-6, station 150.



Photograph 70: Overview of T-6, station 225 quadrat.



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SITE PHOTOGRAPHS 69 & 70
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NO.: 32-61-120001



Photograph 71: Looking forward from T-6, station 225.



Photograph 72: Looking rearward from T-6, station 225.



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SITE PHOTOGRAPHS 71 & 72
LAFAYETTE FOREST WEA
LAFAYETTE FOREST WEA BASELINE VEGETATION SAMPLING
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NO.: 32-61-120001

APPENDIX F
Baseline Vegetation Data Table

WRS Infrastructure & Environment, Inc.

BASELINE VEGETATION DATA TABLE

LAFAYETTE FOREST WEA
LAFAYETTE COUNTY, FLORIDA
WRS PROJECT NUMBER: 32-61-120001

Sample Station ID	Bareground	Debris	Broadleaf Grasses	Wire Grass	Forbs	Vines (<3' in height)	Saw Palmetto (<3' in height)	Wood Vegetation (<3' in height)	Canopy Cover	Shrub Cover
T-1, station 0	6-29	30-59	1-5	<1	1-5	<1	<1	<1	75	55
T-1, station 75	<1	96-100	<1	<1	<1	<1	<1	6-29	85	95
T-1, station 150	<1	96-100	<1	<1	<1	<1	30-59	<1	90	90
T-1, station 225	<1	96-100	<1	<1	<1	<1	<1	6-29	95	85
T-2, station 0	1-5	76-95	<1	<1	<1	<1	6-29	1-5	95	75
T-2, station 75	<1	96-100	<1	<1	6-29	<1	<1	<1	100	85
T-2, station 150	<1	96-100	<1	<1	1-5	1-5	1-5	6-29	95	75
T-2, station 225	<1	96-100	<1	<1	<1	1-5	<1	1-5	80	75
T-3, station 0	<1	96-100	<1	<1	<1	<1	<1	1-5	80	60
T-3, station 75	<1	96-100	<1	<1	<1	<1	<1	1-5	100	75
T-3, station 150	<1	96-100	<1	<1	<1	<1	<1	1-5	100	20
T-3, station 225	<1	76-95	6-29	<1	1-5	<1	<1	<1	80	15
T-4, station 0	<1	96-100	<1	<1	6-29	<1	<1	<1	80	70
T-4, station 75	<1	76-95	<1	<1	1-5	<1	<1	<1	65	74
T-4, station 150	<1	96-100	1-5	<1	<1	<1	<1	6-29	75	60
T-4, station 225	<1	96-100	1-5	<1	1-5	1-5	<1	<1	95	35
T-5, station 0	6-29	30-59	1-5	<1	1-5	<1	<1	1-5	30	20
T-5, station 75	<1	96-100	<1	<1	<1	<1	<1	<1	50	55
T-5, station 150	<1	76-95	1-5	<1	6-29	<1	<1	<1	50	35
T-5, station 225	1-5	76-95	<1	<1	1-5	<1	<1	<1	75	65
T-6, station 0	<1	96-100	<1	<1	1-5	<1	<1	6-29	65	45
T-6, station 75	<1	96-100	<1	<1	1-5	<1	<1	1-5	80	65
T-6, station 150	<1	96-100	<1	<1	1-5	<1	<1	1-5	80	90
T-6, station 225	<1	96-100	<1	<1	6-29	<1	30-59	1-5	95	80

Notes:

T = Transect

0, 75, 150, 225 are in meters along transect line

Cover Classes are reported in % coverage

Canopy and Shrub cover estimates were collected every 1.5 m for 15m on both sides of the sampling quadrat perpendicular to the transect line.

Page 1 of 1

APPENDIX G
Geospatial Datasets

WRS Infrastructure & Environment, Inc.

12.6 Management Procedures Guidelines - Management of Archaeological and Historical Resources

Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties
(Revised March 2013)

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

A. General Discussion

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

B. Agency Responsibilities

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

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

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

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

C. Statutory Authority

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

D. Management Implementation

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

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

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

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

E. Minimum Review Documentation Requirements

In order to have a proposed project reviewed by the Division, certain information must be submitted for comments and recommendations. The minimum review documentation requirements can be found at:

http://www.flheritage.com/preservation/compliance/docs/minimum_review_documentation_requirements.pdf .

* * *

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

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

Phone: (850) 245-6425

Toll Free: (800) 847-7278

12.7 FWC Agency Strategic Plan

Mission:

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

Vision:

Powered by science-based leadership, we will create a sustainable and healthy future for Florida's fish, wildlife, water and habitat resources.

Values:

FWC's Core Values of Integrity, Dedication and Respect are the internal beliefs that drive our behavior and support the sound function of the agency. They are the basis for how agency activities are conducted and serve as the foundation for FWC's Expectations.

Integrity: Doing the right thing, which leads to honesty, accountability and fairness in how we treat others

Dedication: Commitment that leads us to shape our actions to accomplish a purpose and produce a quality product

Respect: The regard that drives how we treat others, internal and external to the agency



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FWC Strategic Plan

**Theme: Florida's Fish and Wildlife Populations
and their Habitats**

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

Strategies:

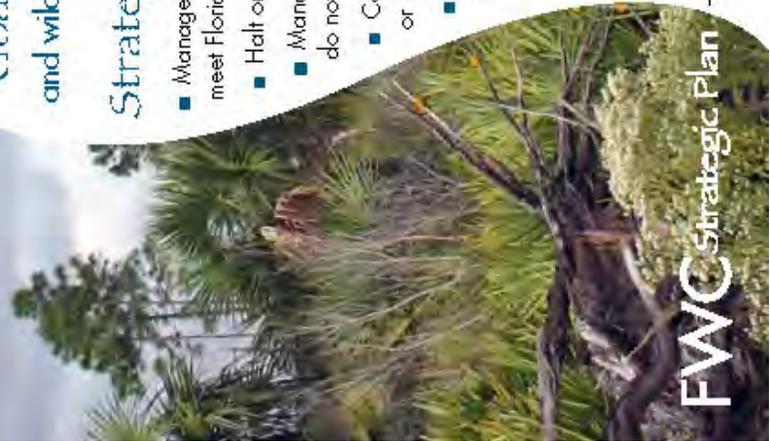
- Manage threatened species so they are recovered and no longer meet Florida's listing criteria
- Halt or reverse species population decline
- Manage species with healthy populations to ensure they do not become threatened
 - Continually evaluate the effectiveness of existing laws and amend or repeal them as warranted
 - Coordinate and conduct research and monitoring programs to provide information to decision makers to accomplish effective management
 - Develop plans for addressing species conservation in light of long-term ecological changes and short-term changes that may result from natural or manmade catastrophic events



