

## **13 Appendices**

### **13.1 Lease Agreement and Amendments**



MULTIPLE AGENCY MANAGEMENT LEASE  
FOR  
LOWER APALACHICOLA RIVER  
ENVIRONMENTALLY ENDANGERED LANDS

LEASE NO. 770-9003

THE BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, referred to herein as the "Board" and the STATE OF FLORIDA DEPARTMENT OF NATURAL RESOURCES, DIVISION OF STATE LANDS, referred to herein as "State Lands", as agent for the Board, do hereby grant to the STATE OF FLORIDA GAME AND FRESH WATER FISH COMMISSION, referred to herein as the "Commission", the STATE OF FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, DIVISION OF FORESTRY, referred to herein as "Forestry", and the STATE OF FLORIDA DEPARTMENT OF STATE, DIVISION OF ARCHIVES, HISTORY, AND RECORDS MANAGEMENT, referred to herein as "Archives and History", management responsibilities for the Lower Apalachicola River Environmentally Endangered Lands (EEL), located in Gulf and Franklin County, Florida described as follows and subject to all existing encumbrances:

(See exhibit "A" attached hereto and made a part hereof)

TO HAVE AND TO HOLD the above described property for a period of twenty (20) years.

WITNESSETH:

The Board, the Commission, Forestry, and Archives and History, for and in consideration of the covenants hereinafter contained, do hereby covenant as follows:

1. The lands shall be managed in accordance with the original concept, as approved by the Board on January 9, 1977, which established the primary purposes for which this tract was acquired, including: protection of fish and wildlife values; the long-term preservation of fishery and shellfish resources in Apalachicola Bay;

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protection of the natural plant communities; and the restoration and preservation of the extensive river floodplain and marsh lands for safeguarding of the Apalachicola River and Bay water quality.

Activities of the parties shall be governed by and in compliance with the goals and objectives contained in the Management Plan for the Lower Apalachicola River EEL tract when approved by the Board and shall be coordinated, through the primary managing agency, with the Apalachicola River Estuarine Sanctuary Coordinator, Department of Natural Resources, Division of Recreation and Parks.

2. The Commission shall be the primary managing agency. As such, it shall coordinate and oversee all activities on the property; initiate appropriate management programs to meet the intent of the goals and objectives stated herein; coordinate preparation and periodic revision of the Management Plan; coordinate and monitor all management activities undertaken by others; and, compile and submit such reports as may be required of the managing agencies.

3. The Commission shall: provide a permanent staff position to plan and supervise management of the property; administer and regulate campsites; restore natural hydroperiods; manage wildlife habitat; provide specific management recommendations and protection for all wildlife; regulate hunting, fishing and nongame activities; and, assist in patrolling and providing required law enforcement to prevent poaching, to protect threatened and endangered species, and to protect archaeological and historic sites from looting and other unauthorized activities.

4. Forestry shall: provide advice and on-site assistance to the Commission in implementing a prescribed burning program; initiate prescribed burning on forested areas in cooperation with the Commission; respond to and take charge of any wildfire; and, oversee any timber planting and harvesting activities based on a consensus reached by all participating managing agencies. Forestry shall administer and oversee apiary leases and assist in patrol of the area.

5. Archives and History shall: evaluate the cultural resources of the property in accordance with its authority under Chapter 267,

Florida Statutes; provide recommendations to the Commission for long-range management and protection; and, review contemplated activities that might impact such cultural resources.

6. Any management conflict between any of the managing agencies shall be resolved, if possible, by consensus of the primary managing agency and the affected managing agencies which are parties to this Lease. If a consensus cannot be reached, conflicts shall be submitted through State Lands to the Board for resolution.

7. It is understood by all parties that all management activities specified by this Lease shall be designed to conserve, protect and enhance the lands covered by this Lease as provided for by Chapter 259, Florida Statutes.

8. It is further understood and agreed that in addition to the management responsibilities specified herein, the following will be applicable:

A. A Management Plan for this tract shall be prepared by the primary managing agency, in accordance with Section 253.034, Florida Statutes and in cooperation with the other managing agencies, within 12 months of the execution date of this Lease and shall be submitted to the Board for approval through State Lands, acting as agent for the Board.

The approved Management Plan shall provide the basic guidance for all management activities and shall be reviewed jointly by the managing agencies and the Board at no greater than five-year intervals. Annual work plans and management activities shall be reviewed by the primary managing agency prior to implementation and submitted to State Lands on an annual basis.

B. The managing agencies shall not use or alter the property except as provided for in the approved Management Plan without the advance written approval of State Lands, acting as agent for the Board. Any managing agency proposing an activity that requires physical alteration of the property shall notify the primary managing agency prior to initiating that activity. The primary managing

- agency, in turn, shall notify other affected managing agencies.
- C. The Board may, on occasion, after discussion with and concurrence by the managing agencies, authorize compatible uses of the property by other parties during the life of this Lease.
  - D. The Board, or its duly authorized agent, may at any time inspect the works and operations of the managing agencies in any matter pertaining to this Lease. Should any agency fail to keep or perform any of its responsibilities as designated by the Management Plan or program provided for herein, the Board shall notify the specific agency(ies) of such non-performance. If correction or justification is not made after sixty days of receipt of written notice, the Board may terminate any agency's participation in the Lease by providing thirty days written notice of such pending action. Any notice will be in writing from the Director of the Division of State Lands, as agent for the Board.
  - E. This Lease shall remain in effect until such time as the Board may terminate it in recognition of a greater public purpose consistent with Chapter 259, Florida Statutes. If a greater public purpose should be determined, the Board, in consultation with the managing agencies, shall have the right to amend or terminate this Lease by providing a reasonable time period to effectuate such an amendment or termination of activities. Any notice of such action shall be in writing from the Director of the Division of State Lands, as agent for the Board. Each agency herein shall have the right to terminate its participation in this management lease upon 60 days written notice to the Board and shall have up to 6 months to conclude its activities hereunder.

9. This Lease and any rights and privileges contained herein are for the sole use of the managing agencies and shall not be assigned or transferred to another party without the advance approval of the

Board. The managing agencies shall have the right to enter and occupy the property for the purposes necessary to meet their designated responsibilities, including protection of the property. The agencies' agents and employees shall take all reasonable measures to provide security against property damage, property degradation and unauthorized uses.

10. The managing agencies agree to assist in the investigation of injury or damage claims either for or against the State or the Board pertaining to their respective areas of responsibilities, or arising out of their respective management programs and activities, and to contact the lead agency regarding whatever legal action they deem appropriate to remedy same.

IN TESTIMONY WHEREOF, the lawfully designated agent of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida and the State of Florida Game and Fresh Water Fish Commission, the State of Florida Department of Agriculture and Consumer Services, Division of Forestry, and the State of Florida Department of State, Division of Archives, History and Records Management have hereunto set their hands in the City of Tallahassee, Florida, on the 11<sup>th</sup> day of October, A.D. 1983.

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



By: Harold M. Garland  
DIRECTOR, DIVISION OF STATE LANDS  
AGENT FOR THE BOARD OF TRUSTEES  
OF THE INTERNAL IMPROVEMENT TRUST  
FUND OF THE STATE OF FLORIDA

FOR THE MANAGING AGENCIES

By: Robert M. Brantly  
STATE OF FLORIDA GAME AND FRESH  
WATER FISH COMMISSION

Approved as to form and legality  
By: Leslie M. Good  
Resident Attorney

By: Deyle Commor  
STATE OF FLORIDA DEPARTMENT OF  
AGRICULTURE AND CONSUMER SERVICES

By: Randall Kelley  
STATE OF FLORIDA  
DEPARTMENT OF STATE, Division of  
Archives, History and Records  
Management

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APPROVED AS TO  
FORM AND LEGALITY

John P. Williams  
DEPARTMENT ATTORNEY

The Game and Fresh Water Fish Commission of the State of Florida, under Section 9, Article IV of the Florida Constitution, and the rules and regulations of the Commission, has reestablished the Apalachicola River Wildlife and Environmental Area in Franklin and Gulf counties, Florida, with the following described area:

PARCEL 1: *Original Lease*

Begin at the junction of the Apalachicola River and Jackson River in Franklin County, Florida. Proceed south along the east bank of the Apalachicola River main channel to the intersection with the south boundary of Section 25, Township 8 South, Range 8 West; proceed easterly to the SE corner of Section 25; thence proceed northerly along the east boundaries of Sections 25, 24, 13 and 12, Township 8 South, Range 8 West; thence follow the east bank of the East River to the north boundary of Section 1, Township 8 South, Range 8 West; thence east to the SE corner of Section 36, Township 7 South, Range 8 West; thence northerly along the east boundary of Sections 36, 25 and 24, Township 7 South, Range 8 West; thence west to the NW corner of Section 24; thence north along the east boundary of Sections 14, 11 and 2, Township 7 South, Range 8 West; thence west to the west bank of the Apalachicola River; thence north along the west bank of the Apalachicola River to the mouth of Brothers River; thence proceed north along the west bank of Brothers River to the east boundary of Section 16, Township 6 South, Range 8 West, in Gulf County; thence proceed south to the SE corner of Section 16; thence west to the SW corner of Section 16; thence south to the SE corner of Section 29, Township 6 South, Range 8 West; thence through Section 32, Township 6 South, Range 8 West, and Sections 5 and 8, Township 7 South, Range 8 West; thence south along the east boundary of Sections 17, 20 and 29, Township 7 South, Range 8 West, to the SE corner of Section 29; thence westerly and southerly through Section 32, Township 7 South, Range 8 West, and Sections 5 and 8, Township 8 South, Range 8 West; thence west along the north boundary of the south 1/2 of Section 7, Township 8 South, Range 8 West, to the west boundary of Section 7; thence south to Jackson River; thence east along the south bank of Jackson River to Pine Log Creek; thence east along the south bank of Pine Log Creek to the east boundary of the west 1/4 of Section 29, Township 8 South, Range 8 West; thence north to the south boundary of the north 1/4 of Section 20, Township 8 South, Range 8 West; thence east of the Apalachicola River; thence north along the west bank of the Apalachicola River to the Point of Beginning.

Establishment Order No.: WEA 95-5  
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Also included is a portion of land lying south of Brothers River in Sections 8 and 17, Township 6 South, Range 8 West.

Also included are parcels situated in Franklin County within Sections 1, 3, 4, 8, 9, 12, 14, 16, 17, 21, 22 and 31, Township 8 South, Range 7 West, Sections 35 and 36, Township 7, Range 36 West, Sections 7, 17, 18 and 19, Township 8 South, Range 6 West and Section 33, Township 7 South, Range 6 West, and posted as a wildlife and environmental area.

PARCEL 2: *Amendment #2*

Land being situated in Gulf County within Sections 5, 6, 7, 8, 17, 18, 20, 21, 35 and 36, Township 5 South, Range 9 West; Sections 1 and 12, Township 6 South, Range 9 West; Sections 31, 32 and 7, Township 6 South, Range 8 West; Sections 7, 8, 17, 18, 19, 20 and 29, Township 7 South, Range 8 West, and posted as a wildlife and environmental area.

BLOODY BLUFF TRACT *Amendment #3*

Parcel (Port of West Block West of State Road 65)

All of Section 6. Township 7 South, Range 7 West, Franklin County, Florida, lying West of State Road 65.

All of Section 7. Township 7 South, Range 7 West, Franklin County, Florida, lying West of State Road 65.

All of Section 18. Township 7 South Range 7 West, Franklin County, Florida, lying West of State Road 65, less and except included certain County maintained road known as Bloody Bluff Road.

All of Section 1. Township 7 South Range 8 West, Franklin County, Florida.

All of Section 2. Township 7 South Range 8 West, Franklin, County, Florida, lying East of Channel of Apalachicola River.

All of Section 10 Township 7 South, Range 8 West, Franklin, County, Florida, lying Easterly of the Apalachicola River, but including Bloody Buff Island.

All of Section 12 Township 7 South Range 8 West, Franklin County, Florida.

All of Section 13. Township 7 South Range 8 West, Franklin County, Florida.

The Fish and Wildlife Conservation Commission of the State of Florida, under Article IV, Section 9 of the Florida Constitution and the rules and regulations of the Commission, has re-established the Apalachicola River Wildlife and Environmental Area in Franklin and Gulf counties, Florida, with the following described area:

**PARCEL 1:** Begin at the junction of the Apalachicola River and Jackson River in Franklin County, Florida. Proceed south along the east bank of the Apalachicola River main channel to the intersection with the south boundary of Section 25, T8S, R8W; proceed easterly to the SE corner of Section 25; thence proceed northerly along the east boundaries of Sections 25, 24, 13 and 12, T8S, R8W; thence follow the east bank of the East River to the north boundary of Section 1, T8S, R8W; thence east to the SE corner of Section 36, T7S, R8W; thence northerly along the east boundary of Sections 36, 25 and 24, T7S, R8W; thence west to the NW corner of Section 24; thence north along the east boundary of Sections 14, 11 and 2, T7S, R8W; thence west to the west bank of the Apalachicola River; thence north along the west bank of the Apalachicola River to the mouth of Brothers River; thence proceed north along the west bank of Brothers River to the east boundary of Section 16, T6S, R8W, in Gulf County; thence proceed south to the SE corner of Section 16; thence west to the SW corner of Section 16; thence south to the SE corner of Section 29, T6S, R8W; thence through Section 32, T6S, R8W, and Sections 5 and 8, T7S, R8W; thence south along the east boundary of Sections 17, 20 and 29, T7S, R8W, to the SE corner of Section 29; thence westerly and southerly through Section 32, T7S, R8W, and Sections 5 and 8, T8S, R8W; thence west along the north boundary of the S1/2 of Section 7, T8S, R8W, to the west boundary of Section 7; thence south to Jackson River; thence east along the south bank of Jackson River to Pine Log Creek; thence east along the south bank of Pine Log Creek to the east boundary of the W1/4 of Section 29, T8S, R8W; thence north to the south boundary of the N1/4 of Section 20, T8S, R8W; thence east of the Apalachicola River; thence north along the west bank of the Apalachicola River to the Point of Beginning. Also included is a portion of land lying south of Brothers River in Sections 8 and 17, T6S, R8W. Also included are parcels situated in Franklin County within Sections 1, 3, 4, 8, 9, 12, 14, 16, 17, 21, 22 and 31, T8S, R7W, Sections 35 and 36, T7S, R36W, Sections 7, 17, 18 and 19, T8S, R6W and Section 33, T7S, R6W, and posted as a wildlife and environmental area.

**PARCEL 2:** Land being situated in Gulf County within Sections 5, 6, 7, 8, 17, 18, 20, 21, 35 and 36, T5S, R9W; Sections 1 and 12, T6S, R9W; Sections 31, 32 and 7, T6S, R8W; Sections 7, 8, 17, 18, 19, 20 and 29, T7S, R8W, and posted as a wildlife and environmental area.

**BLOODY BLUFF TRACT:** Parcel (Port of West Block West of State Road 65): All of Section 6, T7S, R7W, Franklin County, Florida, lying West of State Road 65. All of Section 7, T7S, R7W, Franklin County, Florida, lying West of State Road 65. All of Section 18, T7S R7W, Franklin County, Florida, lying West of State Road 65, less and except included certain County maintained road known as Bloody Bluff Road. All of Section 1, T7S R8W, Franklin County, Florida. All of Section 2, T7S R8W, Franklin County, Florida, lying East of Channel of Apalachicola River. All of Section 10, T7S, R8W, Franklin County, Florida, lying Easterly of the Apalachicola River, but including Bloody Buff Island. All of Section 12, T7S R8W, Franklin County, Florida. All of Section 13, T7S R8W, Franklin County, Florida.

**ADDITION FOR 1998 - Stone Parcel:** Section 33, T7S, R7W, Franklin County, Florida. ALSO: Section 34, T7S, R7W, Franklin County, Florida. LESS AND EXCEPT: The Right-Of-Way of State Road No. 65 as per the Department of Transportation Right-Of-Way Map Section No. 4906 dated August 1939 with last revision October 18, 1982. ALSO: Section 35, T7S, R7W, Franklin County, Florida. LESS AND EXCEPT: Any lands lying waterward of the line between the salt water marsh and upland vegetation as described in O.R. Book 199, page 73 of the Public Records of Franklin County, Florida. ALSO LESS AND EXCEPT: That portion of Section 35, T7S, R7W lying below the Mean High Water Line of Doyle Creek. ALSO LESS AND EXCEPT: Department of Transportation Borrow Pit No. 8 as per Right-Of-Way Map for State Road No. 65 Section No. 4906 dated August 1939 with last revision October 18, 1982. ALSO LESS AND EXCEPT: Department of Transportation Borrow Pit No. 9 as per Right-Of-Way Map for State Road No. 65 Section No. 4906 dated August 1939 with last revision October 18, 1982. ALSO LESS AND EXCEPT: The Right-Of-Way of State Road No. 65 as per the Department of Transportation Right-Of-Way Map Section No. 4906 dated August 1939 with last revision October 18, 1982. ALSO LESS AND EXCEPT: That portion of Sand Beach Road(a graded road) maintained by Franklin County. ALSO LESS AND EXCEPT: The graded road maintained by Franklin County lying Northerly of State Road No.65. ALSO: Section 36, T7S, R7W, Franklin County, Florida. LESS AND EXCEPT: Any lands lying waterward of the line between the salt water marsh and upland vegetation as described in O.R. Book 199, Page 73 of the Public Records of Franklin County, Florida. ALSO LESS AND EXCEPT: Department of Transportation Borrow Pit No. 8 as per Right-Of-Way Map for State Road No. 65 Section No. 4906 dated August 1939 with last revision October 18, 1982. ALSO LESS AND EXCEPT: The Right-Of-Way of State Road No. 65 as per Department of Transportation Right-Of-Way Map Section No. 4906 dated August 1939 with the last revision October 18, 1982. ALSO LESS AND EXCEPT: The property recorded in Deed Book FF, page 202 of the Public Records of Franklin County, Florida. From the NE corner of Section 36, T7S, R7W, run along north line of Section 36, T7S, R7W, 382 feet to a POINT OF BEGINNING, Thence South 560 feet, Thence West 778 feet, Thence North 493 feet to South Boundary line of State Highway #12, Thence following the concave side of the curve on said highway in an easterly direction to the North line of Section 36, T7S, R7W, and east along said section line, a total distance of 778 feet to POINT OF BEGINNING. ALSO LESS AND EXCEPT: That portion of Section 36, T7S, R7W, lying below the Mean High Water Line of Whiskey George Creek and Doyle Creek. ALSO: The W1/2 of Section 7, T8S, R6W, Franklin County, Florida. LESS AND EXCEPT: Any lands lying waterward of the line between the salt water marsh and upland vegetation as described in O.R. Book 199, Page 73 of the public Records of Franklin County, Florida. ALSO LESS AND EXCEPT: That portion of Section 7, T8S, R6W lying below the Mean High Water Line of West Bayou and East Bay. ALSO: Section 1, T8S, R7W, Franklin County, Florida. LESS AND EXCEPT: Any lands lying waterward of the line between the salt water marsh and upland vegetation as described in O.R. Book 199, Page 73 of the Public Records of Franklin County, Florida. ALSO LESS AND EXCEPT: That portion of Section 1, T8S, R7W lying below the Mean High Water Line of Whiskey George Creek and West Bayou. ALSO: Section 2, T8S, R7W, Franklin County, Florida. LESS AND EXCEPT: Any lands lying waterward of the line between the salt water marsh and upland vegetation as described in O.R. Book 199, Page 73 of the Public Records of Franklin County, Florida. ALSO LESS AND EXCEPT: That portion of Sand Beach Road(a graded road) maintained by Franklin County. ALSO LESS AND EXCEPT: That portion of Chason Road(a graded road) maintained by Franklin County. ALSO: Section 3, T8S, R7W, Franklin County, Florida. LESS AND EXCEPT: Any lands lying waterward of the line between the salt water marsh and upland vegetation as described in O.R. Book 199, Page 73 of the Public Records of Franklin County, Florida. ALSO: Section 4, T8S,

R7W, Franklin County, Florida. LESS AND EXCEPT: Any lands lying waterward of the line between the salt water marsh and upland vegetation as described in O.R. Book 199, Page 73 of the Public Records of Franklin County, Florida. ALSO: N1/2 and SE1/4 less 20 acres more or less of Section 5, T8S, R7W, Franklin County, Florida. ALSO: Section 11, T8S, R7W, Franklin County, Florida. LESS AND EXCEPT: That portion of Sand Beach Road(a graded road) maintained by Franklin County. ALSO LESS AND EXCEPT: That portion of Chason Road(a graded road) maintained by Franklin County. ALSO: Section 12, T8S, R7W, Franklin County, Florida. LESS AND EXCEPT: Any lands lying waterward of the line between the salt water marsh and upland vegetation as described in O.R. Book 199, Page 73 of the Public Records of Franklin County, Florida. ALSO LESS AND EXCEPT: That portion of Section 12, T8S, R7W lying below the Mean High Water Line of East Bay and West Bayou. ALSO: All of the N1/2 of Section 14, T8S, R7W, Franklin County, Florida. LESS AND EXCEPT: Any lands lying waterward of the line between the salt water marsh and upland vegetation as described in O.R. Book 199, Page 73 of the Public Records of Franklin County, Florida. ALSO LESS AND EXCEPT: That portion of Section 14, T8S, R7W lying below the Mean High Water Line of East Bay and West Bayou. ALSO: The following described land hereby conveyed to wit: a parcel of land located in the NW1/4 of the NE1/4 on which there is located a flowing well, and being more specifically described as follows: Beginning at the NW corner of Section 14, thence S01,14'00"W, 305 feet; Thence S67,14'00"W, 492.2 feet; Thence N89,30'E, 250 feet; Thence S44,09'E, 212 feet; Thence S59,40'E, 284 feet; Thence S73,48'E, 729 feet; Thence N85,34'E, 300 feet; Thence S75,16'E, 400 feet; Thence S49,38'E, 193 feet; Thence N15,28'E, 265 feet; Thence N29,59'W, 400 feet; Thence N51,53'E, 168 feet; Thence S78,38'E, 575 feet; Thence S67,03'E, 300 feet to a concrete monument, Thence S05,32'E, 124.7 feet to a concrete monument for a POINT OF BEGINNING, Thence N81,50'E, 210.5 feet; Thence S13,29'E, 61.2 feet; Thence S45,20'W, 135.7 feet; Thence S85,14'W, 152.9 feet; Thence S70,49'W, 163.4 Feet; Thence N33,11'W, 193.7feet; Thence N66,36'E, 114.1 feet; Thence N84,54'E, 182.5 feet to the concrete monument and the POINT OF BEGINNING. LESS AND EXCEPT: As to the entire descriptions of all parcels, any and all lands conveyed by deed recorded in Official Records Book 199, pages 73 through 107, of the Public Records of Franklin County Florida. ALSO LESS AND EXCEPT: COMMENCE at the Northwest corner of Section 35, T7S, R7W, Franklin County, Florida; Thence S88,34' 12"E along the Northerly line of the NW1/4 of said Section 35 a distance of 1810.00 feet; Thence S46,15'28"W, 66.53 feet to a concrete monument and call this the POINT OF BEGINNING; Thence S06,34'31"W, 224.32 feet to a concrete monument; Thence S57,45'58"E, 58.29 feet to a concrete monument; Thence S46,15'28"W, 254.85 feet to a concrete monument set on the Northerly maintained Right-Of-Way of Sand Beach Road; Thence N46,23'41"W, along the Northerly maintained Right-Of-Way of Sand Beach Road a distance of 200.00 feet to a concrete monument; Thence N46,15'28"E, 422.61 feet to the POINT OF BEGINNING. The above described bearings are North Florida Lambert Zone Grid Bearings. ALSO LESS AND EXCEPT: COMMENCE at the NW corner of Section 35, T7S, R7W, Franklin County, Florida; Thence N88,26'17"W, 118.12 feet to a concrete monument set on the Southwest right of way of State Road 65; Thence S51,11'30"E, along the Southwesterly Right-Of-Way of said road a distance of 3,417.93 feet to a concrete monument marking the P.C. of a curve; Thence continue Southeasterly along the Southwesterly right of way of said road along a curve being concave towards the left; having a delta angle of 26,15'36"; a radius of 2,646.15 feet; an arc distance along the Southwesterly right of way of said road of 1,212.82(chord bearing = S64,19'18"E, 1202.23 feet to a concrete monument set at the intersection of the Southwesterly Right-Of-Way of State Road 65 and the Westerly maintained Right-Of-Way of Sand Beach Road; Thence continue Southeasterly along the Southwesterly right of way of State Road 65 along a curve being concave towards the left; having a delta angle of 00,69'04"; a radius of 2646.15 feet; an arc distance of along the Southwesterly Right-Of-Way of said road of 45.47

feet (chord bearing = S77,56'39"E, 45.47 feet to a concrete monument set at the intersection of the Southwesterly Right-Of-Way of State Road 65 and the Easterly maintained right of way of Sand Beach Road; Thence S03,33'01"E along the Easterly maintained right of way of Sand Beach Road a distance of 1106.11 feet to a concrete monument; Thence S03,24'12"E along the Easterly maintained right of way of Sand Beach Road a distance of 1094.08 feet to a concrete monument; Thence S03,12'47"E along the Easterly maintained right of way of Sand Beach Road a distance of 132.43 feet to a concrete monument and call this the POINT OF BEGINNING Thence N86,47'13"E, 300.00 feet to an iron rod; Thence S03,12'47"E a distance of 300.00 feet to a concrete monument set on the Easterly maintained right of way of Sand Beach Road; Thence N03,12'47"W along the Easterly maintained right of way of Sand Beach Road a distance of 300.00 feet to the POINT OF BEGINNING. The above described bearings are North Florida Lambert Zone Grid Bearings. ALSO LESS AND EXCEPT: COMMENCE at an existing concrete monument marking the NW corner of Section 35, T7S, R7W, Franklin County, Florida; Thence S88,34'12"E along Northerly line of said Section 35 a distance of 211.70 feet to a concrete monument marking the intersection of the Northerly line of said Section 35 and the Northeasterly right of way of State Road No. 65; Thence continue S88,34'12"E along the Northerly line of said Section 35 a distance of 614.87 feet to a concrete monument and call this the POINT OF BEGINNING; Thence continue S88,34'12"E along the Northerly line of said Section 35 a distance of 205.57 feet to the intersection of the Northerly line of said Section 35 and the Southwesterly maintained right of way of Sand Beach Road (a graded county road); Thence S45,43'18"E along the Southwesterly maintained right of way of Sand Beach Road a distance of 6.08 feet to a concrete monument; Thence S37,46'08"W a distance of 136.10 feet to a concrete monument; Thence S71,47'09"W a distance of 118.65 feet to a concrete monument; Thence N05,06'22"W a distance of 154.68 feet to the POINT OF BEGINNING. The above described bearings are North Florida Lambert Zone Grid Bearings. ALSO LESS AND EXCEPT: COMMENCE at an existing concrete monument marking the NW corner of Section 35, T7S, R7W, Franklin County, Florida; Thence S88,34'12"E along Northerly line of said Section 35 a distance of 211.70 feet to a concrete monument marking the intersection of the Northerly line of said Section 35 and the Northeasterly right of way of State Road No. 65; Thence continue S88,34'12"E along the Northerly line of said Section 35 a distance of 614.87 feet to a concrete monument; Thence continue S88,34'12"E along the Northerly line of said Section 35 a distance of 205.57 feet to the intersection of the Northerly line of said Section 35 and the Southwesterly right of way of Sand Beach Road (a graded county road); Thence continue S88,34'12"E along the Northerly line of said Section 35 a distance of 50.10 feet to the intersection of the Northerly line of said Section 35 and the Northeasterly right of way of Sand Beach Road and call this the POINT OF BEGINNING; Thence S46,23'41"E along the Northeasterly right of way of Sand Beach Road a distance of 516.71 feet to a concrete monument; Thence N46,15'28"E, a distance of 422.61 feet to a concrete monument; Thence N46,38'30"W, a distance of 70.62 feet to the Northerly line of said Section 35; Thence N88,34'12"W along Northerly line of said Section 35 a distance of 379.00 feet to a 2 1/2 inch round aluminum monument; Thence continue N88,34'12"W, along the Northerly line of said Section 35 a distance of 249.31 feet to the POINT OF BEGINNING. The above described bearings are North Florida Lambert Zone Grid Bearings. ALSO LESS AND EXCEPT: As to the entire descriptions of all parcels; any and all lands lying below the Mean High Water Line which are sovereign and lands of the State of Florida.

**DELETION FOR 1999 OF 280 ACRES, LANDS EAST OF HIGHWAY 65 MOVED INTO TATES HELL:** LESS AND EXCEPT Sections 35 and 36, T7S, R7W, North of State Road 65.

**AMENDMENT #5 QUINN TRACT, ADDITION OF 4,462 ACRES**

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The Southwest 1/4 of Section 5, Township 8 South, Range 7 West, Franklin County, Florida, . LESS portion for East River;

**ALSO:** Section 6 Township 8 South Range 7 West, Franklin County, Florida;

**LESS AND EXCEPT** the right-of-way of the Apalachicola Northern Railroad;

**ALSO:** Section 19, Township 7 South Range 7 West Franklin County, Florida;

**LESS AND EXCEPT** the right-of-way of State Rte. 65;

feet(chord bearing = S77,56'39"E, 45.47 feet to a concrete monument set at the intersection of the Southwesterly Right-Of-Way of State Road 65 and the Easterly maintained right of way of Sand Beach Road; Thence S03,33'01"E along the Easterly maintained right of way of Sand Beach Road a distance of 1106.11 feet to a concrete monument; Thence S03,24'12"E along the Easterly maintained right of way of Sand Beach Road a distance of 1094.08 feet to a concrete monument; Thence S03,12'47"E along the Easterly maintained right of way of Sand Beach Road a distance of 132.43 feet to a concrete monument and call this the POINT OF BEGINNING Thence N86,47'13"E, 300.00 feet to an iron rod; Thence S03,12'47"E a distance of 300.00 feet to a concrete monument set on the Easterly maintained right of way of Sand Beach Road; Thence N03,12'47"W along the Easterly maintained right of way of Sand Beach Road a distance of 300.00 feet to the POINT OF BEGINNING. The above described bearings are North Florida Lambert Zone Grid Bearings. ALSO LESS AND EXCEPT: COMMENCE at an existing concrete monument marking the NW corner of Section 35, T7S, R7W, Franklin County, Florida; Thence S88,34'12"E along Northerly line of said Section 35 a distance of 211.70 feet to a concrete monument marking the intersection of the Northerly line of said Section 35 and the Northeasterly right of way of State Road No. 65; Thence continue S88,34'12"E along the Northerly line of said Section 35 a distance of 614.87 feet to a concrete monument and call this the POINT OF BEGINNING; Thence continue S88,34'12"E along the Northerly line of said Section 35 a distance of 205.57 feet to the intersection of the Northerly line of said Section 35 and the Southwesterly maintained right of way of Sand Beach Road(a graded county road); Thence S45,43'18"E along the Southwesterly maintained right of way of Sand Beach Road a distance of 6.08 feet to a concrete monument; Thence S37,46'08"W a distance of 136.10 feet to a concrete monument; Thence S71,47'09"W a distance of 118.65 feet to a concrete monument; Thence N05,06'22"W a distance of 154.68 feet to the POINT OF BEGINNING. The above described bearings are North Florida Lambert Zone Grid Bearings. ALSO LESS AND EXCEPT: COMMENCE at an existing concrete monument marking the NW corner of Section 35, T7S, R7W, Franklin County, Florida; Thence S88,34'12"E along Northerly line of said Section 35 a distance of 211.70 feet to a concrete monument marking the intersection of the Northerly line of said Section 35 and the Northeasterly right of way of State Road No. 65; Thence continue S88,34'12"E along the Northerly line of said Section 35 a distance of 614.87 feet to a concrete monument; Thence continue S88,34'12"E along the Northerly line of said Section 35 a distance of 205.57 feet to the intersection of the Northerly line of said Section 35 and the Southwesterly right of way of Sand Beach Road(a graded county road); Thence continue S88,34'12"E along the Northerly line of said Section 35 a distance of 50.10 feet to the intersection of the Northerly line of said Section 35 and the Northeasterly right of way of Sand Beach Road and call this the POINT OF BEGINNING; Thence S46,23'41"E along the Northeasterly right of way of Sand Beach Road a distance of 516.71 feet to a concrete monument; Thence N46,15'28"E, a distance of 422.61 feet to a concrete monument; Thence N46,38'30"W, a distance of 70.62 feet to the Northerly line of said Section 35; Thence N88,34'12"W along Northerly line of said Section 35 a distance of 379.00 feet to a 2 1/2 inch round aluminum monument; Thence continue N88,34'12"W, along the Northerly line of said Section 35 a distance of 249.31 feet to the POINT OF BEGINNING. The above described bearings are North Florida Lambert Zone Grid Bearings. ALSO LESS AND EXCEPT: As to the entire descriptions of all parcels; any and all lands lying below the Mean High Water Line which are sovereign and lands of the State of Florida.

**DELETION FOR 1999 OF 280 ACRES, LANDS EAST OF HIGHWAY 65 MOVED INTO TATES HELL:** LESS AND EXCEPT Sections 35 and 36, T7S, R7W, North of State Road 65.

**AMENDMENT #5 QUINN TRACT, ADDITION OF 4,462 ACRES**

Establishment Order No.: WEA 00-03  
Page 5 of 6

The Southwest 1/4 of Section 5, Township 8 South, Range 7 West, Franklin County, Florida. - LESS portion for East River;

ALSO: Section 6 Township 8 South, Range 7 West, Franklin County, Florida;

LESS AND EXCEPT the right-of-way of the Apalachicola Northern Railroad;

ALSO: Section 19, Township 7 South, Range 7 West Franklin County, Florida;

LESS AND EXCEPT the right-of-way of State Road 65;

ALSO: Section 20, Township 7 South, Range 7 West, Franklin County, Florida;

LESS AND EXCEPT the right-of-way of State Road 65;

ALSO LESS and EXCEPT the right-of-way of the Apalachicola Northern Railroad;

ALSO LESS AND EXCEPT the Beverly Station conveyed to the Apalachicola Northern Railroad Company as recorded in Deed Book 0. Page 71 of the public records of Franklin County Florida,

ALSO LESS AND EXCEPT that portion of said Section 20 described as follows., Commence on the East line of sold Section 29 at a point 742.3 feet South of the NE corner thereof and run North 73 degrees 40 minutes West 1052.6 feet; thence North 16 degrees 20 minutes East 150 feet to the POINT OF BEGINNING; thence continue North 16 degrees 20 minutes East 300 feet; thence North 73 degrees 40 minutes West 600 feet; thence South 10 degrees 20 minutes West 300 feet; thence South 73 degrees 40 minutes East 600 feet to the point of beginning;

ALSO: Section 21, Township 7 South, Range 7 West, Franklin County, Florida;

ALSO: Section 22, Township 7 South, Range 7 West, Franklin County, Florida;

ALSO: Sections 27 and 28, Township 7 South, Range 7 West Franklin County,

LESS AND EXCEPT the right-of-way of State Road 55;

ALSO LESS AND EXCEPT That portion of section 27 lying within 20 feet of a ditch centerline described as follows: Commence on the West line of said Section 27 at a point 3120.5 feet North of the SW corner thereof, and run South 73 degrees 40 minutes East, 1337.94 feet to the point of a curve to the right having a radius of 3819.83 feet and a total central angle of 22 degrees 23 minutes; thence along said curve 349.06 feet to Station 546 + 00 of Project 812-A; thence continue Southeasterly along said curve 1143.16 feet to the point of tangency thence South 51 degrees 17 minutes East, 1906.64 feet to Station 515 + 50 of said Project and the POINT OF BEGINNING: thence North 38 degrees 43 minutes East, 100 feet; thence North 5 degrees 27 minutes West, 759.5 feet; thence North 53 degrees 48 minutes East, 740.5 feet to the end of said ditch centerline.

ALSO LESS AND EXCEPT that part of said Section 27, Township 7 South, Range 7 West, lying within 20 feet of a ditch centerline described as follows: Commence on the West line of said Section 27 at a point 3120.5 feet North of the SW corner thereof, and run South 73 degrees 40 Minutes East 1337.94 feet to the point of a curve to the right having a radius of 3819.83 feet and a total central angle of 22 degrees 23 minutes thence along said curve 349.06 feet to Station 548 + 00 of Project 81 2-A the POINT OF BEGINNING; thence run

Establishment Order No.: WEA 00-03  
Page 6 of 14

North 21 degrees 34 minutes East 600 feet; thence North 64 degrees 60 minutes East 950 feet to the end of said ditch centerline;

**ALSO LESS AND EXCEPT** that part of the Northwest 1/4 of Section 27 and the Northeast 1/4 of Section 28, Township 7 South, Range 7 West, lying within 20 feet of ditch centerline described as follows; Commence on the East line of said section 28 at point 3120.5 feet North of the SE corner thereof, and run North 73 degrees 40 minutes West, 913 feet to Station 572+00 and the POINT OF BEGINNING; thence run North 16 degrees 20 minutes East, 100 feet; thence North 62 degrees minutes East 1400 feet to the end of said ditch centerline;

**ALSO:** Section 28, Township 7 South, Range 7 West Franklin County Florida;

**LESS AND EXCEPT** the right-of-way of State Road 65

**ALSO LESS AND EXCEPT** that part of the Northeast of said Section 20 lying within 20 feet of a ditch centerline described as follows: Commence on the East line of said Section 28 at a point 3120.5 feet North of the SE corner thereof, and run North 73 degrees 40 minutes West, 2373 feet to Station 586+00 and the POINT OF BEGINNING; thence run North 16 degrees 20 minutes East 100 feet; thence North 42 degrees 01 minute West, 86 feet to the end of said ditch centerline;

**ALSO LESS AND EXCEPT** that part of the Northwest 1/4 of said Section 28 lying within 20 feet of a ditch centerline described as follows; Commence on the West line of said Section 28 at a Point 742.3 feet South of the NW corner thereof and run South 73 degrees 40 minutes east, 847.4 feet to Station 609+00 and the POINT OF BEGINNING; thence North 16 degrees 20 minutes East, 775 feet to the end of said ditch centerline;

**ALSO:** Section 29, Township 7 South, Range 7 West, Franklin County; Florida

**LESS AND EXCEPT** the right-of-way of State Road 65,

**ALSO LESS AND EXCEPT** the right-of-way of Apalachicola Northern Railroad;

**ALSO LESS AND EXCEPT** the county maintained right-of-way of Gardner's Land Road;

**ALSO LESS AND EXCEPT** that portion of Section 29 described as follows: Commence on the East line of said Section 29 at a point 742.3 feet South of the NE corner thereof and run North 73 degrees 40 minutes West 1052.6 feet; thence North 16 degrees 20 minutes East 150 feet to the POINT OF BEGINNING; thence continue North 16 degrees 20 minutes East 300 feet thence North 73 degrees 40 minutes West 600 feet; thence South 16 degrees 20 minutes West 300 feet; thence South 73 degrees 40 minutes East 600 feet to the point of beginning;

**ALSO:** Section 30 Township 7 South, Range 7 West, Franklin County, Florida;

**LESS AND EXCEPT** the county maintained right-of-way of Gardner's Landing Road

**ALSO:** Section 31 , Township 7 South, Range 7 West, Franklin County, Florida;

**LESS AND EXCEPT** the right-of-way of Apalachicola Northern Railroad;

**ALSO LESS AND EXCEPT** the county maintained right-of-way of Gardner's Landing Road;

Establishment Order No.: WEA 00-03  
Page 7 of 64

**ALSO LESS AND EXCEPT** the Apalachicola Northern Railroad Company Borrow Pit as recorded in Deed Book Pages 699 of the public records of Franklin County, Florida.