Hughan Hunting



David Woychik



FWC Strategic Plan



Goal: Make sure there are sufficient quantities and quality of habitats to support healthy and diverse fish and wildlife populations

Strategies:

- Secure and maintain sufficient interconnected quantities of habitats to sustain healthy fish and wildlife populations
- Manage a wide variety of habitats to sustain healthy and diverse fish and wildlife populations
- Inform, encourage and assist public and private landowners in managing and enhancing their lands for fish and wildlife conservation
- Support and assist private landowners' achievement of conservation goals in harmony with generating revenues from their lands.
- Recognize and support cooperative partnerships with government agencies that own and manage public lands to assist their efforts to provide fish and wildlife habitat



David Grayman



PAC



PAC



Goal: Use the best available science to guide fish and wildlife conservation and management decision-making

Strategies:

- Develop, acquire and use the best available scientific information to support fish and wildlife conservation
- Investigate and develop innovative techniques which will improve our ability to achieve species conservation
- Obtain and use social science data and information about people's attitudes, beliefs and behaviors to guide management actions
- Develop and implement science-based risk assessments and use the resulting information to guide and prioritize management actions



PWC



David Heysham



PWC



Theme: Hunting, Fishing, Boating and Wildlife-viewing Opportunities

Goal: Ensure that Florida's fish and wildlife populations are able to sustain hunting, fishing and wildlife viewing for current and future citizens and visitors

Strategies:

- Use science to guide the development and management of hunting, fishing, boating and wildlife-viewing activities
- Manage fish and wildlife populations to provide sustainable fishing, hunting and wildlife-viewing opportunities
- Create incentives for private and public landowners to provide access for hunting, fishing, boating and wildlife viewing



FWC



David P. Moynihan



David P. Moynihan



Goal: Use the minimal amount of regulations to manage sustainable fish and wildlife populations for hunting, fishing and wildlife viewing

Strategies:

- Coordinate with partners and stakeholders to make sure that appropriate authorities and regulations exist to maintain sustainable fish and wildlife populations
- Implement and enforce regulations in an informative and influential manner
- Provide our expertise to partners about how their regulations impact fish and wildlife conservation
- Continually evaluate and improve existing regulations and amend or eliminate those found unnecessary or ineffective
- Develop new regulations only as necessary and essential for achieving resource management goals or addressing significant resource management or public safety issues
- Consider economic and social impacts and resource management benefits when evaluating proposed new regulations



FWC



David Poyntaban



FWC



Goal: Enhance the safety of those who hunt, fish, boat and view fish and wildlife

Strategies:

- Provide opportunities for citizens to learn how to safely hunt, fish, boat and view wildlife
- Effectively communicate to the public how hunting, fishing, boating and wildlife viewing can be safe and compatible with each other
- Enhance the public's boating safety and waterway experience through improved access, management, education and enforcement
- Proactively patrol and enforce regulations to protect public safety and enrich the outdoor experience of our citizens and visitors while safeguarding the natural resources



David Poyntahan



FWC



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Goal: Provide citizens and visitors with quality hunting, fishing, boating and wildlife-viewing opportunities that meet or exceed their expectations

Strategies:

- Determine and evaluate the types of experiences hunters, fishers, boaters and wildlife viewers seek
- Develop and maintain strong and effective partnerships with local, state and federal agencies and private landowners to provide a robust network of public hunting opportunities through our Wildlife Management Area system
- Seek and maintain collegial relationships, based on mutual respect and transparency with partners and stakeholders, to ensure their valuable input and guidance
- Acknowledge and show appreciation for the contributions of our partners and stakeholders
- Develop, manage and evaluate diverse, accessible and widely available hunting, fishing, boating and wildlife-viewing opportunities that meet the needs and expectations of user groups while safeguarding the resources
 - Recruit and manage sustainable levels of citizen and visitor participation in hunting, fishing, boating and wildlife viewing
 - Design hunting, fishing, boating and wildlife-viewing opportunities to minimize user conflicts
- Provide special programs for youth hunting, fishing, boating and wildlife viewing



David Ploynah an



FWC



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

Goal: Create the next generation that cares about fish and wildlife conservation

Strategies:

- Establish and expand a network of youth conservation centers through partnerships and sponsorships with public and private partners
- Leverage current FWC programs and staff to the greatest extent feasible to support youth conservation programs and initiatives
- Develop and deliver a standardized youth conservation curriculum and traditional outdoor activity programs
- Assist stakeholders in adapting youth conservation programs and the standard curriculum to appeal to the socially and culturally diverse lifestyles of Florida's residents and visitors.
- Strengthen and expand partnerships with non-governmental organizations, stakeholders and volunteer networks to support youth conservation programs and centers
- Utilize youth conservation centers and programs to bring youth and families from urban, suburban and rural communities together through outdoor conservation-based experiences
- Leverage youth conservation programs to foster unity and a strong sense of common purpose in shared responsibility for fish and wildlife conservation among the conservation community



Leonard Bryant



FWC



Goal: Further engage stakeholders and coordinate partnerships in the processes of developing and implementing conservation programs

Strategies:

- Develop an understanding of current and future stakeholder and partner needs and perspectives
- Ensure that stakeholders and partners understand fish and wildlife conservation resource needs, including habitat, and management options
- Manage stakeholder engagement processes with flexible and adaptable approaches
- Provide input to partners regarding the impact of their actions on fish and wildlife conservation
- Create and implement a common vision among partners and the FWC for improving and maintaining species populations and habitat, through interagency coordination, mutually supportive goals and initiatives
- Encourage other governmental partners to consider fish and wildlife conservation and boating needs during their policy development
- Coordinate with partners on the development and implementation of hunting, fishing, boating and wildlife-viewing management actions



David Heydenhan



FWC



Goal: Provide information to the public so that people, especially youth, understand and value conservation of fish and wildlife and their habitats

Strategies:

- Anticipate and understand the public's attitudes, beliefs, motivations and values regarding fish and wildlife conservation
- Design and implement outreach and education programs that communicate the value of fish and wildlife conservation



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Goal: Increase opportunities for the public, especially youth, to actively support and practice fish and wildlife conservation stewardship

Strategies:

- Inform the public about conservation stewardship and how they can be actively involved in achieving conservation of fish and wildlife
- Provide and promote opportunities for the public to participate in conservation activities
- Provide and promote youth conservation programs to foster awareness, stewardship and participation in hunting, fishing, boating and wildlife-viewing activities
- Promote conservation stewardship to increase compliance with regulations



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

Strategies:

- Anticipate and understand the public's attitudes, beliefs, motivations and values regarding native and non-native problematic fish, wildlife and plants
- Identify fish, wildlife, and plant species that may become problematic and develop and implement strategies to address them
- Provide citizens and businesses with information on how to act safely and responsibly to avoid adverse impacts when they interact with or possess fish, wildlife and plants
- Enhance partnerships to address problematic fish, wildlife and plants and ensure a consistent and integrated approach
 - Implement and enforce regulations to address problematic fish, wildlife and plants
 - Provide and promote additional plans to properly manage captive fish and wildlife
 - Protect human health and safety by conducting conservation-related research, monitoring and special investigations



FWC



Ken Harney, University of Florida



Theme: Community Involvement

Goal: Integrate our commitment to benefit the community and enhance the economy through our work

Strategies:

- Identify and implement ways to support Florida businesses and job growth while managing fish and wildlife
- Provide staff with opportunities that benefit the community
- Support external events and programs that promote fish and wildlife conservation
 - Continue to attract visitors by providing top-quality hunting, fishing, boating and wildlife-viewing opportunities
 - Provide assistance to communities to help them realize the social and economic development benefits of having local areas managed for fish and wildlife
- Provide citizens and visitors with reliable and current information on Florida's fish and wildlife



FWC



FWC Artificial Reef Program



Goal: Provide resources and support for the safety of citizens and visitors and for emergency responses

Strategies:

- Provide efficient emergency response through mutual-aid efforts with local, state and federal partners
- Participate in partnerships to ensure the safety of citizens and visitors



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Goal: Promote an understanding of the social and economic benefits of hunting, fishing, boating and wildlife viewing

Strategies:

- Acquire information about the social and economic benefits of wildlife conservation, hunting, fishing, boating and wildlife viewing
- Inform the public about the social and economic benefits of hunting, fishing, boating and wildlife viewing
- Inform the public about the social and economic benefits of wildlife conservation



FWC



Theme: Effective and Responsive Organization

Goal: Ensure excellent and consistent service to Florida's citizens and visitors

Strategies:

- Engage our customers and understand their needs
- Ensure excellent and consistent customer service
- Improve the way we do business to ensure excellent customer service throughout the agency



Goal: Ensure FWC has an accountable and highly effective workforce

Strategies:

- Recruit, hire and retain outstanding employees throughout the agency who can serve diverse citizens and visitors
- Provide quality training and professional-development opportunities for employees to thrive and advance in their careers
- Create and implement an effective leadership-development program and a succession plan
- Foster a work environment of trust, open communication and creativity that provides for both accountability and innovation
- Promote a culture where employees work collaboratively and have a comprehensive understanding of how they contribute to the agency mission





Goal: Manage and seek adequate resources to achieve fish and wildlife conservation and meet and exceed customer needs

Strategies:

- Secure and use sustainable and diverse funding to support program activities
- Align our agency resources to support agency priorities
- Ensure that business and financial practices demonstrate a high level of fiscal accountability, integrity, soundness, and risk-management principles
- Develop and implement protocols to ensure a healthy and safe working environment for all FWC employees
- Acquire and maintain equipment, facilities and infrastructure necessary to support fish and wildlife conservation and meet our customers' needs



FWC



FWC



Goal: Make continuous improvement a core value of the agency's culture

Strategies:

- Implement strong mechanisms to monitor, measure, and evaluate the way we do business
- Provide a work environment where innovation is encouraged and supported
- Anticipate the impacts of emerging trends and opportunities that may influence the agency's ability to accomplish its mission and address those as needed



FWC

Goal: Increase the public's understanding and support of FWC in protecting and conserving fish and wildlife and their habitats

Strategies:

- Develop and implement a communication and outreach plan to educate the public about agency programs and how these programs benefit current and future generations
- Conduct all work with credibility to maintain and increase the public's trust in the FWC
- Provide opportunities for the public to support FWC decisions that benefit fish and wildlife and their habitats
- Strengthen FWC's reputation for professional excellence and quality service through a dedicated, well-trained, specialized and diversified workforce



FWC

12.8 Prescribed Burning Plan

Lafayette Forest WEA Prescribed Burning Plan

INTRODUCTION

Fires, naturally occurring or man-induced, are an integral part of the ecology of the southern pine (*Pinus* spp.) region (Miller 1963) and have maintained a fire-dependent plant community in the southeast for countless years. Exclusion of fire results in the growth of dense brush and eventual succession toward a climax hardwood community. Areas covered by dense brush lose much of their value to wildlife. For example, food and browse plants are less palatable, access is restricted and predator's ability to capture prey is hampered. Additionally, heavy fuel accumulation results in increased wildfire hazard.

Prescribed burning is used extensively in forestry and wildlife management for fuel reduction, brush control, disease and insect control, site preparation and wildlife habitat improvement. It is a recommended tool for management of such game animals as white-tailed deer (*Odocoileus virginianus*), bobwhite quail (*Colinus virginianus*), mourning dove (*Zenaidura macroura*) and wild turkey (*Meleagris gallopavo*) (U. S. Forest Service 1969, Stoddard 1971). The value of prescribed fire to these and other animals, such as raptors and some songbirds, are well documented (Givens 1962, Miller 1963, Stoddard 1963). Prescribed fire benefits wildlife by reducing underbrush density, thus improving access, promoting the growth of succulent vegetation and lowering browse to feeding height of deer. Additionally, it benefits aesthetic values and enhances growth and fruiting of important wildlife food plants, such as dewberries (*Rubus* spp.) and blueberries (*Vaccinium* spp.) (Halls 1977).