**ALSO:** Section 32, Township 7 South, Range 7 West, Franklin County, Florida;

**LESS AND EXCEPT** the right-of-way of the Apalachicola Northern Railroad;

**ALSO LESS AND EXCEPT** the Apalachicola Northern Railroad Company Borrow Pit as recorded in Deed Book S Pages 689 of the public records of Franklin County, Florida

**ALSO LESS AND EXCEPT** that portion of Section 28 described as follows: Commence on the East line of amid Section 29 at a point 742.3 feet South of the NE corner thereof and run North 73 degrees 40 minutes West 1052.6 feet; thence North 16 degrees 20 minutes East 150 feet to the POINT OF BEGINNING; thence continue North 18 degrees 20 minutes East 300 feet thence North 73 degrees 40 minutes West 600 feet; thence South 16 degrees 20 minutes West 300 feet; thence South 73 degrees 40 minutes East 1500 feet to the point of beginning;

**ALSO:** Section 30 Township 7 South, Range 7 West, Franklin County, Florida;

**LESS AND EXCEPT** the county maintained right-of-way of Gardner's Landing Road

**ALSO:** Section 31 , Township 7 South, Range 7 West, Franklin County, Florida;

**LESS AND EXCEPT** the right-of-way of Apalachicola Northern Railroad;

**ALSO LESS AND EXCEPT** the county maintained right-of-way of Gardner's Landing Road;

**ALSO LESS AND EXCEPT** the Apalachicola Northern Railroad Company Borrow Pit as recorded in Deed Book 6 Pages 888 of the public records of Franklin County, Florida.

**ALSO:** Section 32, Township 7 South, Range 7 West, Franklin County, Florida;

**LESS AND EXCEPT** the right-of-way of the Apalachicola Northern Railroad;

**ALSO LESS AND EXCEPT** the Apalachicola Northern Railroad Company Borrow Pit as recorded in Deed Book S Pages 1589 of the public records of Franklin County, Florida

**LESS AND EXCEPT** All of Section 19, 20, 21, 22, 27, 28 and 29 T7S, R7W, Franklin County, Florida which are North and East of County Road 65 (these lands are established in Tates Hell).

**1999 ADDITION OF 800 ACRES FROM TATES HELL**

All of Section 15 West of Highway 65, T8S, R6W, Franklin County, Florida, **LESS AND EXCEPT** those portions heretofore conveyed to Franklin County, Florida a political subdivision of the State of Florida or to its Board of County Commissioners, including but not limited to, those portions described in OR Book 95, page 145, Official Records Book 243, page 164, Official Records Book 95, Page 145, OR Book 324, page 210, of the Public Records of Franklin County, Florida; **ALSO LESS and EXCEPT** part in right-of-way of State Road 65. All of Section 16, T8S, R6W, Franklin County, Florida. Together with that non-exclusive easement for ingress, egress and road maintenance granted in Special Warranty Deed from Timberlands, Inc. to New River Franklin, LTD., an Alabama

Legal Description for East Bay Parcels of Lower Apalachicola River

CAMA lands in the Lower Apalachicola River (East Bay parcels) described as:

"All of that part of Sections 7, 8, and 17 lying South and West of East River, all of Sections 18, 19, and 20, Fractional Section 27, Fractional Sectional 28, Fractional Section 29, and Fractional Section 31, of Township 8 South, Range 1 West, according to McIvor's survey, otherwise known as Township 8 South, Range 7 West;

also

Fractional Section 15, Township 8 South, Range 7 West;

also

Fractional Section 30, Township 8 South, Range 7 West."

AMENDMENT TO  
BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND  
MULTIPLE AGENCY LEASE NUMBER 770-9003  
LOWER APALACHICOLA RIVER  
ENVIRONMENTALLY ENDANGERED LANDS

THIS LEASE AMENDMENT is entered into this 11th day of April, 1988 by and between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND (hereinafter referred to as the BOARD) and the Department of State, Department of Agriculture and Consumer Services, and Florida Game and Fresh Water Fish Commission (collectively referred to hereinafter as the MANAGING AGENCIES);

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

W I T N E S S E T H

WHEREAS, on October 11, 1983, the BOARD and the MANAGING AGENCIES entered into Multiple Agency Lease No. 770-9003;

WHEREAS, the BOARD and the MANAGING AGENCIES desire to amend Multiple Agency Lease No. 770-9003;

NOW, THEREFORE, the BOARD and the MANAGING AGENCIES hereby agree as follows:

(a) Exhibit A of Multiple Agency Lease No. 770-9003 is hereby amended by adding the following:

(See Addition to Exhibit "A" Attached)

(b) Paragraph 9 of Multiple Agency Lease No. 770-9003 is hereby amended to include authorization for the Managing Agencies' agents and employees to take all measures necessary to prohibit unauthorized uses of the property.

It is understood and agreed by the BOARD and the MANAGING AGENCIES that in each and every respect the terms of the original Multiple Agency Lease No. 770-9003, except as amended hereby, shall remain unchanged; and the same are hereby ratified, approved and confirmed by the BOARD and the MANAGING AGENCIES.

Amendment to Multiple  
Agency Lease No. 770-9003

IN TESTIMONY WHEREOF, the lawfully designated agents of  
the Board of Trustees of the Internal Improvement Trust Fund and  
the Department of State, Department of Agriculture and Consumer  
Services, and Florida Game and Fresh Water Fish Commission have  
hereunto subscribed their names in the City of Tallahassee,  
Florida on the day and year first written above,

(SEAL)  
BOARD OF TRUSTEES  
OF THE INTERNAL  
IMPROVEMENT TRUST  
FUND OF THE STATE  
OF FLORIDA

Virginia S. Curry  
Witness  
Violet L. Davis  
Witness

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

[Signature]  
DIRECTOR, DIVISION OF STATE LANDS,  
AGENT FOR THE BOARD OF TRUSTEES OF  
THE INTERNAL IMPROVEMENT TRUST  
FUND OF THE STATE OF FLORIDA

STATE OF FLORIDA  
LEON COUNTY

The foregoing instrument was acknowledged before this 11  
day of April, 1988 by P. W. Malison, Jr., as  
Director, Division of State Lands, Department of Natural  
Resources.

Approved as to Form  
and Legality:

By: [Signature]  
BNR Attorney

Violet L. Davis  
NOTARY PUBLIC

My Commission Expires STATE OF FLORIDA  
DEPARTMENT OF STATE  
NOTARY PUBLIC

(SEAL)  
FLORIDA DEPARTMENT  
OF STATE

[Signature]  
Witness  
Patricia A. Smith  
Witness

STATE OF FLORIDA DEPARTMENT OF  
STATE

By: Betty Casley  
Name: Betty Casley  
Title: Assistant Secretary  
of State

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this  
3rd day of March, 1988 by Betty Casley  
as Assistant Secretary, Florida Department of State  
of State

Phyllis Desmore  
NOTARY PUBLIC

My Commission Expires:  
Notary Public, State of Florida  
My Commission Expires April 25, 1990  
Notary Public, State of Florida

Amendment to Multiple  
Agency Lease No. 770-9003

(SEAL)  
FLORIDA DEPARTMENT  
OF AGRICULTURE AND  
CONSUMER SERVICES

Virgie Thompson  
Witness  
Diane R. Easton  
Witness

STATE OF FLORIDA DEPARTMENT OF  
AGRICULTURE AND CONSUMER SERVICES

By: Virgie Thompson  
Name:  
Title:

Approved as to form and legality

By: Leslie M. Lead  
Senior Attorney

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this  
20th day of Feb., 1988 by Virgie Thompson  
as Commissioner, Florida Department of State  
Agriculture and Consumer Services.

Virgie Thompson  
NOTARY PUBLIC  
My Commission Expires:

(SEAL)  
FLORIDA DEPARTMENT OF  
GAME AND FRESH WATER  
FISH COMMISSION

Jimmie C. Beuis  
Witness  
Kathy D. Baker  
Witness

STATE OF FLORIDA DEPARTMENT OF  
GAME AND FRESH WATER FISH  
COMMISSION

By: Robert M. Brantly  
Name: Colonel Robert M. Brantly  
Title: Executive Director

STATE OF FLORIDA  
COUNTY OF LEON

James C. Beuis  
APPROVED AS TO FORM  
AND LEGAL SUFFICIENCY  
Commission Attorney

The foregoing instrument was acknowledged before me this  
14th day of December, 1987 by Robert M. Brantly  
as Executive Director, Florida Game and Fresh  
Water Fish Commission.

Jimmie C. Beuis  
NOTARY PUBLIC

My Commission Expires:  
Notary Public, State of Florida  
My Commission Expires Oct. 27, 1989  
Bonded Plus Trust Fund - Insurance Inc.

APPROVED AS FISCALLY  
AND BUDGETARILY SOUND

William C. Sumner  
DIRECTOR  
DIVISION OF ADMINISTRATIVE SERVICES  
GFWFC

Amendment to  
Lower Apalachicola EEL

<u>Exhibit "A"</u> <u>Page Number</u>	<u>Project</u>	<u>Acres</u>
1-5	Buckeye Cellulose - Parcel 22	497.72
6-51	MK Ranch	8,792.6
52	Elberta Crate - Parcel 21	609
53-55	Forman et al - Parcel 14	748
56	Upper Tow Head Island - Parcel 16	<u>37</u>
		Total 10,684.32

ATL8101

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND

AMENDMENT TO LEASE NUMBER 3584

THIS LEASE AMENDMENT is entered into this 14th day of August, 1990, by and between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, (hereinafter referred to as the BOARD) and the DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, DIVISION OF FORESTRY, and the FLORIDA GAME AND FRESH WATER FISH COMMISSION (collectively referred to hereinafter as the MANAGING AGENCIES);

W I T N E S S E T H

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

WHEREAS, on October 11, 1983, the BOARD and the MANAGING AGENCIES entered into Multiple Agency Lease No. 770-9003, more recently renumbered as Trustees Lease No. 3584;

WHEREAS, the BOARD and MANAGING AGENCIES desire to amend the Multiple Agency Lease to allow MANAGING AGENCIES to add land to the leased property;

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

1. The legal description of the leased premises set forth in Exhibit A of Lease No. 3584 is hereby amended to include the real property described in that certain deed from John J. and Frances J. Teague to the BOARD, dated March 21, 1975, and recorded in Official Record Book 125, Page 410, of the Public Records of Franklin County, Florida. A copy of such deed is attached hereto as Exhibit A and by reference made a part hereof.

Page 1 of 4  
Amendment to Lease No. 3584

2. It is understood and agreed by the BOARD and the MANAGING AGENCIES that in each and every respect the terms of the Lease No. 3584, except as amended hereby, shall remain unchanged and in full force and effect and the same are hereby ratified, approved and confirmed by the BOARD and the MANAGING AGENCIES.

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

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

By: Daniel J. Crabb (SEAL)  
CHIEF, BUREAU OF LAND MANAGEMENT SERVICES, DIVISION OF STATE LANDS, DEPARTMENT OF NATURAL RESOURCES

Sheila F. Martin  
Witness

Jack C. W. Joffe  
Witness

STATE OF FLORIDA  
LEON COUNTY

The foregoing instrument was acknowledged before me this 21st day of August, 1990, by Daniel J. Crabb, as Chief, Bureau of Land Mgmt Services, Division of State Lands, Department of Natural Resources.

Jerome Q. Cerezo  
NOTARY PUBLIC

Notary Public, State of Florida  
My Commission Expires July 14, 1992  
Bonded thru Troy Eakin Insurance Inc.

My Commission Expires:

Approved as to Form and Legality

By: Eugene M. Cullis Jr.  
DNE Attorney

Approved as to form and legality

By: Leticia McLean  
Senior Attorney

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

By: Doyle Conner (SEAL)

Its: Commissioner

Barbara B. O'Rourke  
Witness

Susan E. Walker  
Witness

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 20th day of July, 1990, by Doyle Conner as Commissioner.

Barbara B. Williams  
NOTARY PUBLIC

My Commission Expires:

Notary Public, State of Florida  
My Commission Expires Feb. 11, 1991  
Bonded thru Troy Eakin Insurance Inc.

Page 2 of 4  
Amendment to Lease No. 3584

STATE OF FLORIDA GAME AND FRESH  
WATER FISH COMMISSION

Dale J. Cook  
Witness

By: Robert M. Bannity (SEAL)

Terry Mann  
Witness

Its: Executive Director

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this  
25<sup>th</sup> day of May, 1992, by Robert M. Bannity  
as Executive Director.

Jimmie C. Bous (SEAL)  
NOTARY PUBLIC

My Commission Expires: Notary Public, State of Florida  
My Commission Expires Nov. 7, 1993  
Bonded thru Troy Fuls - Insurance Inc.

APPROVED BY THE FORM  
AND LEGAL AGENCY

[Signature]  
Commission Attorney

OR Book 125 PAGE 410

Alfred O. Shuler

of the Law Offices of SHULER AND SHULER P. O. Box 850, APALACHICOLA, FLORIDA 32320

# Warranty Deed

(STATUTORY FORM — SECTION 689.02 F.S.)

This Indenture, Made this 21st day of March 19 75. Between

**JOHN J. TEAGUE and FRANCES J. TEAGUE, his wife**

of the County of Leon, State of Florida, grantor, and

**THE STATE OF FLORIDA BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND**  
whose post office address is

Tallahassee, Flor

of the County of Leon, State of Florida, grantor.

Witnesseth, That said grantor, for and in consideration of the sum of \$58,000.00

Fifty eight thousand & 00/100 Dollars,

and other good and valuable considerations to said grantor in hand paid by said grantee, the receipt whereof is hereby acknowledged, has granted, bargained and sold to the said grantee, and grantee's heirs and assigns forever, the following described land, situate, lying and being in Franklin County, Florida, to-wit:

All of fractional 17 in Township 8 South Range 8 West situate lying and being in the county of Franklin and State of Florida. Containing 232 acres more or less.

Subject to reservation to the State of Florida for part of the minerals, and road easement, if any, set forth in deed from trustees of the Internal Improvement Fund of the State of Florida to George A. Dodd, recorded in Franklin County, Deed Book MM, at page 153, in the Public Records of Franklin County, Florida.



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

\* "Grantor" and "grantee" are used for singular or plural, as context requires.

In Witness Whereof, Grantor has hereunto set grantor's hand and seal the day and year first above written. Signed, sealed and delivered in our presence:

*Wanda W. Riggle* \_\_\_\_\_ (Seal)  
*John J. Teague* \_\_\_\_\_ (Seal)  
*Frances J. Teague* \_\_\_\_\_ (Seal)  
*Wanda W. Riggle* \_\_\_\_\_ (Seal)  
*John J. Teague* \_\_\_\_\_ (Seal)



STATE OF Florida  
COUNTY OF Leon  
I HEREBY CERTIFY that on this day before me, an officer duly qualified to take acknowledgments, personally appeared John J. Teague and Frances J. Teague, his wife

to me known to be the persons described in and who executed the foregoing instrument and acknowledged before me that they executed the same.

WITNESS my hand and official seal in the County and State last aforesaid this 30th day of March, 19 75.

My commission expires:

*Wanda W. Riggle*  
Notary Public

Exhibit A  
Page 4 of 4  
Amendment to Lease No. 3584

FILE NO. 41770

MULTIPLE AGENCY MANAGEMENT LEASE  
FOR  
LOWER APALACHICOLA RIVER  
ENVIRONMENTALLY ENDANGERED LANDS

LEASE NO. 3584 (new lease #)  
~~770-9003~~

THE BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, referred to herein as the "Board" and the STATE OF FLORIDA DEPARTMENT OF NATURAL RESOURCES, DIVISION OF STATE LANDS, referred to herein as "State Lands", as agent for the Board, do hereby grant to the STATE OF FLORIDA GAME AND FRESH WATER FISH COMMISSION, referred to herein as the "Commission", the STATE OF FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, DIVISION OF FORESTRY, referred to herein as "Forestry", and the STATE OF FLORIDA DEPARTMENT OF STATE, DIVISION OF ARCHIVES, HISTORY, AND RECORDS MANAGEMENT, referred to herein as "Archives and History", management responsibilities for the Lower Apalachicola River Environmentally Endangered Lands (EEL), located in Gulf and Franklin County, Florida described as follows and subject to all existing encumbrances:

(See exhibit "A" attached hereto and made a part hereof)

TO HAVE AND TO HOLD the above described property for a period of twenty (20) years.

WITNESSETH:

The Board, the Commission, Forestry, and Archives and History, for and in consideration of the covenants hereinafter contained, do hereby covenant as follows:

1. The lands shall be managed in accordance with the original concept, as approved by the Board on January 9, 1977, which established the primary purposes for which this tract was acquired, including: protection of fish and wildlife values; the long-term preservation of fishery and shellfish resources in Apalachicola Bay;

Page 1 of  
Lease No. 770-9003

protection of the natural plant communities; and the restoration and preservation of the extensive river floodplain and marsh lands for safeguarding of the Apalachicola River and Bay water quality. Activities of the parties shall be governed by and in compliance with the goals and objectives contained in the Management Plan for the Lower Apalachicola River EEL tract when approved by the Board and shall be coordinated, through the primary managing agency, with the Apalachicola River Estuarine Sanctuary Coordinator, Department of Natural Resources, Division of Recreation and Parks.

2. The Commission shall be the primary managing agency. As such, it shall coordinate and oversee all activities on the property; initiate appropriate management programs to meet the intent of the goals and objectives stated herein; coordinate preparation and periodic revision of the Management Plan; coordinate and monitor all management activities undertaken by others; and, compile and submit such reports as may be required of the managing agencies.

3. The Commission shall: provide a permanent staff position to plan and supervise management of the property; administer and regulate campsites; restore natural hydroperiods; manage wildlife habitat; provide specific management recommendations and protection for all wildlife; regulate hunting, fishing and nongame activities; and, assist in patrolling and providing required law enforcement to prevent poaching, to protect threatened and endangered species, and to protect archaeological and historic sites from looting and other unauthorized activities.

4. Forestry shall: provide advice and on-site assistance to the Commission in implementing a prescribed burning program; initiate prescribed burning on forested areas in cooperation with the Commission; respond to and take charge of any wildfire; and, oversee any timber planting and harvesting activities based on a consensus reached by all participating managing agencies. Forestry shall administer and oversee apiary leases and assist in patrol of the area.

5. Archives and History shall: evaluate the cultural resources of the property in accordance with its authority under Chapter 267,

Florida Statutes; provide recommendations to the Commission for long-range management and protection; and, review contemplated activities that might impact such cultural resources.

6. Any management conflict between any of the managing agencies shall be resolved, if possible, by consensus of the primary managing agency and the affected managing agencies which are parties to this Lease. If a consensus cannot be reached, conflicts shall be submitted through State Lands to the Board for resolution.

7. It is understood by all parties that all management activities specified by this Lease shall be designed to conserve, protect and enhance the lands covered by this Lease as provided for by Chapter 259, Florida Statutes.

8. It is further understood and agreed that in addition to the management responsibilities specified herein, the following will be applicable:

A. A Management Plan for this tract shall be prepared by the primary managing agency, in accordance with Section 253.034, Florida Statutes and in cooperation with the other managing agencies, within 12 months of the execution date of this Lease and shall be submitted to the Board for approval through State Lands, acting as agent for the Board.

The approved Management Plan shall provide the basic guidance for all management activities and shall be reviewed jointly by the managing agencies and the Board at no greater than five-year intervals. Annual work plans and management activities shall be reviewed by the primary managing agency prior to implementation and submitted to State Lands on an annual basis.

B. The managing agencies shall not use or alter the property except as provided for in the approved Management Plan without the advance written approval of State Lands, acting as agent for the Board. Any managing agency proposing an activity that requires physical alteration of the property shall notify the primary managing agency prior to initiating that activity. The primary managing

agency, in turn, shall notify other affected managing agencies.

- C. The Board may, on occasion, after discussion with and concurrence by the managing agencies, authorize compatible uses of the property by other parties during the life of this Lease.
- D. The Board, or its duly authorized agent, may at any time inspect the works and operations of the managing agencies in any matter pertaining to this Lease. Should any agency fail to keep or perform any of its responsibilities as designated by the Management Plan or program provided for herein, the Board shall notify the specific agency(ies) of such non-performance. If correction or justification is not made after sixty days of receipt of written notice, the Board may terminate any agency's participation in the Lease by providing thirty days written notice of such pending action. Any notice will be in writing from the Director of the Division of State Lands, as agent for the Board.
- E. This Lease shall remain in effect until such time as the Board may terminate it in recognition of a greater public purpose consistent with Chapter 259, Florida Statutes. If a greater public purpose should be determined, the Board, in consultation with the managing agencies, shall have the right to amend or terminate this Lease by providing a reasonable time period to effectuate such an amendment or termination of activities. Any notice of such action shall be in writing from the Director of the Division of State Lands, as agent for the Board. Each agency herein shall have the right to terminate its participation in this management lease upon 60 days written notice to the Board and shall have up to 6 months to conclude its activities hereunder.

9. This Lease and any rights and privileges contained herein are for the sole use of the managing agencies and shall not be assigned or transferred to another party without the advance approval of the

Board. The managing agencies shall have the right to enter and occupy the property for the purposes necessary to meet their designated responsibilities, including protection of the property. The agencies' agents and employees shall take all reasonable measures to provide security against property damage, property degradation and unauthorized uses.

10. The managing agencies agree to assist in the investigation of injury or damage claims either for or against the State or the Board pertaining to their respective areas of responsibilities, or arising out of their respective management programs and activities, and to contact the lead agency regarding whatever legal action they deem appropriate to remedy same.

IN TESTIMONY WHEREOF, the lawfully designated agent of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida and the State of Florida Game and Fresh Water Fish Commission, the State of Florida Department of Agriculture and Consumer Services, Division of Forestry, and the State of Florida Department of State, Division of Archives, History and Records Management have hereunto set their hands in the City of Tallahassee, Florida, on the 11<sup>th</sup> day of October, A.D. 1983.

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



By: Harold McFarland  
DIRECTOR, DIVISION OF STATE LANDS  
AGENT FOR THE BOARD OF TRUSTEES  
OF THE INTERNAL IMPROVEMENT TRUST  
FUND OF THE STATE OF FLORIDA

FOR THE MANAGING AGENCIES

By: Robert M. Beatty  
STATE OF FLORIDA GAME AND FRESH  
WATER FISH COMMISSION

Approved as to form and legality  
by: Leslie M. Reed  
Resident Attorney

By: Dave Connor  
STATE OF FLORIDA DEPARTMENT OF  
AGRICULTURE AND CONSUMER SERVICES

By: Randall Kelley  
STATE OF FLORIDA  
DEPARTMENT OF STATE, Division of  
Archives, History and Records  
Management

Page 5 of  
Lease No. 770-9003

APPROVED AS TO  
FORM & LEGALITY  
John P. Allen  
DEPARTMENT ATTORNEY

ATL8101

## BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND

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 AMENDMENT NO. THREE TO LEASE NUMBER 3584  
 BLOODY BLUFF

THIS LEASE AMENDMENT is entered into this 18<sup>th</sup> day of April, 1995, by and between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, (hereinafter referred to as the BOARD) and the DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, DIVISION OF FORESTRY, and the FLORIDA GAME AND FRESH WATER FISH COMMISSION (collectively referred to hereinafter as the MANAGING AGENCIES);

## W I T N E S S E T H

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

WHEREAS, on October 11, 1983, the BOARD and the MANAGING AGENCIES entered into Multiple Agency Lease No. 770-9003, recently renumbered as Trustees Lease Number 3584;

WHEREAS, the BOARD AND MANAGING AGENCIES desire to amend the lease to add land to the leased property;

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

1. The legal description of the leased premises set forth in Exhibit "A" of Lease No. 3584 is hereby amended to include the real property described in that certain deed from BIENVILLE FOREST INVESTMENTS, INC., to the BOARD, dated February 8, 1994. A copy of such deed is attached hereto as Exhibit "A" and by reference made a part hereof.

2. It is understood and agreed by the BOARD and the MANAGING AGENCIES that in each and every respect the terms of the Lease No. 3584 except as amended hereby, shall remain unchanged and in full force and effect and the same are hereby ratified,

approved and confirmed by the BOARD and the MANAGING AGENCIES.

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

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

By: Daniel T. Crabb (SEAL)

CHIEF, BUREAU OF LAND MANAGEMENT SERVICES, DIVISION OF STATE LANDS, DEPARTMENT OF ENVIRONMENTAL PROTECTION

"LESSOR"

Glenn H. Maddox  
Witness

Glenn H. Maddox  
Print/Type Witness Name

Mildred J. Coughlin  
Witness

Mildred J. Coughlin  
Print/Type Witness Name

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 18th day of April, 1995 by Daniel T. Crabb, as Chief, Bureau of Land Management Services, Division of State Lands, Department of Environmental Protection, who is personally known to me or who produced \_\_\_\_\_ as identification.

(SEAL)

Notary Public, State of Florida

Glenn H. Maddox  
Print/Type Notary Name

Commission Number

My Commission Expires:



Approved as to Legality

By: David J. Hester 4/25/95  
DEP Attorney

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

By: Mike Gresham (SEAL)

MIKE GRESHAM  
Print/Type Name

Its: Director of Administration

Karon A. Meyer  
Witness

KARON A. MEYER  
Print/Type Witness Name

Ben C. Brown  
Witness

Ben C. Brown  
Print/Type Witness Name

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this  
4<sup>th</sup> day of April, 1995, by Mike Greghorn  
as Director of Administration, Department of Agriculture  
and Consumer Services who is are personally known to me or who has  
produced \_\_\_\_\_ as identification.

Lee H. Sadler  
Notary Public, State of Florida

(SEAL)



LEE H. SADLER  
MY COMMISSION # CC 244401 EXPIRES  
December 6, 1996  
BONDED THROUGH TRISTAR INSURANCE, INC.

\_\_\_\_\_  
Print/Type Notary Name  
\_\_\_\_\_  
Commission Number  
\_\_\_\_\_  
My Commission Expires:

B.M. Wright  
Witness  
B.M. Wright  
Print/Type Witness Name

Rosemary M. ...  
Witness  
Rosemary M. ...  
Print/Type Witness Name

STATE OF FLORIDA GAME AND FRESH  
WATER FISH COMMISSION

By: William C. Sumner (SEAL)

William C. Sumner  
Print/Type Name

Its: Assistant Executive Director

APPROVED AS TO FORM  
AND LEGAL SUFFICIENCY  
Pauline P. ...  
Commission Attorney

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this  
10<sup>th</sup> day of March, 1994, by William C. Sumner  
as Assistant Executive Director, Florida Game and Fresh Water  
Fish Commission, who is are personally known to me or who has  
produced \_\_\_\_\_ as identification.

Jimmie C. Bevis  
Notary Public, State of Florida  
JIMMIE C. BEVIS

\_\_\_\_\_  
Print/Type Notary Name  
\_\_\_\_\_  
Commission No. ACC 333592  
\_\_\_\_\_  
My Commission Expires:

(SEAL)

This Instrument Prepared By:  
Sandra Stockwell  
Stowell, Anton & Kraemer  
P.O. Box 11059  
Tallahassee, Florida 32302

SPECIAL WARRANTY DEED

THIS INDENTURE, made this 8th day of February, A.D., 1994, between BIENVILLE FOREST INVESTMENTS, INC., a Delaware corporation authorized to transact business in the State of Florida, of the County of Bibb in the State of Georgia, grantor, and the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, whose post office address is c/o Florida Department of Environmental Protection, Division of State Lands, 3900 Commonwealth Boulevard, Mail Station 115, Tallahassee, FL 32399-3000, grantee,

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

WITNESSETH: That the said grantor, for and in consideration of the sum of \$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 Franklin County, Florida, to-wit:

See Exhibit "A" attached hereto and by this reference made a part hereof (the "Property").

Property Appraiser's Parcel ID Number: \_\_\_\_\_

Grantor excepts from this conveyance and retains and reserves for itself, its successors and assigns, for a period of ten (10) years from the date of this Special Warranty Deed, all timber located on that portion of the Property which is more particularly described in Exhibit "B" attached hereto and by this reference made a part hereof. Grantor may harvest this timber for a period of ten (10) years from the date of this Special Warranty Deed under the Timber Cutting Agreement executed by the grantor on even date herewith, a memorandum of which is recorded on even date herewith. Any timber not harvested during the term of the Timber Cutting Agreement shall automatically become the property of the grantee upon the termination of the Timber Cutting Agreement at 12:00 midnight on February 8, 2004.

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 the Property, 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:

Wendell Bowden  
Printed Name: Wendell Bowden

BIENVILLE FOREST INVESTMENTS, INC., a Delaware corporation authorized to transact business in the State of Florida

By: W. C. Glawson, Jr.  
W. C. GLAWSON, JR., President  
1158 Oakcliff Road, Macon, Georgia 31211

Jill Shiple Thompson  
Printed Name: Jill Shiple Thompson

(CORPORATE SEAL)

STATE OF GEORGIA  
COUNTY OF BIBB

The foregoing instrument was acknowledged before me this 8th day of February, 1994, by W. C. GLAWSON, JR., President of BIENVILLE FOREST INVESTMENTS, INC., a Delaware corporation authorized to transact business in the State of Florida, on behalf of the corporation. Such person (Notary Public must check applicable box):

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



Jill Shiple Thompson  
Notary Public  
Jill Shiple Thompson  
(Printed, Typed or Stamped Name of Notary Public)

SPECIAL WARRANTY DEED  
REVISED 01/01/94

NO. 3584  
EXHIBIT A  
PAGE 4 OF 6

Commission No.: \_\_\_\_\_  
My Commission Expires: \_\_\_\_\_

1485  
Exhibit "A"

OWNER: BIENVILLE FOREST INVESTMENTS, INC.  
Official Records Book 360, page 34 L  
Official Records Book 360, page 40.  
Public Records of Franklin County, Florida.

PARCEL (Part of West Block West of State Road 65) (3,466 Acres) Bloody Bluff

All of Section 6, Township 7 South, Range 7 West, Franklin County, Florida, lying West of State Road 65.

All of Section 7, Township 7 South, Range 7 West, Franklin County, Florida, lying West of State Road 65.

All of Section 18, Township 7 South, Range 7 West, Franklin County, Florida, lying West of State Road 65, less and except the certain county maintained road known as Bloody Bluff Road.

All of Section 1, Township 7 South, Range 8 West, Franklin County, Florida.

All of Section 2, Township 7 South, Range 8 West, Franklin County, Florida, lying East of Channel of Apalachicola River.

All of Section 11, Township 7 South, Range 8 West, Franklin County, Florida, lying Easterly of the Apalachicola River, but including Bloody Bluff Island.

All of Section 12, Township 7 South, Range 8 West, Franklin County, Florida.

All of Section 13, Township 7 South, Range 8 West, Franklin County, Florida, LESS AND EXCEPT the following five parcels:

1. Begin at the Northwest corner of Section 12, Township 7 South, Range 8 West as marked by a Buckeye Cellulose Corporation concrete marker and also by an older wooden marker, thence run South along the Section Line on an approximate true bearing a distance of 522.5 feet to a point not permanently marked, thence run on a bearing of South 77 degrees 15 minutes East a distance of 1712.50 feet to a Buckeye Cellulose Corporation concrete marker which marks the Southwest corner of this parcel of land and is the Point of Beginning of survey. Thence continue along the same bearing South 77 degrees 15 minutes East for a distance of 1044 feet to a Buckeye Cellulose Corporation concrete marker, thence run on a bearing of North 4 degrees 30 minutes East for a distance of 780 feet to a Buckeye Cellulose Corporation marker, thence run on a bearing of South 84 degrees 45 minutes West for a distance of 965.5 feet to a Buckeye Cellulose Corporation concrete marker, thence run on a bearing of South 12 degrees 30 minutes West for a distance of 444 feet to the Point of Beginning. This parcel of land is located in the North 1/2 of Section 13, Township 7 South, Range 8 West.
2. Begin at the Northwest corner of Section 13, Township 7 South, Range 8 West, as marked by a Buckeye Cellulose Corporation concrete marker, and also by an older wooden marker, thence run South along the Section Line on an approximate true bearing a distance of 1500 feet to a concrete Buckeye Cellulose Corporation marker which marks the Northwest corner of the parcel being described, thence continue South along the Section Line a distance of 527 feet to a Buckeye Cellulose Corporation concrete marker, thence run South 86 degrees East a distance of 556 feet to a Buckeye Cellulose Corporation concrete marker, thence run North 2 degrees 15 minutes West a distance of 552 feet to a concrete Buckeye Cellulose Corporation marker which references the point next described, thence continue along this same bearing for a distance of 12 feet to a point on the edge of a graded road, thence run North 89 degrees 20 minutes West a distance of 501 feet to a concrete Buckeye Cellulose Corporation marker previously described as the Northwest corner of the parcel of land.

NO. 3584  
EXHIBIT A  
PAGE 5 OF 6

3. Commence at a concrete monument (marked BCC) marking the Northwest corner of Section 13, Township 7 South Range 8 West, and proceed South 00 degrees 25 minutes 11 seconds West along the West boundary of said Section 13, 2025.00 feet to a concrete monument marking the POINT OF BEGINNING. From said POINT OF BEGINNING thence run South 85 degrees 45 minutes 24 seconds East 356.44 feet to a re-rod (marked #1990), thence run South 86 degrees 00 minutes 00 seconds East 200.00 feet to a concrete monument (marked BCC), thence run South 36 degrees 44 minutes 50 seconds West 332.06 feet to a concrete monument (RLS 4261), thence run South 00 degrees 15 minutes 10 seconds East 211.03 feet to a concrete monument (RLS 4261), thence run South 80 degrees 44 minutes 50 seconds West 392.17 feet to a concrete monument (RLS 4261) on said West boundary, thence run North 00 degrees 24 minutes 07 seconds East along said West boundary 570.62 feet to the POINT OF BEGINNING.
4. Eight acres of land in the Northwest quarter of Section Thirteen, in Township Seven South Range Eight West, the same being a tract staked off two acres wide and four acres long, lying on Bloody Bluff Road between the place of Berry Freeman, and the river and being commonly known as the 'Bill Freeman' place. This Parcel is more particularly described by notes and bounds as follows:

Commence at a Suckey Cellulose Corporation concrete monument marking the Northwest corner of Section 13, Township 7 South Range 8 West, Franklin County, Florida, and run South 00 degrees 47 minutes 11 seconds West along the Section Line 963.86 feet, thence South 76 degrees 34 minutes 42 seconds East 879.53 feet to the Southwest corner of that certain 8 acres described in Deed Book 22, Page 384 of the Public Records of Franklin County, Florida, for the POINT OF BEGINNING. From said POINT OF BEGINNING continue South 76 degrees 34 minutes 42 seconds East 831.62 feet to a concrete monument (1044-444) marking the Southwest corner of property described in Official Records Book 65, Page 322 of the Public Records of Franklin County, Florida, thence North 14 degrees 12 minutes 11 seconds East along the West boundary of said property 416.61 feet to a concrete monument marking the Northwest corner of the aforementioned 8 acre tract described in Deed Book 22, Page 384, thence North 76 degrees 37 minutes 30 seconds West 832.64 feet to a concrete monument (322-416) marking the Northwest corner of said 8 acre tract, thence South 14 degrees 03 minutes 52 seconds West along the westerly boundary of said 8 acre tract a distance of 416.14 feet to the POINT OF BEGINNING.

5: That certain county maintained road known as Bloody Bluff Road.

NO. 3584  
 EXHIBIT A  
 PAGE 6 OF 6

ATL1

5431.7 Acres

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT

TRUST FUND

AMENDMENT NUMBER 4 TO LEASE NUMBER 3584

LOWER APALACHICOLA RIVER ENVIRONMENTALLY ENDANGERED LANDS

THIS LEASE AMENDMENT is entered into this 3<sup>rd</sup> day of February, 1998 by and between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, hereinafter referred to as "BOARD" and the STATE OF FLORIDA GAME AND FRESH WATER FISH COMMISSION, the STATE OF FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, DIVISION OF FORESTRY, and the STATE OF FLORIDA DEPARTMENT OF STATE, DIVISION OF HISTORICAL RESOURCES, successor in interest to the STATE OF FLORIDA DEPARTMENT OF STATE, DIVISION OF ARCHIVES, HISTORY, AND RECORDS hereinafter collectively referred to as "MANAGING AGENCIES";

W I T N E S S E T H

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

WHEREAS, on October 11, 1983, BOARD and MANAGING AGENCIES entered into Lease Number 770-9003 which has been renumbered 3584; and

WHEREAS, BOARD and MANAGING AGENCIES desire to amend the lease to add land to the leased property.

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

- 1: The legal description of the leased premises set forth in Exhibit "A" of Lease Number 3584 is hereby amended to include the real property described in Exhibit "A," attached hereto, and by reference made a part hereof.

2. By execution of this amendment it is agreed and understood that the Department of State, Division of Historical Resources is a party to each and every prior amendment to Lease Number 3584.

3. It is understood and agreed by BOARD and MANAGING AGENCIES that in each and every respect the terms of the Lease Number 3584 except as amended hereby, shall remain unchanged and in full force and effect and the same are hereby ratified, approved and confirmed by BOARD and MANAGING AGENCIES.

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

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

Patricia Toloday  
Witness

Patricia Toloday  
Print/Type Witness Name

Gayle H. Brett  
Witness

Gayle H. Brett  
Print/Type Witness Name

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

"BOARD"

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 3rd day of February, 1995, by Daniel T. Crabb, as Chief, Bureau of Land Management Services, Division of State Lands, Florida Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida. He is personally known to me.

Gayle H. Brett  
Notary Public, State of Florida

Print/Type Notary Name

Commission Number:  **GAYLE H. BRETT**  
MY COMMISSION # CC302215 EXPIRES  
July 13, 1998  
BONDED TRULY TRULY FARM INSURANCE, INC

Commission Expires:

Approved as to Form and Legality

By: Sam H. Hester  
DEP Attorney

Page 2 of 14  
Amendment No. 4 to Lease No. 3584

STATE OF FLORIDA GAME AND FRESH  
WATER FISH COMMISSION

Jimmie C. Bevis  
Witness

By: Victor J. Heller (SEAL)

Jimmie C. Bevis  
Print/Type Witness Name

Victor J. Heller  
Print/Type Name

Km Wright  
Witness

Title: Assist. Exec. Director

Km Wright  
Print/Type Witness Name

"MANAGING AGENCY"

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this  
15 day of Oct, 1999, by Victor J. Heller  
as Assist. Exec. Director, of the State of Florida Game and  
Fresh Water Fish Commission. He/she is personally known to me.

Rosemary Mars  
Notary Public, State of Florida

Print/Type Notary Name

Commission Number:

Commission Expires:



Rosemary Mars  
MY COMMISSION # 00488630 EXPIRES  
October 02, 1999  
BONDED THROUGH FARM BUREAU, INC.

APPROVED AS TO FORM  
AND LEGAL SUFFICIENCY  
Victor J. Heller  
Commission Attorney

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

Susie P. Burch  
Witness

Susie P. Burch  
Print/Type Witness Name

Ben C. Brown  
Witness

Ben C. Brown  
Print/Type Witness Name

By: Mike Gresham (SEAL)

Mike Gresham  
Print/Type Name

Title: Director of Administration

"MANAGING AGENCY"

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this  
10th day of November, 1997, by MIKE GRESHAM  
as Director of Administration, of the Division of Administration  
for and on behalf the Division of Forestry, State of Florida  
Department of Agriculture and Consumer Service. He/she is  
personally known to me.



Karen A. Meyer  
MY COMMISSION # CC589277 EXPIRES  
October 20, 2000  
BONDED THROUGH FIAN ASSURANCE, INC.

Karen A. Meyer  
Notary Public, State of Florida  
KAREN A. MEYER  
Print/Type Notary Name

Commission Number:

Commission Expires:

STATE OF FLORIDA DEPARTMENT OF  
STATE, DIVISION OF HISTORICAL  
RESOURCES

Judith L. Pettijohn  
Witness

Judith L. Pettijohn  
Print/Type Witness Name

Laura A. Kammeiser  
Witness

LAURA A. KAMMEISER  
Print/Type Witness Name

By: [Signature] (SEAL)

David A. Rancourt  
Print/Type Name

Title: Assistant Secretary  
of State  
"MANAGING AGENCY"

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this  
20<sup>th</sup> day of January, 1998, by David A. Rancourt  
as \_\_\_\_\_, of the Division of Historical  
Resources, State of Florida, Department of State. He/she is  
personally known to me.