The Lafayette Forest WEA (LFWEA) is composed of a complex mosaic of mixed upland and wetland habitats. The primary objectives of prescribed burning at LFWEA are to (1) restore and improve wildlife habitat, (2) restore fire-dependent plant communities, (3) reduce fuel accumulation and wildfire hazard, (4) enhance aesthetics, and (5) control oak mid-story. The purpose of this plan is to ensure that all aspects of the burn are well considered and that the burning is conducted in an orderly manner so impacts of smoke and other environmental hazards are minimized.

DESCRIPTION OF AREA

Lafayette Forest Wildlife and Environmental Area (LFWEA) is located in south east Lafayette County, between Branford and Cross City, Florida, near the Dixie county line. LFWEA encompasses 2,148 acres of ecologically compromised commercial pine plantations and various sized shallow wetlands. Wetlands make up about 1/3 of the acres within LFWEA. LFWEA was acquired from a private land development firm in 2009. Under private management, the area was known as the Archer or Itera Tract. The property was acquired as a gopher tortoise mitigation park and its current management activities emphasize the maintenance and restoration of optimum habitat conditions for listed wildlife. The site supports several listed species including gopher tortoise and Sherman's fox squirrel. The Florida Fish & Wildlife Conservation Commission has lead management authority. The lands adjacent to LFWEA include various private agricultural lands and State owned conservation lands, most notably Mallory Swamp on the western boundary. Most of the private lands are being used for row crop agriculture, commercial pine plantations and improved pasture.

PRESCRIBED BURNING PROGRAM

A. Firelines

Existing features (e.g. roads) are utilized as firelines to safely contain prescribed fires whenever feasible. These roads are evenly spaced throughout the property and delineate 10 burn zones of modest and manageable size. Many of the roads that are utilized as firebreaks require either disking or tilling to maintain functional mineral firebreaks before actual burning. Firelines will be maintained as roads by FWC personnel and maintained by mowing during non-burning intervals. The thirteen mile boundary was constructed forty feet wide, to give fire fighting equipment and personnel room to safely operate as well as a wide space to contain prescribed burning operations within the WEA boundary.

B. Size and Arrangement of Management Units

LFWEA is divided into 10 management units that function as burn zones for prescribed fire purposes. The burn zones are fairly irregular in shape because the existing road & trail network followed the meandering margins of upland terrain. Management units average 215 acres in size, with the largest management unit at 305 acres and the smallest at 115 acres.

All burn zones are composed of a complex mosaic of wetland and upland habitats, most with very heavy fuel loadings. The upland forest canopy is dominated by commercially planted slash pine (*Pinus elliottii*) with some large live oaks (*Quercus virginiana*) and turkey oaks (*Quercus laevis*), distributed about the property. The mid-story is largely composed of smaller turkey oaks, and live oaks. The wetland forest canopy is dominated by live oaks, red maple (*Acer rubrum*) and bald cypress (*Taxodium distichum*)

The upland groundcover is dominated by gallberry (*Illex glabra*), broom sedge (*Andropogon sp.*), saw palmetto (*Serenoa repens*), wax myrtle (*Myrica cerifera*), and small oaks (*Quercus sp.*) with a diverse suite of native upland species that are still found within the ecologically compromised plantation pine stands. The groundcover is largely too dense to safely carry a manageable fire across each burn zone with even moderate weather conditions at the time of ignition.

The burn zones will likely need to be burned singly because of complex and irregular boundaries, and well as heavy fuel loadings. Prevailing climatic conditions will also affect the ability of managers to burn management units within LFWEA. Prevailing drought conditions and prescribed fire in wetlands are not compatible. A prescribed fire program can not be safely initiated (or continued) during drought periods because wetlands form the actual external boundary of much of LFWEA. Prescribed fire lines should not be cut through wetlands for ecological reasons. Until the wetlands are wet, and can safely serve as a fire break, there can not be a prescribed fire program on management units that have wetlands as a significant part of the property boundary. Drought conditions are still an issue on internal management units, or those units that do not have wetlands as boundary segments, because of the residual smoke problems

associated with fire penetrating into the thick organic duff layer associated with long unburned wetlands. This problem is readily apparent when considering that much of LFWEA is ecologically part of the Mallory Swamp system which burned for more than a month in 2001 (burned over 57,000 acres).

Mechanical mid-story treatment is being used to open up the thick and overgrown, oak dominated, mid-story. Without mechanical treatment, the mid-story is too thick to burn without resulting in a catastrophic fire. With a return to favorable climatic patterns, prescribed fire still can not be conducted safely within some management units unless the unit has been through a mid-story reduction process.

C. Type of Burn

None of the 10 management units have been burned since well before acquisition, and possibly not since 2001 when portions of the Mallory Swamp fire burned into the northern portion of LFWEA. A 3 -7 year burn rotation is most appropriate for the types of upland habitats found within LFWEA. The disturbed upland habitats should be burned with caution because of the heavy fuel loading, with low intensity firing techniques such as backing fire or strip head fire being the preferred firing techniques. Firing techniques may vary due to ambient weather conditions at the time of ignition, as well as fuel loading, which will vary greatly between management units and burn rotation. The appropriate technique will keep fire intensity down to minimize pine mortality while providing adequate heat to control mid story species. Eventually growing season fire will be targeted for ecological reasons such as controlling small oaks, stimulating the production of viable grass seeds and flowering of native forbs. However, dormant season fire may be indicated for several burn rotations until fuel loadings have moderated.

D. Season and Time of Day

A burn program at LFWEA will likely begin with several rotations of dormant season fire within each management unit. The milder dormant season conditions will be appropriate for several rotations, where the safe reduction of woody fuels is of greater

concern than the ecological benefits of growing season fire. Over time, growing season fire should come to predominate the prescribed fire program at LFWEA.