Sandra L. Hildebrandt  
Notary Public, State of Florida  
Sandra L. Hildebrandt  
Print/Type Notary Name

Commission Number:

Commission Expires:



11/28/96

16:21

GULFATLANTIC TITLE INSURANCE - 9044873307

NO. 50-

This Instrument Prepared By and Please Return To: Ms. Betty Crovato Lawyers Title Insurance Corporation 100 North Tampa Street, Suite 2050 Tampa, Florida 33602-2050

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

THIS INDENTURE, made this 18th day of November, A.D. 1996, between Stone Container Corporation, a Delaware corporation, of the County of Cook in the State of Illinois, 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, grantees,

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

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

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

Property Appraiser's Parcel Identification Number: See Exhibit B attached hereto.

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

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

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

Signed, sealed and delivered in the presence of:

[Signature of Timothy P. Davison] (SIGNATURE OF FIRST WITNESS)

Timothy P. Davison (PRINTED, TYPED OR STAMPED NAME OF FIRST WITNESS)

[Signature of Shirley Jackson] (SIGNATURE OF SECOND WITNESS)

Shirley Jackson (PRINTED, TYPED OR STAMPED NAME OF SECOND WITNESS)

STATE OF Illinois COUNTY OF Cook

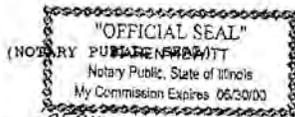
STONE CONTAINER CORPORATION, a Delaware corporation

By: [Signature of Leslie T. Lederer] Leslie T. Lederer, Vice-President

(Corporate Seal)

The foregoing instrument was acknowledged before me this 18th day of November, 1996, by Leslie T. Lederer, as Vice President of Stone Container Corporation, a Delaware corporation, on behalf of the corporation. Such person (Notary Public must check applicable box):

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



NO. 35844 EXHIBIT A PAGE 6 OF 14

[Signature of Karen Hewitt] Notary Public [Signature of Karen Hewitt] (Printed, Typed or Stamped Name of Notary Public) Commission No.: 341145 My Commission Expires: 6-30-00

APPROVED AS TO FORM AND LEGALITY

EXHIBIT "A"

Section 33, Township 7 South, Range 7 West, Franklin County, Florida.

ALSO:

Section 34, Township 7 South, Range 7 West, Franklin County, Florida.

LESS AND EXCEPT:

The right of way of State Road No. 65 as per the Department of Transportation Right of Way Map Section No. 4906 dated August 1939 with last revision October 18, 1982.

ALSO:

Section 35, Township 7 South, Range 7 West, Franklin County, Florida.

LESS AND EXCEPT:

Any lands lying waterward of the line between the salt water marsh and upland vegetation as described in O.R. Book 199, Page 73 of the Public Records of Franklin County, Florida.

ALSO LESS AND EXCEPT:

That portion of Section 35, Township 7 South, Range 7 West lying below the Mean High Water Line of Doyle Creek.

ALSO LESS AND EXCEPT:

Department of Transportation Borrow Pit No. 8 as per Right of Way Map for State Road No. 65 Section No. 4906 dated August 1939 with last revision October 18, 1982.

ALSO LESS AND EXCEPT:

Department of Transportation Borrow Pit No. 9 as per Right of Way Map for State Road No. 65 Section No. 4906 dated August 1939 with last revision October 18, 1982.

ALSO LESS AND EXCEPT:

The right of way of State Road No. 65 as per the Department of Transportation Right of Way Map Section No. 4906 dated August 1939 with last revision October 18, 1982.

ALSO LESS AND EXCEPT:

That portion of Sand Beach Road (a graded road) maintained by Franklin County.

ALSO LESS AND EXCEPT:

The graded road maintained by Franklin County lying Northerly of State Road No. 65.

ALSO:

Section 36, Township 7 South, Range 7 West, Franklin County, Florida.

Map. 3584-4  
EXHIBIT A  
PAGE 7 OF 14

**LESS AND EXCEPT:**

Any lands lying waterward of the line between the salt water marsh and upland vegetation as described in O.R. Book 199, Page 73 of the Public Records of Franklin County, Florida.

**ALSO LESS AND EXCEPT:**

Department of Transportation Borrow Pit No. 8 as per Right of Way Map for State Road No. 65 Section No. 4906 dated August 1939 with last revision October 18, 1982.

**ALSO LESS AND EXCEPT:**

The right of way of State Road No. 65 as per the Department of Transportation Right of Way Map Section No. 4906 dated August 1939 with last revision October 18, 1982.

**ALSO LESS AND EXCEPT:**

The property recorded in Deed Book FF, Page 202 of the Public Records of Franklin County, Florida. From the N.E. corner of Section 36, Township 7 South, Range 7 West, run west along north line of Section 36, Township 7 South, Range 7 West, 382 feet to a point of beginning, thence south 560 feet, thence west 778 feet, thence north 493 feet to south boundary line of State Highway #12, thence following the concave side of the curve on said highway in an easterly direction to the north line of Section 36, Township 7 South, Range 7 West, and east along said section line, a total distance of 778 feet to point of beginning.

**ALSO LESS AND EXCEPT:**

That portion of Section 36, Township 7 South, Range 7 West lying below the Mean High Water Line of Whiskey George Creek and Doyle Creek.

**ALSO:**

The West 1/2 of Section 7, Township 8 South, Range 6 West, Franklin County, Florida.

**LESS AND EXCEPT:**

Any lands lying waterward of the line between the salt water marsh and upland vegetation as described in O.R. Book 199, Page 73 of the Public Records of Franklin County, Florida.

**ALSO LESS AND EXCEPT:**

That portion of Section 7, Township 8 South, Range 6 West lying below the Mean High Water Line of West Bayou and East Bay.

**ALSO:**

Section 1, Township 8 South, Range 7 West, Franklin County, Florida.

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EXHIBIT A  
PAGE 8 OF 14

LESS AND EXCEPT:

Any lands lying waterward of the line between the salt water marsh and upland vegetation as described in O.R. Book 199, Page 73 of the Public Records of Franklin County, Florida.

ALSO LESS AND EXCEPT:

That portion of Section 1, Township 8 South, Range 7 West lying below the Mean High Water Line of Whiskey George Creek and West Bayou.

ALSO:

Section 2, Township 8 South, Range 7 West, Franklin County, Florida.

LESS AND EXCEPT:

Any lands lying waterward of the line between the salt water marsh and upland vegetation as described in O.R. Book 199, Page 73 of the Public Records of Franklin County, Florida.

ALSO LESS AND EXCEPT:

That portion of Sand Beach Road (a graded road) maintained by Franklin County.

ALSO LESS AND EXCEPT:

That portion of Chason Road (a graded road) maintained by Franklin County.

ALSO:

Section 3, Township 8 South, Range 7 West, Franklin County, Florida.

LESS AND EXCEPT:

Any lands lying waterward of the line between the salt water marsh and upland vegetation as described in O.R. Book 199, Page 73 of the Public Records of Franklin County, Florida.

ALSO:

Section 4, Township 8 South, Range 7 West, Franklin County, Florida.

LESS AND EXCEPT:

Any lands lying waterward of the line between the salt water marsh and upland vegetation as described in O.R. Book 199, Page 73 of the Public Records of Franklin County, Florida.

ALSO:

North 1/2 and Southeast 1/4 less 20 acres more or less of Section 5, Township 8 South, Range 7 West, Franklin County, Florida.

ALSO:

Section 11, Township 8 South, Range 7 West, Franklin County, Florida.

LESS AND EXCEPT:

That portion of Sand Beach Road (a graded road) maintained by Franklin County.

NO. 3584-4

EXHIBIT A

PAGE 9 OF 14

**ALSO LESS AND EXCEPT:**

That portion of Chason Road (a graded road) maintained by Franklin County.

**ALSO:**

Section 12, Township 8 South, Range 7 West, Franklin County, Florida,

**LESS AND EXCEPT:**

Any lands lying waterward of the line between the salt water marsh and upland vegetation as described in O.R. Book 199, Page 73 of the Public Records of Franklin County, Florida.

**ALSO LESS AND EXCEPT:**

That portion of Section 12, Township 8 South, Range 7 West lying below the Mean High Water Line of East Bay and West Bayou.

**ALSO:**

All of the North 1/2 of Section 14, Township 8 South, Range 7 West, Franklin County, Florida,

**LESS AND EXCEPT:**

Any lands lying waterward of the line between the salt water marsh and the upland vegetation as described in O.R. Book 199, Page 73 of the Public Records of Franklin County, Florida.

**ALSO LESS AND EXCEPT:**

That portion of Section 14, Township 8 South, Range 7 West lying below the Mean High Water Line of East Bay and Blounts Bay.

**ALSO:**

The following described land hereby conveyed to-wit: A parcel of land located in the Northwest 1/4 of the Northeast 1/4 on which there is located a flowing well, and being more specifically described as follows: Beginning at the northwest corner of Section 14, thence S01 14'W, 305 feet; thence S67 14'E, 492.2 feet; thence N89 30'E, 250 feet; thence S44 09'E, 212 feet; thence S69 40'E, 294 feet; thence S73 48'E, 729 feet; thence N85 34'E, 300 feet; thence S75 16'E, 400 feet; thence S49 38'E, 193 feet; thence N15 29'E, 265 feet; thence N29 59'W, 400 feet; thence N51 53'E, 168 feet; thence S78 38'E, 575 feet; thence S67 03'E, 300 feet to a concrete monument, thence S05 32'E, 124.7 feet to a concrete monument for a Point of Beginning, thence N81 50'E, 210.5 feet; thence S13 29'E, 61.2 feet; thence S45 20'W, 135.7 feet; thence S85 14'W, 152.9 feet; thence S70 49'W, 163.4 feet; thence N33 11'W, 193.7 feet; thence N66 36'E, 114.1 feet; thence N84 54'E, 182.5 feet to the concrete monument and the Point of Beginning.

NO. 3584-4  
EXHIBIT A  
PAGE 10 OF 14

**LESS AND EXCEPT;**

As to the entire descriptions of all parcels, any and all lands conveyed by deed recorded in Official Records Book 199, Pages 73 through 107, of the Public Records of Franklin County, Florida.

**ALSO LESS AND EXCEPT**

COMMENCE at the Northwest corner of Section 35, Township 7 South, Range 7 West, Franklin County, Florida; thence South 88 degrees 34 minutes 12 seconds East along the Northerly line of the Northwest 1/4 of said Section 35 a distance of 1,810.00 feet; thence South 46 degrees 15 minutes 28 seconds West a distance of 66.53 feet to a concrete monument and call this the POINT OF BEGINNING; thence South 06 degrees 34 minutes 31 seconds West a distance of 224.32 feet to a concrete monument; thence South 57 degrees 45 minutes 58 seconds East a distance of 58.29 feet to a concrete monument; thence South 46 degrees 15 minutes 28 seconds West a distance of 254.95 feet to a concrete monument set on the Northerly maintained right of way of Sand Beach Road; thence North 46 degrees 23 minutes 41 seconds West along the Northerly maintained right of way of Sand Beach Road a distance of 200.00 feet to a concrete monument; thence North 46 degrees 15 minutes 28 seconds East a distance of 422.61 feet to the POINT OF BEGINNING.

The above described bearings are North Florida Lambert Zone Grid Bearings.

**ALSO LESS AND EXCEPT**

COMMENCE at the Northwest corner of Section 35, Township 7 South, Range 7 West, Franklin County, Florida; thence North 88 degrees 26 minutes 17 seconds West a distance of 118.12 feet to a concrete monument set on the Southwest right of way of State Road 65; thence South 51 degrees 11 minutes 30 seconds East along the Southwesterly right of way of said road a distance of 3,417.93 feet to a concrete monument marking the P.C. of a curve; thence continue Southeasterly along the Southwesterly right of way of said road along a curve being concave towards the left; having a delta angle of 26 degrees 15 minutes 36 seconds; a radius of 2,646.15 feet; an arc distance along the Southwesterly right of way of said road of 1,212.82 feet (chord bearing = South 64 degrees 19 minutes 18 seconds East 1,202.23 feet) to a concrete monument set at the intersection of the Southwesterly right of way of State Road 65 and the Westerly maintained right of way of Sand Beach Road; thence continue Southeasterly along the Southwesterly right of way of State Road 65 along a curve being concave towards the left; having a delta angle of 00 degrees 69 minutes 04 seconds; a radius of 2,646.15 feet; an arc distance of along the Southwesterly right of way of said road of 45.47 feet (chord bearing = South 77 degrees 56 minutes 39 seconds East 45.47 feet) to a concrete monument set at the intersection of the Southwesterly right of way of State Road 65 and the Easterly maintained right of way of Sand Beach Road; thence South 03 degrees 33 minutes 01 seconds East along the Easterly maintained right of way of Sand Beach Road a distance of 1,106.11 feet to a concrete monument; thence South 03 degrees 24 minutes 12 seconds East along the Easterly maintained right of way of Sand Beach Road a distance of 1,094.08 feet to a concrete monument; thence South 03 degrees 12 minutes 47 seconds East along the

NO. 3584-4  
EXHIBIT A  
PAGE 11 OF 14

Florida Fish and Wildlife Conservation Commission | Apalachicola River WEA Management Plan

Easterly maintained right of way of Sand Beach Road a distance of 132.43 feet to a concrete monument and call this the POINT OF BEGINNING; thence North 86 degrees 47 minutes 13 seconds East a distance of 300.00 feet to an iron rod; thence South 03 degrees 12 minutes 47 seconds East a distance of 300.00 feet to a concrete monument; thence South 86 degrees 47 minutes 13 seconds West a distance of 300.00 feet to a concrete monument set on the Easterly maintained right of way of Sand Beach Road; thence North 03 degrees 12 minutes 47 seconds West along the Easterly maintained right of way of Sand Beach Road a distance of 300.00 feet to the POINT OF BEGINNING.

The above described bearings are North Florida Lambert Zone Grid Bearings.

ALSO LESS AND EXCEPT

COMMENCE at an existing concrete monument marking the Northwest corner of Section 35, Township 7 South, Range 7 West, Franklin County, Florida; thence South 88 degrees 34 minutes 12 seconds East along the Northerly line of said Section 35 a distance of 211.70 feet to a concrete monument marking the intersection of the Northerly line of said Section 35 and the Northeasterly right of way of State Road No. 65; thence continue South 88 degrees 34 minutes 12 seconds East along the Northerly line of said Section 35 a distance of 614.87 feet to a concrete monument and call this the POINT OF BEGINNING; thence continue South 88 degrees 34 minutes 12 seconds East along the Northerly line of said Section 35 a distance of 205.57 feet to the intersection of the Northerly line of said Section 35 and the Southwesterly maintained right of way of Sand Beach Road (a graded county road); thence South 45 degrees 43 minutes 18 seconds East along the Southwesterly maintained right of way of Sand Beach Road a distance of 6.08 feet to a concrete monument; thence South 37 degrees 46 minutes 08 seconds West a distance of 136.10 feet to a concrete monument; thence South 71 degrees 47 minutes 08 seconds West a distance of 118.65 feet to a concrete monument; thence North 05 degrees 06 minutes 22 seconds West a distance of 154.68 feet to the POINT OF BEGINNING.

The above described bearings are North Florida Lambert Zone Grid Bearings.

ALSO LESS AND EXCEPT

COMMENCE at an existing concrete monument marking the Northwest corner of Section 35, Township 7 South, Range 7 West, Franklin County, Florida; thence South 88 degrees 34 minutes 12 seconds East along the Northerly line of said Section 35 a distance of 211.70 feet to a concrete monument marking the intersection of the Northerly line of said Section 35 and the Northeasterly right of way of State Road No. 65; thence continue South 88 degrees 34 minutes 12 seconds East along the Northerly line of said Section 35 a distance of 614.87 feet to a concrete monument; thence continue South 88 degrees 34 minutes 12 seconds East along the Northerly line of said Section 35 a distance of 205.57 feet to the intersection of the Northerly line of said Section 35 and the Southwesterly right of way of Sand Beach Road (a graded county road); thence continue South 88 degrees 34 minutes 12 seconds East along the Northerly line of said Section 35 a distance of 50.10 feet to the intersection of the Northerly line of said Section 35 and the Northeasterly right of way of Sand Beach Road and call this the POINT OF

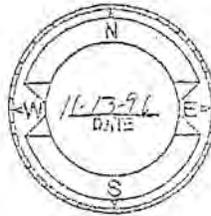
NO. 3584-4  
EXHIBIT A  
PAGE 12 OF 14

BEGINNING; thence South 46 degrees 23 minutes 41 seconds East along the Northeasterly right of way of Sand Beach Road a distance of 516.71 feet to a concrete monument; thence North 46 degrees 15 minutes 28 seconds East a distance of 422.61 feet to a concrete monument; thence North 46 degrees 38 minutes 30 seconds West a distance of 70.62 feet to the Northerly line of said Section 35; thence North 88 degrees 34 minutes 12 seconds West along the Northerly line of said Section 35 a distance of 379.00 feet to a 2 1/2 inch round aluminum monument; thence continue North 88 degrees 34 minutes 12 seconds West along the Northerly line of said Section 35 a distance of 249.31 feet to the POINT OF BEGINNING.

The above described bearings are North Florida Lambert Zone Grid Bearings.

ALSO LESS AND EXCEPT:

As to the entire descriptions of all parcels; any and all lands lying below the Mean High Water Line which are sovereign and lands of the State of Florida.



NO. 3584-4

EXHIBIT A

PAGE 13 OF 14

NO. 071

EXHIBIT A

PAGE 14 OF 14

### Exhibit B

Parcel ID Numbers:

- 07-08S-06W-0000-0020-0000
- 33-07S-07W-0000-0010-0000
- 34-07S-07W-0000-0010-0000
- 35-07S-07W-0000-0010-0000
- 36-07S-07W-0000-0020-0000
- 01-08S-07W-0000-0010-0000
- 02-08S-07W-0000-0010-0000
- 03-08S-07W-0000-0010-0000
- 04-08S-07W-0000-0010-0000
- 05-08S-07W-0000-0010-0000
- 11-08S-07W-0000-0010-0000
- 12-08S-07W-0000-0010-0000
- 14-08S-07W-0000-0010-0000
- 35-07S-07W-0000-0030-0000

NO. 3584-4  
 EXHIBIT A  
 PAGE 19 OF 14

ATL1

6,759 Acres

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

AMENDMENT NUMBER 5 TO LEASE NUMBER 3584

LOWER APALACHICOLA RIVER ENVIRONMENTALLY ENDANGERED LANDS

THIS LEASE AMENDMENT is entered into this 5<sup>th</sup> day of January, 2000, by and between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, hereinafter referred to as "BOARD" and the STATE OF FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, successor in interest to STATE OF FLORIDA GAME AND FRESH WATER FISH COMMISSION, the STATE OF FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, DIVISION OF FORESTRY, and the STATE OF FLORIDA DEPARTMENT OF STATE, DIVISION OF HISTORICAL RESOURCES, successor in interest to the STATE OF FLORIDA, DEPARTMENT OF STATE, DIVISION OF ARCHIVES, HISTORY AND RECORDS hereinafter collectively referred to as "MANAGING AGENCIES";

W I T N E S S E T H

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

WHEREAS, on October 11, 1983, BOARD and MANAGING AGENCIES entered into Lease Number 770-9003 which has been renumbered 3584; and

WHEREAS, BOARD and MANAGING AGENCIES desire to amend the lease to add land to the leased property.

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

1. The legal description of the leased premises set forth in Exhibit "A" of Lease Number 3584 is hereby amended to include the real property described in Exhibit "A," attached hereto, and by reference made a part hereof.

2. It is understood and agreed by LESSOR and LESSEE that in each and every respect the terms of the Lease Number 3584 except as amended shall remain unchanged and in full force and effect and the same are hereby ratified, approved and confirmed by LESSOR and LESSEE.

Page 2 of 17  
Amendment No. 5 to Lease No. 3584

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

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

Lorena Davis  
Witness

Florence Davis  
Print/Type Witness Name

Dylana Roberts  
Witness

Silvia Roberts  
Print/Type Witness Name

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

"LESSOR"

STATE OF FLORIDA  
COUNTY OF LEON

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

Keith E. Clayton  
Notary Public, State of Florida

Print/Type Notary Name

Commission Number:  Keith E. Clayton  
MY COMMISSION # CC07553 EXPIRES  
September 4, 2001

Commission Expires:

Approved as to Form and Legality

By: Samuel H. Hester  
DEP Attorney

STATE OF FLORIDA FISH AND WILDLIFE  
CONSERVATION COMMISSION successor  
in interest to STATE OF FLORIDA  
GAME AND FRESH WATER FISH  
COMMISSION

Cynthia Ward  
Witness

By: Victor J. Heller (SEAL)

Cynthia Ward  
Print/Type Witness Name

Victor J. Heller  
Print/Type Name

Brenda Collins  
Witness

Title: Asst. Exco. Director

Brenda Collins  
Print/Type Witness Name

"MANAGING AGENCY"

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this  
16th day of November, 1999, by Victor J. Heller  
as Assistant Executive Director, of State of Florida Fish and  
Wildlife Conservation Commission successor in interest to the  
State of Florida Game and Fresh Water Fish Commission. He/~~she~~ is  
personally known to me.

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

Commission Number  My Commission # CC102842 EXPIRES  
December 28, 2001  
BONDED THRU TROY FAH INSURANCE, INC.  
Commission Expires

APPROVED AS TO FORM  
AND LEGAL SUFFICIENCY  
Victor J. Heller  
Commission Attorney

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

Ben C. Brown  
Witness

By: Mike Gresham (SEAL)

Ben C. Brown  
Print/Type Witness Name

Mike Gresham  
Print/Type Name

Susie P. Burch  
Witness

Title: Director of Administration

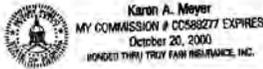
Susie P. Burch  
Print/Type Witness Name

"MANAGING AGENCY"

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this  
16th day of December, 1999, by MIKE GRESHAM  
as DIRECTOR OF ADMINISTRATION, of Division of Forestry, State of  
Florida Department of Agriculture and Consumer Services. He/she  
is personally known to me.

Karen A. Meyer  
Notary Public, State of Florida  
KAREN A MEYER  
Print/Type Notary Name



Commission Number:

Commission Expires:

STATE OF FLORIDA DEPARTMENT OF  
STATE, DIVISION OF HISTORICAL  
RESOURCES, successor in interest to  
STATE OF FLORIDA DEPARTMENT OF  
STATE, DIVISION OF ARCHIVES,  
HISTORY, AND RECORDS

By: [Signature] (SEAL)

James J. Miller  
Print/Type Name

Title: Acting Division Director

"MANAGING AGENCY"

[Signature]  
Witness

Sharon Reddick  
Print/Type Witness Name

[Signature]  
Witness

Beverly McGriff  
Print/Type Witness Name

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this  
26th day of July, 1999, by James J. Miller  
as Acting Division Director, of Division of Historical  
Resources, State of Florida Department of State, successor in  
interest to State of Florida Department of State, Division of  
Archives, History, and Records. He ~~she~~ is personally known to  
me.

[Signature]  
Notary Public, State of Florida  
Earline M. McCormick  
Print/Type Notary Name

Commission Number:

Commission Expires:

Exhibit "A"

The Southwest 1/4 of Section 5, Township 8 South, Range 7 West, Franklin County, Florida.

LESS portion for East River;

ALSO:

Section 6, Township 8 South, Range 7 West, Franklin County, Florida;

LESS AND EXCEPT the right-of-way of the Apalachicola Northern Railroad;

ALSO:

Section 19, Township 7 South, Range 7 West, Franklin County, Florida;

LESS AND EXCEPT the right-of-way of State Road 65;

ALSO:

Section 20, Township 7 South, Range 7 West, Franklin County, Florida;

LESS AND EXCEPT the right-of-way of State Road 65;

ALSO LESS AND EXCEPT the right-of-way of the Apalachicola Northern Railroad;

ALSO LESS AND EXCEPT the Beverly Station conveyed to the Apalachicola Northern Railroad Company as recorded in Deed Book O, Page 71 of the public records of Franklin County, Florida;

ALSO LESS AND EXCEPT that portion of said Section 20 described as follows: Commence on the East line of said Section 20 at a point 742.3 feet South of the NE corner thereof and run North 73 degrees 40 minutes West 1052.6 feet; thence North 18 degrees 20 minutes East 150 feet to the POINT OF BEGINNING; thence continue North 18 degrees 20 minutes East 300 feet thence North 73 degrees 40 minutes West 800 feet; thence South 18 degrees 20 minutes West 300 feet; thence South 73 degrees 40 minutes East 600 feet to the point of beginning;

Apalachicola WEA, New Forestry (Quinn), Franklin County

BSM APPROVED  
By: [Signature] Date: 6/1/95

Page 1 of 4

ALSO:

Section 21, Township 7 South, Range 7 West, Franklin County, Florida;

ALSO:

Section 22, Township 7 South, Range 7 West, Franklin County, Florida;

ALSO:

Sections 27 and 28, Township 7 South, Range 7 West, Franklin County, Florida;

LESS AND EXCEPT the right-of-way of State Road 65;

ALSO LESS AND EXCEPT That portion of section 27 lying within 20 feet of a ditch centerline described as follows: Commence on the West line of said Section 27 at a point 3120.5 feet North of the SW corner thereof, and run South 73 degrees 40 minutes East, 1337.94 feet to the point of a curve to the right having a radius of 3819.83 feet and a total central angle of 22 degrees 23 minutes; thence along said curve 349.06 feet to Station 548+00 of Project 812-A; thence continue Southeasterly along said curve 1143.16 feet to the point of tangency; thence South 51 degree 17 minutes East, 1906.84 feet to Station 515+50 of said Project and the POINT OF BEGINNING; thence North 38 degrees 43 minutes East, 100 feet; thence North 5 degrees 27 minutes West, 759.5 feet; thence North 53 degrees 48 minutes East, 740.5 feet to the end of said ditch centerline;

ALSO LESS AND EXCEPT that part of said Section 27, Township 7 South, Range 7 West, lying within 20 feet of a ditch centerline described as follows: Commence on the West line of said Section 27 at a point 3120.5 feet North of the SW corner thereof, and run South 73 degrees 40 minutes East 1337.94 feet to the point of a curve to the right having a radius of 3819.83 feet and a total central angle of 22 degrees 23 minutes thence along said curve 349.06 feet to Station 548+00 of Project 812-A the POINT OF BEGINNING; thence run North 21 degrees 34 minutes East 800 feet; thence North 84 degrees 56 minutes East 950 feet to the end of said ditch centerline;

ALSO LESS AND EXCEPT that part of the Northwest ¼ of Section 27 and the Northeast ¼ of Section 28, Township 7 South, Range 7

Apalachicola WEA, New Forestry (Guinn), Franklin County

BBM APPROVED  
By  Date 6/1/99

Page 2 of 4

West, lying within 20 feet of ditch centerline described as follows:  
Commence on the East line of said Section 28 at point 3120.5 feet  
North of the SE corner thereof, and run North 73 degrees 40 minutes  
West, 913 feet to Station 572+00 and the POINT OF BEGINNING;  
thence run North 18 degrees 20 minutes East, 100 feet; thence North  
82 degrees 42 minutes East, 1400 feet to the end of said ditch  
centerline;

ALSO:

Section 28, Township 7 South, Range 7 West, Franklin County, Florida;

LESS AND EXCEPT the right-of-way of State Road 85;

ALSO LESS AND EXCEPT that part of the Northeast ¼ of said Section  
28 lying within 20 feet of a ditch centerline described as follows:  
Commence on the East line of said Section 28 at a point 3120.5 feet  
North of the SE corner thereof, and run North 73 degrees 40 minutes  
West, 2373 feet to Station 586+80 and the POINT OF BEGINNING;  
thence run North 18 degrees 20 minutes East, 100 feet; thence North  
42 degrees 01 minute West, 86 feet to the end of said ditch  
centerline;

ALSO LESS AND EXCEPT that part of the Northwest ¼ of said  
Section 28 lying within 20 feet of a ditch centerline described as  
follows: Commence on the West line of said Section 28 at a point  
742.3 feet South of the NW corner thereof and run South 73 degrees  
40 minutes East, 847.4 feet to Station 809+00 and the POINT OF  
BEGINNING; thence North 18 degrees 20 minutes East, 775 feet to  
the end of said ditch centerline;

ALSO:

Section 29, Township 7 South, Range 7 West, Franklin County, Florida;

LESS AND EXCEPT the right-of-way of State Road 85;

ALSO LESS AND EXCEPT the right-of-way of Apalachicola Northern  
Railroad;

ALSO LESS AND EXCEPT the county maintained right-of-way of  
Gardner's Land Road;

Apalachicola WEA, New Forestry (Quine), Franklin County

BGM APPROVED  
By                      Date 11/18/02

Page 3 of 4

ALSO LESS AND EXCEPT that portion of Section 29 described as follows: Commence on the East line of said Section 29 at a point 742.3 feet South of the NE corner thereof and run North 73 degrees 40 minutes West 1052.6 feet; thence North 16 degrees 20 minutes East 150 feet to the POINT OF BEGINNING; thence continue North 16 degrees 20 minutes East 300 feet thence North 73 degrees 40 minutes West 600 feet; thence South 16 degrees 20 minutes West 300 feet; thence South 73 degrees 40 minutes East 600 feet to the point of beginning;

ALSO:

Section 30, Township 7 South, Range 7 West, Franklin County, Florida;

LESS AND EXCEPT the county maintained right-of-way of Gardner's Landing Road;

ALSO:

Section 31, Township 7 South, Range 7 West, Franklin County, Florida;

LESS AND EXCEPT the right-of-way of Apalachicola Northern Railroad;

ALSO LESS AND EXCEPT the county maintained right-of-way of Gardner's Landing Road;

ALSO LESS AND EXCEPT the boat ramp and camping area at Gardner's Landing;

ALSO LESS AND EXCEPT the Apalachicola Northern Railroad Company Borrow Pit as recorded in Deed Book 5, Pages 689 of the public records of Franklin County, Florida.

ALSO:

Section 32, Township 7 South, Range 7 West, Franklin County, Florida;

LESS AND EXCEPT the right-of-way of the Apalachicola Northern Railroad;

ALSO LESS AND EXCEPT the Apalachicola Northern Railroad Company Borrow Pit as recorded in Deed Book 5, Pages 689 of the public records of Franklin County, Florida.

Apalachicola WEA, New Forestry (Quinn), Franklin County

BGM APPROVED  
By [Signature] Date 2-11-80

Page 4 of 4

**Exhibit "B"**

Folio #05-08S-07W-0000-0030-0000,

Folio #06-08S-07W-0000-0010-0000,

Folio #19-07S-07W-0000-0010-0000,

Folio #20-07S-07W-0000-0010-0000,

Folio #21-07S-07W-0000-0010-0000,

Folio #27-07S-07W-0000-0010-0000,

Folio #28-07S-07W-0000-0010-0000,

Folio #29-07S-07W-0000-0010-0000,

and

Folio #27-07S-07W-0000-0010-0000.

### EXHIBIT "C"

All that portion of Section 31 and Section 32, Township 7 South, Range 7 West, and in Section 6, Township 8 South, Range 7 West, all in the Forbes Purchase and in Franklin County, Florida described as follows:

**COMMENCE** at an existing iron rod marking the Southwest corner of Section 32, Township 7 South, Range 7 West; thence South 89 degrees 49 minutes 06 seconds West a distance of 15.01 feet to the **POINT OF BEGINNING** of a strip of land being 15.00 feet right and 15.00 feet left of the following centerline description: Thence North 01 degrees 23 minutes 09 seconds East a distance of 46.16 feet to an iron rod; thence North 61 degrees 54 minutes 45 seconds East a distance of 503.00 feet to an iron rod; thence North 61 degrees 50 minutes 38 seconds East a distance of 453.33 feet to an iron rod; thence North 21 degrees 27 minutes 40 seconds East a distance of 292.53 feet to an iron rod; thence North 50 degrees 52 minutes 02 seconds East a distance of 321.83 feet to an iron rod; thence North 56 degrees 23 minutes 02 seconds West a distance of 278.56 feet to an iron rod; thence North 36 degrees 33 minutes 03 seconds West a distance of 231.95 feet to an iron rod; thence North 08 degrees 09 minutes 00 seconds West a distance of 856.90 feet to an iron rod; thence North 11 degrees 16 minutes 35 seconds West a distance of 257.28 feet to an iron rod; thence North 69 degrees 14 minutes 06 seconds West a distance of 218.01 feet to an iron rod; thence North 51 degrees 19 minutes 41 seconds West a distance of 378.89 feet to an iron rod; thence North 24 degrees 43 minutes 58 seconds West a distance of 135.78 feet to an iron rod; thence North 12 degrees 20 minutes 41 seconds East a distance of 321.37 feet to an iron rod; thence North 12 degrees 45 minutes 08 seconds East a distance of 713.28 feet to an iron rod; thence North 18 degrees 09 minutes 37 seconds West a distance of 268.07 feet to an iron rod; thence North 36 degrees 54 minutes 22 seconds West a distance of 67.02 feet to an iron rod (said rod being 15.00 feet Easterly of the Easterly right-of-way of the Apalachicola Northern Railroad); thence North 11 degrees 41 minutes 52 seconds East (parallel to said railroad right-of-way) a distance of 2,091.11 feet to an iron rod set at the intersection of said centerline and the Southerly right-of-way of Gardner's Landing Road (a graded county road) and also the **TERMINUS** of this strip of land;

**AND**

**COMMENCE** at an existing iron rod marking the Southwest corner of Section 32, Township 7 South, Range 7 West; thence South 89 degrees 49 minutes 06 seconds West a distance of 15.01 feet to the **POINT OF BEGINNING** of a strip of land being 15.00 feet right and 15.00 feet left of the following centerline description: Thence South 01 degrees 23 minutes 09 seconds West (parallel to the Easterly line of Section 6, Township 8 South, Range 7 West of Forbes Purchase in Franklin County, Florida) a distance of 4,926.49 feet to a point; thence South 39 degrees 24 minutes 17 seconds West a distance of 458.62 feet to the intersection of the Southerly line of said Section 6 and the **TERMINUS** of this strip of land;

**AND**

**COMMENCE** at the Southeast corner of Section 6, Township 8 South, Range 7 West, of the Forbes Purchase in Franklin County, Florida (this point being in East River); thence South 89

APALACHICOLA WEA, NEW FORESTRY (QUINN), FRANKLIN COUNTY  
ROAD BASEMENTS

Page 1 of 23

degrees 48 minutes 22 seconds West along the Southerly line of said section a distance of 197.58 feet to a monument set on the Westerly bank of East River; thence continue South 88 degrees 48 minutes 22 seconds West along the Southerly line of said section a distance of 987.33 feet to the POINT OF BEGINNING of a strip of land (said POINT OF BEGINNING being North 89 degrees 48 minutes 22 seconds East a distance of 135.20 feet from a concrete monument set on the Easterly Bank of Thank You Mam Creek) being 15.00 feet right and 15.00 feet left of the following centerline description: Thence North 42 degrees 29 minutes 40 seconds West a distance of 315.86 feet to a point; thence South 88 degrees 48 minutes 22 seconds West a distance of 211.53 feet to a point; thence South 40 degrees 32 minutes 13 seconds West a distance of 308.39 feet to the intersection of the Southerly line of said section and the TERMINUS of this strip of land (this Terminus point being South 89 degrees 48 minutes 22 seconds West a distance of 131.98 feet from an existing concrete monument set on the Westerly Bank of Thank You Mam Creek);

AND

COMMENCE at an existing concrete monument marking the Northwest corner of Section 6, Township 8 South, Range 7 West, of the Forbes Purchase in Franklin County, Florida; thence South 00 degrees 51 minutes 04 seconds West along the Westerly line of said section a distance of 15.00 feet to the POINT OF BEGINNING of a strip of land being 15 feet right and 15 feet left of the following centerline description: Thence North 89 degrees 49 minutes 05 seconds East a distance of 15.00 feet to a point; thence North 00 degrees 51 minutes 04 seconds East a distance of 15.00 feet to a point on the Northerly line of Section 6, Township 8 South, Range 7 West; thence North 01 degrees 02 minutes 28 seconds East a distance of 71.17 feet to a point; thence North 57 degrees 51 minutes 54 seconds East a distance of 28.66 feet to a point; thence North 43 degrees 27 minutes 12 seconds East a distance of 77.80 feet to a point; thence North 27 degrees 53 minutes 52 seconds East a distance of 87.58 feet to a point; thence North 12 degrees 30 minutes 48 seconds East a distance of 80.21 feet to a point; thence South 73 degrees 44 minutes 19 seconds East a distance of 42.92 feet to a point; thence North 24 degrees 41 minutes 29 seconds East a distance of 135.71 feet to a point on the Southerly right-of-way of Gardner's Landing Road (a graded county road) and the TERMINUS this strip of land;

AND

COMMENCE at an existing concrete monument marking Northwest corner of Section 6, Township 8 South, Range 7 West, located in the Forbes Purchase in Franklin County, Florida; thence South 00 degrees 51 minutes 04 seconds West along the Westerly line of said Section a distance of 4,344.40 feet to the POINT OF BEGINNING of a strip of land being 15 feet right and 15 feet left of the following centerline description: Thence South 23 degrees 55 minutes 40 seconds East a distance of 223.17 feet to an iron rod; thence South 06 degrees 59 minutes 56 seconds East a distance of 408.42 feet to an iron rod; thence South 10 degrees 00 minutes 38 seconds West a distance of 333.07 feet to an existing aluminum monument set on the Southerly line of said section and the TERMINUS of this strip of land.

APALACHICOLA WEA, NEW FORESTRY (QUINN), FRANKLIN COUNTY  
RDAO BASEMENTS

Grantee shall have no obligation to construct, improve, maintain or repair any portion of said easement.

Grantor shall make no repairs or improvements within the easement which will interfere with physical access to any portion of Grantee's property.

The Grantor agrees to indemnify and hold harmless the Grantee, its successors and assigns, from and against any and all claims, actions, causes of action, loss, damage, injury, liability, cost or expense, including, without limitation, attorneys' fees (whether incurred before, during or after trial, or upon any appellate level), arising from the Grantor's use of the reserved easement.

APALACHICOLA WEA, NEW FORESTRY (QUINN), FRANKLIN COUNTY

Page 14 of 17  
Amendment No. 5 to Lease No. 3584

Wendy McAlister  
American Home Tides Insurance, Inc.  
6703 N. Hince Ave.  
Tampa, FL 33614

QUITCLAIM DEED

THIS QUITCLAIM DEED, made this 15th day of June, A.D. 1999, between NEW FORESTRY, LLC, a Delaware limited liability company, whose post office address is 8744 Main St., Ste. 301, Woodstock, Georgia 30188, 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, 8900 Commonwealth Boulevard, Mail Station 115, Tallahassee, FL 32399-3000, grantee,

(Wherever used herein the terms "grantor" and "grantor" include all the parties in this instrument and their heirs, legal representatives, successors and assigns. "Grantee" 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 grantors, for and in consideration of the sum of Ten Dollars, to said grantee in hand paid by said grantee, the receipt whereof is hereby acknowledged, have released, remitted and quitclaimed, and by these presents do hereby remise, release and quitclaim unto the said grantee and grantee's successors and assigns forever, all the right, title and interest of grantor in and to the following described land situate, lying and being in Franklin County, Florida, to-wit:

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

Property Appraiser's Parcel Identification Number:

THE INTENT OF THIS DEED IS FOR THE GRANTORS TO DIVEST THEMSELVES OF ANY AND ALL INTEREST THEY MAY HAVE IN AND TO ALL THE PROPERTY DESCRIBED IN EXHIBIT "A" ATTACHED HERETO.

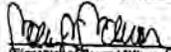
TO HAVE AND TO HOLD the same together with all and singular the appurtenances thereto belonging or in anywise appertaining, and all the estate, right, title, law or equity, to the only proper use, benefit and behoof of the said grantee, its successors and assigns forever.

IN WITNESS WHEREOF the grantors have hereunto set grantors' hands and seals, the day and year first above written.

Signed, sealed and delivered in the presence of:

  
(Signature of First Witness)

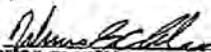
John E. Taylor  
(Printed Name of First Witness)

  
(Signature of Second Witness)

Robert G. Chambers  
(Printed Name of Second Witness)

NEW FORESTRY, LLC, a Delaware limited liability company

By: TIMBERLAND INVESTMENT SERVICES LLC, a Georgia limited liability company, as its General Manager

  
By: ROBERT G. CHAMBERS, its Authorized Manager

STATE OF GEORGIA  
COUNTY OF FULTON

The foregoing instrument was acknowledged before me this 15th day of June, 1999, by ROBERT G. CHAMBERS, as Authorized Manager of TIMBERLAND INVESTMENT SERVICES, LLC, a Georgia limited liability company, General Manager of NEW FORESTRY, LLC, a Delaware limited liability company, on behalf of the company. Such person (notary Public must check applicable box):

- (x) is personally known to me
- ( ) produced a current driver's license
- ( ) produced \_\_\_\_\_ as identification

APPROVED  
FOR CLOSING

(NOTARY PUBLIC SEAL)

  
Notary Public  
DAY K. JUDD  
(Printed, Typed or Stamped Name of Notary Public)

EXHIBIT "A"

THE BOAT RAMP AND CAMPING AREA AT GARDNER'S LANDING

ALSO that portion of said Section 20, Township 7 South, Range 7 West, Franklin County, Florida, described as follows: Commence on the East line of said Section 29 at a point 742.3 feet South of the NE corner thereof and run North 73 degrees 40 minutes West 1052.6 feet; thence North 18 degrees 20 minutes East 150 feet to the POINT OF BEGINNING; thence continue North 18 degrees 20 minutes East 300 feet thence North 73 degrees 40 minutes West 600 feet; thence South 18 degrees 20 minutes West 300 feet; thence South 73 degrees 40 minutes East 600 feet to the point of beginning;

ALSO that portion of Section 27, Township 7 South, Range 7 West, Franklin County, Florida, lying within 20 feet of a ditch centerline described as follows: Commence on the West line of said Section 27 at a point 3120.5 feet North of the SW corner thereof, and run South 73 degrees 40 minutes East, 1337.94 feet to the point of a curve to the right having a radius of 3819.83 feet and a total central angle of 22 degrees 23 minutes; thence along said curve 349.06 feet to Station 546+00 of Project 812-A; thence continue Southeasterly along said curve 1143.16 feet to the point of tangency; thence South 51 degrees 17 minutes East, 1906.84 feet to Station 515+50 of said Project and the POINT OF BEGINNING; thence North 38 degrees 43 minutes East, 100 feet; thence North 5 degrees 27 minutes West, 769.5 feet; thence North 53 degrees 46 minutes East, 740.5 feet to the end of said ditch centerline;

ALSO that part of Section 27, Township 7 South, Range 7 West, Franklin County, Florida, lying within 20 feet of a ditch centerline described as follows: Commence on the West line of said Section 27 at a point 3120.5 feet North of the SW corner thereof, and run South 73 degrees 40 minutes East 1337.94 feet to the point of a curve to the right having a radius of 3819.83 feet and a total central angle of 22 degrees 23 minutes thence along said curve 349.06 feet to Station 546+00 of Project 812-A the POINT OF BEGINNING; thence run North 21 degrees 34 minutes East 600 feet; thence North 84 degrees 56 minutes East 950 feet to the end of said ditch centerline;

Apalachicola WEA, New Forestry (Quinn), Franklin County  
Quit Claim Deed

Page 1 of 2

Page 16 of 17  
Amendment No. 5 to Lease No. 3584

ALSO that part of the Northwest ¼ of Section 27 and the Northeast ¼ of Section 28, Township 7 South, Range 7 West, Franklin County, Florida, lying within 20 feet of ditch centerline described as follows: Commence on the East line of said Section 28 at point 3120.5 feet North of the SE corner thereof, and run North 73 degrees 40 minutes West, 913 feet to Station 572+00 and the POINT OF BEGINNING; thence run North 18 degrees 20 minutes East, 100 feet; thence North 62 degrees 42 minutes East, 1400 feet to the end of said ditch centerline;

ALSO that part of the Northeast ¼ of Section 28, Township 7 South, Range 7 West, Franklin County, Florida, lying within 20 feet of a ditch centerline described as follows: Commence on the East line of said Section 28 at a point 3120.5 feet North of the SE corner thereof, and run North 73 degrees 40 minutes West, 2373 feet to Station 586+60 and the POINT OF BEGINNING; thence run North 18 degrees 20 minutes East, 100 feet; thence North 42 degrees 01 minute West, 86 feet to the end of said ditch centerline;

ALSO that part of the Northwest ¼ of Section 28, Township 7 South, Range 7 West, Franklin County, Florida, lying within 20 feet of a ditch centerline described as follows: Commence on the West line of said Section 28 at a point 742.3 feet South of the NW corner thereof and run South 73 degrees 40 minutes East, 847.4 feet to Station 609+00 and the POINT OF BEGINNING; thence North 18 degrees 20 minutes East, 775 feet to the end of said ditch centerline;

ALSO that portion of Section 29, Township 7 South, Range 7 West, Franklin County, Florida, described as follows: Commence on the East line of said Section 29 at a point 742.3 feet South of the NE corner thereof and run North 73 degrees 40 minutes West 1052.6 feet; thence North 16 degrees 20 minutes East 150 feet to the POINT OF BEGINNING; thence continue North 18 degrees 20 minutes East 300 feet thence North 73 degrees 40 minutes West 600 feet; thence South 18 degrees 20 minutes West 300 feet; thence South 73 degrees 40 minutes East 600 feet to the point of beginning;

Apalachicola WEA, New Forestry (Quinn), Franklin County  
Quit Claim Deed

Page 2 of 2

FDACS CONTRACT #

002807

ATL1

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

AMENDMENT 6 TO LEASE NUMBER 3584

THIS LEASE AMENDMENT is entered into this 31<sup>ST</sup> day of January, 2002, by and between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, hereinafter referred to as "BOARD" and the STATE OF FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, successor in interest to STATE OF FLORIDA GAME AND FRESH WATER FISH COMMISSION, referred to herein as the "Commission", the STATE OF FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, DIVISION OF FORESTRY, referred to herein as "Forestry" and the STATE OF FLORIDA DEPARTMENT OF STATE, DIVISION OF HISTORICAL RESOURCES, successor in interest to the STATE OF FLORIDA DEPARTMENT OF STATE, DIVISION OF ARCHIVES, HISTORY AND RECORDS MANAGEMENT, referred to herein as "HISTORICAL RESOURCES", hereinafter collectively referred to as "MANAGING AGENCIES";

W I T N E S S E T H

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

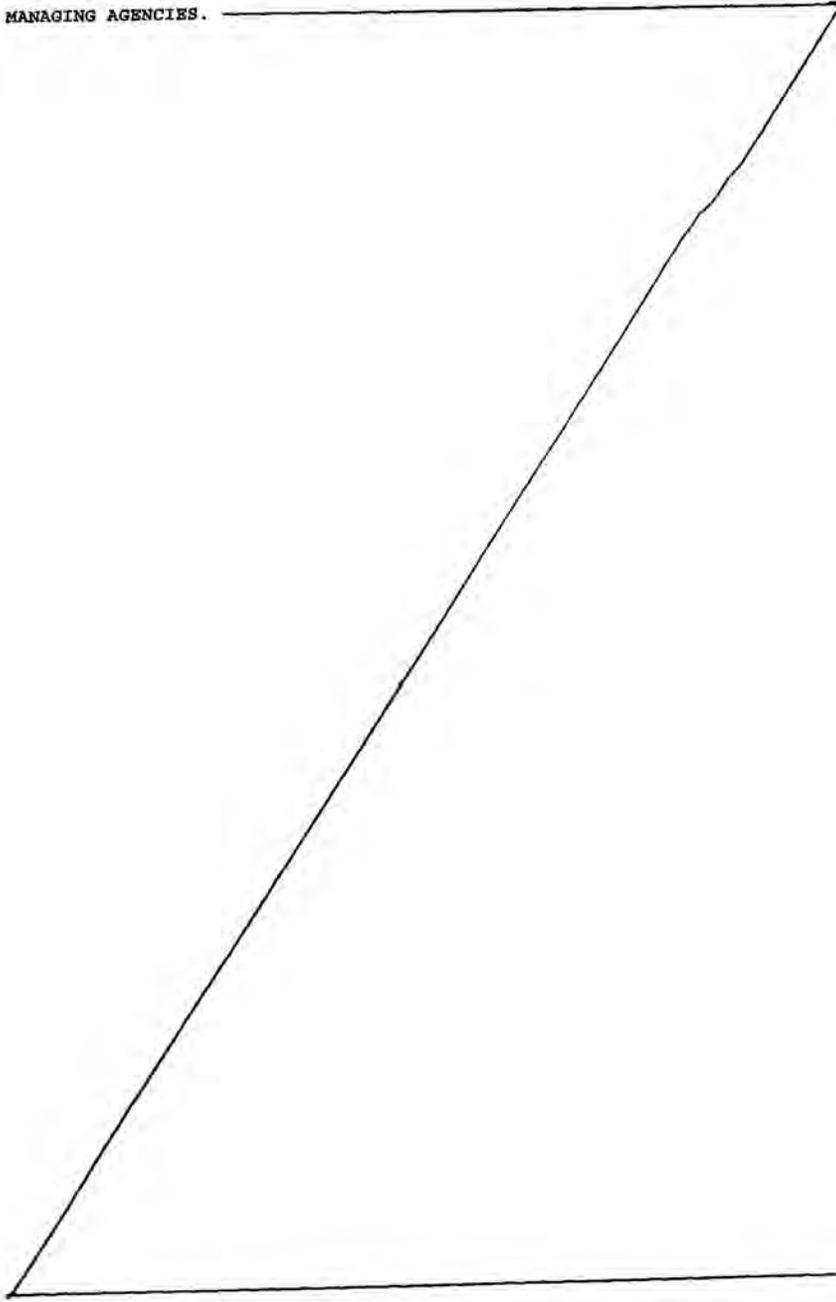
WHEREAS, on October 11, 1983, BOARD and MANAGING AGENCIES entered into Lease Number 770-9003 which has been renumbered 3584; and

WHEREAS, BOARD and MANAGING AGENCIES desire to amend the lease to add land to the leased property.

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

1. The legal description of the leased premises set forth in Exhibit "A" of Lease Number 3584 is hereby amended to include the real property described in Exhibit "A," attached hereto, and by reference made a part hereof.
2. It is understood and agreed by BOARD and MANAGING AGENCIES that in each and every respect the terms of the Lease Number 3584, except

as amended, shall remain unchanged and in full force and effect and the same are hereby ratified, approved and confirmed by BOARD and MANAGING AGENCIES.



Page 2 of 7  
Amendment 6 to Lease No. 3584

R06/02

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

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

Jim Leftler  
Witness

Jim Leftler  
Print/Type Witness Name

David B. Stevenson  
Witness

David B. Stevenson  
Print/Type Witness Name

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

"BOARD"

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 3<sup>rd</sup> day of January, 2003, by Gloria C. Nelson, Operations and Management Consultant Manager, Bureau of Public Land Administration, Division of State Lands, Florida Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida. She is personally known to me.

Cheryl J. King  
Notary Public, State of Florida

Print/Type Notary Name



Commission Number:



Commission Expires:

Approved as to Form and Legality

By: [Signature]  
DEP Attorney

STATE OF FLORIDA FISH AND WILDLIFE  
CONSERVATION COMMISSION, SUCCESSOR IN  
INTEREST TO STATE OF FLORIDA GAME AND  
FRESH WATER FISH COMMISSION

PA Doerr  
Witness

PA Doerr  
Print/Type Witness Name

Sarah Williams  
Witness

Sarah Williams  
Print/Type Witness Name

STATE OF FLORIDA  
COUNTY OF LEON

By: Timothy A. Beault (SEAL)

Timothy A. Beault  
Print/Type Name

Title: Assistant Director Director  
Division of Wildlife  
"FORESTRY" "Commission"

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

The foregoing instrument was acknowledged before me this 15<sup>th</sup>  
day of December, 2002, by Timothy A. Beault  
as Asst. Dir. Director, on behalf of State of Florida Fish and  
Wildlife Conservation Commission. He/she is personally known to me.

Florida Parrish  
Notary Public, State of Florida

Florida Parrish  
Print/Type Notary Name

Commission Number:  
Commission Expires:

 Florida Parrish  
MY COMMISSION # DD041441 EXPIRES  
July 11, 2005  
RONDOR THRU TOBY FARM INSURANCE, INC

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

Sandy Roberts  
Witness

By: Mike Gresham (SEAL)

Sandy Roberts  
Print/Type Witness Name

Mike Gresham  
Print/Type Name

Angelia B. Rains  
Witness

Title: Director of Administration

Angelia B. Rains  
Print/Type Witness Name

"FORESTRY"

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this \_\_\_\_\_ day of \_\_\_\_\_, 200\_, by \_\_\_\_\_ as \_\_\_\_\_ on behalf of the Division of Forestry, State of Florida, Department of Agriculture and Consumer Services. He/she is personally known to me.

\_\_\_\_\_  
Notary Public, State of Florida

\_\_\_\_\_  
Print/Type Notary Name

Commission Number:

Commission Expires:

*Dear Patt, 3/27/03  
Our attorney, Gary Heiser, assured me that notarization of a legal instrument is necessary only if the instrument is to be recorded. Sometimes instruments we issue are recorded so we put the notary block on the instruments. This is not being recorded turn over*

EXHIBIT "A"  
LEGAL DESCRIPTION

The North 105 feet of that land described in Official Records Book 53, at Page 65 of the Public Records of Gulf County, Florida, lying in Section 9, Township 7 South, Range 8 West, Gulf County, Florida being more completely described as follows:

Commence at the Northwest corner of said Section 9; thence run S 00°23'20" W, along the West line of said Section 9, for 4257.08 feet; thence run N 89°56'23" E for 2490.39 feet to the Northwest corner of that parcel of land recorded in Official Records Book 53, at Page 65 of the Public Records of Gulf County, Florida, said Northwest corner also being the POINT OF BEGINNING; thence run S 01°25'11" W for 105.04 feet; thence run N 89°56'23" E, along a line parallel with, and 105 feet South of, the North line of said parcel recorded in Official Records Book 53, at Page 65, for 205 feet, more or less, to the West Bank of the Brothers River; thence run Northerly along said West Bank for 105 feet, more or less, to the Northeast corner of said parcel recorded in Official Records Book 53, at Page 65; thence run S 89°56'23" W along the North line of said parcel recorded in Official Records Book 53, at Page 65, for 210 feet to the POINT OF BEGINNING; containing 0.50 acres, more or less.

Laura Heishman  
Witness

Laura Heishman  
Print/Type Witness Name

Gilda M. Morris  
Witness

GILDA M MORRIS  
Print/Type Witness Name

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 15<sup>th</sup>  
day of January, 2003, by Fred P. Gaske  
as Chief Bureau of Historic Preservation on behalf of the Division of Historical  
Resources, State of Florida Department of State. He/she is personally  
known to me.

STATE OF FLORIDA DEPARTMENT OF STATE,  
DIVISION OF HISTORICAL RESOURCES

By: Frederick P. Gaske (SEAL)

Frederick P. Gaske  
Print/Type Name

Title: Chief Bureau of Historic Preservation  
Division of Historical Resources  
"HISTORICAL RESOURCES"

Stephen A. McLeod  
Notary Public, State of Florida

Stephen A. McLeod  
Print/Type Notary Name

Commission Number:

Commission Expires:



Stephen A. McLeod  
MY COMMISSION # CC718874 EXPIRES  
May 21, 2004  
BONDED THIRD PARTY FARM INSURANCE, INC.

117.84 Acres

1000 CONTRACT #

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT

002807

TRUST FUND OF THE STATE OF FLORIDA

AMENDMENT NUMBER 7 TO LEASE NUMBER 3584

LOWER APALACHICOLA WILDLIFE ENVIRONMENTAL AREA

THIS LEASE AMENDMENT is entered into this 4th day of MAY, 2006, by and between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, hereinafter referred to as "BOARD," and the STATE OF FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, successor in interest to the STATE OF FLORIDA GAME AND FRESH WATER FISH COMMISSION, referred to herein as "Commission", the STATE OF FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, DIVISION OF FORESTRY, referred to herein as "FORESTRY", and the STATE OF FLORIDA DEPARTMENT OF STATE, DIVISION OF HISTORICAL RESOURCES, successor in interest to the STATE OF FLORIDA DEPARTMENT OF STATE, DIVISION OF ARCHIVES, HISTORY and RECORDS MANAGEMENT, referred to herein as "HISTORICAL RESOURCES", hereinafter collectively referred to as "MANAGING AGENCIES;"

W I T N E S S E T H

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

WHEREAS, on October 11, 1983, the BOARD and MANAGING AGENCIES entered into Lease Number 770-9003 which has been renumbered 3584; and

WHEREAS, the BOARD and MANAGING AGENCIES desire to amend the lease to add land to the leased property.

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

1. The legal description of the leased premises set forth in Exhibit "A" of Lease Number 3584 is hereby amended to include the

real property described in Exhibit "A," attached hereto, and by reference made a part hereof.

2. It is understood and agreed by the BOARD and MANAGING AGENCIES that in each and every respect the terms of Lease Number 3584 except as amended shall remain unchanged and in full force and effect and the same are hereby ratified, approved and confirmed by the BOARD and MANAGING AGENCIES.

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

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

[Signature]  
Witness

Tracy Peters  
Print/Type Witness Name

[Signature]  
Witness

Judy Woodward  
Print/Type Witness Name

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

"BOARD"

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 4th day of May, 2004 by Gloria C. Nelson, Operations and Management Consultant Manager, Bureau of Public Land Administration, Division of State Lands, Florida Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida. She is personally known to me.

[Signature]  
Notary Public, State of Florida

Print/Type Notary Name

Commission Number [Stamp] Theresa M. Brady  
Commission Expires [Stamp] Commission # DD081826  
Expires Jan. 2, 2006  
Bonded thru Atlantic Bonding Co., Inc.

Approved as to Form and Legality

By: [Signature]  
DEP Attorney

STATE OF FLORIDA  
DEPARTMENT OF AGRICULTURE  
AND CONSUMER SERVICES

Lee Sadler  
Witness

Lee Sadler  
Print/Type Witness Name

Angelia B. Rains  
Witness

Angelia B. Rains  
Print/Type Witness Name

By: Mike Gresham (SEAL)

Mike Gresham  
Print/Type Name

Title: Director of Administration  
"FORESTRY"

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 28th day of April, 2004, by Mike Gresham as Director of Administration, of the State of Florida Department of Agriculture and Consumer Services. He is personally known to me.



Karen A. Meyer  
MY COMMISSION # CC949622 EXPIRES  
October 20, 2004  
www.fda.state.fl.us/NOTARY/PUBLIC

Karen A. Meyer  
Notary Public, State of Florida  
KAREN A. MEYER  
Print/Type Notary Name

Commission Number: #CC949622

Commission Expires: 10/20/2004

STATE OF FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

PA DORR  
Witness

PA DOERK  
Print/Type Witness Name

[Signature]  
Witness

Amelia Beach  
Print/Type Witness Name

By: Timothy A Brount (SEAL)

Timothy A Brount  
Print/Type Name

Title: Assistant Division Director  
Division of Wildlife

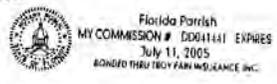
STATE OF FLORIDA  
COUNTY OF LEON

"COMMISSION"  
APPROVED AS TO FORM AND LEGAL SUFFICIENCY  
[Signature]  
10/12/03  
Commission Attorney

The foregoing instrument was acknowledged before me this 20th day of October, 2003, by Timothy A Brount as Asst. Division Director, of the State of Florida Fish and Wildlife Conservation Commission. He/she is personally known to me.

Florida Parrish  
Notary Public, State of Florida  
Florida Parrish  
Print/Type Notary Name

Commission Number:  
Commission Expires:



STATE OF FLORIDA, DEPARTMENT  
OF STATE, DIVISION OF  
HISTORICAL RESOURCES

Erik T. Robinson  
Witness

Erik T. Robinson  
Print/Type Witness Name

Gilda M Morris  
Witness

GILDA M MORRIS  
Print/Type Witness Name

By: Frederick P. Gaske (SEAL)

Frederick P. Gaske  
Print/Type Name

Title: Acting Division Director  
"HISTORICAL RESOURCES"

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 26<sup>th</sup> day of November, 2003, by Frederick P. Gaske as Acting Director, of the State of Florida Department of State, Division of Historical Resources. He/she is personally known to me.

Stephen A. McLeod  
Notary Public, State of Florida  
Stephen A. McLeod  
Print/Type Notary Name

Commission Number:  Stephen A. McLeod  
MY COMMISSION # CC938874 EXPIRES  
May 21, 2004  
Commission Expires:  BOND BY THE FAIR INSURANCE, INC.

Please Return To:  
Joseph R. Boyd, Esquire  
Boyd, Lindsey & Sliger, P.A.  
1407 Piedmont Drive East  
Tallahassee, Florida 32308

EXHIBIT "A"

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

*MARCH 21*

THIS INDENTURE, made this 21 day of ~~February~~, 2003, between JOHN WORTH MCDANIELL, JR., as Successor Trustee of the Revocable Trust of ANN C. MCDANIELL, dated December 29, 1989, of the county of Franklin in the state of Florida, grantor, and the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, whose post office address is c/o Florida Department of Environmental Protection, Division of State Lands, 3900 Commonwealth Boulevard, Mail Station 115, Tallahassee, FL, 32399-3000, grantee,

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

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

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

Property Appraiser's Parcel Identification Number: 10-085-07W-0000-0060-0000

This conveyance is meant to wind up the affairs of the limited partnership.

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

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

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

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

Signed, sealed and delivered in  
The presence of:

*Christy Pendley*  
(Signature of First Witness as to John  
Worth McDaniel, Jr.)

*Christy Pendley*  
(Printed, typed or stamped name of  
first Witness.)

*John Worth McDaniel, Jr.*  
John Worth McDaniel, Jr., as Successor Trustee  
of Ann C. McDaniel, dated December 29, 1989  
6279 Saddlehorse Drive  
Flowery Branch, Georgia 30542

*Aileen O'Connor*  
(Signature of Second Witness as to John  
Worth McDaniel, Jr.)

*Michelle O'Connor*  
(Printed, Typed or Stamped Name  
of Second Witness)

**APPROVED  
FOR CLOSING**

APR 17 2003

*WCR*  
By: William C. Robinson, Jr.  
(DEP Attorney)

NO. 3584-7  
EXHIBIT A  
PAGE 1 OF 6

STATE OF GA  
COUNTY OF Hall

21 <sup>March</sup> day of ~~February~~, 2003

The foregoing instrument was acknowledged before me this 21 day of ~~February~~, 2003, by JOHN WORTH MCDANIELL, JR., as Successor Trustee of the Revocable Trust of Ann C. McDaniel, dated December 29, 1989. Such person (Notary Public must check applicable box):

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

(NOTARY PUBLIC SEAL)

[Signature]  
Notary Public

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



NO. 3584-7  
EXHIBIT A  
PAGE 2 OF 6

Exhibit "A"

A parcel of land in Franklin County, Florida and being more particularly described as follows: Commencing at the Northeast corner of Section 10, T8S, R7W, and thence N 88°19'11" W along the North line of said section, 2512.0 feet to a concrete marker and the Point of Beginning; thence continuing N 88°19'11" W along the North line of said section, 551.0 feet to a concrete marker; thence Southwesterly and thence southeasterly along and around the mean high tide line approximately, 3600 feet to a concrete marker at the Westerly corner of a 5 acre tract; thence N 48°27' E. along the side of said tract, 210.0 feet to a concrete marker; thence S 34°33'30" E along the side of said tract, 745.63 feet to a concrete marker; thence N 1°26'E, 2524.40 feet to the Point of Beginning. Said land being in Section 10, T 8 S, R 7 W.

LESS:

A parcel of land in Franklin County, Florida being more particularly described as follows: Commence at the Northeast corner of Section 10, Township 8 South, Range 7 West, and thence run N 88°19'11" W along the North line of said section, 2512.0 feet to a concrete marker thence run S 01°26' W 2524.40 feet to a concrete marker; thence run N 34°33'30" W a distance of 745.63 feet to the Point of Beginning; thence continue N 34°33'30" W a distance of 78.0; thence run S 48°27' W a distance of 210.0 feet to the mean high tide line of Round Bay; thence run S 34°33'30" E along said high tide line a distance of 78.0 feet, more or less, to the Southwest corner of a 5 acre parcel of land; thence run N 48°27' E along the West line of said 5 acre tract a distance of 210.0 feet to the Point of Beginning.

TOGETHER WITH:

A 25.00 foot roadway easement lying 12.50 feet on each side of the following described centerlines:

(Easement "A")

Commence at a concrete monument marking the Northeast corner of Section 10, Township 8 South, Range 7 West, Franklin County, Florida, and thence run South 01 degrees 17 minutes West 1040.21 feet to the centerline of a county maintained roadway for the POINT OF BEGINNING of said centerline. From said POINT OF BEGINNING thence run South 40 degrees 16 minutes 55 seconds West 758.47 feet, thence run South 15 degrees 43 minutes 40 seconds West 136.17 feet, thence run South 11 degrees 07 minutes 40 seconds West

Apalachicola River WEA, Sand Beach  
McDaniell

BGM  
By RB Date 11.4.02

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EXHIBIT A  
PAGE 3 OF 6

Exhibit "A"

162.83 feet, thence run South 22 degrees 08 minutes 38 seconds West  
350.59 feet, thence run South 07 degrees 10 minutes 25 seconds West,  
847.06 feet, thence run South 06 degrees 52 minutes East 402.78 feet, thence  
run South 04 degrees 11 minutes 20 seconds East 1212.47 feet, thence run  
South 59 degrees 11 minutes 20 seconds East 100.00 feet to the termination  
of said centerline.

And:

(Easement "B")

Commence at a concrete monument marking the Northeast corner of Section  
10, Township 8 South, Range 7 West, Franklin County, Florida, and thence run  
South 01 degrees 17 minutes West 1040.21 feet to the centerline of a county  
maintained roadway, thence run South 40 degrees 16 minutes 55 seconds West  
758.47 feet, thence run South 15 degrees 43 minutes 40 seconds West  
136.17 feet, thence run South 11 degrees 07 minutes 40 seconds West  
162.83 feet, thence run South 22 degrees 08 minutes 38 seconds West  
350.59 feet, thence run South 07 degrees 10 minutes 25 seconds West,  
847.06 feet, thence run South 06 degrees 52 minutes East 402.78 feet to the  
POINT OF BEGINNING of said centerline. From said POINT OF BEGINNING  
thence run South 64 degrees 43 minutes 14 seconds West 153.39 feet, thence  
run South 44 degrees 58 minutes 09 seconds West 338.80 feet, thence run  
South 81 degrees 35 minutes 39 seconds West 147.99 feet, thence run North  
66 degrees 49 minutes 21 seconds West 358.67 feet, thence run North 85  
degrees 58 minutes 31 seconds West 238.47 feet, thence run North 75 degrees  
51 minutes 17 seconds 142.40 feet to the termination point of said centerline.

And:

(Easement "C")

Commence at a concrete monument marking the Northeast corner of Section  
10, Township 8 South, Range 7 West, Franklin County, Florida, and thence run  
South 01 degrees 17 minutes West 1040.21 feet to the centerline of a county  
maintained roadway, thence run South 40 degrees 16 minutes 55 seconds West  
758.47 feet, thence run South 15 degrees 43 minutes 40 seconds West  
136.17 feet to the POINT OF BEGINNING of said centerline. From said POINT  
OF BEGINNING thence run North 70 degrees 06 minutes 45 seconds West  
310.09 feet, thence run South 44 degrees 26 minutes 45 seconds West  
331.97 feet, thence run South 81 degrees 13 minutes 45 seconds West  
148.67 feet, thence run North 88 degrees 02 minutes 30 seconds West 533.81  
feet, thence run South 61 degrees 19 minutes 45 seconds West 290.84 feet,

Apalachicola River WEA, Sand Beach  
McDaniel

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PAGE 4 OF 6

Exhibit "A"

thence run South 50 degrees 50 minutes 05 seconds West 365.36 feet, thence run South 37 degrees 10 minutes 40 seconds West 219.42 feet, thence run South 31 degrees 40 minutes 56 seconds West 132.31 feet, thence run South 72 degrees 54 minutes 13 seconds West 88.06 feet to the termination of said centerline.

And:

(Easement "D")

Commence at a concrete monument marking the Northeast corner of Section 10, Township 8 South, Range 7 West, Franklin County, Florida, and thence run South 01 degrees 17 minutes West 1040.21 feet to the centerline of a county maintained roadway, thence run South 40 degrees 16 minutes 55 seconds West 758.47 feet, thence run South 15 degrees 43 minutes 40 seconds West 136.17 feet, thence run North 70 degrees 06 minutes 45 seconds West 310.09 feet, thence run South 44 degrees 26 minutes 45 seconds West 331.97 feet, thence run South 81 degrees 13 minutes 45 seconds West 148.67 feet, thence run North 88 degrees 02 minutes 30 seconds West 533.81 feet thence run South 61 degrees 19 minutes 45 seconds West 290.84 feet; thence run South 50 degrees 50 minutes 05 seconds West 365.36 feet to the POINT OF BEGINNING of said centerline. From said POINT OF BEGINNING thence run North 79 degrees 24 minutes 40 seconds West 378.39 feet, thence run North 69 degrees 55 minutes 30 seconds West 389.11 feet, thence run North 39 degrees 55 minutes 30 seconds West 350.00 feet to the termination of said centerline.

AND TOGETHER WITH:

A perpetual non-exclusive ingress-egress easement over the following described land:

A parcel of land in Franklin County, Florida, and being more particularly described as follows:

Commence at the Northeast corner of Section 10, T8S, R7W, and thence run N 88°19'11" W along the North line of said Section, 2512.0 feet to a concrete marker; thence S 01°12' W, 2524.40 feet to a concrete marker and the POINT OF BEGINNING; thence N 34°13'30" W, a distance of 35 feet; thence S 48°27' W, a distance of 30 feet; thence S 34°33'30" E, a distance of 293.33 feet; thence S 48° 27' W, a distance of 180.00 feet to the mean high tide line; thence S 34°33'30" E, along high tide line, a distance of 35 feet; thence run N 48°27' E,

Apalachicola River WEA, Sand Beach  
McDaniel

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Exhibit "A"

along the east line of Grantor's land, a distance of 210 feet; thence run N 34°33'30" W, a distance of 293.33 feet to the point of beginning.

AND TOGETHER WITH:

A perpetual non-exclusive easement for the purpose of ingress and egress over and across that certain easement lying ten feet on each side of the following described centerline:

A parcel of land in Franklin County, Florida, and being more particularly described as follows:

Commence at the Northeast Corner of Section 10, Township 8 South, Range 7 West and run North 88 degrees 19 minutes 11 seconds West along the North line of said section line 1117 feet, thence run South 1 degree 17 minutes West 1949.69 feet to a point which is the POINT OF BEGINNING. From said POINT OF BEGINNING, run thence South 82 degrees 50 minutes West to a point that intersects the Northeastern boundary of the 5 acre tract described in Exhibit "A." as recorded in Official Records Book 214, Page 257, Public Records of Franklin County, Florida, which point is the termination of the centerline herein described.

Apalachicola River WEA, Sand Beach  
McDaniel

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EXHIBIT A  
PAGE 6 OF 6

ATL2

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

AMENDMENT NUMBER 8 TO LEASE NUMBER 3584

APALACHICOLA RIVER WILDLIFE & ENVIRONMENTAL AREA

THIS LEASE AMENDMENT is entered into this 14<sup>th</sup> day of February, 2007, by and between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, hereinafter referred to as "BOARD" and the STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, DIVISION OF STATE LANDS, successor in interest to STATE OF FLORIDA DEPARTMENT OF NATURAL RESOURCES, DIVISION OF STATE LANDS, hereinafter referred to as "STATE LANDS", agent for the BOARD, and the STATE OF FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, successor in interest to the STATE OF FLORIDA GAME AND FRESH WATER FISH COMMISSION, hereinafter referred to as "COMMISSION", and the STATE OF FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, DIVISION OF FORESTRY, hereinafter referred to as "FORESTRY", and the STATE OF FLORIDA DEPARTMENT OF STATE, DIVISION OF HISTORICAL RESOURCES, successor in interest to the STATE OF FLORIDA DEPARTMENT OF STATE, DIVISION OF ARCHIVES, HISTORY, AND RECORDS MANAGEMENT hereinafter referred to as "HISTORICAL RESOURCES", collectively referred to hereinafter as "MANAGING AGENCIES":

W I T N E S S E T H

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

WHEREAS, on October 11, 1983, the BOARD as lessor and the MANAGING AGENCIES as lessees entered into Lease Number 770-9003, now known as Lease Number 3584 (the "Lease"); and

WHEREAS, the BOARD and the MANAGING AGENCIES desire to amend this Lease to extend the term of the lease and define the responsibilities of the BOARD, COMMISSION, FORESTRY and HISTORICAL RESOURCES with regard to resolving post closing management issues and other matters relating to the management of the leased premises.

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

1. This Lease which will be for a term of fifty years commencing on October 11, 2003, and ending on October 10, 2053, unless sooner terminated pursuant to the provisions of this Lease.
2. Subparagraphs 8.A and 8.B of this Lease are replaced, revised and superseded in their entirety by the following:

8.A. A Management Plan for the leased premises was prepared and submitted by the COMMISSION in cooperation with FORESTRY and approved by the BOARD on August 15, 2002. It was prepared in accordance with Section 253.034, Florida Statutes, and subsection 18-2.021(4), Florida Administrative Code. The approved Management Plan shall provide the basic guidance for all management activities and shall be reviewed jointly by MANAGING AGENCIES and BOARD.

8.B. MANAGING AGENCIES shall not use or alter the leased premises except as provided for in the approved Management Plan without the prior written approval of BOARD. 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.

3. Paragraphs 9 and 10 of this Lease are replaced, revised and superseded in their entirety by the following:

9. RIGHT OF INSPECTION: The BOARD 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 MANAGING AGENCIES, in any matter pertaining to this Lease.

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

4. This Lease is hereby amended to add Paragraphs 11-37, inclusive, as follows:

11. INSURANCE REQUIREMENTS: MANAGING AGENCIES shall procure and maintain fire and extended risk insurance coverage, in accordance with Chapter 284, F.S., for any buildings and improvements located on the leased premises by preparing and delivering to the Division of Risk Management, Department of Insurance, a completed Florida Fire Insurance Trust Fund Coverage Request Form and a copy of this Lease immediately upon erection of any structures as allowed by paragraph 6 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,

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Amendment Number 8 to Lease No. 3584

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Division of State Lands, Department of Environmental Protection, Mail Station 130, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000.

12. ARCHAEOLOGICAL AND HISTORIC SITES: Execution of this Lease in no way affects any of the parties' obligations pursuant to Chapter 267, Florida Statutes. The collection of artifacts or the disturbance of archaeological and historic sites on state-owned lands is prohibited unless prior authorization has been obtained from the Department of State, Division of Historical Resources. The Management Plan prepared pursuant to Section 253.034, Florida Statutes, shall be reviewed by the Division of Historical Resources to insure that adequate measures have been planned to locate, identify, protect and preserve the archaeological and historic sites and properties on the leased premises.
13. EASEMENTS: All easements including, but not limited to, utility easements are expressly prohibited without the prior written approval of BOARD. Any easement not approved in writing by BOARD shall be void and without legal effect.
14. SUBLEASES: This Lease is for the purposes specified herein and subleases of any nature are prohibited, without the prior written approval of BOARD. Any sublease not approved in writing by BOARD shall be void and without legal effect.
15. POST CLOSING RESPONSIBILITIES: In an effort to define responsibilities of the BOARD and MANAGING AGENCIES with regard to resolving post closing management issues, the parties agree to the following:
- a. After consultation with the MANAGING AGENCIES, BOARD agrees to provide the MANAGING AGENCIES with the title, survey and environmental products procured by the BOARD, prior to closing.
  - b. BOARD 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 MANAGING AGENCIES may request individual parcel boundary surveys, if necessary, prior to the conclusion of acquisition activities within the project boundaries.
  - c. Unless otherwise agreed to by MANAGING AGENCIES, BOARD 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

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Amendment Number 8 to Lease No. 3584

R/08/2001

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

16. SURRENDER OF PREMISES: Upon termination or expiration of this Lease, MANAGING AGENCIES shall surrender the leased premises to BOARD. 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, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, at least six months prior to the release of all or any part of the leased premises. Notification shall include a legal description, this Lease number and an explanation of the release. The release shall only be valid if approved by BOARD 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 BOARD, unless BOARD gives written notice to MANAGING AGENCIES to remove any or all such improvements at the expense of MANAGING AGENCIES. The decision to retain any improvements upon termination of this Lease shall be at

BOARD'S sole discretion. Prior to surrender of all or any part of the leased premises, a representative 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 STATE LANDS. If the leased premises and improvements located thereon do not meet all conditions set forth in paragraphs 19 and 22 herein, MANAGING AGENCIES shall pay all costs necessary to meet the prescribed conditions.

17. BEST MANAGEMENT PRACTICES: BOARD 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 BOARD, MANAGING AGENCIES or other land managing agencies for the protection and enhancement of the leased premises.

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

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

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

21. PLACEMENT AND REMOVAL OF IMPROVEMENTS: All buildings, structures, improvements, and signs shall be constructed at the expense of MANAGING AGENCIES in accordance with plans prepared by professional designers and shall require the prior written approval of BOARD 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 BOARD. Removable equipment placed on the leased premises by MANAGING AGENCIES which do not become a permanent part of the leased premises will remain the property of MANAGING AGENCIES and may be removed by MANAGING AGENCIES upon termination of this Lease.

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Amendment Number 8 to Lease No. 3584

R/08/2001

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

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

24. BREACH OF COVENANTS, TERMS, OR CONDITIONS: Should MANAGING AGENCIES breach any of the covenants, terms, or conditions of this Lease, BOARD shall give written notice to MANAGING AGENCIES to remedy such breach within sixty days of such notice. In the event MANAGING AGENCIES fails to remedy the breach to the satisfaction of BOARD within sixty days of receipt of written notice, BOARD may either terminate this Lease and recover from MANAGING AGENCIES all damages BOARD 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 BOARD.

25. NO WAIVER OF BREACH: The failure of BOARD 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 BOARD 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 BOARD.

26. PROHIBITIONS AGAINST LIENS OR OTHER ENCUMBRANCES: Fee title to the leased premises is held by BOARD. MANAGING AGENCIES 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 BOARD therein.

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Amendment Number 8 to Lease No. 3584

R/08/2001

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

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

Page 7 of 12  
Amendment Number 8 to Lease No. 3584

R/08/2001

expiration of this Lease. Nothing herein shall relieve MANAGING AGENCIES of any responsibility or liability prescribed by law for fines, penalties and damages levied by governmental agencies, and the cost of cleaning up any contamination caused directly or indirectly by MANAGING AGENCIES' activities or facilities. Upon discovery of a release of a hazardous substance or pollutant, or any other violation of local, state or federal law, ordinance, code, rule, regulation, order or decree relating to the generation, storage, production, placement, treatment, release or discharge of any contaminant, MANAGING AGENCIES shall report such violation to all applicable governmental agencies having jurisdiction, and to BOARD, all within the reporting periods of the applicable governmental agencies.