Burning will be conducted primarily during daylight hours; night burning will be avoided due to problems associated with smoke dispersal. However, if favorable conditions exist and permits can be obtained, burning will be continued into the night, if necessary.

E. Optimal Weather Conditions

Prescribed burns should be conducted 2-5 days after a rain and require relative humidity of from 30-60%, air temperature of 60-95°F and winds from any direction can be used as long as wind speeds are not excessive (4-10 mph in the stand).

SMOKE MANAGEMENT

There is considerable flexibility when burning at LFWEA due to the absence of smoke sensitive areas in the immediate vicinity. State Road 349, is the eastern boundary of LFWEA, and will be well posted with caution signs if there is any likelihood of smoke crossing the road. To minimize smoke problems, burning should be conducted when the atmosphere is slightly unstable, with mixing height a minimum of 1,500 feet and transport wind speed of 5-15 mph (Southern Forest Fire Laboratory 1976, Crow and Shilling 1983). Additionally, use of backfires, as needed, will produce less smoke and consume fuel more completely than headfiring (Mobley et al. 1973, Southern Forest Fire Laboratory 1976, Crow and Shilling 1983).

PERSONNEL AND EQUIPMENT NEEDED

A. Personnel

Under ideal conditions, burning of any compartment can be conducted with a minimum crew of six; however, a crew of eight to ten trained personnel is optimal. All participating staff will be required to wear personal protective equipment (PPE) as identified in the agency's prescribed burn policy.

B. Equipment

Fire fighting hand tools, drip torches, burn fuel, four-wheeled ATVs, hand held radios, and Type VI fire engines (brush trucks) are required equipment. Road side smoke caution signs (hazard) signs will be used if needed.

C. Fire Weather Monitoring

One person will be assigned to monitor fire weather on each burn. This person will monitor and record wind speed, wind direction and humidity hourly, or as requested by any burn crew member, during the burn. If conditions stray outside of the burn prescription the burn boss will be notified and appropriate measures can be taken.

PERMITS AND NOTIFICATIONS

A permit will be obtained from the Florida Forest Service (FFS) on the morning of the burn.

SPECIAL CONSIDERATIONS

Care will be taken to protect environmentally sensitive areas and to employ the best fire management actions that will provide the greatest long term benefit to the largest number of species. Wildland fire is an ecologically disruptive event in the immediate short term. But the long term benefits of properly timed and applied prescribed fire greatly exceed any short term disruptions.

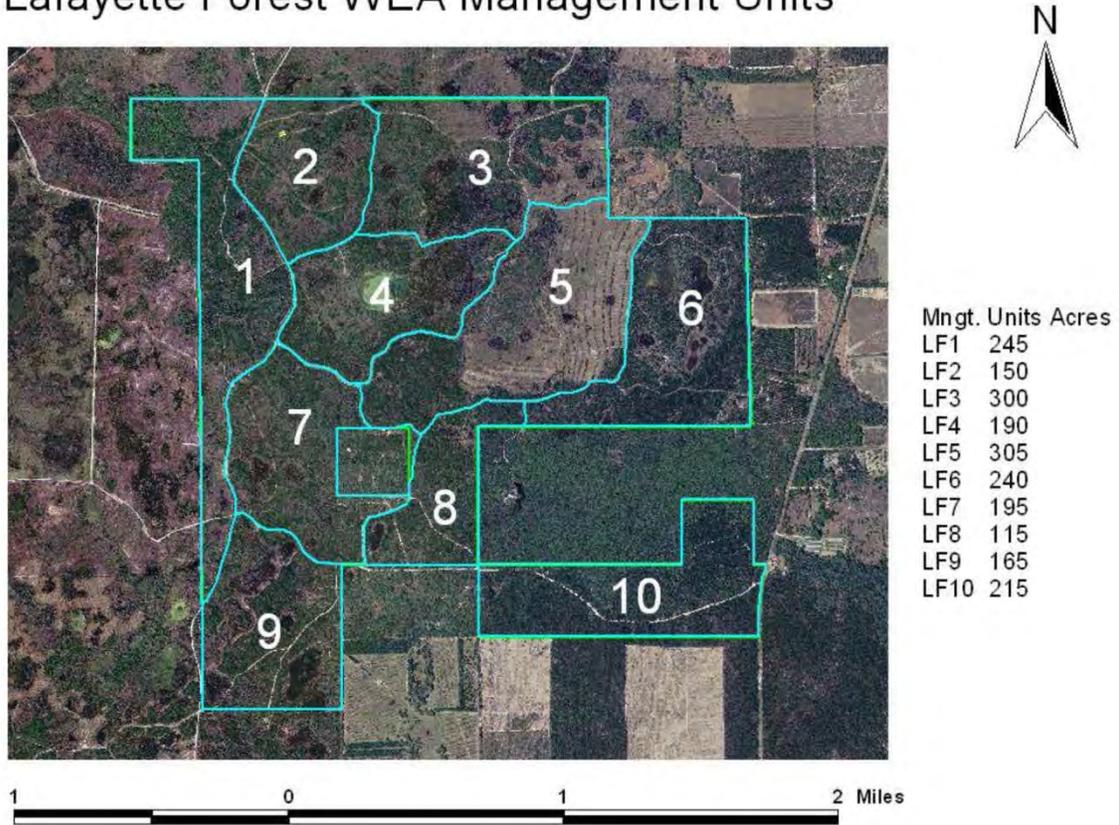
Gopher tortoises (*Gopherus polyphemus*) and both game and non-game birds that breed in the sandhill ecosystem are dependent on the vegetative response of the groundcover to fire, and research has shown no adverse effects on the populations of these species from prescribed burning (Means and Campbell 1981). Although individual tortoises may be destroyed by fire on rare occasions, prescribed burning provides better habitat for tortoise populations than unburned areas (J. Diemer, FGFWFC, pers. commun.).

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Figure 1. Location of burn zones / management units on Lafayette Forest Wildlife Environmental Area (LFWEA), Lafayette County, Florida.

Lafayette Forest WEA Management Units



12.9 Timber Assessments

12.9.1 Florida Forest Service Timber Assessment (2010)

TIMBER ASSESSMENT
LAFAYETTE FOREST
WILDLIFE and ENVIRONMENTAL AREA
PREPARED BY
DOUG LONGSHORE
SENIOR FORESTER, OTHER PUBLIC LANDS REGION 2
FLORIDA DIVISION OF FORESTRY
SEPTEMBER 2010

PURPOSE

This document is intended to fulfill the timber assessment requirement for Lafayette Forest Wildlife and Environmental Area (LF WEA) as required by Section 253.036, Florida Statutes. The goal of this *Timber Assessment* is to evaluate the potential and feasibility of managing timber resources for conservation and revenue generation purposes.

BACKGROUND

This property was formerly owned and managed by one of the large industrial forest companies that operated in the southeast. Following corporate downsizing and buyouts, this property wound up in private ownership prior to state purchase. The tract contains approximately 1,448 acres of uplands and 697 acres of wetlands. Typical of industrial pine pulpwood management, the vast majority of the uplands were mechanically site prepared and planted to slash pine. The age of the slash pine ranges from approximately 8 to 20 years old. No thinning of pine stands has taken place up to this point. No prescribed burning has taken place on the property; however there is evidence of fire on the west side of property, probably from the Mallory Swamp Fire in 2001. An approximate one chain buffer has been cleared around the majority of the property boundary. Some road improvements have been made. Informational kiosks and signage have been established. One stand of merchantable slash pine and hardwood has been harvested within the past two years. This stand has not been site prepared or replanted to date.

GOALS AND OBJECTIVES

This property is to be managed as a Gopher Tortoise Mitigation Park for natural resource conservation, restoration, and resource-based public outdoor recreation within a multiple-use management concept. The main emphasis however, is the restoration and management of gopher tortoise habitat.

With this as the primary goal, an accurate soil map will provide managers the basis for their management decisions in working toward this goal.

Gopher tortoises prefer habitats characterized by a relatively open tree canopy which allows ample sunlight to reach the ground, promoting the growth of a healthy ground

cover. It will be essential to introduce frequent prescribed fires into this area in order to insure the success of restoration and maintenance efforts.

TIMBER MANAGEMENT

A useful measurement of tree stocking and density is its Basal Area per acre (BA). Basal Area is the cross sectional area (in square feet) of a tree measured four and one-half feet above the ground. (The diameter of individual trees measured at this height is referred to as its diameter breast height or DBH.) Fully stocked pine stands have enough trees per acre of a size large enough to utilize the growing space without causing over-crowding. North Florida slash pine stands with 80 to 110 square feet of BA are considered fully stocked. It requires more, smaller diameter trees than it does larger diameter trees to equal one square foot of basal area. (For example: It takes 357 evenly spaced, six-inch diameter breast height trees to equal 70 sq. ft. BA. Whereas, only 89 twelve-inch DBH trees per acre equal the same 70 sq. ft. BA.)

Basal Area can be roughly correlated to crown coverage and therefore needle-cast. About 40 to 60 sq. ft. BA should provide sufficient needle-cast to carry prescribed fire and still allow adequate sunlight for native grasses to be maintained.

The ultimate goal of most fire maintained, natural communities in Florida is to have uneven-aged pine stands. Other than the very few areas that already contain mature pine timber, this goal is in the distant future.

The first step toward achieving this goal is to begin thinning merchantable planted pine. Specific thinning recommendations need to be made on a stand by stand basis, however this may involve row thinning, whereby a specified row (every third for example) is clearcut and suppressed, diseased, and poor formed trees are removed in the remaining rows. This harvesting technique opens the stand up allowing sunlight to reach the ground improving growing conditions for ground cover species. The completion of thinning operations provides an excellent opportunity to introduce fire into areas that may have been considered too rough to safely burn.

In addition to thinning, small clearcut harvests will be utilized as a management tool. These clearcuts will be in conjunction with thinning operations and will involve the removal of “off-site” slash pine growing on the higher and drier sites. These clearcut areas will then be chemically site prepared and planted to longleaf pine, creating a mosaic effect, ultimately restoring the upland sites to longleaf pine.

The need for second and later thinnings will depend on how low the BA was taken in the first thin and the growth rate of the remaining trees. If the BA is reduced to 50 to 70 sq. ft. in the first cut, another harvest will probably be needed in ten to fifteen years. Trees removed from the second and succeeding operations produce more valuable products and therefore more money. Current market conditions have some second thinning products worth at least five times as much as the original wood that was cut. Third thinning trees

can be worth twice as much as the second thin. All of this revenue can be generated and still have a stand of pine trees, a healthy ecosystem, and future nesting and denning trees.

EXISTING TIMBER RESOURCES

The Lafayette Forest Wildlife and Environmental Area is a large tract of land and identifying individual stands and defining exact acres requiring a specific management practice is beyond the scope of this assessment. A detailed Soil Type Map and Timber Stand Description would be required to properly plan long-term timber management activities. The following are general descriptions and management recommendations. The primary objective on this tract is the restoration and management of gopher tortoise habitat. A healthy ground cover of grasses and forbs must be established and maintained in order to accomplish this goal. From a timber management standpoint, this means that in general, pine-stocking levels need to be maintained in the 40 to 60 sq. ft. BA range.

Current Recommendations

Begin mapping work of property including detailed soils map, stand map, roads, location of existing gopher tortoise burrows, etc. With these tools and the ability to overlap these "layers", detailed plans can be made for future thinnings, clearcuts, and reforestation efforts.

Begin thinning pine stands where Basal Area exceeds 80 square feet per acre (this will include most of the merchantable pine stands). Priority should initially be given to those stands growing on the lower, wetter sites. These stands will be thinned to approximately 60 square feet per acre by removing selected rows for access and diseased, deformed, suppressed, and over-crowded trees from the remaining rows, leaving only healthy, vigorous, and well spaced trees.

Identify the higher, drier sites for potential clearcut harvests. Typically, these sites will exhibit the poorest growth of slash pine. Delineate these areas on the ground, keeping in mind they may cross "stand boundaries". Attempt to make these areas irregular in shape of at least twenty acres in size, in order to facilitate future management activities.