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

30. RIGHT OF AUDIT: MANAGING AGENCIES shall make available to BOARD all financial and other records relating to this Lease and BOARD 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 BOARD should MANAGING AGENCIES fail to allow public access to all documents, papers, letters or other materials made or received in conjunction with this Lease, pursuant to Chapter 119, Florida Statutes.

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

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

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

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

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

36. ADMINISTRATIVE FEE: MANAGING AGENCIES shall pay BOARD an annual administrative fee of \$300. The initial annual administrative fee shall be payable within thirty days from the date of execution of this Lease agreement and shall be prorated based on the number of months or fraction thereof remaining in the fiscal year of execution. For purposes of this Lease, 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.

5. It is understood and agreed by BOARD and MANAGING AGENCIES that in each and every respect the terms of this Lease except as amended shall remain unchanged and in full force and effect and the same are hereby ratified, approved and confirmed by BOARD and MANAGING AGENCIES.

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

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

Judy Woodard  
Witness  
Judy Woodard  
Print/Type Witness Name  
Athena Baerger  
Witness  
Athena Baerger  
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, DEPARTMENT OF ENVIRONMENTAL PROTECTION

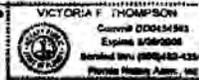
"BOARD"

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 14<sup>th</sup> day of February, 2001, by Gloria C. Barber, as Operations and Management Consultant Manager, Bureau of Public Land Administration, Division of State Lands, Florida Department of Environmental Protection, acting as agent on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida.

Victoria F. Thompson  
Notary Public, State of Florida

Print/Type Notary Name  
Commission Number:  
Commission Expires:



Approved as to Form and Legality  
By: David H. Hill  
DEP Attorney

STATE OF FLORIDA FISH AND WILDLIFE  
CONSERVATION COMMISSION

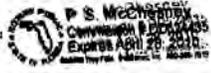
*[Signature]*  
Witness  
Kristina C Moskos  
Print/Type Witness Name  
Magda Soliman  
Witness  
Magda Soliman  
Print/Type Witness Name

By: Edwin J Mayer (SEAL)  
Print/Type Name  
Edwin J Mayer  
Print/Type Name  
Title: Dep Dir, HSC  
"COMMISSION"

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 8<sup>th</sup> day of February 2007, by Edwin J Mayer as Dep Dir HSC State of Florida Fish and Wildlife Conservation Commission. He is personally known to me or produced Jesus Encarnacion as identification.

*[Signature]*  
Notary Public, State of Florida  
Print/Type Notary Name

Commission Number:  
Commission Expires: 

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

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

Karen A. Meyer  
Witness

KAREN A. MEYER  
Print/Type Witness Name

Steve P. Buch  
Witness

Steve P. Buch  
Print/Type Witness Name

By: Mike Gresham (SEAL)

Mike Gresham  
Print/Type Name

Title: Director of Administration  
"FORESTRY"

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 29th day of September, 2006, by Mike Gresham as Director of Administration of Division of Forestry, State of Florida Department of Agriculture and Consumer Services. He is personally known to me.

Chander D. Baker  
Notary Public, State of Florida  
Chander D. Baker  
Print/Type Notary Name

Commission Number:  
Commission Expires:



## 13.2 Public Involvement

**Apalachicola River Wildlife and Environmental Area (ARWEA)  
Management Advisory Group (MAG)  
Consensus Meeting Results**

*January 16, 2013 in Eastpoint, 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 ARWEA consensus meeting was held on the morning of January 16, 2013 at Apalachicola National Estuarine Research Reserve (NERR), in Eastpoint, Florida in Franklin County. The ideas found below were provided by stakeholders for consideration in the 2013 - 2023 Management Plan (MP) for ARWEA 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 ARWEA 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.	[7]	[11]	1. <b>Manage fish and wildlife populations and their habitat to ensure their sustainability and that they function as part of larger regional populations. Address specific needs of rare species where natural systems management is not sufficient to meet their needs.</b> Maintain and improve and restore natural habitat diversity while continuing traditional habitat management practices, with an emphasis on endangered and imperiled species habitat. Continue to survey and monitor wildlife and plant species with emphasis on endangered/imperiled and focal species (including 14 species).

- |    |     |      |  |
|----|-----|------|--|
| 2. | [5] | [15] | 3. <b>Apply prescribed fire in appropriate landscapes at appropriate return intervals including a high percentage of lightning season fires.</b> Some kind of measurement of current prescribed fire on the area and whether we're meeting goals; need some kind of performance matrix.  |
| 3. | [5] | [17] | 8. <b>Restore and maintain natural communities to conditions that sustain ecological processes and conserve biodiversity.</b> Include diversified fire management program, emphasizing growing season burns; revise the current Prescribed Fire Management Plan. Develop a Forest Resource Management Plan for benefits to wildlife and native communities; to include reforestation of offsite pine and imperiled species habitat enhancement.  |
| 4. | [5] | [18] | 20. <b>Continue to provide and balance user groups with a high quality outdoor recreational experiences (e.g., hunting, fishing, wildlife viewing) that meets their expectations to minimize user conflicts.</b> Continue to offer diverse hunting and fishing opportunities. Continue to provide nature-based recreational opportunities including revising the ARWEA Recreation Master Plan and Road Access Plan. Challenge to Law Enforcement and land managers is to balance user groups and activities to ensure we have less conflict between user groups. Strive to provide a quality outdoor experience for all user groups, managers have to juggle all user groups and many times conflicts. Keep consciousness and awareness of different user groups that sometimes conflict. Make users aware (e.g., consumptive, non-consumptive). |
| 5. | [3] | [7]  | 12. <b>Control invasive exotic plant and animal species including enhanced participation of user groups.</b> Before we let exotic species get out of control, let recreational user groups help out as possible. For example, flathead catfish are devastating our river system but user groups have come out and will conduct tournaments to help. Provides opportunities for user groups to be active in their control.  |
| 6. | [3] | [12] | 22. <b>Work with partners and stakeholders to achieve resource management objectives and conservation goals and visitor use and environmental education. Increase coordination and partnerships with adjacent landowners and agencies. Maximize recreational opportunities (before expansion).</b> Work with partners more, especially now with increased workloads and less staff. Several campgrounds just north that are struggling to keep the doors open. Would like to see more usage. If there are opportunities to share facilities/ recreational opportunities, we should where appropriate.  |

7. [2] [4] 6. **Provide sufficient water and stabilize water supply and quality to the lower Apalachicola Bay. Manage the land to protect and restore water resources including Apalachicola Bay fisheries, restores sloughs, restore hydroperiods.** Would like to see more water reaching the Apalachicola Bay. This water is the life blood of our flora and fauna; need to do what we can to protect. Manage uplands, bottomlands, and water resources to improve conditions in the estuarine ecosystem including hydrological restoration.

8. [2] [5] 10. **Ensure all people have equal access to camping areas by preventing permanent occupation of campsites, especially those accessed by water.** The NFWFMD has some situations on adjacent lands where there are houseboats, they are seeing a real proliferation of constructed items on land (e.g., platforms, camping areas), which is against the rules. Both resource impacts and private use of public lands, excludes other users. Tends to occur on choice campsites easily accessible by the river. Wants to see the rules enforced. Educational opportunities exist. Private occupation of public land should not be occurring.

**Two items of equal rank:**

9. [2] [9] 16. **Address houseboat issues and any potential concerns (e.g., water quality, resource impacts) including enforcement of existing laws and regulations.** What are the issues, what are the concerns, and how do we address them. Address potential problems locally and regionally before it is decided to do from a higher position. See existing laws.

9. [2] [9] 23. **Minimize adverse impacts from plants and animals that are known to cause problems or have a potential to cause problems.** Include inventory, monitor, and control exotic and invasive plant and animals species (e.g., lygodium, Chinese tallow, cogongrass). Even includes some native invasives (e.g., titi).

**Three items of equal rank:**

10. [1] [3] 2. **Manage public access and public use to minimize disturbance.** Self explanatory.

10. [1] [3] 18. **Identify and resolve upriver pollution sources.** Where are the pollution sources coming from (e.g., Atlanta, houseboats)? Regardless of the reason, we need to identify and stop them.

10. [1] [3] 21. **Enhance recreational user education, address environmental education, or prohibitive uses.** For example, educate people that removal of timber from these areas is illegal (recreational user education). Also, address environmental education.

14. [1] [4] 17. **Increase land management, law enforcement efforts, and public education to prevent unauthorized removal of WEA natural resources including standing and down timber, also including cypress knees.** Three different problem activities: first, licensed deadhead loggers who take opportunity to take deadhead or non-deadhead logs off of land they are not permitted to work on; second, unlicensed taking of timber from non-sovereign lands; third, is those that are harvesting cypress knees. Growing problem, impacting our resources. We need more law enforcement to control.

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

15. [] [] 24. **Conserve, protect, and ensure preservation of cultural resources.** Self explanatory.

**Apalachicola River Wildlife and Environmental Area  
MAG Meeting Participants**

<u><b>Name</b></u>	<u><b>Affiliation</b></u>
<b>Active Participants</b>	
Matthew Hortman	FWC Area Biologist
Capt. Parramore	FWC Law Enforcement
Tyler Macmillan	Northwest Florida Water Management District
Dan Hipes	Florida Natural Areas Inventory
Bobby Miller	Angler/Hunter
Ricky Lackey	National Wild Turkey Federation
Marcus Beard	United States Forest Service
Lee Edmiston	Apalachicola NERR/Department of Environmental Protection
<b>Supportive Participants</b>	
Patrick McElhone	FWC Habitat and Species Conservation (HSC) Biologist
Lt. Dennis Welsh	FWC Law Enforcement
Phil Manor	FWC HSC, District Biologist
Tom M. Matthews	FWC Office of Public Access and Wildlife Viewing Services (OPAWVS)
Billy Sermons	FWC HSC, Regional Biologist
Liz Sparks	FWC OPAWVS
Diana Pepe	FWC HSC Conservation Biologist
Paul Scharine	NW region - FWC Division of Hunting and Game Management
Richard Noyes	FWC OPAWVS
Derek Fussell	FWC HSC Biologist
<b>Invited but Unable to Attend</b>	
Randy Gregory	Florida Forest Service
David Printiss	The Nature Conservancy
Ron Peterson	Florida Trail Association
Allen Courtney	Angling Stakeholder
Brian McGraw	USDA-NRCS
Linda Vause	Equestrian Stakeholder
Dayle Lenos	Paddling Stakeholder
Shelly Stiaes	U.S. Fish and Wildlife Service
William Massey	Franklin County Board of Commissioners
Tan Smiley	Gulf County Board of Commissioners
Dan Tonsmeire	Apalachicola Riverkeepers
Curt Blair	Local Tourism Development Council
Carmen L. McLemore	Gulf County Board of Commissioners
Pinki Jackel	Franklin County Board of Commissioners
Rusty McKeithen	Florida Dog Hunters and Sportsmen's Association
Shane Fuller	Landowner
Mike Wisenbaker	Division of Historical Resources
<b>FWC Planning Personnel</b>	
Larame Ferry	Meeting Facilitator
Gary Cochran	Meeting Facilitator, Land Conservation and Planning Administrator
Tom Houston/Rebecca Shelton	Recorders

# NOTICE

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

## PUBLIC HEARINGS

For the  
FWC Lead Managed Portions of  
Apalachicola River Wildlife and Environmental Area  
Management Plan  
Gulf and Franklin Counties, Florida

7:00 P.M. Wednesday, February 27, 2013  
St. Joseph Bay State Buffer Preserve Center  
3915 State Road 30-A  
Port St. Joe, FL 32456

7:00 P.M. Thursday, February 28, 2013  
Apalachicola NERR  
108 Island Drive  
East Pointe, FL 32328

**PURPOSE:** To receive public comment regarding considerations for the FWC ten-year Land Management Plan for the FWC Lead Managed Portions of Apalachicola River Wildlife and Environmental Area (WEA). This hearing is being held **EXCLUSIVELY** for discussion of the **DRAFT** Apalachicola River WEA Management Plan. This meeting is not being held to discuss area hunting or fishing regulations. For more information on the process for FWC rule and regulation development go online to: [myfwc.com/about/rules-regulations/rule-changes/](http://myfwc.com/about/rules-regulations/rule-changes/) or call (850) 487-1764.

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

**Halifax Media Group**

PUBLISHERS OF THE STAR  
Published Weekly  
Port St. Joe, Gulf County, Florida

**STATE OF FLORIDA  
COUNTY OF BAY**

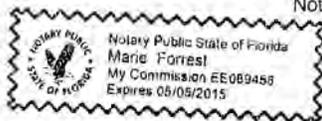
Before the undersigned authority personally appeared Lynda Speights, who on oath says that she is a Legal Advertising Representative of The Star, a weekly newspaper published in the English language, and of general circulation published in the City of Port St. Joe, Florida, in said county and state, and that the attached copy of advertisement, being a Legal Advertisement #90188S in the matter of PUBLIC NOTICE - The Florida Fish and Wildlife Conservation Commission in the Gulf County Court, was published in said newspaper in the issue of February 14, 21, 2013.

Deponent further says that The Star has been continuously published as a weekly newspaper issued each Thursday and has been entered as second class mail matter at the Post Office in Port St. Joe, Gulf County, Florida, for a period of more than one year next preceding the first publication of the attached copy of advertisement; and deponent further says that she has neither paid nor promised any persons, firm, corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

State of Florida  
County of Bay

Sworn and subscribed before me this 21st day of February, A.D., 2013.  
By Lynda Speights, Legal Advertising Representative of the Star, who is personally known to me or has produced NA as identification.

Notary Public, State of Florida at Large



**90188S  
PUBLIC NOTICE:**

The Florida Fish and Wildlife Conservation Commission (FWC) announce two PUBLIC HEARINGS for the FWC Lead Managed Portions of Apalachicola River Wildlife and Environmental Area located in Gulf and Franklin Counties, Florida.

7:00 P.M. Wednesday,  
February 27, 2013  
St. Joseph Bay State  
Buffer Preserve Center  
3915 State Road 30-A  
Port St. Joe, FL 32456

7:00 P.M. Thursday,  
February 28, 2013  
Apalachicola National  
Estuarine Research Reserve  
Environmental  
Education and Training  
Center  
108 Island Drive  
Eastpointe, FL 32328

**PURPOSE:** To receive public comment regarding considerations for FWC's ten-year Management Plan for the FWC Lead Managed Portions of Apalachicola River Wildlife and Environmental Area (ARWEA).

This hearing is being held EXCLUSIVELY for discussion of the DRAFT Apalachicola River WEA Management Plan. This meeting is not being held to discuss area hunting or fishing regulations. For more information on the process for FWC rule and regulation development go online to: [myfwc.com/about/rules-regulations/rule-changes/](http://myfwc.com/about/rules-regulations/rule-changes/) or call (850) 487-1764.

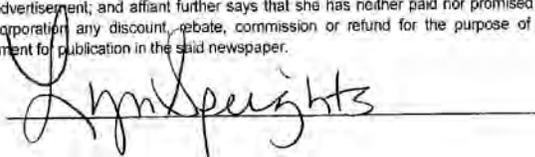
A Management Prospectus for Apalachicola River WEA and copy of the agenda is available upon request from the Florida Fish and Wildlife Conservation Commission, Land Conservation and Planning Group, 620 South Meridian Street, Tallahassee, Florida 32399-1600. Telephone: (850) 487-9982 or (850) 487-9767 or by e-mail at [Rebecca.Shelton@MyFWC.com](mailto:Rebecca.Shelton@MyFWC.com)  
February 21, 2013

**Halifax Media Group**  
PUBLISHERS OF THE TIMES  
Published Weekly  
Apalachicola, Franklin County, Florida

**STATE OF FLORIDA  
COUNTY OF BAY**

Before the undersigned authority appeared Lynda Speights, who on oath says that she is a Legal Advertising Representative of The Times, a weekly newspaper published at 129 Commerce Street, in said Franklin County, Florida, that the attached copy of advertisement, being a Legal Advertisement #90186T in the matter of **PUBLIC NOTICE - Florida Fish and Wildlife** in the Franklin County Court was published in said newspaper in the issue of **February 21, 2013**.

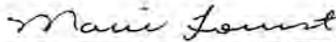
Affiant further says The Times is a newspaper published at 129 Commerce Street, in said Franklin County, Florida, and that said Newspaper has heretofore been continuously published in said Franklin County, Florida, each Thursday and has been entered as second class mail at the Post Office in Apalachicola, Franklin County, for a period of 1 year next preceding the first publication of the attached copy of advertisement; and affiant further says that she has neither paid nor promised any persons, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.



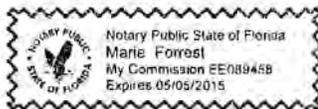
State of Florida  
County of Bay

Sworn and subscribed before me this **21st** day of **February**, A.D., **2013**.

By Lynda Speights, Legal Advertising Representative of The Times, who is personally known to me or has produced NA as identification.



Notary Public, State of Florida at Large



**90186T  
PUBLIC NOTICE:**

The Florida Fish and Wildlife Conservation Commission (FWC) announce two **PUBLIC HEARINGS** for the FWC Lead Managed Portions of Apalachicola River Wildlife and Environmental Area located in Gulf and Franklin Counties, Florida.

7:00 P.M. Wednesday,  
February 27, 2013  
St. Joseph Bay State  
Buffer Preserve Center  
3915 State Road 30-A  
Port St. Joe, FL 32456

7:00 P.M. Thursday,  
February 28, 2013  
Apalachicola National  
Estuarine Research Reserve  
Environmental  
Education and Training  
Center  
108 Island Drive  
Eastpointe, FL 32328

**PURPOSE:** To receive public comment regarding considerations for FWC's ten-year Management Plan for the FWC Lead Managed Portions of Apalachicola River Wildlife and Environmental Area (ARWEA).

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A Management Prospectus for Apalachicola River WEA and copy of the agenda is

available upon request from the Florida Fish and Wildlife Conservation Commission, Land Conservation and Planning Group, 620 South Meridian Street, Tallahassee, Florida 32399-1800. Telephone: (850) 487-9882 or (850) 487-9787 or by e-mail at [Rebecca.Shelton@MyFWC.com](mailto:Rebecca.Shelton@MyFWC.com)  
February 21, 2013.

For immediate release: February 15, 2013

Contact: Stan Kirkland, (850) 265-3676

## Public hearing to outline 10-year management plans for FWC Lead Managed Portions of Apalachicola River Wildlife and Environmental Area

The Florida Fish and Wildlife Conservation Commission (FWC) will hold two public hearings in Gulf and Franklin Counties to present the 10-year draft land management plan for the FWC Lead Managed Portions of Apalachicola River Wildlife and Environmental Area (WEA). The first meeting will be held on February 27, 2013 starting at 7 p.m. at the St. Joseph Bay State Buffer Preserve Center, 3915 State Road 30-A, Port St. Joe, FL. 32456

The second meeting will be held on February 28, 2013 starting at 7:00pm at the Apalachicola National Estuarine Research Reserve Environmental Education and Training Center, 108 Island Drive, East Pointe, FL.

After the presentation, the public is encouraged to comment and ask questions about the specifics in the draft plan.

All lands purchased with public funds must have a management plan that ensures the property will be managed in a manner that is consistent with the intended purposes of the purchase.

“Apalachicola River WEA was purchased in order to ensure the preservation of fish and wildlife resources, other natural and cultural resources, and for fish and wildlife-based

public outdoor recreation,” said Rebecca Shelton, FWC land conservation biologist. “This draft plan will specify how we intend to do that.”

She added that hunting and fishing regulations are not included in this plan or meeting; those are addressed through a separate public process.

To obtain a copy of the draft land management prospectus for Apalachicola River WEA please call Rebecca Shelton at 850-487-9982 or David Alden at 850-487-9588, or email [Rebecca.Shelton@MyFWC.com](mailto:Rebecca.Shelton@MyFWC.com).

For background on [management plans](#) and their goals, visit [MyFWC.com/Conservation](http://MyFWC.com/Conservation) and select “Terrestrial Programs” then “Management Plans” for more information.

RS/HSC

**PUBLIC HEARING REPORT**  
**FOR THE**  
**APALACHICOLA RIVER WEA WILDLIFE AND ENVIRONMENTAL AREA**  
**MANAGEMENT PLAN**  
**HELD BY THE**  
**APALACHICOLA RIVER WEA MANAGEMENT ADVISORY GROUP**  
**AND THE**  
**FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION**  
**FEBRUARY 27, 2013 – GULF COUNTY, FLORIDA**

The following report documents the public input that was received at the Apalachicola River Wildlife Management Area (ARWEA) Management Advisory Group's (MAG) Public Hearing for the ARWEA Draft Management Plan for that was held at 7:00-9:00 PM, on February 27, 2013, at the Gulf County St. Joseph Bay State Buffer Preserve Center in Port St. Joe, Florida.

**ARWEA Management Advisory Group Introduction:**

The meeting was introduced by Ricky Lackey, an ARWEA MAG participant, who represented the National Wild Turkey Federation. Mr. Lackey indicated that he was one of seven stakeholders that attended the Florida Fish and Wildlife Conservation Commission (FWC) facilitated MAG meeting held on January, 16, 2013. Mr. Lackey stated that the draft Management Plan was being presented tonight by FWC staff, and that hardcopies of the draft plan and the MAG meeting report were available at the front door for the public's review. Mr. Lackey thanked everyone for attending and then introduced FWC staff Mr. Gary Cochran, Land Conservation and Planning Administrator, FWC, to facilitate and coordinate the presentation of an overview of ARWEA, FWC's planning process, and the draft components of the Management Plan.

**Presentation on an Overview of ARWEA and the FWC Planning Process:** Mr. Cochran welcomed everyone and thanked the public for their attendance. Mr. Cochran then went over an orientation of the material and explained that the purpose of the public hearing was to solicit public input regarding the draft Management Plan for ARWEA, and not hunting and fishing regulations, indicating there is a separate public input process for FWC rule and regulation development. Mr. Cochran then described the materials that were available at the door for public review, including the draft Management Plan and the ARWEA MAG Meeting Report and Accomplishment Report. Mr. Cochran then presented

the agenda for the public hearing and facilitated the introduction of all FWC staff in attendance to the audience. Mr. Cochran then presented an overview and orientation of ARWEA, including a description of the natural communities, data about park visitors, money generated for the state by the park, wildlife species, recreational opportunities found on the area, surrounding conservation lands, surrounding Florida Forever lands, acquisition history, etc. He also explained FWC's planning process and asked if there were any questions regarding that process.

**Questions, Answers and Discussion on the ARWEA Overview and FWC's Planning**

**Process:** Mr. Cochran then facilitated an informal question and answer session where members of the public in attendance, without necessarily identifying themselves, could ask questions of the FWC staff, and discuss the answers. Mr. Cochran again emphasized that the exclusive purpose for the public hearing was to collect public input regarding the draft Management Plan for ARWEA, and not to discuss area hunting, fishing and use regulations. No questions or comments were received.

**Presentation of the ARWEA Draft Management Plan**

At this point, Mr. Matthew Hortman, the ARWEA Area Biologist provided the presentation of the draft management plan. Mr. Hortman, the Area Biologist then completed and concluded the presentation of the ARWEA Draft Management Plan.

**Questions and Comments on the ARWEA Draft Management Plan Presentation**

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

Seeing no questions, Mr. Cochran moved on to the Public Testimony section of the Public Hearing.

**Public Testimony on the ARWEA Draft Management Plan:** No members of the public audience submitted speaker cards indicating their intention to provide formal public testimony.

**Adjournment:** Mr. Cochran asked if there were any other members of the public that wished to give public testimony. Since no questions or comments were offered, Mr. Cochran then declared the public hearing adjourned.

# **PUBLIC HEARING REPORT**

## **FOR THE**

### **APALACHICOLA RIVER WEA WILDLIFE AND ENVIRONMENTAL AREA MANAGEMENT PLAN**

## **HELD BY THE**

### **APALACHICOLA RIVER WEA MANAGEMENT ADVISORY GROUP AND THE FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION**

**FEBRUARY 28, 2013 – FRANKLIN COUNTY, FLORIDA**

The following report documents the public input that was received at the Apalachicola River Wildlife Management Area (ARWEA) Management Advisory Group's (MAG) Public Hearing for the ARWEA Draft Management Plan that was held at 7:00-9:00 PM, on February 28, 2013, at the Franklin County Apalachicola NERR in East Pointe, Florida.

#### **ARWEA Management Advisory Group Introduction:**

The meeting was introduced by Ricky Lackey, an ARWEA MAG participant, who represented the National Wild Turkey Federation. Mr. Lackey indicated that he was one of seven stakeholders that attended the Florida Fish and Wildlife Conservation Commission (FWC) facilitated MAG meeting held on January, 16, 2013. Mr. Lackey stated that the Draft Management Plan was being presented tonight by FWC staff, and that hardcopies of the draft plan and the MAG meeting report were available at the front door for the public's review. Mr. Lackey thanked everyone for attending and then introduced FWC staff Mr. Gary Cochran, Land Conservation and Planning Administrator, FWC, to facilitate and coordinate the presentation of an overview of ARWEA; FWC's planning process, and the draft components of the Management Plan.

**Presentation on an Overview of ARWEA and the FWC Planning Process:** Mr. Cochran welcomed everyone and thanked the public for their attendance. Mr. Cochran then went over an orientation of the material and explained that the purpose of the public hearing was to solicit public input regarding the draft Management Plan for ARWEA, and not hunting and fishing regulations, indicating there is a separate public input process for FWC rule and regulation development. Mr. Cochran then described the materials that were available at the door for public review, including the draft Management Plan and the ARWEA MAG Meeting Report and Accomplishment Report. Mr. Cochran then presented

the agenda for the public hearing and facilitated the introduction of all FWC staff in attendance to the audience. Mr. Cochran then presented an overview and orientation of

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

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

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

#### **Presentation of the ARWEA Draft Management Plan**

At this point, Mr. Matthew Hortman, the ARWEA area Biologist provided the presentation of the draft management plan. Mr. Hortman, the Area Biologist then completed and concluded the presentation of the ARWEA Draft Management Plan.

#### **Questions and Comments on the ARWEA Draft Management Plan Presentation**

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

**Public comment:** An anonymous gentleman made a comment about some hunt camps/house boats he's seen along the river. He said that many of them have dog pens extending over the water which create litter and can be a problem for kayakers and that there is no enforcement to prevent this. He explained that it is happening off the main channel along the East River.

**FWC Response:** Mr. Cochran told him that this is a critically important issue but it's also a very complex issue and that FWC has conducted surveys and documented the number of illegal structures they've seen. Mr. Cochran informed the gentleman that enforcement of this is a little more complicated regarding riparian use of lands along the river and if they're navigable, he explained that enforcement requires cooperation between DEP, FWC, Board of Trustees, the support of the governor in cabinet, and the Legislature. Mr. Cochran also explained to the gentleman that this enforcement goes beyond FWC's authorized boundary line, it does not cover the sovereign submerged lands which is why it's harder than just enforcing our rules and regulations.

Public Comment: The same gentleman added that two years ago he was driving his car in East Point and noticed a terrible, sewage smell. When he pulled over he noticed that there was a 200 yard swamp of sewage sludge up against the bank and out about 50 or 100ft. He went home and made some phone calls to DEP and finally someone was sent from the Apalachee Regional office and did some things but, he said that they never found the source of the sewage.

FWC Response: Mr. Cochran informed him that FWC does patrol and monitor the area and that the occupants of the moored vessels along the river move around frequently to avoid being in violation and often if you just give a citation is issued, they frequently just move to a different area of the river system. Law Enforcement would have to be done system-wide because it's a problem up and down Apalachicola River and its tributaries and it is a challenging problem with many agencies (Army Corps of Engineers, DEP and FWC to have a comprehensive effort.

Mr. Cochran continued and then referred back to the OCPB map and talked about the intent of the PCPB boundary. He said that it swings NW and N along the river and one of the many facets of establishing it is to connect existing conservation areas. Mr. Cochran said that it hugs and is adjacent to the remaining shoreline of the river as well as other larger Florida Forever projects on the south end (St. Joe buffer to Lake Wimico project and Bear Creek State Forest) He also indicated that the OCPB has no effect on zoning or on what private owners would like to do with their property. It's simply FWC saying we believe these lands and resources area's resources may be important to maintain in their rural undeveloped character for the continued conservation of the Apalachicola River WEA. Also, FWC may acquire the lands within the OCPB boundary if there are landowners who are willing to sell them but that both acquisition of fee lands and conservation easements are entirely voluntary and at the sole discretion of the private landowner.

Public Question: An anonymous person asked if there was a tax advantage/incentive for a conservation easement.

FWC Response: Mr. Cochran explained that Amendment 4 of the Florida Constitution allows landowners to have a tax exemption for establishing a conservation easement on their property. Under a conservation easement, private landowners maintain management and use of the property but then they have to dedicate it to the conservation.

Mr. Cochran also added that FWC and ARWEA have a large number of goals and objectives for this management plan including prescribed burning on the east side of river as well as eagle surveys which will be conducted by staff.

Mr. Cochran asked if there were any other questions. Seeing none, he moved on to the Public Testimony section of the Public Hearing.

**Public Testimony on the ARWEA Draft Management Plan:** No members of the public audience submitted speaker cards indicating their intention to provide formal public testimony. Mr. Cochran again emphasized that the public hearing was for taking input regarding the ARWEA Draft Management Plan.

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

### **13.3 Land Management Review**

**Name of Site:** Apalachicola River WEA

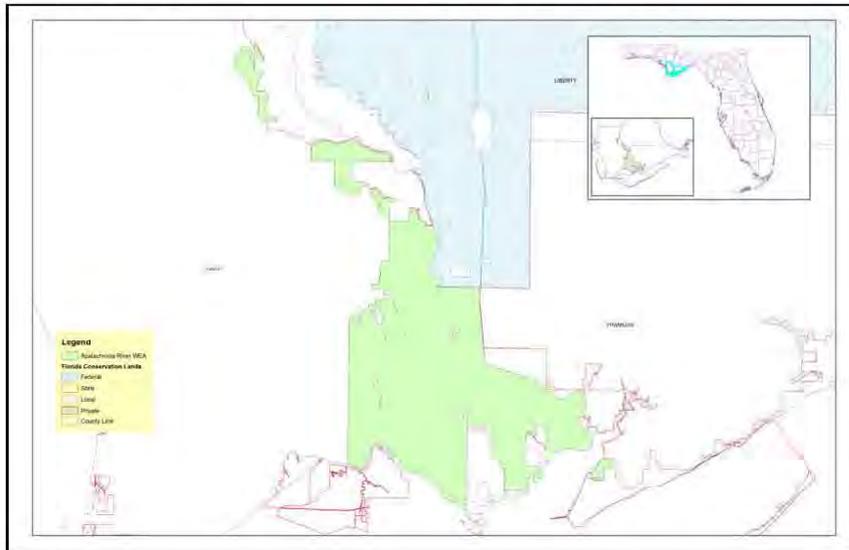
**County:** Franklin County

**Managed by:** Department of Environmental Protection  
Division of Recreation and Parks

**Acres:** 72,645.00  
**Area Reviewed:** Entire tract

**Review Date:** 9/13/11

**Management Plan Approval Date:** 9/21/06



**Review Team Determination**

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



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



Categories	Management Plan Review	Field Review
Natural Communities	1.00	4.78
Listed Species	1.00	4.59
Natural Resource Survey	1.00	4.47
Cultural Resources	1.00	4.60
Prescribed Fire	1.00	4.80
Restoration	0.98	4.56
Exotic Species	1.00	4.23
Hydrology	1.00	4.90
Groundwater Monitoring	1.00	4.40
Surface Water Monitoring	1.00	4.40
Resource Protection	1.00	4.35
Adjacent Property Concerns	0.83	4.25
Public Access & Education	1.00	4.57
Management Resources	N/A	4.20
Managed Area Uses	1.00	N/A
Buildings, Equipment, Staff & Funding	N/A	4.54

### Consensus Commendations to the Managing Agency

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

1. The team commends the manager and staff on the restoration of the ephemeral wetlands that have established the habitat for the introduction or recruitment of flatwoods salamanders. (VOTE: 5+, 0-)  
★★★★★
2. The team commends the manager and staff on the improvement and management of red cockaded woodpecker habitat and establishing the linkages or corridors between Apalachicola National Forest and Tate's Hell State Forest populations. (VOTE: 5+, 0-)  
★★★★★
3. The team commends the manager and staff on the exemplary job of managing the exotic invasive plant species. (VOTE: 5+, 0-)  
★★★★★
4. The team commends the manager and staff on the restoration of the ruderal fields, by collecting seeds and reintroducing a diversity of groundcover vegetation over the area. This is a successful first step to achieving the goal of restoring the longleaf pine flatwoods community. (VOTE: 5+, 0-)  
★★★★★
5. The team commends the manager and staff for the long term planning and short term work that is being done to convert the 8,500 acres of pine plantations to a functioning longleaf community. (VOTE: 5+, 0-)  
★★★★★
6. The team commends the manager and staff for the shrub reduction techniques that have been implemented to restore the wet prairies on the property. (VOTE: 5+, 0-)  
★★★★★
7. The team commends the manager and staff on the hydrological restoration that has been 100% completed. This hydrological work is critical to the restoration of the wet prairies and the ephemeral wetlands. (VOTE: 5+, 0-)  
★★★★★
8. The team commends the manager on his outreach and cooperative efforts with the local governments, public and private land managers to enhance the overall health in the Apalachicola Basin. (VOTE: 5+, 0-)  
★★★★★

### Consensus Recommendations to the Managing Agency

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

*There were no recommendations.*

### Field Review Checklist Findings

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

- Natural Communities, regarding gum cypress/floodplain swamp, bottomland forest/floodplain forest, tidal freshwater marsh, cypress swamp/dome swamp, pine flatwoods, wet prairie, baygall, maritime hammocks, mixed pine hardwood/upland mixed.
- Listed Species, regarding animal inventory, RCW, bald eagle, wading birds, flatwoods salamander, river aquatics.

- Natural Resources, specifically listed species or habitat monitoring, sport fish, other non-game species or habit monitoring, fire effects monitoring, other habitat management effects monitoring and invasive survey/monitoring.
- Cultural Resources, regarding the cultural resource survey, protection and preservation of those resources.
- Resource Management, Prescribed fire, regarding area being burned (no. acres), frequency and quality.
- Restoration of Ruderal Areas, regarding Howards Creek Ruderal, hydrologic restoration, RCW, ephemeral ponds restoration and wet prairie restoration.
- Forest Management, regarding timber inventory, timber harvesting and reforestation/afforestation.
- Non-native, Invasive and Problem Species, regarding the prevention and control of plants, animals and pests/pathogens.
- Hydrologic/Geologic Function, regarding roads/culverts, ditches, hydro-period alteration, dams, reservoirs or other impoundments.
- Ground Water Monitoring, regarding the water quality and quantity.
- Surface Water Monitoring, regarding the water quality and quantity.
- Resource Protection, regarding boundary survey, gates & fencing, signage and law enforcement presence.
- Adjacent Property Concerns, regarding inholdings/additions.
- Public Access & Education, regarding roads, parking and boat access
- Environmental Education & Outreach, regarding wildlife, invasive species, habitat management activities, interpretive facilities and signs, recreational opportunities and management of visitor impacts.
- Maintenance & Infrastructure, regarding waste disposal and sanitary facilities, buildings, equipment, staff and funding.

#### **Items Requiring Improvement Actions in the Management Plan**

The following items received low scores on the review team checklist, which indicates that the text noted in the Management Plan Review does not sufficiently address this issue (less than .5 score on average.). Please note that overall good scores do not preclude specific recommendations by the review team requiring remediation. The management plan must include responses to the checklist items identified below:

#### **I. Adjacent property concerns, regarding discussion of potential surplus land determination, with documentation in the management plan.**

*Managing Agency Response:* FWC notes that a discussion of potential surplus, inholding and addition lands are discussed on pages 19 and 147-148 of the current management plan. Adjacent land uses are discussed on pages 1-3 of the current management plan. FWC will expand the discussion of these topics and incorporate FWC's Optimal Conservation Planning Boundary process in the update to the management plan.

PLAN REVIEW		1	2	3	4	5	AVERAGE
<b>Natural Communities ( I.A )</b>							
Gum Cypress/Floodplain Swamp	I.A.1	1	1	1	1	1	1.00
Bottomland Forest/Floodplain Forest	I.A.2	1	1	1	1	1	1.00
Tidal Freshwater Marsh	I.A.3	1	1	1	1	1	1.00
Cypress Swamp/Dome Swamp	I.A.4	1	1	1	1	1	1.00
Pine Flatwoods	I.A.5	1		1	1	1	1.00
Wet Prairie	I.A.6	1		1	1	1	1.00
Baygall	I.A.7	1	1	1	1	1	1.00
Maritime Hammocks	I.A.8	1	1	1	1	1	1.00
Mixed Pine Hardwoods/Upland Mixed	I.A.9	1		1	1	1	1.00
<b>Listed species:Protection &amp; Preservation ( I.B )</b>							
Animal Inventory	I.B.1	1		1	1	1	1.00
RCW	I.B.1.a	1	1	1	1	1	1.00
Bald Eagle	I.B.1.b	1	1	1	1	1	1.00
Wading Birds	I.B.1.c	1	1	1	1	1	1.00
Flatwoods Salamander	I.B.1.d	1	1	1	1	1	1.00
River Aquatics	I.B.1.e	1	1	1	1	1	1.00
Plant Inventory	I.B.2	1		1	1	1	1.00
<b>Natural Resources Survey/Management Resources (I.C)</b>							
Sport fish or habitat monitoring	I.C.1	1	1	1	1	1	1.00
Listed species or habitat monitoring	I.C.2	1	1	1	1	1	1.00
Other non-game species or habitat monitoring	I.C.3	1	1	1	1	1	1.00
Fire effects monitoring	I.C.4	1	1	1	1	1	1.00
Other habitat management effects monitoring	I.C.5	1	1	1	1		1.00
Invasive species survey / monitoring	I.C.6	1	1	1	1	1	1.00
<b>Cultural Resources (Archeological &amp; Historic sites) (II.A,II.B )</b>							
Cultural Res. Survey	II.A	1	1	1	1	1	1.00
Protection and preservation	II.B	1	1	1	1	1	1.00
<b>Resource Management, Prescribed Fire (III.A)</b>							
Area Being Burned (no. acres)	III.A.1	1	1	1	1	1	1.00
Frequency	III.A.2	1	1	1	1	1	1.00
Quality	III.A.3	1	1	1	1	1	1.00
<b>Restoration of Ruderal Areas (III.B)</b>							
Howards Creek Ruderal	III.B.1	1	1	1	1	1	1.00
Hydrologic Restoration	III.B.2	1	1	1	1	1	1.00
RCW	III.B.3	1	1	1	1	1	1.00
Ephemeral Ponds Restoration	III.B.4	1	1	0	1	1	0.80
Wet Prairie Restoration	III.B.5	1		1	1	1	1.00

<b>Forest Management (III.C)</b>							
Timber Inventory	III.C.1	1		1	1	1	1.00
Timber Harvesting	III.C.2	1		1	1	1	1.00
Reforestation/Afforestation	III.C.3	1		1	1	1	1.00
<b>Non-Native, Invasive &amp; Problem Species (III.E)</b>							
<b>Prevention</b>							
prevention - plants	III.E.1.a	1	1	1	1	1	1.00
prevention - animals	III.E.1.b	1	1	1	1	1	1.00
prevention - pests/pathogens	III.E.1.c	1	1	1	1	1	1.00
<b>Control</b>							
control - plants	III.E.2.a	1	1	1	1	1	1.00
control - animals	III.E.2.b	1	1	1	1	1	1.00
control - pest/pathogens	III.E.2.c	1	1	1	1	1	1.00
<b>Hydrologic/Geologic function Hydro-Alteration (III.F.1)</b>							
Roads/culverts	III.F.1.a	1	1	1	1	1	1.00
Ditches	III.F.1.b	1	1	1	1	1	1.00
Hydro-period Alteration	III.F.1.c	1	1	1	1	1	1.00
Dams, Reservoirs or other impoundments	III.F.1.e			1	1		1.00
<b>Ground Water Monitoring (III.F.2)</b>							
Ground water quality	III.F.2.a	1	1	1	1	1	1.00
Ground water quantity	III.F.2.b	1	1	1	1	1	1.00
<b>Surface Water Monitoring (III.F.3)</b>							
Surface water quality	III.F.3.a	1	1	1	1	1	1.00
Surface water quantity	III.F.3.b	1	1	1	1	1	1.00
<b>Resource Protection (III.G)</b>							
Boundary survey	III.G.1	1	1	1	1	1	1.00
Gates & fencing	III.G.2	1	1	1	1	1	1.00
Signage	III.G.3	1	1	1	1	1	1.00
Law enforcement presence	III.G.4	1	1	1	1	1	1.00
<b>Adjacent Property Concerns (III.H)</b>							
<b>Land Use</b>							
Inholdings/additions	III.H.2	1	1	1	1	1	1.00
Discussion of Potential Surplus Land Determination	III.H.3	0		0	1	1	0.50
Surplus Lands Identified?	III.H.4	1	1	1	1	1	1.00
<b>Public Access &amp; Education</b>							
<b>Public Access</b>							
Roads	IV.1.a	1	1	1	1	1	1.00
Parking	IV.1.b	1	1	1	1	1	1.00
Boat Access	IV.1.c	1	1	1	1	1	1.00
<b>Environmental Education &amp; Outreach</b>							

Wildlife	IV.2.a	1	1	1	1	1	1.00
Invasive Species	IV.2.b	1	1	1	1	1	1.00
Habitat Management Activities	IV.2.c	1	1	1	1	1	1.00
Interpretive facilities and signs	IV.3	1	1	1	1	1	1.00
Recreational Opportunities	IV.4	1	1	1	1	1	1.00
Management of Visitor Impacts	IV.5	1	1	1	1	1	1.00
<b>Managed Area Uses</b>							
<b>Existing Uses</b>							
Hunting	VI.A.1	1	1	1	1	1	1.00
Fishing	VI.A.2	1	1	1	1	1	1.00
Wildlife Viewing	VI.A.3	1	1	1	1	1	1.00
Picnicking	VI.A.4	1	1	1	1	1	1.00
Camping	VI.A.5	1	1	1	1	1	1.00
Canoeing/Kayaking/Boating	VI.A.6	1	1	1	1	1	1.00
Hiking	VI.A.7	1	1	1	1	1	1.00
Horseback Riding	VI.A.8	1	1	1	1	1	1.00
Bicycling	VI.A.9	1	1	1	1	1	1.00

#### Items Requiring Improvement Actions in the Field

The following items received low scores on the review team checklist, which indicates that management actions noted during the Field Review were not considered sufficient (less than 2.5 score on average). Please note that overall good scores do not preclude specific recommendations by the review team requiring remediation. The management plan must include responses to the checklist items identified below:

There were no low scores

FIELD REVIEW		1	2	3	4	5	AVERAGE
<b>Natural Communities ( I.A )</b>							
Gum Cypress/Floodplain Swamp	I.A.1	X	5	5	5	5	5.00
Bottomland Forest/Floodplain Forest	I.A.2	X	5	5	5	5	5.00
Tidal Freshwater Marsh	I.A.3	X	5	5	5	5	5.00
Cypress Swamp/Dome Swamp	I.A.4	5	5	5	5	4	4.80
Pine Flatwoods	I.A.5	4	4	5	5	3	4.20
Wet Prairie	I.A.6	5	4	5	5	3	4.40
Baygall	I.A.7	5	5	5	5	5	5.00
Maritime Hammocks	I.A.8	5	5	5	5	4	4.80
Mixed Pine Hardwoods/Upland Mixed	I.A.9	5	5	5	5	4	4.80
<b>Listed species: Protection &amp; Preservation ( I.B )</b>							
Animal Inventory	I.B.1	5		5	5	4	4.75
RCW	I.B.1.a	5	4	5	5	4	4.60
Bald Eagle	I.B.1.b	5	4	5	5	4	4.60
Wading Birds	I.B.1.c	5	4	5	5	3	4.40
Flatwoods Salamander	I.B.1.d	5	4	5	5	3	4.40

River Aquatics	I.B.1.e	5	4	5	5	4	4.60
Plant Inventory	I.B.2	5	5	5	5	4	4.75
<b>Natural Resources Survey/Management Resources (I.C)</b>							
Sport fish or habitat monitoring	I.C.1	5	3	5	5	4	4.40
Listed species or habitat monitoring	I.C.2	5	4	5	5	4	4.60
Other non-game species or habitat monitoring	I.C.3	5	4	5	5	3	4.40
Fire effects monitoring	I.C.4	5	5	5	5	4	4.80
Other habitat management effects monitoring	I.C.5	5	4	5	5	3	4.40
Invasive species survey / monitoring	I.C.6	5	3	5	5	3	4.20
<b>Cultural Resources (Archeological &amp; Historic sites) (II.A,II.B )</b>							
Cultural Res. Survey	II.A	5	4	5	5	4	4.60
Protection and preservation	II.B	5	4	5	5	4	4.60
<b>Resource Management, Prescribed Fire (III.A)</b>							
Area Being Burned (no. acres)	III.A.1	5	5	5	5	4	4.80
Frequency	III.A.2	5	5	5	5	4	4.80
Quality	III.A.3	5	5	5	5	4	4.80
<b>Restoration of Ruderal Areas (III.B)</b>							
Howards Creek Ruderal	III.B.1	5	4	5	5	4	4.60
Hydrologic Restoration	III.B.2	5	4	5	5	4	4.60
RCW	III.B.3	5	4	5	5	3	4.40
Ephemeral Ponds Restoration	III.B.4	5	4	5	5	4	4.60
Wet Prairie Restoration	III.B.5	5	5	5	5	4	4.75
<b>Forest Management (III.C)</b>							
Timber Inventory	III.C.1	5	5	5	5	4	4.75
Timber Harvesting	III.C.2	3	5	5	5	4	4.25
Reforestation/Afforestation	III.C.3	5	5	5	5	3	4.50
<b>Non-Native, Invasive &amp; Problem Species (III.E)</b>							
<b>Prevention</b>							
prevention - plants	III.E.1.a	5	4	5	5	3	4.40
prevention - animals	III.E.1.b	5	3	5	4	3	4.00
prevention - pests/pathogens	III.E.1.c	5	4	5	4	3	4.20
<b>Control</b>							
control - plants	III.E.2.a	5	4	5	4	4	4.40
control - animals	III.E.2.b	4	4	5	4	3	4.00
control - pest/pathogens	III.E.2.c	5	4	5	5	3	4.40
<b>Hydrologic/Geologic function Hydro-Alteration (III.E.1)</b>							
Roads/culverts	III.F.1.a	5	5	5	5	4	4.80
Ditches	III.F.1.b	5	5	5	5	5	5.00
Hydro-period Alteration	III.F.1.c	5	5	5	5	4	4.80
Dams, Reservoirs or other impoundments	III.F.1.e	5	5	5	5	5	5.00

<b>Ground Water Monitoring (III.F.2)</b>							
Ground water quality	III.F.2.a	5	4	5	5	3	4.40
Ground water quantity	III.F.2.b	5	4	5	5	3	4.40
<b>Surface Water Monitoring (III.E.3)</b>							
Surface water quality	III.F.3.a	5	4	5	5	3	4.40
Surface water quantity	III.F.3.b	5	4	5	5	3	4.40
<b>Resource Protection (III.F)</b>							
Boundary survey	III.G.1	2	4	5	5	3	3.80
Gates & fencing	III.G.2	5	4	5	5	4	4.60
Signage	III.G.3	5	4	5	5	3	4.40
Law enforcement presence	III.G.4	5	4	5	5	4	4.60
<b>Adjacent Property Concerns (III.G)</b>							
<b>Land Use</b>							
Inholdings/additions	III.H.2		4	5	5	3	4.25
<b>Public Access &amp; Education</b>							
<b>Public Access</b>							
Roads	IV.1.a	5	4	5	5	4	4.60
Parking	IV.1.b	5	4	5	5	4	4.60
Boat Access	IV.1.c	5	5	5	5	4	4.80
<b>Environmental Education &amp; Outreach</b>							
Wildlife	IV.2.a	5	4	5	5	4	4.60
Invasive Species	IV.2.b	2	4	5	5	3	3.80
Habitat Management Activities	IV.2.c	5	4	5	5	4	4.60
Interpretive facilities and signs	IV.3	5	3	5	5	4	4.40
Recreational Opportunities	IV.4	5	5	5	5	5	5.00
Management of Visitor Impacts	IV.5	5		5	5	4	4.75
<b>Management Resources</b>							
<b>Maintenance</b>							
Waste disposal	V.1.a	4	4	5	4	4	4.20
Sanitary facilities	V.1.b	5	4	5	3	4	4.20
<b>Infrastructure</b>							
Buildings	V.2.a	5	X	5	5	4	4.75
Equipment	V.2.b	5	4	4	5	4	4.40
Staff	V.3	5	X	4	5	4	4.50
Funding	V.4	5	X	4	5	4	4.50

**Fish and Wildlife Conservation Commission Manager and Key Staff Present:**

- Matthew Hortman, Manager
- Phil Manor
- Billy Sermons
- Derek Fussell

## **APPENDIX:**

**The following comments represent individual comments, and may not represent the consensus of the land management review team.**

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

- Pine plantation areas. Wet prairie restoration currently mapped with pine plantation.
- 

### **I.C. Natural Resource Survey/Monitoring Resources**

- Sturgeon, striped bass. Songbirds in spring, herpetofaunal surveys. Listed plants documented w/sampling/monitoring during habitat restoration no targeted.
- 

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

- Two active monitors onsite; others annual monitors. 1998 survey was done and list compiled (where is this list? In plan or add to new plan. None with structures remaining that could be damaged).
- Add interpretation to shell mound along pathways.
- Efforts and research have corrected mislocation of existing sites. Continued work is needed to implement specific monitoring protocols (e.g. photoplots). Suggest more interpretive information be provided about these sites and their historical areas at park kiosks.

### **III.A. Resource Management**

- Total # of five maintained acreage. All burned except 400 acres near some inholdings. Marshes/tidals 4-6 some burns.

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

- Done by NWT/WMD plan developed in 2004 & last structure implemented in 2009. Wet prairies are having longer hydroperiods so helping w/restoration of groundcover

### **III.C. Forest Management**

- All for natural community restoration.

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

- Reed. Is it going to be treated?
- Minimize disturbance, contractors wash equipment, boat user notified, respond with treatment quickly. Rapid response when detected. No importing of firewood, with language at kiosks. cogongrass protocol not specified and staff says no plots eliminated, only kept from spreading. Hunting when hog disturbed area seen – 5 nights/year, no evidence of hogs during 2-day site reviews. Sawfly sprayed.

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

- Should be monitored more to see about opening them up.
- Re-constructed graded less steeply. 3 structures at old borrow pits to change weirs for waterfowl. NWF/WMD – ground water well at Saul Creek property. DEP & FWC does some testing – random well samples tested

### **III.G. Resource Protection**

- Please finish boundary marking on west side (toward south end) of Sauls Creek Management Area.
- Named & numbered road signs up.

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

- Owners (most) very cooperative w/management & exotic control. Discussed in new management plan in more detail re process of determining.

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

- Along w/wildlife classroom information sessions, have invasive species information classes. Would be nice for sanitary facility at boat ramp, but understand that vandalism would negate improvements.
- Some areas can be closed by administrative order if necessary to protect resources. Apiary leases also – where mentioned? Food plots confined to ruderal areas. Fences, signage in problem areas, barriers, camping allowed but materials restricted and some areas restricted; signs regarding removing resources; conflicts between user groups limited by placement of usage areas.

#### **V. Infrastructure/ Management Resources**

- Staff very good w/disposal of e.g. pesticide, herbicide disposal. Except the shop looked great! Equipment good but also very good cooperation w/other agencies for needed equipment occasional. 2011 management money was just >500,000 (exclusive of salary) but down to \$356,000 for next year.

#### **Management Review Determination**

- Excellent job fulfilling purpose.

## 13.4 Soil Series Descriptions

## Map Unit Description

Franklin County, Florida

[Minor map unit components are excluded from this report]

Map unit: 2 - Albany fine sand

Component: Albany (86%)

*The Albany component makes up 86 percent of the map unit. Slopes are 0 to 2 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 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 21 inches during January, February, March, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 4 - Dirego and Bayvi soils, tidal

Component: Dirego (50%)

*The Dirego component makes up 50 percent of the map unit. Slopes are 0 to 1 percent. This component is on tidal marshes on marine terraces on coastal plains. The parent material consists of herbaceous organic material over sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 43 percent. Nonirrigated land capability classification is 8. This soil meets hydric criteria. The soil has a strongly saline horizon within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 40 within 30 inches of the soil surface.*

Component: Bayvi (40%)

*The Bayvi component makes up 40 percent of the map unit. Slopes are 0 to 1 percent. This component is on tidal marshes on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 14 percent. Nonirrigated land capability classification is 8. This soil meets hydric criteria. The soil has a strongly saline horizon within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 60 within 30 inches of the soil surface.*

Map unit: 5 - Aquents, nearly level

Component: Aquents (50%)

*The Aquents component makes up 50 percent of the map unit. Slopes are 0 to 2 percent. This component is on tidal marshes on marine terraces on coastal plains. The parent material consists of marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 21 inches during January, February, March, April, December. This soil does not meet hydric criteria.*

Component: Aquents (50%)

*The Aquents component makes up 50 percent of the map unit. Slopes are 0 to 2 percent. This component is on tidal marshes on marine terraces on coastal plains. The parent material consists of marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, December. This soil meets hydric criteria.*

## Map Unit Description

Franklin County, Florida

Map unit: 7 - Bohicket and Tisonia soils, tidal

Component: Bohicket (45%)

*The Bohicket component makes up 45 percent of the map unit. Slopes are 0 to 1 percent. This component is on tidal marshes on marine terraces on coastal plains. The parent material consists of loamy and clayey marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is high. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 15 percent. Nonirrigated land capability classification is 8. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent. The soil has a strongly saline horizon within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 30 within 30 inches of the soil surface.*

Component: Tisonia (40%)

*The Tisonia component makes up 40 percent of the map unit. Slopes are 0 to 1 percent. This component is on tidal marshes on marine terraces on coastal plains. The parent material consists of organic material over clayey alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is very high. Shrink-swell potential is high. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 48 percent. Nonirrigated land capability classification is 8. This soil meets hydric criteria. The soil has a strongly saline horizon within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 4 within 30 inches of the soil surface.*

Map unit: 8 - Ridgewood sand, 0 to 5 percent slopes

Component: Ridgewood (90%)

*The Ridgewood 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 sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 33 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 11 - Dorovan-Pamlico complex, depressional

Component: Dorovan, depressional (55%)

*The Dorovan, depressional component makes up 55 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of organic material. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 50 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Component: Pamlico, depressional (30%)

*The Pamlico, depressional component makes up 30 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of herbaceous organic material over sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is 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, December. Organic matter content in the surface horizon is about 50 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

## Map Unit Description

Franklin County, Florida

Map unit: 12 - Lynchburg loamy fine sand

Component: Lynchburg (88%)

*The Lynchburg component makes up 88 percent of the map unit. Slopes are 0 to 3 percent. This component is on rises on marine terraces on coastal plains. The parent material consists of loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat 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 21 inches during January, February, March, April, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 13 - Hurricane sand

Component: Hurricane (90%)

*The Hurricane component makes up 90 percent of the map unit. Slopes are 0 to 3 percent. This component is on flats on marine terraces on coastal plains, rises on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 33 inches during January, February, March, April, November, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 20 - Lynn Haven sand

Component: Lynn Haven, hydric (59%)

*The Lynn Haven, hydric component makes up 59 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

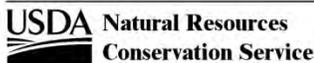
Component: Lynn Haven, non-hydric (30%)

*The Lynn Haven, non-hydric component makes up 30 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 21 - Leefield sand

Component: Leefield (89%)

*The Leefield component makes up 89 percent of the map unit. Slopes are 0 to 3 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 somewhat 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 23 inches during January, February, March, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. There are no saline horizons within 30*



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## Map Unit Description

Franklin County, Florida

Map unit: 21 - Leefield sand

Component: Leefield (89%)

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

Map unit: 22 - Leon sand, 0 to 2 percent slopes

Component: Leon (80%)

*The Leon component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on flatwoods, marine terraces, coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 5 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. This component is in the R152AY004FL North Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. Irrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.*

Map unit: 23 - Maurepas muck, frequently flooded

Component: Maurepas (90%)

*The Maurepas component makes up 90 percent of the map unit. Slopes are 0 to 1 percent. This component is on tidal marshes on marine terraces on coastal plains. The parent material consists of woody organic material. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 65 percent. Nonirrigated land capability classification is 8. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 24 - Mandarin fine sand

Component: Mandarin (85%)

*The Mandarin component makes up 85 percent of the map unit. Slopes are 0 to 3 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat 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 27 inches during June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

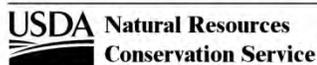
Map unit: 25 - Chowan, Brickyard, and Kenner soils, frequently flooded

Component: Chowan (55%)

*The Chowan component makes up 55 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of loamy marine deposits over organic material. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Component: Brickyard (25%)

*The Brickyard component makes up 25 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains on marine*



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## Map Unit Description

Franklin County, Florida

Map unit: 25 - Chowan, Brickyard, and Kenner soils, frequently flooded

Component: Brickyard (25%)

*terraces on coastal plains. The parent material consists of silty and clayey alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, June, July, August, December. Organic matter content in the surface horizon is about 6 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Component: Kenner (15%)

*The Kenner component makes up 15 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of stratified herbaceous organic material and clayey alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 55 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 6 within 30 inches of the soil surface.*

Map unit: 26 - Duckston sand, occasionally flooded

Component: Duckston (89%)

*The Duckston component makes up 89 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is very 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 6 inches during January, February, March, April, May, June, July, August, September, October, November, December. 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 moderately saline horizon within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 14 within 30 inches of the soil surface.*

Map unit: 27 - Pelham fine sand

Component: Pelham, non-hydric (50%)

*The Pelham, non-hydric component makes up 50 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 loamy marine deposits over sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 5w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Component: Pelham, hydric (35%)

*The Pelham, hydric 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 January, February, March, April. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 5w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

## Map Unit Description

Franklin County, Florida

Map unit: 28 - Plummer fine sand

Component: Plummer, hydric (65%)

*The Plummer, hydric component makes up 65 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 January, February, June, July, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Component: Plummer, non-hydric (20%)

*The Plummer, non-hydric component makes up 20 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 moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, June, July, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 29 - Resota fine sand, 0 to 5 percent slopes

Component: Resota (88%)

*The Resota component makes up 88 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 51 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 30 - Rutlege loamy fine sand, depressional

Component: Rutlege, depressional (89%)

*The Rutlege, depressional component makes up 89 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 6 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 31 - Rutlege fine sand

Component: Rutlege (92%)

*The Rutlege component makes up 92 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

## Map Unit Description

Franklin County, Florida

Map unit: 32 - Sapelo fine sand

Component: Sapelo, non-hydric (75%)

*The Sapelo, non-hydric component makes up 75 percent of the map unit. Slopes are 0 to 2 percent. This component is on flatwoods on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Component: Sapelo, hydric (10%)

*The Sapelo, hydric component makes up 10 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, November. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 33 - Scranton fine sand

Component: Scranton (75%)

*The Scranton component makes up 75 percent of the map unit. Slopes are 0 to 2 percent. This component is on flatwoods on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April, November, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 34 - Surrency fine sand

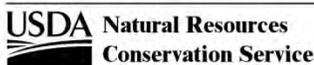
Component: Surrency (88%)

*The Surrency component makes up 88 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of 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 not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 6 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 36 - Pickney-Pamlico complex, depressional

Component: Pickney, depressional (45%)

*The Pickney, depressional component makes up 45 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 and/or fluvio-marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, November, December. Organic matter content in the surface horizon is about 8 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*



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## Map Unit Description

Franklin County, Florida

Map unit: 36 - Pickney-Pamlico complex, depressional

Component: Pamlico, depressional (40%)

*The Pamlico, depressional component makes up 40 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 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, November, December. Organic matter content in the surface horizon is about 50 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 37 - Tooles-Meadowbrook complex, depressional

Component: Tooles, depressional (58%)

*The Tooles, depressional component makes up 58 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 over limestone. Depth to a root restrictive layer, bedrock, paralithic, is 40 to 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, June, July, August, September, October. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Component: Meadowbrook, depressional (32%)

*The Meadowbrook, depressional component makes up 32 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, June, July, August, September, October. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 39 - Scranton sand, slough

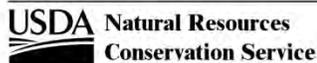
Component: Scranton, slough (88%)

*The Scranton, slough component makes up 88 percent of the map unit. Slopes are 0 to 2 percent. This component is on sloughs 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 low. Shrink-swell potential is low. This soil is rarely flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, November, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 41 - Pamlico-Pickney complex, frequently flooded

Component: Pamlico (45%)

*The Pamlico component makes up 45 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of herbaceous organic material 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 frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 50 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface.*



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## Map Unit Description

Franklin County, Florida

Map unit: 41 - Pamlico-Pickney complex, frequently flooded

Component: Pamlico (45%)

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

Component: Pickney (40%)

*The Pickney component makes up 40 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of sandy marine deposits and/or fluvio-marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, November, December. Organic matter content in the surface horizon is about 8 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 42 - Meadowbrook, Meggett, and Tooloes soils, frequently flooded

Component: Meadowbrook (35%)

*The Meadowbrook component makes up 35 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, August, September, October, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Component: Meggett (30%)

*The Meggett component makes up 30 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of clayey fluvio-marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, November, December. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Component: Tooloes (22%)

*The Tooloes component makes up 22 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits over limestone. Depth to a root restrictive layer, bedrock, paralithic, is 40 to 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 5w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 45 - Wehadkee-Meggett complex, frequently flooded

Component: Wehadkee (42%)

*The Wehadkee component makes up 42 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. There are no saline horizons within 30 inches of*

## Map Unit Description

Franklin County, Florida

Map unit: 45 - Wehadkee-Meggett complex, frequently flooded

Component: Wehadkee (42%)

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

Component: Meggett (40%)

*The Meggett component makes up 40 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of clayey fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is high. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, November, December. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 6v. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 99 - Water

Component: Water (100%)

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

Map unit: 100 - Waters of the Gulf of Mexico

Component: Gulf of Mexico (100%)

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

## Map Unit Description

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

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

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

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

## Map Unit Description

Gulf County, Florida

[Minor map unit components are excluded from this report]

Map unit: 2 - Albany sand

Component: Albany (80%)

*The Albany component makes up 80 percent of the map unit. Slopes are 0 to 2 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. 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 21 inches during January, February, March, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 4 - Aqents, gently undulating

Component: Aqents (100%)

*The Aqents component makes up 100 percent of the map unit. Slopes are 0 to 5 percent. This component is on dredge spoil banks, 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 poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 6 - Blanton sand, 0 to 5 percent slopes

Component: Blanton (85%)

*The Blanton component makes up 85 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of sandy 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 very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 60 inches during March, April, May, 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. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 9 - Ridgewood fine sand

Component: Ridgewood (90%)

*The Ridgewood component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on rises on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 33 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 11 - Clarendon loamy fine sand, 2 to 5 percent slopes

Component: Clarendon (95%)

*The Clarendon component makes up 95 percent of the map unit. Slopes are 2 to 5 percent. This component is on rises on marine terraces on coastal plains. The parent material consists of loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well 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 30 inches during January, February, March, December. Organic matter content in the surface horizon is*

## Map Unit Description

Gulf County, Florida

Map unit: 11 - Clarendon loamy fine sand, 2 to 5 percent slopes

Component: Clarendon (95%)

*about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 12 - Dothan-Fuquay complex, 5 to 8 percent slopes

Component: Dothan (60%)

*The Dothan component makes up 60 percent of the map unit. Slopes are 5 to 8 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of loamy and clayey marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well 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 48 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Component: Fuquay (30%)

*The Fuquay component makes up 30 percent of the map unit. Slopes are 5 to 8 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 60 inches during January, February, March. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 13 - Dorovan-Croatan complex, depressional

Component: Dorovan (50%)

*The Dorovan component makes up 50 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of 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 3 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 50 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

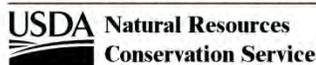
Component: Croatan (40%)

*The Croatan component makes up 40 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of organic material over loamy marine or fluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is rarely flooded. It is not ponded. A seasonal zone of water saturation is at 0 inches during August, September, October. Organic matter content in the surface horizon is about 43 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 15 - Wahee fine sandy loam

Component: Wahee (85%)

*The Wahee component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on stream terraces on marine terraces on coastal plains. The parent material consists of loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, December. Organic matter content in the surface horizon is*



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## Map Unit Description

Gulf County, Florida

Map unit: 15 - Wahee fine sandy loam

Component: Wahee (85%)

*about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 17 - Fuquay loamy fine sand

Component: Fuquay (80%)

*The Fuquay component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 60 inches during January, February, March. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 20 - Lynn Haven fine sand

Component: Lynn Haven (95%)

*The Lynn Haven component makes up 95 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during February, March, April, May, June, July, August, September. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 21 - Leefield loamy fine sand

Component: Leefield (85%)

*The Leefield component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy 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 low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 23 inches during January, February, March, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 22 - Leon fine sand

Component: Leon (95%)

*The Leon component makes up 95 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 high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during March, April, May, June, July, August, September. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

## Map Unit Description

Gulf County, Florida

Map unit: 23 - Maurepas muck, frequently flooded

Component: Maurepas (90%)

*The Maurepas component makes up 90 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of woody organic material. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 70 percent. Nonirrigated land capability classification is 8. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 25 - Meggett fine sandy loam, occasionally flooded

Component: Meggett (95%)

*The Meggett component makes up 95 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of clayey fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, November, December. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 26 - Ocilla loamy fine sand, overwash, occasionally flooded

Component: Ocilla, overwash (88%)

*The Ocilla, overwash component makes up 88 percent of the map unit. Slopes are 0 to 2 percent. This component is on stream terraces 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 low. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 21 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 34 - Pickney and Rutlege soils, depressional

Component: Pickney, depressional (40%)

*The Pickney, depressional component makes up 40 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 and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, November, December. Organic matter content in the surface horizon is about 7 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Component: Rutlege, depressional (35%)

*The Rutlege, depressional component makes up 35 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 and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

## Map Unit Description

Gulf County, Florida

Map unit: 34 - Pickney and Rutlege soils, depressional

Component: Rutlege, depressional (35%)  
of the soil surface.

Map unit: 35 - Stilson loamy fine sand, 0 to 5 percent slopes

Component: Stilson (88%)

*The Stilson component makes up 88 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 moderately well 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 33 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 36 - Sapelo sand

Component: Sapelo (90%)

*The Sapelo component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flatwoods on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 37 - Scranton fine sand

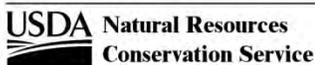
Component: Scranton (88%)

*The Scranton component makes up 88 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 high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 38 - Meadowbrook fine sand, occasionally flooded

Component: Meadowbrook (88%)

*The Meadowbrook component makes up 88 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, August, September, October, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*



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## Map Unit Description

Gulf County, Florida

Map unit: 40 - Brickyard silty clay, frequently flooded

Component: Brickyard (85%)

*The Brickyard component makes up 85 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of silty and clayey alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, June, July, August, December. Organic matter content in the surface horizon is about 6 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 41 - Brickyard, Chowan, and Kenner soils, frequently flooded

Component: Brickyard (30%)

*The Brickyard component makes up 30 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of silty and clayey alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, June, July, August, December. Organic matter content in the surface horizon is about 6 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Component: Chowan (25%)

*The Chowan component makes up 25 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of loamy marine deposits over organic material. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Component: Kenner (25%)

*The Kenner component makes up 25 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of stratified herbaceous organic material and clayey alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 40 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 6 within 30 inches of the soil surface.*

Map unit: 42 - Pottsburg fine sand

Component: Pottsburg (90%)

*The Pottsburg component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy marine deposits. 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 rarely flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during February, March, April, May, 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. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

## Map Unit Description

Gulf County, Florida

Map unit: 44 - Pamlico-Pickney complex, frequently flooded

Component: Pamlico (55%)

*The Pamlico component makes up 55 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of herbaceous organic material 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 high. Shrink-swell potential is low. This soil is frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 50 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Component: Pickney (40%)

*The Pickney component makes up 40 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of sandy marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, May, June, November, December. Organic matter content in the surface horizon is about 7 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 45 - Croatan-Surrency complex, frequently flooded

Component: Croatan (45%)

*The Croatan component makes up 45 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of organic material over loamy marine or fluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 43 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Component: Surrency (35%)

*The Surrency component makes up 35 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of 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 frequently flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 15 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 50 - Wahee-Mantachie-Ocklocknee complex, commonly flooded

Component: Wahee (45%)

*The Wahee component makes up 45 percent of the map unit. Slopes are 0 to 2 percent. This component is on stream terraces on marine terraces on coastal plains. The parent material consists of loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during January, February, March, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

## Map Unit Description

Gulf County, Florida

Map unit: 50 - Wahee-Mantachie-Ocklocknee complex, commonly flooded

Component: Mantachie (25%)

*The Mantachie component makes up 25 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Component: Ochlockonee (20%)

*The Ochlockonee component makes up 20 percent of the map unit. Slopes are 0 to 3 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well 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 occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 48 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.*

Map unit: 99 - Water

Component: Water (100%)

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

## Map Unit Description

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

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

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

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

## 13.5 Timber Assessment

**Apalachicola River Wildlife and Environmental Area  
Timber Management Assessment**

**Prepared by: Leon Irvin - State Lands Silviculturist - Florida Division of Forestry (2001-02)**

**Updated By: Matthew Hortman – Biological Scientist III – Florida Fish and Wildlife  
Conservation Commission (2012) and**

**Jason Love – Senior Forester – Florida Forest Service (2013)**

**I. Purpose**

This document is intended to fulfill the timber assessment requirement for the Apalachicola River Wildlife and Environmental Area (ARWEA) as required by Section 253.036, Florida Statutes. The goal of this *Timber Assessment* is to evaluate the potential and feasibility of utilizing silvicultural techniques in assisting managers in achieving objectives at ARWEA.

**II. General Information**

The ARWEA is divided into 13 different Timber Management Units (Figure 1), designed for timber management/planning purposes. The 13 Timber Management Units account for 25,651 acres of the 65,540 acre Apalachicola River WEA where FWC is the lead agency; 11,881 of those acres are dominated by pine species (slash, loblolly, longleaf and sand) which will be include in this timber assessment (Figure 2). A Florida Natural Areas Inventory survey conducted in 2011 shows that 49% of the ARWEA consists of pine plantation; much of these areas were historically typed as mesic and wet flatwoods and wet prairie. The remaining acres within these timber management units consists of a variety of non-pine dominated community types, including alluvial forest, bottomland forest, basin swamp, tidal marsh, hammocks, and baygall.

Timber Management Units 1, 2 and 3 make up the Bloody Bluff Tract with approximately 4,877 acres, of which approximately 2,868 acres are pine dominated; pine dominated stands are predominately planted slash or loblolly stands that have been thinned to a seed tree cut of 30 to 40 trees per acre. Some natural volunteer regeneration has already taken place within the slash and loblolly pines. In addition, 1,979 acres have been under planted with longleaf pine. The remaining 2,009 acres are comprised of bottomland forest with mixed slash, loblolly, and longleaf pines and hardwoods, floodplain swamp, basin swamp, and baygall.

Timber Management Units 4 and 5 make up the Quinn Tract with approximately 5,898 acres. Approximately 2,818 acres are pine dominated stands much of which is slash pine plantation (~2,288 acres). The remaining 3,080 acres includes bottomland forest with natural slash pine mixed with hardwoods, floodplain swamp, bottomland forest, basin swamp, and baygall.

Timber Management Units 6, 7 and 8 make up the Sand Beach Tract at approximately 5,910 acres. Of the approximately 3,065 acres of pine dominated stands nearly 2,582 acres are in planted slash pine plantation. The remaining acreage is made up of floodplain swamp, basin marsh, tidal marsh, and a small section of upland mixed forest, hydric, mesic and maritime hammock with interspersed depression marshes.

Timber Management Unit 9 makes up the Doyle Creek Tract which is approximately 2,768 acres, approximately 1,742 acres is slash pine dominated of which 1,580 acres is planted slash pine plantation. The remainder of this tract is made up of baygall, floodplain swamp, basin swamp, and tidal marsh.

Timber Management Units 10 and 11 make up the Magnolia Bluff Tract and Cash Creek Tract

respectively. These two units are smaller outlying parcels that are bounded by private property and property managed by Florida's Department of Agricultural and Consumer Services, Florida Forest Service's Tate's Hell State Forest (Bear Creek Tract). The units are 470 and 95 acres, respectively and have minimal timber assets at 335 acres between the two tracts. These two tracts are dominated by natural stands of sand, longleaf and slash pine in scrubby, mesic and wet flatwoods. The remainder of the unit is tidal marsh, baygall, and a small section of maritime hammock and sandhill.

Timber Management Units 12 and 13 make up the Saul Creek Tract with approximately 5,633 acres. There are approximately 468 acres of planted loblolly, slash, and longleaf pine, and approximately 585 acres of natural slash and loblolly pine dominated stands. The remaining 4,580 acres of the 2 units is dominated by floodplain swamp, ruderal fields, tidal marsh, and baygall.

The approximately 37,550 acres of the original Environmentally Endangered Lands (EEL) Tract (and other CARL program acquisitions) make up the remaining acreage of the Apalachicola River WEA. This area is dominated by gum-cypress floodplain swamps and bottomland forest grading into tidal freshwater and estuarine marshes (primarily sawgrass) towards Apalachicola Bay. The floodplain swamp and bottomland forest is protected and managed for old growth flora with no mechanical harvest of timber resources. Therefore, this area will not be discussed in the Timber Management Assessment.

There are records of slash pine being planted on the ARWEA in the 1960s through 1990s. Core samples indicate that most of the present flatwoods forests were established during those four decades and are probably a result of a combination of planting and natural regeneration. Small areas, scattered over all the ARWEA, of bottomland forests contain natural longleaf pine, slash pine and loblolly pine, small pockets of wet prairie and cypress ponds, and hardwoods. The flatwoods consist of predominately planted slash, loblolly and limited acres of longleaf pine.

Re-establishing the natural hydrology, prescribed burning, timber thinning, invasive hardwood reduction, and reforestation have been the major management tools on the area since purchase by the state. Intensive silvicultural practices and land clearing for agronomic purposes have disrupted historical hydrologic patterns. Ditching, diking, bedding, and tram/road development has expedited drainage and altered the vegetative communities. A comprehensive hydrological assessment of the ARWEA was completed in 2004 by FWC in cooperation with the Northwest Florida Water Management District. The recommendations set forth by that plan have all been implemented as of 2009, with the exception of a few recommendations that were later deemed unnecessary. Recommendations included breaching dikes, plugging ditches, and installing culverts and hardened low water crossings to facilitate the hydrological restoration of the area.

A diversified fire management regime is employed on the ARWEA to increase species and habitat diversity. By using different fire return intervals (1-4 years), different intensities (determined by firing method), and seasonal timing (dormant vs. growing), prescribed burns create habitat diversity and a mosaic of vegetation patterns with regularly burned areas and fire shadow aspects. Most burning intervals are planned on a two-three year rotation. Because the previous property owners did not use prescribed fires, some areas of heavy fuel build up still remain.

In 1996, the first timber harvest since State ownership of the Sand Beach tract was completed (60 acres). This harvest was conducted to aid in both silvicultural and ecological restoration. Between 2002 and 2007, approximately 1,821 acres on the Sand Beach, Quinn and Doyle Creek tracts were

harvested. Also, 631 acres were thinned in 2009-2012 on the Quinn and Sand Beach tracts. All of this thinning is intended to improve the quality of the remaining timber and to increase the amount of ground vegetation by allowing more sunlight to reach the ground. The first thin in conjunction with a prescribed burn provides abundant open areas for natural ground cover regeneration, beneficial to native wildlife species and in particular Threatened & Endangered plant species on the area.

Reforestation is occurring naturally on many sites. Most of the natural reforestation occurring is from slash and loblolly pine regeneration which is being managed and controlled through prescribed burning and various mechanical treatments. The primary management technique for encouraging reforestation of desirable historic species (e.g., longleaf pine) will be protection of young trees and seedlings on these sites during vulnerable stages of growth from intensive fires or other damage. In addition, planting trees on selected sites will be used to increase the rate of reforestation and to ensure diversity. To date, 1,978 acres (1,762 acres from 1996-2000 and 216 acres in 2010) have been reforested with longleaf pine seedlings on the Bloody Bluff tract. Approximately 468 acres have been planted with longleaf, slash and loblolly pine on the Saul Creek area. An additional 165 acres of longleaf pine planting is planned for 2012-2013 on the Saul Creek area in ruderal field and mesic flatwoods sites.

### III. General Timber Management Guidelines

Timber management on Apalachicola River WEA should be viewed as a tool to facilitate ecosystem restoration and maintenance.

To better understand timber management methods, knowledge of a few silvicultural terms is useful. The first is Basal Area. An individual tree's basal area is its cross sectional area (in square feet) measured four and one-half feet above the ground. Basal Area per acre (BA) is the sum of the basal area of every tree within a stand divided the number of acres in the stand. A timber stand's tree stocking and density can be expressed in square feet of basal area per acre.

The next term is diameter breast height (DBH). This is the diameter of a tree measured at four and one-half feet above the ground. It is used in calculating the Basal Area and combined with height can determine the volume of each tree.

Fully stocked pine stands have enough trees per acre of a size large enough to utilize the growing space without causing over-crowding. Pine stands with 70 to 100 sq. ft. BA are considered fully stocked. More, smaller diameter trees than larger diameter ones are required to equal one square foot of basal area per acre. (For example: It takes 357 evenly spaced, six-inch diameter breast height trees per acre 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 of pine trees should provide sufficient needles to carry periodic fire while allowing adequate sunlight for native grasses to be maintained.

In natural, pine dominated forest systems trees die because they become old and less able to withstand insect and disease attack. (The life expectancy of slash pine is only around 100 years.) Bark beetles invade a weakened tree then multiply and kill some of its neighbors. This creates holes

in the canopy of various sizes that allow full sunlight to reach the forest floor. Lightning strikes and windstorms do the same thing. In addition, lightning caused fires burn away leaf litter and expose bare mineral soil. The bare soil and canopy openings permit large numbers of direct sunlight-dependent pine seedlings to become established and grow straight and tall. (Open grown pine trees appear short and have limbs close to the ground. Historical accounts of native pines describe trees that could only have been grown under somewhat crowded conditions.)

Pine seedlings become established in these holes at very high densities. It is not uncommon to have five to ten thousand seedlings per acre in scattered openings. (Visual evidence of this tight spacing has been lost due to past stump harvesting practices and frequent wildfires which burn above ground portions of the stumps.) Recurrent wildfires and competition for sunlight, moisture, and nutrients favor the strongest, fastest growing pine saplings. Trees die off continually over the life of a stand until mortality replaces the survivors with young seedlings in a never ending cycle. The result is an uneven aged stand where each group of trees created by a canopy opening is about the same age. However, the stand as a whole is a mosaic of clusters that have different ages and densities. Ecologically based timber management strives to mimic these natural processes and still be able to harvest trees that are destined to die anyway. The challenge is to capture the value of the timber while minimizing the impact on the system as a whole.