Incorporate these patch clearcuts with planned thinnings. The size and number of these clearcuts will depend upon budget limitations, as these areas will require chemical site preparation and longleaf reforestation one to two years following harvest. Timber sale proceeds should offset forestry related site preparation and tree planting expenses.

Following thinning operations, begin prescribe burning program with cool, winter burns, initially.

Identify those younger slash pine stands with the lighter, flashy fuels such as grasses and pinestraw and begin prescribe burning with cool, winter burns.

Plan for herbicide treatment of clearcut areas in the spring of 2011 then plant longleaf tublings during the summer of 2011. Arrangements for summer tublings need to be made in October before the planned planting.

SUMMARY

Lafayette Forest Wildlife and Environmental Area presently supports dense, slash pine plantations, a result of past, intensive forest management practices. As ownership of this property has changed and management goals have headed in a different direction, the state finds itself in a unique opportunity of possibly benefiting financially from the results of past intensive pine plantation management and using those same funds restoring and enhancing the same land those trees grew upon. These pine plantations, in their present condition, are not conducive for the enhancement of gopher tortoise habitat, the purpose of this land acquisition.

Primary timber management activities will include thinning existing stands most suitable for long term management of old growth slash pine. The desired result of these thinning operations will improve prescribed burning conditions, thus improving ground cover conditions. In addition to thinning operations, areas determined to be “off site” slash pine will systematically be clearcut. First priority for clearcut harvests, will be given to those higher, drier sites, which typically exhibit the poorest growth from slash pine.

These clearcut areas will later be chemically site prepared and planted to longleaf pine. Over time, a multi aged, upland longleaf pine habitat will be well on its way to recovery.

12.9.2 Southern Forestry Consultants Timber Assessment (2011)

Timber Assessment - Lafayette Forest WEA

Southern Forestry Consultants, Inc. conducted an inventory and review of the timber resources on the Lafayette Forest WEA in Lafayette County, Florida for the Florida Fish and Wildlife Conservation Commission (FWC). The purpose of this inventory was to provide FWC with a baseline map and timber inventory and to provide them with information and guidance for future management to integrate timber revenues with their overall goal of natural habitat restoration.

Prior to initiating the timber cruise, the acreage of each pre-determined management unit was mapped using a commercial grade GPS unit. This data was converted to a shape file using ArcGIS as the mapping system. The commercial pine timber stands were determined and separated by similar characteristics (species, age, etc.). Interior wetlands, creek drainages, and clear-cut areas were excluded. Stand ages were determined by taking increment borings throughout each unit. A map showing the ten management units and their associated stands is included in this report.

The merchantable commercial (planted) timber stands were sampled using 10 BAF prism plots on a 10 chain (660') by 4 chain (264') grid or one plot for every four acres. The data on these variable radius plots was collected using a Nomad handheld data recorder. The plot grid was laid out on the data recorder using Solo Forest software that allowed each timber cruiser to navigate to the plots via GPS coordinates. A hard copy of the plot grid and plot locations along with a summary of the plot numbers and their corresponding locations on the grid map is included with this report. Each plot was flagged, labeled, and its plot center marked on the ground with blue and white striped flagging tape. This system will allow any plot to be re-visited at a later date, if desired. The tally on any given plot(s) can be provided upon request.

On each prism plot, the cruiser measured and recorded the diameter breast high (dbh) in 2" classes and merchantable height in 8' increments on each tree and placed it in the highest product class using Two Dog cruising software. The timber was separated into sawtimber, chip-n-saw, and pulpwood for the pine, and into sawtimber and pulpwood on hardwood. These were planted pine stands and contained very little hardwood. In addition, the cruiser made note of the understory conditions in each stand. The product specifications used were as follows:

Pine Sawtimber	11.0" minimum dbh; 8.0" minimum diameter top
Pine Chip-n-saw	9.0" minimum dbh; 5.0" minimum diameter top
Pine Pulpwood	4.5" minimum dbh; 3.0" minimum diameter top
Hardwood Logs	12.0" minimum dbh; 10.0" minimum diameter top
Hardwood Pulpwood	6.0" minimum dbh; 3.0" minimum diameter top

For pre-merchantable commercial timber stands, sampling was done using 1/20 acre circular plots on a 10 chain (660') by 8 chain (528') grid. On each plot, a stem count and the total height of a dominant tree was taken and recorded.

A summary of the merchantable and pre-merchantable timber stands is included in this report on a per acre and total basis and is shown in Table 1. For merchantable stands, it shows the volume in tons, the basal area, and trees per acre for each stand and by product class plus the tract total. Also included are the inventory summaries for each Unit and stand. For pre-merchantable stands, it shows the average trees per acre and average total height of the dominant trees.

Table 2 shows the acreages of each stand, understory condition, and management recommendations for that particular stand. (Refer to Table 3 in this report for a description of the understory condition codes). It should be noted that stands that are not numbered on the map are non-timbered areas that are primarily ponds and creek drains. However, in referencing old infrared aerial photographs, it is apparent that some of these acres were once planted in pine. FWC should contemplate whether they wish to convert these acres back to pine plantations or not.

Although the history of the property is not known, in all likelihood, there was a wildfire at some point that impacted the west and north sides of this property and destroyed some of the planted pines which were probably not merchantable at the time. Some of the areas that are mapped and cruised as commercial timber areas contain only scattered timber and "stringers" of pine along wetland areas. If there was a wildfire, it is possible that these areas simply did not burn and the timber was not destroyed. These "stringers" of pine are displayed on the type map.

Finally, one of the criteria of the inventory was that it must meet a specified statistical standard. The inventory had to achieve a sampling error of +/- 10% at the 95% confidence interval for either basal area or volume per plot for the combined timber cruise. Basal area was selected as the criteria for this project and the overall sampling error was 5.8% at the 95% confidence interval. A copy of the statistical summary for the timber inventory is included in this report.