Stands having an adequate number of mature pines but lacking in young trees should have natural regeneration encouraged. Those with an insufficient number of seed trees may require artificial regeneration methods. In either case, palmettos and other underbrush may have to be controlled to facilitate seedling establishment.

Due to shading effects, trees grown in tight spacing produce fewer and smaller lower limbs. Trees with fewer limbs make more desirable timber products. Planting at least 400 seedlings per acre simulates the tight spacing of natural regeneration. It also helps insure the marketability of the pine trees and increases future management options.

Planting activities, group selection openings, underbrush control measures, and natural regeneration in thin stands will produce young trees of various sizes. A well stocked stand of young pine trees will usually require the removal of weak, diseased, and some overcrowded trees beginning by the age of 15 to 20 years. By this time, the crowns have grown together and ground cover begins to get shaded out. The percentage of live crown to total height of the dominant/codominant trees should be about 33% but no less than 25%. Harvesting a portion of the timber maintains healthy pine growth and allows sunlight to the forest floor, providing better conditions for healthy ground cover. Trees removed in the thinning process can be sold to generate revenue to be used in other land management projects. Likely markets for early thinnings from pine stands currently include pulpwood and chip-n-saw.

The need for second and later thinnings will depend on how low the BA was taken in the first thin and the subsequent growth rate of leave 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 ever more valuable products and therefore more money. Current market conditions have some second thinning products worth at least twice times as much as wood that was cut during the original harvest. 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 and a healthy ecosystem.

**NOTE: ALL TIMBER MANAGEMENT ACTIVITIES MUST COMPLY WITH THE CURRENT VERSION OF THE SILVICULTURE BEST MANAGEMENT PRACTICES MANUAL (BMP'S) FOR PUBLIC LANDS.**

**IV. Goals and Objectives Related to Timber Management**

The following Goals and Objectives for the ARWEA relate directly to timber management. Other objectives found in this 10 Year Management Plan relate specifically to recreational and non-timber management issues and are not listed here.

1. Continue silvicultural restoration of native ecosystems by using timber management as a tool to restore the health of the timber, understory, and ground cover strata.
2. A comprehensive and prescriptive timber management plan for the entire area, focusing on the pine dominated stands is needed. A complete timber inventory was completed in early 2012 to help guide the management plan planning process. The timber management plan shall include:

**2.1 Long Term Targets**

- A) Creation of spatially heterogeneous management units that include irregular, uneven- or all-aged stands
- B) Differentiation into distinct crown classes, size classes and distributions of trees
- C) Conversion of pure stands to ones of mixed species, composed primarily of longleaf pine
- D) Perpetual regeneration of fire-maintained forest stands
- E) Target objectives for restored, forested natural communities call for pine overstories composed predominately of longleaf pine.

**2.2 Intermediate-term goals and objectives**

- A) Drive stands toward composition (species frequency) that is dominated by longleaf pine
  - B) Create or maintain fine fuel conditions that promote safe use of prescribed fire
  - C) Create overstory structural diversity within and among management units.
3. Continue and increase efforts to restore fire dependent communities with emphasis on growing season burns and longleaf regenerations and seedling survival.

**V. Mesic Flatwoods**

According to a 2003 Florida Natural Areas Inventory (FNAI) mapping of historical land cover types, approximately 40% of the pine dominated forest land is found on historic mesic flatwoods within the ARWEA. An update of the current natural community types, done in 2011 by FNAI, on the ARWEA shows a significant reduction in mesic flatwoods on the area. Mesic flatwoods on the area currently account for only 10% of the pine dominated stands on the area, the remaining 30% of the historic mesic flatwoods on the area is currently typed as pine plantation or ruderal. The canopy cover varies from sparse to complete closure. Most of the area has been planted with predominantly slash pine and some loblolly pine in wetter sites. All planted pines occur in varying degrees of

density. Many of the pine stands have been row thinned or operator-select with additional thinning in leave rows while some areas have never been thinned. The understory consists of grasses, herbs, shrubs (mainly titi, gallberry and fetterbush), some oaks, and palmetto. Due to previous fire exclusion, hazardous fuel levels exist to a varying degree in this community. The majority of the areas typed as mesic flatwoods have seen a reintroduction of fire since the State's acquisition of the properties. Nearly all the natural species found in this community type are adapted to fire and several depend on fire for their continued existence.

### **Ecological Trends**

The mesic flatwoods ecotype, estimated at 5,304 acres historically, dwindled to 1,059 acres during previous ownership due to conversion of the areas to pine plantation and exclusion of fire for extended periods. The areas became overgrown with shrubs and the ground cover became severely suppressed or disappeared all together. Since the State acquisition and reintroduction of fire and mechanical treatments, such as timber operations, roller chopping, and mowing/mulching (Gyro-Trac), shrub cover has decreased and ground cover has increased. With the continued use of fire, select mechanical treatments, and tree planting, the flatwoods will succeed to an uneven-aged mosaic of different age classes.

### **Timber Resources**

The following description of the timber resource within the mesic flatwoods has been generalized to represent the majority of the stands within this community type. The reader should be aware that all acreage figures are derived by the use of aerial photographs and Geographic Information Systems software. Density estimates are based on a 2012 inventory of all pine dominated stands identified on the area. A comprehensive timber management/restoration plan would be beneficial to assist the area manager in long range planning of timber and planting activities.

These areas are characterized by a planted slash pine overstory with either a saw palmetto or gallberry and titi understory. Inclusions of wet flatwoods and wet prairie can also be found within these areas. Most of this ecotype was planted sometime in the 1960s through 1990s and is variable with regards to stocking levels, size classes, and densities.

Today, basal area on most of the mesic flatwoods range from 10 sq. ft/ac to 145 sq. ft/ac with the average being around 52 sq. ft/ac. Volumes per acre range from 2-30 cords/acre with the average being around 12 cords/acre. Areas that have been recently harvested exhibit lower basal areas (40-60 sq. ft/acre) and volumes (10-12 cords/acre). Product mix is pulpwood and chip-n-saw with some small poles and sawtimber.

### **Management Options**

1) Do Nothing. Areas with higher densities of timber will continue to grow but at a much slower rate and become more susceptible to insect, disease and wildfire. Wildlife habitat for some species will decrease, as ground vegetation will continue to be shaded out. The less dense stands will continue to grow and increase in basal area and in time will become overstocked, increasing potential for insect, disease and wildfire. Based upon the Desired Future Condition of these stands, this is not an option that we wish to pursue.

2) Timber Management Emphasis - All areas within this community could be managed for timber revenue. This option will be discussed briefly as managing this vegetation type strictly for timber would conflict with objectives found in the ARWEA 10 Year Management Plan. It is included here only to make the reader aware of the various alternatives available for managing the area. It is not expected or recommended that this community be managed in this manner unless on a very small scale.

These stands will need to be thinned when live crowns in the majority of the dominant and co-dominant trees have been reduced to approximately 1/3 of their total height. This will help ensure a healthy stand of trees. These stands should be thinned back to a basal area of 60 - 80 sq. ft/ac each time they reach a basal area of 100 sq. ft/ac or more. An added benefit of opening up the canopy is that more sunlight will reach the forest floor increasing forage production for wildlife. Once the stand has reached maturity, it can be harvested then planted or naturally regenerated.

3) Ecosystem Management (Restoration) Emphasis - This option is similar to the Timber Management Emphasis above, however, this strategy gradually transitions the stand back to a basal area of 30-50 sq. ft/ac through a series of thinning. This is within the 'Desired Future Conditions' basal area range of 30-70 sq. ft/acre for mesic flatwoods as outlined in the Objective-Based Vegetation Management (OBVM) section of the Apalachicola River WEA Species Management Strategy (FFWC 2009). This strategy will increase the amount of sunlight reaching the forest floor, increasing the amount and variety of ground cover. Over time, this method will also increase the uneven-aged character of the stands, which will benefit wildlife. Variations of this option are currently being employed on the stands that have been sold to date. Thinning to a basal area of 30-50 sq. ft/ac will take multiple thins over a relatively short period of time. The initial thin of planted pine plantations should reduce the basal area of the stand to somewhere between 50-70 sq. ft/ac, a higher basal area would be recommended for areas with sparse to no existing ground cover. This would provide sufficient needle fall to carry fire on a relatively short 3 year interval. If a site has good existing ground cover thinning to a lower basal area would be acceptable.

After the initial thinning, regular prescribed burning should be implemented on the site to promote healthy ground cover, reduce woody midstory, and promote vigorous overstory tree growth by release of nutrients into the soil. Subsequent thinnings or total stand replacement should be implemented when the basal area of the site reaches 80-100 sq. ft/ac and ground cover is sufficient to carry fire through the system on a 3 year interval. The next thinning should reduce the basal area of the site to the desired 30-50 sq. ft/ac depending on the existing ground cover as well as the specific goals for that site.

To increase species diversity and create uneven aged stand characteristics underplanting of longleaf pine can occur after stands have been reduced to a basal area of 30-50 sq. ft/ac. Tree density will be based on community type and probable survival rate of the planted seedlings. When the longleaf become part of the overstory, harvest of the remaining slash and select longleaf will occur, if survival is sufficient to withstand harvest. Care must be taken at this point to retain sufficient numbers of suitable trees for Red-Cockaded Woodpecker (RCW) habitat, while also reducing the slash pine coverage in the stands.

In areas with more natural pine stands, a marked, select sale may be a viable option if there is enough merchantable timber. The harvest would be conducted over the entire stand with generally circular overstory gaps no larger than approximately 0.25 acre. It is important to keep the gaps small since larger openings encourage hardwood encroachment and lower prescribed fire intensities. Trees marked for removal can be single-tree or small group selection with all longleaf pines retained. Even with single-tree selection there is usually enough of an overstory gap for seedling development and has the additional positive benefit of keeping fire continuity high. Longleaf pine will be underplanted in the

created gaps or natural openings at approximately 444 trees/acre to increase species and structural diversity (uneven-aged stand).

All thinning in mesic flatwoods on the ARWEA should keep in mind the habitat conditions required for the RCW, a federally listed endangered species. All trees greater than 12” diameter at breast height (DBH) should be retained during the initial thin, unless sufficient trees are available for future cavity trees. Any and all subsequent thins should protect larger trees suitable for RCW habitat. The Site Manager will determine if a sufficient number of suitable cavity trees are present on site to allow limited harvest of trees in excess of 12” DBH.

A variety of thinning methods may be utilized. Thinning options to consider are: normal thinning with relatively even spacing, group selection, group seed tree, row thinning (every third, fourth or fifth row—depending on the beginning condition of the stand), logger select or marked select thinning or a combination of any of these methods may be used. Some areas with off-site slash or loblolly pine and adequate ground cover for prescribed burning will have a regeneration harvest after reaching merchantable pulp wood size and then be reforested with longleaf pine. Other sites (e.g., potential RCW habitat), after thinning to 30-40 sq. ft/ac basal area per acre and with sufficient ground cover to carry fire, will be under planted with longleaf pine.

## **VI. Wet Flatwoods, Wet Prairie**

### **Ecological Trends**

Approximately 40% of the current pine dominated forest land found on the ARWEA is in this FNAI historic community type. An update of the current natural community types on the ARWEA, completed in 2011 by FNAI, shows a 50% reduction in wet flatwoods and wet prairie coverage across the area, the reduction comes from a spread of bagall and the introduction of pine plantations to the area. Most of the merchantable planted slash pine and loblolly pine in this community were planted in the late 1960s up to the early 1990s. Much of it has been row thinned or operator-select with additional thinning in leave rows while some of it has never been thinned. There are few spots with younger pine trees in the wet flatwoods and wet prairie; however, many of the trees in the wet prairie community are severely stunted in growth due to the nearly year round hydric conditions. Prescribed fire can be difficult in this ecotype as fuel buildup is extreme in many instances. These areas are also at high to extreme risk for catastrophic wildfire due to this heavy fuel buildup. If succession is allowed to proceed, the pine component will eventually become a minor part of this community and the titi, gallberry and fetterbush will become the dominant species. Prescribed fire should be applied to the sites during the proper site conditions in either dormant or growing season. Prescribed burning in these sites is difficult due to the generally wet site conditions. When the conditions in the mesic flatwoods adjacent to these sites is optimal for prescribed burning the wet prairie sites tend to be wet and will not carry fire; when they are dry the adjacent mesic flatwoods are dangerously dry for safe and effective burns. This creates a small window of opportunity to conduct safe controlled burns which will meet the goals of both community types. Burning of these sites should occur every 2-3 years as conditions allow.

### **Timber Resources**

The unburned areas of these types are composed of a moderate to dense overstory of slash and loblolly pine with a moderate to dense understory of titi, gallberry, fetterbush, shrubs and grasses. Pine basal area ranges from 10-135 sq ft/ac with the average being 52 sq ft/ac. Volumes per acre average 17 cords per

acre, approximately. The product mix is primarily pulpwood, chip-n-saw, and some small poles and sawtimber.

## **Management Options**

Management of the wet flatwoods and especially wet prairie proves difficult because these soils are generally wet most of the year.

1) **Do Nothing** - Areas with higher densities of timber will continue to grow but at a much slower rate becoming more susceptible to insect, disease and wildfire. Wildfire is a major threat to the pine component of these areas due to the lack of fire and high fuel buildups. The less dense stands will continue to grow and increase in basal area and in time will become overstocked, increasing potential for insect, disease and wildfire. Based upon the Desired Future Condition of these stands, this is not an option that we wish to pursue.

2) **Timber Management Emphasis** - This option is similar to the Timber Management Emphasis as described under Mesic Flatwoods above. The major difference will be the need to aggressively control the understory component within the wet flatwoods through the use of fire and silvicultural activities.

3) **Ecosystem Management (Restoration) Emphasis** - This option is similar to the Timber Management Emphasis above, however, this strategy gradually transitions the stand back to a basal area of 30-50 sq. ft/ac through a series of thinning. This is within the 'Desired Future Conditions' basal area range of 30-60 sq. ft/ac for wet flatwoods as outlined in the OBVM section of the Apalachicola River WEA Species Management Strategy (FFWCC 2009). This strategy will increase the amount of sunlight reaching the forest floor, increasing the amount and variety of ground cover. Over time, this method will also increase the uneven-aged character of the stands, which will benefit wildlife. Variations of this option are currently being employed on the stands that have been sold to date. Thinning to a basal area of 30-50 sq. ft/ac will take multiple thins over a relatively short period of time. The initial thin of planted pine plantations should reduce the basal area of the stand to somewhere between 50-70 sq. ft/ac, a higher basal area would be recommended for areas with sparse to no existing ground cover. This would provide sufficient needle fall to carry fire on a relatively short 2-3 year interval. If a site has good existing ground cover thinning to a lower basal area would be acceptable.

After the initial thinning, regular prescribed burning should be implemented on the site to promote healthy ground cover, reduce woody midstory, and promote vigorous overstory tree growth by release of nutrients into the soil. Subsequent thinnings or total stand replacement should be implemented when the basal area of the site reaches 80-100 sq. ft/ac and ground cover is sufficient to carry fire through the system on a 3 year interval. The next thinning should reduce the basal area of the site to the desired 30-50 sq. ft/ac depending on the existing ground cover as well as the specific goals for that site.

To increase species diversity and create uneven aged stand characteristics underplanting of longleaf pine can occur after stands have been reduced to a basal area of 30-50 sq. ft/ac. Tree density will be based on community type and probable survival rate of the planted seedlings. When the longleaf become part of the overstory, harvest of the remaining slash and select longleaf will occur, if survival is sufficient to withstand harvest. Care must be taken at this point to retain sufficient numbers of suitable trees for Red-Cockaded Woodpecker (RCW) habitat, while also reducing the slash pine coverage in the stands.

All thinning in wet flatwoods on the ARWEA should keep in mind the habitat conditions required for the RCW. All trees greater than 12" DBH should be retained during the initial thin, unless sufficient trees are available for future cavity trees. Any and all subsequent thins should protect larger trees suitable for RCW habitat. The Site Manager will determine if a sufficient number of suitable cavity trees are present on site to allow limited harvest of trees in excess of 12" DBH.

A variety of thinning methods can be utilized. Thinning options to consider are: normal thinning with relatively even spacing, group selection, group seed tree, row thinning (every third, fourth or fifth row—depending on the beginning condition of the stand) or a combination of any of these methods. With careful planning, it is possible to restore and improve the flatwoods habitat and still realize the monetary value of the timber.

The goal for the wet flatwoods community should be to transition to longleaf pine dominated stands, increase the uneven-aged character of the stands and to keep understory competition from becoming dominant.

The goal of the wet prairie community should be to slowly transition to a grass dominated system with few to no trees present. These sites should be burned on a 1-2 year rotation, not exceeding 3 years; after 2-3 years trees and shrubs will become the dominant vegetation. Wet prairie restoration will require a long term commitment to the sites and patience on the part of the Site Manager. Sites should only be clear cut or cut to a basal area of 10-15 sq ft/ac when ground cover has been restored and is capable of carrying fire on its own across the entire unit. If sites are cleared or basal area reduced significantly too early, the loss of fine fuel (primarily pine needles) will prevent fires from moving across the landscape at a frequent enough interval to control woody encroachment from trees and shrubs.

## **VII. Floodplain Forest, Bottomland Forest, Basin Swamp, and Baygall**

These areas contain the remaining 20% of the pine dominated stands on the ARWEA based on the historic community types, determined from the FNAI survey in 2003, which looked at historic hydrology, vegetation and historic landscape photographs and historic aerial photographs. These communities are generally vegetated with hydrophilic trees and shrubs that can withstand extended hydro periods. The pine trees in these sites tend to be larger than those found in other community types due to inaccessibility of previous logging operations. Slash, loblolly and longleaf pine dominate these areas and are often mixed with gum, cypress, oak and hickory. Infrequent fire is essential for the maintenance of these wetland areas.

### **Thinning Alternatives**

To maintain healthy, vigorously growing trees, any slash or loblolly pines found in the perimeters of these areas should be thinned back to a basal area of 50-60 sq. ft/ac when the basal area reaches 80-100 sq. ft/ac. All best management practices are to be followed when harvesting in these areas. This will help insure a healthy stand of trees, open up the canopy and allow sunlight to penetrate the forest floor. The added sunlight and disturbance will promote wildlife forage production.

## **VIII. Access**

Much of ARWEA is accessible for a customary logging operation during most of the year, dependent on

weather conditions. There are, however, areas where roadwork may be required for access if conditions become too wet or too dry. In addition, there may be "spots" within the road system that will require work prior to hauling timber on them. This may require placing several loads of gravel or shell to stabilize the road and/or installing culverts to aid in drainage.

## **IX Prescribed Fire**

Prescribed fire is an important tool for ecosystem management in Florida. Before European settlement, natural fires occurred at regular intervals on an average of two to five years. These fires reduced the fuel load, produced a seedbed for pine regeneration and released nutrients back into the soil. Prescribed fire, coupled with a well-planned timber harvest, is often the most economical and responsible method for conducting ecosystem management. Managers at ARWEA have been actively prescribed burning the area since the State's acquisition of the property, which ranges from the mid 1970s to the mid 1990s. Currently, the goal is to burn fire dependent natural communities once every two to four years. Since there is already an active burn program in place on ARWEA, this document will briefly discuss prescribed fire only as it relates to timber management.

Most of the flatwoods on the Apalachicola River WEA were acquired by the State in the 1990's and have a history of fire exclusion by the previous landowners. Therefore, flatwoods stands on ARWEA exhibited unnaturally heavy fuel buildups due to this lack of fire. However, fuels have been reduced to a more manageable level due to prescribed burning since the State's acquisition of the property. Mechanical treatments, including timber harvests, roller chopping and gyrotracing/mulching have been employed on some sites to reduce fuel loads both before and after burns. After mechanical treatments of any kind a series of cool backing fires at frequent intervals (every 2 -3 years) are used until it becomes safer to conduct more aggressive growing season burns. Again, a series of cool backing fires should be implemented until the fuel loads become more manageable in the areas where heavy fuel loads remain.

The major objective when prescribed burning in timber should be minimal mortality of the overstory trees. Historically, natural fires caused very little tree mortality. Slash and loblolly pines are much more intolerant to fire than longleaf pine, especially during the seedling and sapling stages. Therefore, frequent prescribed burning can be used to control not only invasive hardwood species but also slash and loblolly regeneration until stands are suitable for under planting with longleaf pine or total stand replacement with longleaf occurs. When burning, even in mature timber, it must be kept in mind that not all fire is good. A hot fire may not initially kill trees, but will stress them enough to dramatically increase their susceptibility to insect and disease attack. This is especially true when combined with other stresses, such as drought, flood, or recent timber thinning operations.

Planted longleaf seedlings at Bloody Bluff and Saul Creek tracts will continue to be prescribed burned on a two-three (2-3) year rotation. Burning will benefit longleaf seedlings by reducing woody and herbaceous competition, recycling nutrients, and controlling diseases such as brown spot.

## **X. Economics**

It is difficult to predict with any certainty the amount of revenue that can be derived through timber harvests on ARWEA. Market conditions, harvest prescriptions, product mix, logging conditions and distance to manufacturing facilities all play a factor in stumpage prices. It becomes even more

difficult when trying to predict what future timber markets will be. Although economics are hard to predict, they must be analyzed before making any management decision. A comprehensive timber management/restoration plan would better assist in this future planning for the timber resources and revenue streams on the ARWEA.

There are several markets for the timber from ARWEA. Mills to use pulpwood sized trees are located in Panama City, Cottondale, and Hosford, Florida. The closest sawmill to the area is located in Bristol, Florida. The limiting factor in moving wood from ARWEA is the weather. Normally when conditions allow for harvesting, loggers can harvest wood from just about anywhere and are supplying the mills with more wood than they can use at one time.

## **XI. Summary**

It is possible to manage almost all the mesic flatwoods and most of the wet flatwoods in such a manner as to restore their natural appearance, meet the objectives of the wildlife habitat, and produce revenue through timber harvests.

The mesic flatwoods portion of the area is in the restoration process and to date has had 2,512 acres thinned. Additional acreage will be thinned in the future if market conditions remain favorable. Most of the flatwoods on the ARWEA have had fire reintroduced to the system for a number of years and the fuel loads are decreasing in most areas, but the risk of a dangerous wildfire will always remain. A possible way to reduce this risk is to harvest timber in order to reduce fuel loads and achieve the desired management goal of natural community restoration and wildlife habitat enhancement, especially for threatened and endangered species.

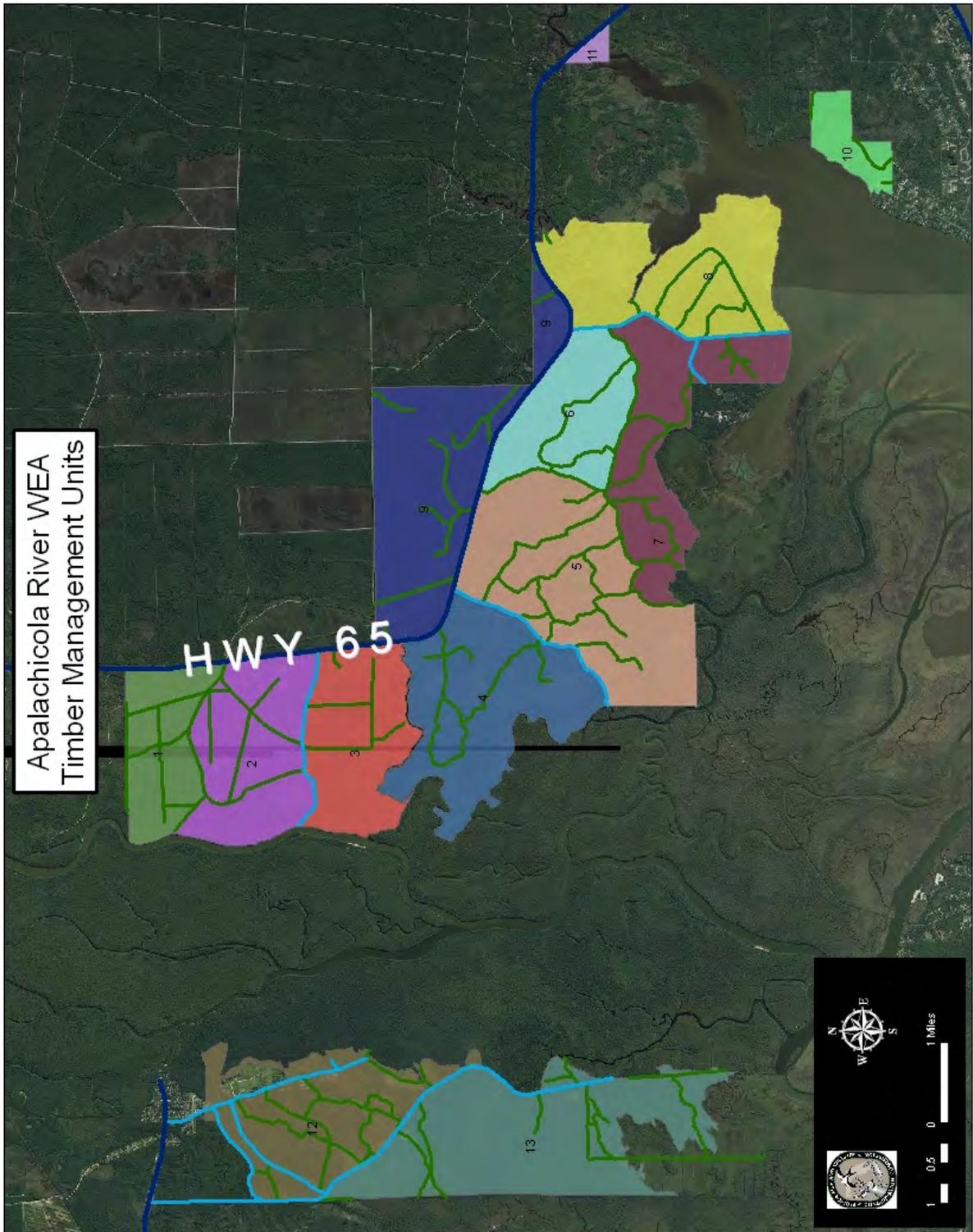


Figure 1 – Apalachicola River WEA Timber Management Units

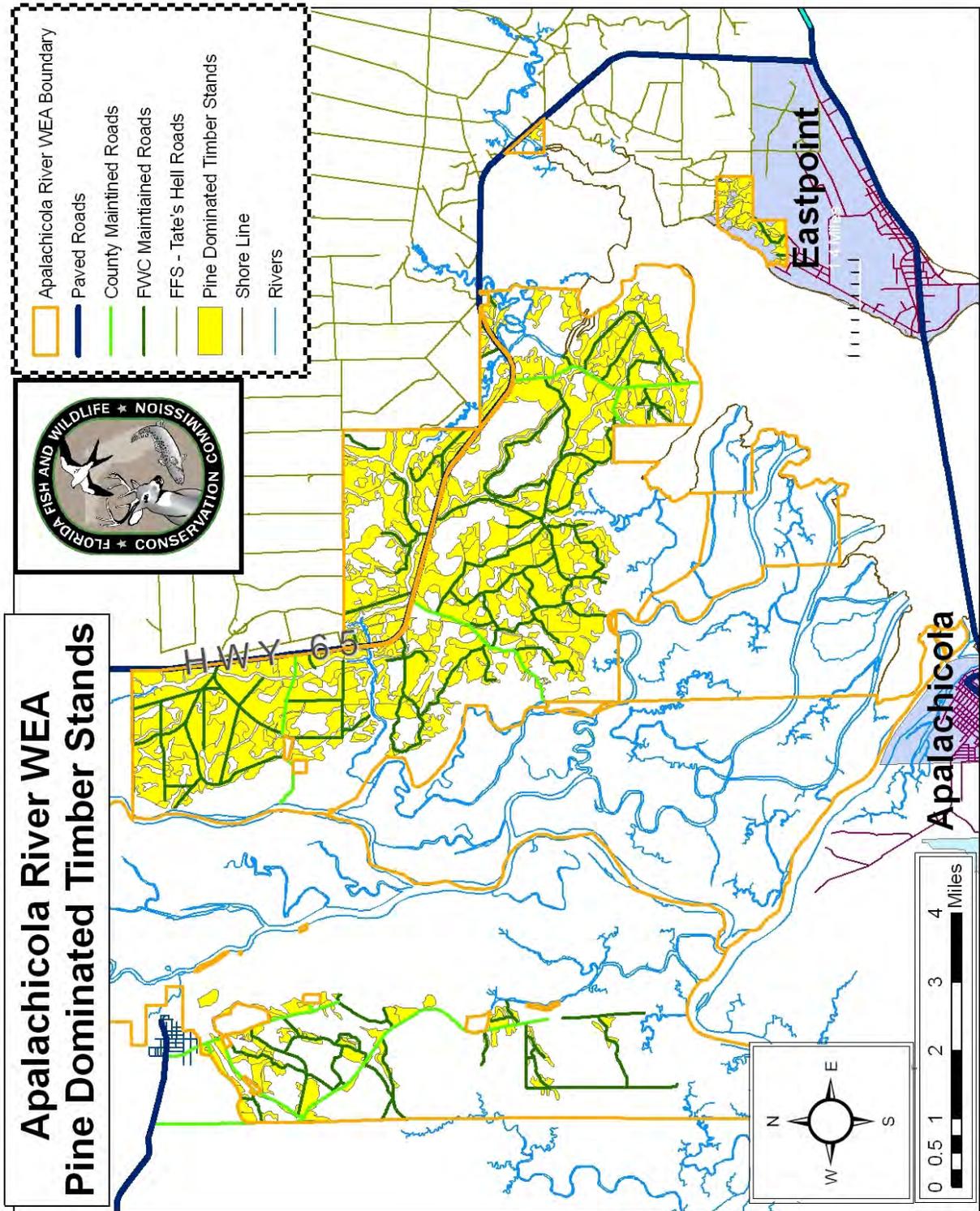


Figure 2 – Apalachicola River WEA Pine Dominated Timber Stands

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

# Apalachicola River WEA

## Species Management Strategy

November 25, 2009

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



## EXECUTIVE SUMMARY

The Florida Fish & Wildlife Conservation Commission's (FWC) Terrestrial Habitat Conservation and Restoration section (THCR) takes a proactive, science-based approach to species management on lands in the Wildlife Management Area (WMA/WEA) system. This approach uses site-specific wildlife assessments of a number of focal species in conjunction with area and species expert knowledge to develop a wildlife management strategy for the area. This strategy is intended to: 1) provide land managers with information on actions that should be taken provided the necessary resources are available, 2) promote the presence of and ensure the persistence of focal wildlife species on the area, and 3) provide measurable species objectives that can be used to evaluate the success of wildlife management on the area.

This document presents the results of a science-based approach to evaluating focal species needs within an ecosystem management approach for the Apalachicola River Wildlife and Environmental Area (ARWEA). Natural community management focused on a set of focal species provides benefits to a host of species reliant upon these natural communities. Monitoring select species provides information that verifies whether natural community management is having the desired effect on wildlife. Throughout the process, the role of the area in regional and statewide conservation initiatives was considered to maximize the potential benefit.

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

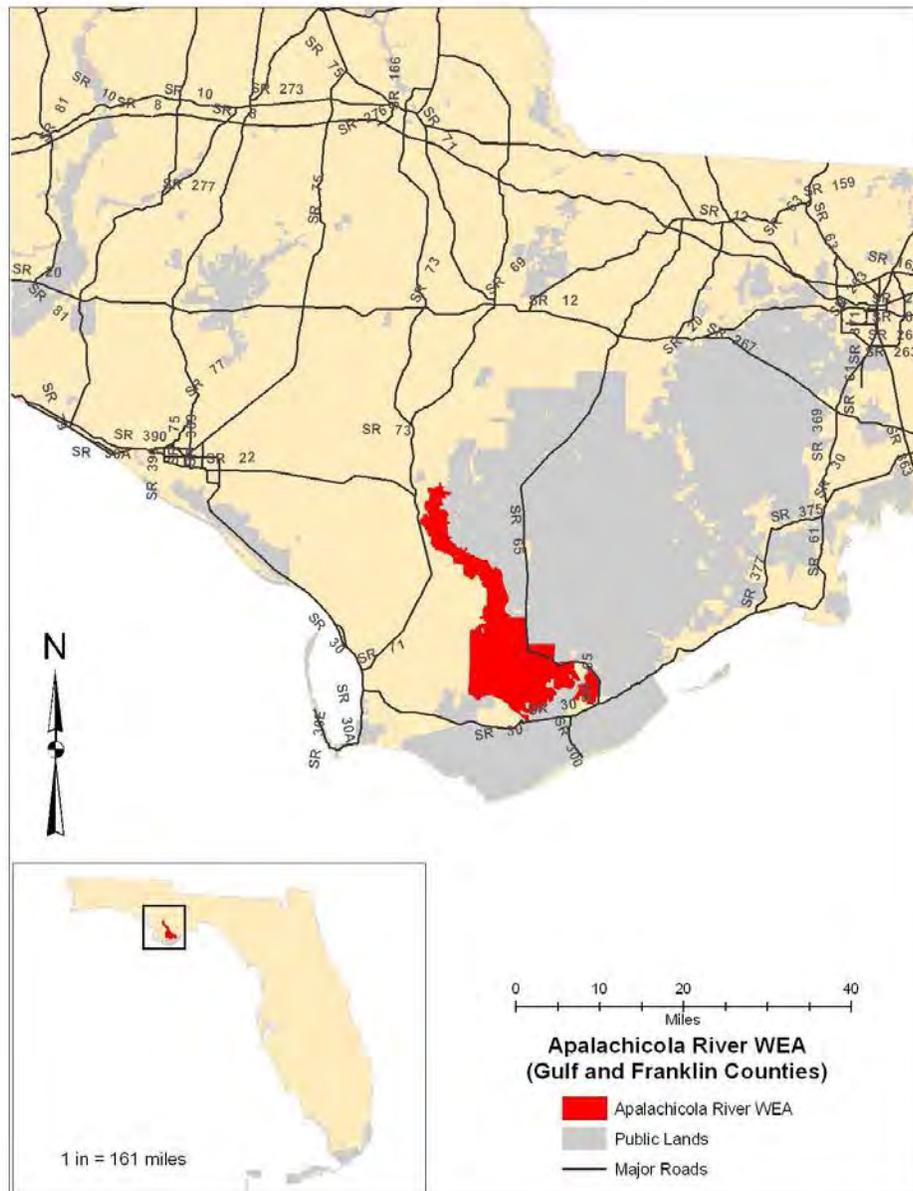
Continuation of current resource levels would be required to provide for most of the land management recommended in this document. These actions can be conducted either by area staff or by contracting with vendors. Some of the monitoring recommendations may require additional resources, while others can be accomplished with continuation of existing resources.

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## Locator Map



## Section 1: Introduction

The FWC takes a proactive, science-informed approach to species management on lands in the WMA system. Staff integrates conservation planning, Population Viability Analysis (PVA) results, and geospatial analytical techniques to model potential habitat to help FWC determine where focal species conservation can be effected. These landscape level assessments are then combined with area specific and expert knowledge and result in the creation of Species Management Strategies (Strategy) specific to each WMA/WEA.

The Strategy is intended to: 1) provide land managers with information on actions that should be taken provided the necessary resources are available, 2) promote the presence and facilitate the persistence of focal wildlife species on the area, and 3) provide measurable species objectives that can be used to evaluate the success of wildlife management on the area. On FWC lead areas, goals and objectives included in the Management Plan (formerly known as Conceptual Management Plan) are referenced when discussing the species and drafting the Strategy; therefore this Strategy will help guide and support the goals of the Management Plan. The species-specific objectives identified in this Strategy will be incorporated into the Management Plan and this Strategy will be appended to the Management Plan.

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

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

The primary focus of this approach is non-game species; however 2 of the focal species are game birds. Specific game management actions are not included in this Strategy, though game management actions are considered when drafting the Strategy and are compatible with the actions prescribed by this Strategy. While this Strategy focuses on the ARWEA, it considers the role of the area within the larger state or regional context. Similarly, while the Strategy has species-specific objectives and actions, it does not endorse single-species management. The FWC's land management focuses on natural community management that benefits the host of species that naturally occur in each natural community. However, some species may need directed actions if they are to recover from past declines or be restored to habitat from which they were extirpated. By implementing the Strategy, FWC

believes our management will benefit the largest suite of native wildlife by keeping common species common and aiding in the recovery of listed species.

## Section 2: Current and Historic Management on ARWEA

The acquisition of the ARWEA began with the purchase of approximately 30,000 acres of land in the Lower Apalachicola River Basin in October of 1974, under the Environmentally Endangered Lands Program (EEL). The ARWEA now consists of 86,140 acres in Gulf and Franklin counties with FWC the lead management agency on 64,508 acres. The majority of actively managed habitats were acquired in the 1990's. The lands that comprise the ARWEA were purchased under the EEL, Conservation and Recreation Lands and P-2000 Inholdings and Additions Programs. The acquisition of the property provides protection and preservation of the Apalachicola River floodplain and the extremely productive Apalachicola Bay estuarine system. In addition, the lands were purchased to protect the natural and historical resources within and adjacent to the property and to provide recreational opportunities to the public, including hunting, fishing, camping, canoeing, and paddling.

Prior to state acquisition, the core (EEL tract) of the ARWEA was used for hardwood logging, and the Apalachicola River's main channel was dredged for barge traffic with spoil deposition occurring along the river banks. The Saul Creek Unit was intensely disturbed to accommodate cattle grazing, hay and soybean production. The lower Saul Creek marsh was diked by MK Ranches, then ditched and drained for rice farming. However, through a final settlement between the Environmental Protection Agency and MK Ranches, this area of sawgrass (*Cladium jamaicense*) marsh was later restored (as close as possible) to the pre-project biotic and hydrologic regimes that existed before the disturbance. Prior uses of the state purchased land in Franklin County (Bloody Bluff, Sand Beach and Quinn tracts) included cattle grazing, turpentine industry, and intensive silvicultural practices aimed at maximizing fiber production. Forest management activities included site conversion to pine plantations [primarily slash pine (*Pinus elliottii*)], fire suppression, bedding, ditching and road construction. These activities disrupted the hydrology and negatively impacted the natural communities. The FWC's goal is to restore these disturbed communities as close as possible to the original vegetative composition, habitat structure and function, and species composition. Management activities currently applied by FWC to restore the natural communities include prescribed burning, restoration of natural hydroperiods, thinning timber stands, mechanical vegetation treatments, exotic vegetation control and replanting native vegetation.

The OBVM process identified management units (MUs) and desired future conditions (DFCs) for each actively-managed natural community on the area. These DFCs set specific measurable parameters for vegetation within each MU and the MUs are periodically sampled. Most of the management treatments and activities are applied to the upland plant communities on the area; mesic flatwoods, wet flatwoods, wet prairie, scrubby flatwoods, and pine plantations (Table 1). The management of tidal and freshwater marsh consists mainly of periodic prescribed burning. Management of these communities has been conducted by both FWC staff and private contractors. Contractors have been used to do mechanical and chemical treatments throughout the area. Exotic and invasive plants on the area are treated in all natural communities. Traditional game management is applied to benefit upland game species within ruderal sites on the area, especially in the Saul Creek

area. Wildlife food plots and other vegetation management practices that promote early-successional species are utilized. In areas where the ground is highly disturbed and invasive exotic vegetation is present, ground cover restoration techniques are being applied to restore the native ground cover (47 acre area in Saul Creek Unit).