TABLE 1

Lafayette WEA
Cruise: 5-6/2011

Unit	Stand	Age	Species	Acres		Av. dbh	Av. Dm.	Trees	Basal area Sq. ft.	Sawtimber BF	/ACRE				Sawtimber MBF	Chip-n-saw Tons	Pine Pw Tons	Pine Pw Tons	Hdw Pw Tons	Hdw ST Tons	Hdw Pw Tons	Total Tons				
				Merch.	Pre-merch.						Tons	Pine Pw Tons	Chip-n-saw Tons	Pine Pw Tons									Hdw Pw Tons	Hdw ST Tons	Hdw Pw Tons	Pine Tons
1	1	22	slash	80		8		303	106	148	0.8	15.9	51.8	2.0	0.2	0.2	70.5	0.2	11.8	67	1,269	4,146	160	20	5,642	20
2	1	22	slash	71		8.8		159	68	537	3.4	17.7	36.7	3.3	0.6	0.8	61.0	0.8	38.1	239	1,256	2,608	231	46	4,834	59
3	1	22	slash	15		10.9		10	7	360	2.6	2.6	2.6	1.0		6.2	6.2	5.4	38	39	39	15	92	92	92	
3	1	22	slash	104		8.5		155	62	364	2.3	13.9	33.1	2.4	1.6	51.6	1.6	37.9	234	1,443	3,443	250	166	5,370	166	
3	2	12	slash		19	5.2	22.2	284																		
4	3	22	slash	22		10.4		14	8	129	0.8	0.8	4.4	0.4		6.4		2.8	17	97	97	10	34	1,547	34	
4	1	22	slash	62		8.5		196	77	502	2.9	9.8	32.4	2.4	5.3	47.5	5.3	31.1	179	608	2,009	147	327	2,943	327	
5	1	22	slash	78		7.8		232	77	115	0.7	11.1	51.0	1.4	0.2	64.2	0.2	8.9	58	864	3,975	111	19	5,008	19	
5	2	11	slash		151	4.4	29.6	298																		
6	3	15	slash	38		6.1		353	71																	
6	1	22	slash	162		7.3		275	80	71	0.4	9.0	40.7	1.1	0.9	40.7	0.9	11.5	62	1,457	8,157	178	198	9,854	198	
7	1	22	slash	117		7.9		229	79	305	1.8	10.6	46.5	1.9	1.2	60.8	1.2	35.7	213	1,239	5,443	223	47	7,119	47	
8	1	22	slash	88		6.9		247	65	177	0.8	3.3	40.9	0.7	0.4	45.7		11.2	68	291	3,604	60	74	4,023	74	
9	1	21	slash	97		7.1		258	71	85	0.6	5.3	42.2	0.8	0.8	48.8	0.8	8.2	56	515	4,091	74	74	4,736	74	
2	uneven		lob	9		10.9		22	14	133	0.7	1.9	4.1	0.6	0.7	7.3	0.7	1.2	6	17	37	5	6	66	6	
3			lob/slash	1		10.9		77	50					0.7	28.8											
10	1	32	slash	5		10.6		66	40	2480	19.0	14.6	5.5	8.4		47.5		12.4	95	73	28	42	33	936	51,141	949
Total				949	170					216	1,334	9,057	33,243	1,507	33	936	51,141	949								

TABLE 2

Lafayette WEA
Cruise: 5-6/2011

Unit	Stand	Age	Species	Acres			Total	Understory Condition	Management Recommendations
				Merch.	Pre-merch.	Clearcut			
1	1	22	slash	80			80	#5-Low Flat/Dense	Slash pine site; Thin to basal area of 50-60 sq. ft.; understory spray; burn;
2	1	22	slash	71			184	#5-Low Flat/Dense	Slash pine site; Thin to basal area of 50-60 sq. ft.; understory spray; burn; Very scattered trees; site prep and plant slash pine around residual trees
	2	22	slash	15			73	#5-Low Flat/Dense	
3	1	22	slash	104			104	#5-Low Flat/Dense	Slash pine site; Thin to basal area of 50-60 sq. ft.; understory spray; burn; Very scattered trees; site prep and plant slash pine around residual trees
	2	12	slash	19	19		22	#3-High Flat/Medium	
4	3	22	slash	22			139	#5-Low Flat/Dense	Very scattered trees; site prep and plant slash pine around residual trees
	1	22	slash	62			62	#3-High Flat/Medium	
5	1	22	slash	78			123	#3-High Flat/Medium	Slash pine site; Thin to basal area of 50-60 sq. ft.; understory spray; burn; Slash pine site; Thin to basal area of 30-50 sq. ft.; burn
	2	15	slash	151			78	#3-High Flat/Medium	
6	3	22	slash	38			33	#1-High Flat/Sparse	Thin within next 3 years to basal area of 60-70 sq. ft.; burn
	1	22	slash	162			162	#3-High Flat/Medium	
7	1	22	slash	117			82	#3-High Flat/Medium	Longleaf site; clearcut and replant to longleaf; Consider leaving scattered dominant slash trees
	1	22	slash	88			73	#3-High Flat/Medium	
8	1	22	slash	88			88	#4-mulched	Longleaf site; clearcut and replant to longleaf
	1	21	slash	97			31	#1-High Flat/Sparse	
9	2	uneven	loblolly	9			9	#4-mulched	Longleaf site predominantly; re-establish longleaf on ridges; thin slash around ponds Burn when conditions permit
	3	uneven	loblolly	1			1	#6-Low Flat/Sparse	
10	1	32	slash	5			84	#3-High Flat/Medium	Thin to 40 sq. ft. basal area; burn
	2	clearcut	clearcut	168			168	clearcut	
Total				949	170	168	855		2143

TABLE 3

Vegetation Species and Density Classes

1. High Flat, Sparse
Live Oak, Laurel Oak in upper mid-story-sparse or scattered
Sparkleberry, Deerberry in lower mid-story
Sparse grasses in understory and ground cover
2. Upland Oak, Open
Turkey oak, Southern Red oak, Post oak, upper mid-story
Misc. Grasses in understory
3. High Flat, Medium
Water oak, Laurel oak, in upper mid-story-scattered
Wax myrtle, blueberry, palmetto, sparkleberry lower mid-story
Wiregrass, blueberry, misc other grasses in understory
4. Mulched
5. Low Flat, Dense
Water oak, laurel oak, sweetgum in mid-story
Wax myrtle, palmetto, stagger bush, gallberry, blueberry in lower mid-story
Light ground cover under shade
6. Low Flat, sparse