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

Community Type	Estimated Current Acreage	Estimated Historic Acreage	Actively Managed <sup>1</sup>	# of focal species that use the NC
Alluvial River	2,631	2,643	No	1
Basin Swamp	412	1,219	No	3
Baygall	1,852	1,513	No	2
Blackwater Stream	112	110	No	1
Bottomland Forest	1,454	1,698	No	3
Depression Marsh	21	22	No	2
Dome Swamp	242	271	No	3
Estuarine Unconsolidated Substrate	594	578	No	0
Floodplain Forest	1,102	628	No	4
Floodplain Marsh	115	139	No	1
Floodplain Swamp	37,341	38,356	No	3
Hydric Hammock	33	77	No	3
Maritime Hammock	75	49	No	1
Mesic Flatwoods	1,010	4,679	Yes	11
Mesic Hammock	21	518	No	3
Pine Plantation	8,560	0	No	3
Ruderal	1,660	0	No	5
Sandhill	29	29	No	9
Scrubby Flatwoods	137	114	Yes	7
Seepage Slope	0	3	No	1
Strand Swamp	34	60	No	5
Tidal Marsh	7,431	7,628	Yes	1
Upland Mixed Forest	124	100	No	4
Wet Flatwoods	2,091	4,287	Yes	6
Wet Prairie	286	2,832	Yes	2
TOTAL ACRES	67,553			

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

Prescribed fire is the most important and useful tool for managing ARWEA to maintain and enhance fire dependent vegetative communities. Fire plays an important role in many of the natural communities that exist in the state of Florida. Prescribed fire has been used to reduce fuel loading, enhance habitat for wildlife, control invasive hardwoods and promote fire dependent species. There are 23,874 acres of fire-maintained plant communities on the ARWEA with an average of 9,708 acres burned per year over the last 3 years. Much

of the area is burned in the dormant season due to the buildup of volatile fuels in the midstory such as black titi (*Cliftonia monophylla*), white titi (*Cyrilla racemiflora*), and saw palmetto (*Serona repens*). Areas that are more herbaceous dominated are burned during the growing season to promote wire grass (*Aristida stricta*) and other growing season fire-dependent species. As fuel loads are reduced, areas burned during the dormant season are switched to growing season burns for better hardwood control. Area staff will continue to employ a diversified fire management regime that varies the burning intervals, intensities, and seasonal timing to create habitat diversity.

Mechanical treatments can play an important role in restoring the natural communities on ARWEA in areas where prescribed burning is limited by a buildup of invasive hardwoods in the midstory that shades out the fine fuels. Mechanical vegetation treatments (eg. gyro-trac, roller-chopping, mowing) have been used to reduce invasive woody species and encourage herbaceous growth in an effort to restore historic wet prairies and mesic/wet flatwoods. To date 290 acres of offsite planted pines have been gyro-tracked and restored to historic wet prairies on the Quinn and Doyle Creek Units. Roller chopping and gyro-trac work (318 acres and 30 acres respectively) on the Saul Creek Unit have reduced the understory woody vegetation, particularly titi which has encroached into the uplands due to historic fire suppression. At present, a contract has been awarded to gyro-trac an additional 232 acres of former historic wet prairie at Bloody Bluff that is currently inundated with shrubs that prevent appropriate burning. Another contract will provide for the roller chopping of approximately 270 acres of invasive brush that is hindering burning operations within mesic/wet flatwoods at Bloody Bluff.

Area staff use a variety of forest management techniques to maintain and restore natural communities on the ARWEA. Timber thinning is an effective way to open the canopy and reduce the basal area of a site in order to promote herbaceous ground cover. An added benefit is that logging equipment utilized during the commercial harvest operations incidentally reduces midstory hardwoods. Wildlife openings are created during timber thinning operations through logging ramps and small clearcuts, and these openings are then maintained. Timber thinning on the ARWEA has consisted primarily of 3<sup>rd</sup> row thinning with selective cuts on the 2 “leave” rows, reducing the basal area of the timber stands to approximately 40 – 60 sq ft./ac. The first timber thinning on the ARWEA by FWC occurred in 1999 when 54 acres on the Sand Beach tract were thinned. From 2003 to 2007, approximately 1,789 acres were thinned on the Sand Beach/Quinn tracts. The most recent timber harvest occurred in 2007 when 497 acres of the Doyle Creek tract in Franklin County were thinned. Present plans call for completing a timber stand inventory and harvest management plan that includes growth and yield models prior to resuming timber harvests. This may be complete as early as fiscal year 2010-2011.

In some instances, reforestation continues to be utilized for natural community restoration, benefits to wildlife, and to ensure diversity. Selected areas of flatwoods previously planted with off-site slash pine are reforested with longleaf pine (*Pinus palustris*). On Bloody Bluff, 1,800 acres of slash pine plantation that received a real estate cut prior to state acquisition were under-planted with longleaf pine seedlings and 280 acres of longleaf were planted in ruderal areas in the Saul Creek Unit. Degraded bottomland hardwood sites are re-planted with native wetland oaks and other hardwoods, as needed. In ruderal areas, some native oaks and fruit bearing trees have been planted for northern bobwhite (*Colinus virginianus*), wild turkey (*Meleagris gallopavo*) and white-tailed deer (*Odocoileus virginianus*) habitat enhancement.

A hydrologic assessment of the ARWEA has been completed by the Northwest Florida Water Management District (NFWFMD). The assessment looked at historic and modern water flow patterns on the area based on field measurements and analysis of archive aerial photos. The resulting Hydrologic Restoration Plan for the ARWEA completed in June 2004 documented their findings and made recommendations on the restoration of the hydrologic regimes on the area including the construction and installation of water control structures to reroute water flow and volume. Many of the 107 structures recommended in the 2004 document have been completed. The only exceptions are a few road removals, culverts and HLWCs that after further discussion between area staff and the NFWFMD, it was agreed were unnecessary. Ditch plugs, culverts and HLWC have been placed throughout the area to improve hydrologic regimes on the ARWEA based on area staff recommendations and observations of water flow during droughts and peak water flows. The goal was to reconnect disjunct wetlands and restore hydrologic functions that would facilitate the re-establishment of historical vegetative communities.

Specific actions are taken on the Saul Creek unit to enhance waterfowl and wading bird habitat. The process involves removing water from a borrow pit or wetland, herbiciding exotic vegetation, mowing/gyro-tracking invasive brush (when dry), installing water control structures (flashboard riser) for moist soil management, and re-flooding the wetland. These areas are utilized by waterfowl and wading birds.

Herbicide is used to control exotic and invasive plants throughout the area. Some of the exotics on the area include Japanese climbing fern (*Lygodium japonicum*), Chinese tallow tree (*Sapium sebiferum*), camphor tree (*Cinnamomum camphora*), and torpedo grass (*Panicum repens*). Areas with invasive exotic species were initially mapped by the Florida Natural Areas Inventory (FNAI) during the natural community mapping project. In subsequent years FNAI and the Florida Department of Environmental Protection have surveyed invasive exotic plants on the ARWEA along with FWC staff. The control of exotic vegetation is contracted through grants provided by the Panhandle Invasive Exotic Plant Working Group or by FWC staff purchasing and applying herbicide.

Several rare and threatened/endangered species are documented on the area including: rose pogonia (*Pogonia ophioglossoides*), many-flowered grass pink (*Calopogon multiflorus*), panhandle butterwort (*Pinguicula ionantha*), bog tupelo (*Nyssa ursine*), white-topped pitcherplant (*Sarracena leucophylla*), spoon-leaved sundew (*Drosera intermedia*), thick-leaved water willow (*Justicia crassifolia*), Florida waxweed (*Cuphea aspera*), corkwood (*Lietuneria floridana*), and Washington thorn (*Crataegus phaenopyrum*). Staff of ARWEA document rare and listed plant species when encountered during surveys or field work.

Current species management and monitoring actions include banding and annual monitoring of red-cockaded woodpeckers (*Picoides borealis*), monitoring of frosted flatwoods salamander (*Ambystoma cingulatum*) ponds, annual northern bobwhite fall covey call counts, alligator snapping turtle (*Macrochelys temmincki*) and Barbour's map turtle (*Graptemys barbouri*) river surveys, aerial bald eagle (*Haliaeetus leucocephalus*) and wading bird colony surveys, and wild turkey camera surveys. A herpetofaunal survey using drift fences in different natural communities on the ARWEA to detect presence/absence of species was completed in the summer of 2008. An on-going survey through the Florida Wildlife Legacy Initiative (FWLI) is comparing herpetofaunal composition in 2 historic wet prairies in the Quinn tract in Franklin County: one that was "clearcut" and one that is an "un-thinned" pine plantation.

The Saul Creek Unit is the site of an experiment designed to determine which land management treatment (roller-chop/burn, herbicide/burn, or burn only) is the most effective in restoring the native ground cover and controlling invasive hardwoods (titi). There is an on-going University of Florida, Institute of Food and Agricultural Sciences study in cooperation with the Gulf County Extension Service that is trying to determine which variety of wildlife food plot mixes are best suited for floodplain (poorly drained) soils and which are preferred most by wildlife.

### Section 3: Area Focal Species

FWC's land management is based on restoring the natural form and function of natural communities. However, in some instances it is important to consider the needs of specific species, and necessary to monitor the impacts of natural communities' management on select wildlife. In an effort to ensure a focused, science based approach to species management, the FWC is using the focal species approach embraced by *Closing the Gaps*. The focal species approach incorporates a variety of concepts and considerations that, if applied correctly, allow one to identify the needs of wildlife collectively by strategically selecting a subset of wildlife species. The group of focal species includes umbrella species, keystone species, habitat specialists, and indicator species. For the Public Lands Conservation Planning (PLCP) project, 60 focal species were selected for the statewide assessment. Potential-habitat models were used to create statewide potential habitat maps for each species. Models were created using relevant available data. The base layer for all models was the FWC 2003 landcover data. Additional data layers such as the species range, soils, land use maps, etc were selected based on the natural history of the species. As such, each model is species specific. Once statewide potential habitat maps were available, a PVA was conducted for each species.

Using the statewide landcover based habitat maps, 13 of the 60 focal species were modeled to have potential habitat on ARWEA. Additionally, the southeastern bat, though not modeled to have potential habitat on the area, was added to the area-specific species list due to its likelihood of occurrence. To create more accurate area-specific potential habitat maps, we used the same statewide model for each focal species on the area but replaced the landcover data with area-specific natural community data. The resulting potential habitat map was then refined based on the input of local managers and species experts. All potential habitat acres provided in [Section 3.2](#) are the results of this area-specific model and resulting map.

Information on the focal species were compiled and provided in a workbook to allow for informed discussion of the species. The ARWEA and Box-R WMA Wildlife Conservation Prioritization and Recovery (WCPR) workshop was held to bring decision makers together and allow for discussion on: an assessment of the opportunity and needs; identification of measurable objectives; a description of necessary actions including monitoring; and any coordination efforts that are necessary. The "level of opportunity and need" for each species was discussed at the workshop. This included analyzing the long-term security of the species (i.e., examine PVA results), considering if the species occurs in actively managed communities ([Table 1](#)), if the species is management responsive, and any other local overriding considerations (e.g., status of species in the region, local declines/extirpations). A brief summary of this assessment of each species is available in [Section 3.2](#).

### 3.1: Apalachicola River WEA Focal Species

Species that have a measurable objective are indicated with a <sup>1</sup>; species for which monitoring is recommended are indicated with a <sup>2</sup>; and species for which a SMA is identified are indicated by a <sup>3</sup>. Occasionally species are modeled to have potential habitat on the area when using statewide data; however the local assessment indicates there is little opportunity to manage for these species on the area and they are not a focus of management on the area. These species are identified with an \*.

Frosted flatwoods salamander (*Ambystoma cingulatum*)<sup>1,2,3</sup>

Florida pine snake (*Pituophis melanoleucus mugitus*)\*  
Gopher tortoise (*Gopherus polyphemus*)\*

American swallow-tailed kite (*Elanoides forficatus*)  
Bachman's sparrow (*Aimophila aestivalis*)<sup>1,2,3</sup>  
Brown-headed nuthatch (*Sitta pusilla*)<sup>1,2</sup>  
Cooper's hawk (*Accipiter cooperii*)  
Northern bobwhite (*Colinus virginianus*)<sup>1,2,3</sup>  
Red-cockaded woodpecker (*Picoides borealis*)<sup>1,2,3</sup>  
Southern bald eagle (*Haliaeetus leucocephalus*)<sup>2</sup>  
Wading birds (multiple species)<sup>2</sup>

Florida black bear (*Ursus americanus floridanus*)  
Sherman's fox squirrel (*Sciurus niger shermani*)  
Southeastern Bat (*Myotis austroriparius*)

### 3.2: Focal Species Opportunity/Needs Assessment

This section provides an assessment of the opportunity and needs of each of the focal species. Unless otherwise noted, all acres of potential habitat are the result of using the area-specific natural community data in the species potential habitat model. We presume that by doing the actions called for in this strategy, we will ensure the area fulfills its role in the conservation of wildlife.

#### 3.2.1: Frosted Flatwoods Salamander

The frosted flatwoods salamander has been searched for but not found on ARWEA. Recent drift-fence surveys failed to detect any migrating adults, and no larvae were found during dip net surveys of potential breeding ponds during 2002-2004. Some of the same ponds surveyed during 2002-2004 were dip netted again in the winter of 2008-2009 and no larvae were found. However, a 2005 survey documented 2 breeding ponds on Apalachicola National Forest (ANF) close enough to ARWEA to provide hope of this species using the area. One of these breeding ponds occurs within 1.2 miles of the northern boundary of Bloody Bluff (flatwoods salamanders are thought to have a maximum dispersal distance of 1 mile). The

survey conducted on ARWEA ranked 59 ephemeral wetlands as potential, unlikely, or unsuitable. A pond ranked as “potential” has some potential to support a breeding population in its current condition; a pond ranked as “unlikely” has a very low potential to support a breeding population in its current condition; and a pond ranked as “unsuitable” has no potential to be suitable in its current condition and may never be suitable.

The flatwoods salamander (*Ambystoma cingulatum*) was recently recognized to be 2 distinct species by the U. S. Fish & Wildlife Service (USFWS); the frosted flatwoods salamander (*A. cingulatum*), which occurs to the east of the Apalachicola River and the reticulated flatwoods salamander (*A. bishopi*) which occurs to the west of the Apalachicola River. The frosted flatwoods salamander is listed by the USFWS as threatened, and the reticulated flatwoods salamander is listed as endangered. The FWC is under a listing moratorium and therefore has yet to address the recent taxonomic revision. The FWC lists the flatwoods salamander as a species of special concern. Because the Public Lands Conservation Planning project and the Legacy’s Wildlife Conservation Strategy were completed prior to understanding that *A. bishopi* is a distinct species, the prioritization scores for flatwoods salamanders were calculated considering both *A. bishop* and *A. cingulatum* as 1 species. As evaluated prior to the taxonomic revision, the species triggers 4 of the 6 prioritization parameters (proportion of populations modeled to persist on public lands, high Millsap supplemental score, low Legacy population status, and declining Legacy population trend) making this species a moderate to high statewide priority. It is likely that if the prioritization scores for these species were calculated reflecting the recent taxonomic revision, the 2 species may trigger more prioritization scores.

Both species of flatwoods salamander are management responsive species that can be an indicator of properly managed pine flatwoods and associated wetland habitats. Management of habitat for flatwoods salamanders requires frequent prescribed fire and protection of the hydrological integrity of ephemeral wetlands essential to breeding. The maintenance of continuous herbaceous groundcover from the uplands through the ecotone and into the wetland is especially important.

In the Saul Creek unit west of the Apalachicola River, 35 acres were modeled as current potential habitat and 740 acres were modeled as historic potential habitat. The dip net survey during 2002-2004 did not sample any wetlands in this area. If flatwoods salamanders did occur here, they would be federally endangered reticulated flatwoods salamanders (*Ambystoma bishopi*). The vast majority of the historic potential habitat was severely altered by previous landowners for cattle and crop production, and a significant portion of this altered landscape is currently functioning as wildlife food plots. It is unlikely the area could efficiently be restored to true potential habitat. Even if habitat in this area were restored, it would be isolated from other potential habitat. Therefore, no management actions are recommended for reticulated flatwoods salamanders in this area.

Models indicate 2,291 acres of potential habitat for the frosted flatwoods salamander based on natural communities on ARWEA with 7,341 acres available if historic natural communities could be restored. There is enough potential habitat to sustain a population of this species if the potential habitat is managed in a way that is compatible with the needs of this species. Additionally, this area is adjacent to the

ANF which has a robust population of this species that should enhance the likelihood of persistence on ARWEA.

Ongoing natural community management within mesic and wet flatwoods on ARWEA east of the Apalachicola River since acquisition has greatly improved the suitability of these areas to frosted flatwoods salamanders by promoting herbaceous growth in the understory as well as in ephemeral wetlands. Flatwoods in the Bloody Bluff area likely are already suitable for flatwoods salamanders while habitats to the south including the Quinn Tract and Sand Beach areas will likely be suitable within 10 years. Though natural community management alone will likely be sufficient to restore upland habitats, focused management is required in order to restore potential breeding ponds. Years of fire exclusion prior to acquisition have severely degraded the suitability of ephemeral wetlands on the area. Mechanical treatments and efforts to burn into these ephemeral wetlands are needed in order to restore the graminaceous ecotone preferred by this species.

Due to the large potential to significantly impact the frosted flatwoods salamander on ARWEA, a SMA focusing on restoration of the 59 ephemeral wetlands identified in the 2002-2004 survey in the Bloody Bluff, Quinn Tract, and Sand Beach areas is recommended ([Section 4.1.1](#)). Surveys of potential breeding ponds will be conducted according to the standardized monitoring protocol currently being developed ([Section 5.2.1](#)). This includes surveying each potential breeding pond 3 times in 3 good sampling years prior to assuming absence. As a result, the ability to finish the initial survey will be dependent upon weather conditions and it may not be possible to complete the survey by the targeted date. Research needs can be found in [Section 5.3.1](#), additional land management considerations can be found in [Section 4.3.1](#), and coordination recommendations can be found in [Sections 6.1.6](#) and [6.4](#).

The area goal is to establish and maintain a viable population of frosted flatwoods salamanders that functions as part of the larger regional population. The measurable objectives are to:

- 1) Conduct all necessary actions to restore ecotonal edges of ephemeral wetlands identified as potential and unlikely (as defined above) by 2014, and
- 2) Complete the initial survey of potential breeding ponds by 2011, weather permitting.

If the species is not documented on the area within 10 years after habitat restoration is complete, further species management options should be considered ([Section 5.1.1](#)). Meeting these objectives would help reverse the ongoing decline of this species and bolster the amount of suitable habitat for this species. If this can be accomplished, ARWEA would be fulfilling its role in the conservation of this imperiled species.

### *3.2.2: Florida Pine Snake*

The Florida pine snake is considered rare on ARWEA and has been documented only once during an incidental observation on the north end of Bloody Bluff. Though this species has been observed in the past on ARWEA, a recent drift-

fence survey conducted on ARWEA and Box-R has not documented its presence. However, these drift-fence surveys did not use funnel traps large enough to adequately sample this species. Little is known specifically about the habitat requirements of this species, except it is most closely associated with upland pine and sandhill communities. Pine snakes typically occupy locations with sandy soils that are dominated by pines and a well-developed grassy understory, though they have been documented in a number of plant communities. This species is listed at the state level as a species of special concern and triggers 3 of the 6 prioritization parameters (proportion of populations modeled to persist on public lands, high Millsap supplemental score, and declining Legacy population trend) making this species a moderate statewide priority.

Literature suggests that areas with 2,400 acres of suitable habitat have the best potential to support viable populations of Florida pine snakes. Models indicate 1,261 acres of potential habitat based on current natural communities on ARWEA with 1,338 acres available if historic natural communities could be restored. Even after restoration, it is unlikely ARWEA would have enough potential habitat to support a viable population. Potential habitat is patchy and scattered around the eastern portion of ARWEA, and even when potential habitat in adjacent portions of the Tate's Hell State Forest (THSF) and ANF is considered, the xeric uplands preferred by this species is limited in and around ARWEA.

The lack of well-drained sandy soils and historically typed sandhill and xeric habitats indicate this species was never widespread in this area. Because there is limited opportunity to significantly benefit this species on the area, no SMA or area goal is recommended. Ongoing natural community restoration focusing on opening up the canopy and promoting herbaceous growth will provide suitable habitat for this species within areas that contain well-drained sandy soils. No additional land management recommendations or species management recommendations are made. Monitoring recommendations can be found in [Section 5.2.6](#).

### 3.2.3: *Gopher Tortoise*

The gopher tortoise is not listed at the federal level in Florida (it is federally threatened in Louisiana, Mississippi, and western Alabama), and is state listed as threatened in Florida. This species triggers 4 of the 6 prioritization parameters (proportion of populations modeled to persist on public lands, Millsap biological score, Millsap supplemental score, and declining Legacy population trend) and has an approved statewide management plan making this species a high statewide priority.

The gopher tortoise is considered rare on ARWEA with no reproduction documented. It is a management-responsive species that, when present, can be an indicator of properly managed upland pine or grassland communities. A management plan that places emphasis on increasing the number of tortoises on public lands was recently approved by the FWC. This species is often considered a keystone species because many other species use their burrows. There is discussion in the literature about the minimum requirements to sustain a population of gopher tortoises with estimates ranging from 50 – 200 or more acres. Models indicate 170 acres of potential habitat based on natural communities on ARWEA with no additional acres to be gained via restoration. The vast majority of potential habitat occurs in Magnolia

Bluff (north of Eastpoint), an isolated portion of the ARWEA. This area is bordered by THSF to the north and east and private land to the south. Examination of the condition of natural communities located on THSF adjacent to Magnolia Bluff indicates no suitable habitat contiguous with Magnolia Bluff. Though no suitable habitat occurs adjacent to Magnolia Bluff, there is some habitat nearby that with restoration has the potential to become suitable habitat.

Due to the soils and the historic natural communities found in this area, gopher tortoises were likely never very widespread. Ongoing natural community management within areas of Magnolia Bluff on ARWEA will benefit this species. In order to maximize the potential for this species in this area, land management recommendations can be found in [Section 4.3.2](#), and recommended changes to OBVM DFCs in scrubby flatwoods can be found in [Section 4.2.1](#). Monitoring recommendations can be found in [Section 5.2.6](#). Despite being a high statewide priority, ARWEA's ability to positively affect the security of this species is small because of the limited amount of potential habitat due to the unsuitable soil types occurring there. Because of this, no SMA, area goal or objective is recommended.

Historically, gopher tortoise habitat existed on high dry ridges in close proximity to Magnolia Bluff that are now within THSF. If the Florida Division of Forestry (DOF) begins restoration of these areas, Magnolia Bluff could act as a westward extension of this habitat. Should this happen, this assessment should be revisited.

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

Once estimated to breed in 21 states, the breeding range of the swallow-tailed kite has been reduced to the southeast U.S. coast and peninsular Florida. This species utilizes a variety of natural communities, requiring a mosaic of tall trees for nesting habitat and open areas for foraging habitat. Dominant trees, which are significantly taller than surrounding trees, are preferred for nesting sites. Shrub height and density tends to be higher around nest sites. Given the generalist nature of this species and its high mobility, it is not considered management dependent.

This species is not listed at either the state or federal level, but is considered a moderate statewide priority as it triggers 4 of the 6 statewide prioritization parameters (low Legacy population status, unknown Legacy population trend, probability of a 50% decline, and a low proportion of populations on state lands modeled to persist). Though considered a moderate statewide priority, American swallow-tailed kites are common on ARWEA with reproduction documented. Models indicate 41,642 acres of potential habitat on ARWEA based on current natural communities with 46,884 acres of potential habitat if historic natural communities could be restored. Additionally, vast areas of potential habitat occur in the adjacent ANF and THSF. Due to the large amount of potential habitat in the floodplain and bottomland hardwood forests of the Apalachicola River, the swallow-tailed kite population is likely to persist in this area without directed management. The opportunity for management to have a significant impact on this species at the management area level is low and therefore designation of a SMA would be inappropriate. However, ongoing management to restore the structure and function of natural communities should continue to benefit this species by enhancing foraging habitat.

Because this species naturally occurs in relatively low densities, local monitoring would be unlikely to detect a change in the area's population. Given these conditions, it would be impractical to designate measurable objectives for this species at the management area level. Should nests be detected, management considerations around these sites will be used ([Section 4.3.3](#)). If kite activity is observed during nesting season (particularly if kites are observed carrying nesting material, mobbing, or in groups of 3 or more) this information should be documented ([Section 5.2.6](#)).

The area goal is to continue to provide suitable nesting and foraging habitat that will allow the kites using ARWEA to function as part of a regional population. However, even if ARWEA is managed to accommodate the needs of this species, the continued presence of this species on ARWEA is dependent on conditions that influence the regional population of American swallow-tailed kites.

### *3.2.5: Bachman's Sparrow*

The Bachman's sparrow is considered rare on ARWEA. Though not abundant, breeding has been documented. The current populations on the area likely function as part of the larger regional population within the adjacent ANF. This species prefers mature pine forests with a low basal area and abundant herbaceous vegetation or early-successional old field habitat. The occurrence of fire is critical to sustaining this species as use of an area by Bachman's sparrows declines rapidly around 18 months post-fire and sites are typically abandoned if fire is excluded for greater than 3 years. In many areas the optimal fire return interval necessary to achieve desired vegetative parameters for Bachman's sparrow habitat is 2-3 years. Bachman's sparrows are not listed at either the state or federal level, and the species triggers 2 of the 6 statewide prioritization parameters (declining Legacy population trend and a low proportion of populations on state lands modeled to persist). However, this species can be used as an indicator of properly managed pine stands.

Models indicate 1,038 acres of potential habitat based on natural communities on ARWEA with 4,708 acres available if historic natural communities could be restored. Most of the uplands east of the Apalachicola River have the potential to become suitable habitat in the future. There is enough potential habitat to sustain a population of this species if the potential habitat is managed in a way that is compatible with the needs of this species. Additionally, this area is adjacent to the ANF which has a robust population of this species which should enhance the likelihood of persistence on ARWEA.

The Saul Creek unit, which is currently managed for northern bobwhite, is the only area west of the river that contains current and historic potential habitat. The Bloody Bluff area, situated directly adjacent to existing Bachman's sparrow populations on the ANF contains the majority of the suitable habitat. In this area, directed management including the continuation of the 2-3 year fire return interval and additional mechanical control of the midstory to promote groundcover development could provide measurable benefits to the existing population within the next 10+ years. Therefore, an SMA focusing on the Bloody Bluff area is recommended ([Section 4.1.2](#)). As natural community restoration progresses in areas to the south of Bloody Bluff (Quinn Tract, Doyle Creek, Sand Beach), the need to

expand the SMA will be evaluated in the future. Other than land management, there is no species management recommended at this time. Since 2009, staff has conducted annual monitoring for this species using a standardized spring call count approach ([Section 5.2.2](#)).

The area goal is to establish and maintain a viable population on ARWEA that functions as part of a larger regional population. The measurable objective is to:

- 1) Detect Bachman's sparrows at 30% of call stations within the SMA by 2019.

Meeting this objective would help reverse the ongoing decline of this species and bolster the amount of suitable habitat for this species.

### 3.2.6: *Brown-Headed Nuthatch*

This species is not listed at either the state or federal level, and the species triggers 2 of the 6 statewide prioritization parameters (declining Legacy population trend and a low proportion of populations on state lands modeled to persist). Recent North American Breeding Bird Survey (BBS) data has shown brown-headed nuthatch populations have declined 2% per year range-wide and 4.3% per year in Florida. Brown-headed nuthatches are not regularly observed on ARWEA. They have been documented during spring breeding bird surveys, though reproduction has not been documented. The current limited population on the area likely functions within part of the larger regional populations including the ANF and THSF.

This species, like the northern bobwhite and Bachman's sparrow, prefers open stands of mature pine timber managed with a frequent fire return interval. However, this species is a primary cavity nester that selects decaying snags to excavate, especially old short stumps. These potential nesting sites are easily knocked over during land management activities, and special care must be taken to prevent a net loss of suitable snags. Models indicate 1,038 acres of potential habitat based on natural communities on ARWEA with 4,708 acres available if historic natural communities could be restored. There is likely enough potential habitat to sustain a population of this species if the potential habitat is managed in a way that is compatible with the needs of this species. Additionally, this ARWEA is adjacent to the ANF which has a robust population of this species which should enhance the likelihood of persistence on ARWEA.

Like the Bachman's sparrow, the majority of suitable habitat for brown-headed nuthatches occurs in the Bloody Bluff area. By reducing shrub cover, increasing herbaceous ground cover and moving towards an old growth type stand, targeted management for the Bachman's sparrow in the Bloody Bluff area combined with ongoing natural community management in the Quinn Tract, Doyle Creek, and Sand Beach areas will improve the likelihood of increasing the local brown-headed nuthatch population in the next 10 + years. Because the needs of this species are met through ongoing natural community management and management actions aimed at benefiting Bachman's sparrows, no SMA is necessary. However, because breeding success is correlated with increasing snag density, snags should be maintained and created if necessary. To monitor availability of snags for this species, we recommend the OBVM monitoring parameters for mesic and wet flatwoods be modified to

include number of snags/acres as a parameter ([Section 4.2.1](#)). Additional land management recommendations can be found in [Section 4.3.4](#).

Though no SMA is recommended at this time, an SMA may become necessary in the future if ongoing natural community management does not sufficiently increase suitable habitat within the Quinn Tract, Doyle Creek, and Sand Beach areas. To determine if natural community management is sufficient, annual monitoring using spring call counts are recommended ([Section 5.2.2](#)). The goal for this species is to establish and maintain a viable population that functions as part of the larger regional population. The measurable objective is to:

- 1) Detect brown-headed nuthatches at 30% of call stations within the Quinn Tract, Doyle Creek, Bloody Bluff, and Sand Beach areas collectively by 2019.

Meeting this objective would help reverse the ongoing decline of this species and bolster the amount of suitable habitat for this species.

### *3.2.7: Cooper's Hawk*

The Cooper's hawk is occasionally observed on ARWEA and nesting has not been documented, though is likely. This species forages in many natural communities and can nest in a variety of habitats including swamps, floodplain and bottomland forests, and baygalls. Therefore, it is not considered management dependent, though it does benefit from active management to restore natural communities provided nest sites are not disrupted. This species is not listed at either the state or federal level, and the species triggers 1 of the 6 statewide prioritization parameters (probability of a 50% decline on public lands). Models indicate 3,251 acres of potential habitat based on natural communities on ARWEA with 4,131 acres if historic natural communities could be restored. However, due to the restrictiveness of the models, there is likely more habitat than was modeled to occur. Additionally, ARWEA is adjacent to the ANF which has a significant amount of habitat for this species. This should enhance the likelihood of persistence on ARWEA.

Due to the generalist nature of this species, the opportunity for management at the WMA level to have a significant impact on this species is low. Vast areas of potential habitat exist within the Apalachicola River basin as well as the adjacent ANF, THSF, and Box-R WMA. These large tracts of habitat in the public domain bolster the regional security of this species. Though this species is likely to persist on the area without directed management, ongoing land management actions in actively-managed natural communities on ARWEA will maintain and enhance suitable foraging habitat.

Because the management opportunity for this species is low, no SMA is necessary and it would be impractical to set a measurable objective for this species. Should nests be detected, land management consideration around nests sites should be employed ([Section 4.3.5](#)). There is no species management necessary for this species on the area and documentation of nesting is recommended ([Section 5.2.6](#)).

The area goal is to continue to provide habitat capable of meeting the needs of this species to allow the Cooper's hawks on ARWEA to function as part of the

regional population. It is unlikely any single WMA could independently sustain a population of Cooper's hawks.

### 3.2.8: Northern Bobwhite

The northern bobwhite is associated with open canopy forests and grassland communities dominated by warm-season grasses, legumes, and patchy bare ground. Weedy areas are used for raising broods and for bugging habitat; shrubs or other thickets are useful as roosting habitat or escape cover. The northern bobwhite is a game species and is not listed at either the state or federal level. This species triggers 2 of the 6 statewide prioritization parameters (Legacy population trend and status) and is a medium statewide priority. However, BBS data indicate a 3% decline per year range-wide with a 3.6% decline per year in Florida. As a result, this species has become the focus of a number of ongoing conservation initiatives. On ARWEA, the northern bobwhite is considered relatively common in areas where specific actions are applied to facilitate species management and are considered occasional in other portions of the area. This species has been documented breeding on the area. The ongoing range-wide population declines, its popularity as a game bird, the large potential to increase habitat quality, and the many conservation initiatives for this species make it a high priority species on the area.

Models indicate 8,532 acres of potential habitat based on natural communities on ARWEA with 9,121 acres available if historic natural communities could be restored. There is enough potential habitat to sustain a population of this species if the potential habitat is managed in a way that is compatible with the needs of this species. Additionally, this area is adjacent to the ANF which has a population of northern bobwhite; therefore the likelihood of persistence on ARWEA is high. However, without targeted management, densities are likely to remain moderately low. Though the models show there is not much additional habitat to be gained via restoration, there is a significant amount of habitat in the Saul Creek unit that can be enhanced with focused management. Saul Creek has received an increased fire frequency, mechanical treatments, as well as supplemental wildlife plantings. As a result, spring whistle counts suggest an increasing population trend. A fall covey count conducted in 2008 detected 10 coveys in this area. Even though the response of northern bobwhite to current management has been favorable, additional management actions have the potential to significantly increase the quality of habitat. This species is management responsive, and there is good opportunity for management on ARWEA to have significant benefits, therefore an SMA focusing on the Saul Creek tract is recommended ([Section 4.1.3](#)). Reducing the size of the burn units to produce mosaic burns, ensuring a 1-2 year fire return interval focusing on growing season burns, and additional mechanical treatments will further enhance habitat in this area.

The area goal for this species is to increase and maintain the local population. The SMA goal is to increase the local population so as to increase hunter opportunity and increase the local security of the species. The measurable objective for the SMA is to:

- 1) Increase the number of coveys heard during fall covey counts 50% by 2019.

In mesic flatwoods outside of the SMA, ongoing natural community management will continue to move existing habitats into a condition more suitable to northern bobwhite. Other than ongoing land management, no species management is recommended. Monitoring recommendations can be found in [Section 5.2.4](#), and coordination recommendations can be found in [Section 6.1.3](#).

### 3.2.9: Red-Cockaded Woodpecker

Red-cockaded woodpeckers are listed as federally endangered and are a state species of special concern. Statewide, this species triggers 4 of the 6 prioritization parameters (high Millsap biological score, low Legacy population status, declining Legacy population trend, and a low proportion of populations on state lands modeled to persist). However, the results of this PVA should be used with caution as several of the model's assumptions are not suited to this species, and the model had a starting population higher than the known population. This species is a moderate to high priority statewide. On ARWEA, red-cockaded woodpeckers are considered somewhat common in the Bloody Bluff and Doyle Creek areas and reproduction has been documented.

In March 2005, 14 artificial cavity inserts were installed to form 3 new red-cockaded woodpecker recruitment clusters in suitable but unoccupied habitat on Bloody Bluff. During late December 2007 and early January 2008 a total of 14 additional artificial cavity inserts were installed in the Bloody Bluff area. The cavity inserts were used to form 2 new recruitment clusters and to supplement existing clusters with replacement cavities. There are a total of 8 known red-cockaded woodpecker clusters being monitored on the ARWEA; 3 occur in natural clusters and 5 in clusters created with artificial cavities. In 2008, 7 of the 8 clusters showed signs of activity, and 6 of the clusters contained red-cockaded woodpecker nests. Of the 6 nests, 2 occurred in the natural clusters and the other 4 nests were in artificial cavity inserts in recruitment clusters.

Models indicate 3,064 acres of potential habitat based on natural communities on ARWEA, with 7,732 acres modeled to occur if historic natural communities could be restored. These acres all occur on the east side of the Apalachicola River. Habitat to the west of the river was not considered because of the relatively small amount of habitat and the fact that it is very isolated from any current population. The habitat in Bloody Bluff, which is adjacent to the existing red-cockaded woodpecker population on the ANF, is currently suitable and can receive additional cavity inserts. The areas to the south of Bloody Bluff including Sand Beach and the Quinn Tract are likely 10-20 years away from having trees large enough to receive cavity inserts. Adding additional cavity inserts in the Bloody Bluff area would connect the populations occurring on the northern area of Bloody Bluff to those occurring in the Doyle Creek area to the south which is adjacent to THSF. Outside of adding additional cavity inserts, ongoing natural community restoration with some changes to OBVM DFCs will be suitable to enhance and restore habitat for this species ([Section 4.2](#)). Due to the large potential to increase the amount of suitable habitat and enhance the local population through targeted management, a SMA is recommended ([Section 4.1.4](#)). The area goal is to expand and maintain the existing population to enhance its role in

the larger regional population on the ANF and THSF. The measurable objectives are to:

- 1) Create 3 additional recruitment clusters by 2019, and
- 2) Maintain at least 6 potential breeding groups through 2019.

Though one of the objectives is to maintain or increase the number of potential breeding groups, conditions outside the control of area staff may prevent this objective from being achieved. If situations such as this arise, area staff should consider other management strategies including possible translocations if they are appropriate. By adding recruitment clusters in the southern areas of Bloody Bluff, ARWEA has the potential to create a corridor linking existing populations on ANF and Bloody Bluff to populations occurring on Doyle Creek and THSF. This corridor could provide an important link to the eventual colonization of the Quinn Tract, and Sand Beach, thereby increasing the regional security of this species. Monitoring recommendations can be found in [Section 5.2.5](#). Coordination recommendations can be found in [Sections 6.3](#) and [6.4](#).

### *3.2.10: Southern Bald Eagle*

The bald eagle is considered common on ARWEA and has been documented breeding on the area. The species is a generalist and uses a number of natural communities with the best nesting habitat occurring in forested areas close to open water. Therefore, it is not considered management dependent, though it does benefit from active management to restore natural communities provided nest protection guidelines are followed. Statewide, this species triggers 0 of the 6 prioritization parameters. However federal and state protections remain, and there is a state management plan to ensure the continued recovery of the species.

Models indicate 7,815 acres of potential habitat based on natural communities on ARWEA with 10,575 acres available if historic natural communities could be restored. However, additional habitat likely exists as these models only considered certain plant communities within 3 km of known nesting sites and open water. Fortunately, there are large areas of potential habitat adjacent to and throughout the Apalachicola River basin including the ANF, the Apalachicola National Estuarine Research Reserve (ANERR), THSF, St. Vincent National Wildlife Refuge (SVNWR), and Box-R WMA. Area staff currently flies annual surveys for bald eagle nesting activity within the boundaries of the ARWEA, Box-R, SVNWR, and surrounding areas. During the most recent survey 33 nests were found, of which 30 were active. Due to the abundance of eagles within the area, the regional population appears secure.

The area goal is to promote suitable habitat for bald eagle nesting to allow the eagles on ARWEA to function as part of the regional population. Though this species is likely to persist on the area without directed management, ongoing management of ARWEA's natural communities should continue to maintain or enhance habitat for this species by maintaining potential foraging habitat in wetland systems and potential nesting sites as pines mature. Should nests be detected, management considerations around these sites will be observed ([Section 4.3.6](#)). If eagle behavior indicative of nesting (i.e. courtship flights, carrying sticks, etc) is observed, an effort

should be made to determine the location of any potential nest on the area. Monitoring recommendations for this species are found in [Section 5.2.3](#). If bald eagle nesting is documented on site, the nest should be reported and the taxon coordinator for this species notified ([Section 6.1.1](#)).

### 3.2.11: Wading Birds

Statewide, this group of species is a moderate priority. Several species are state-listed species of special concern and the wood stork is state and federally listed as endangered. The Millsap biological scores for the little blue heron (*Egretta caerulea*) and wood stork (*Mycteria Americana*) are high. The snowy egret (*E. thula*) and little blue heron are believed to have declining population trends while the tricolored heron (*E. tricolor*) and white ibis (*Eudocimus albus*) have unknown trends.

Annual aerial colony surveys covering ARWEA and Box-R are conducted in the spring of each year. In 2008, there was a total of 5 great blue heron (*Ardea herodias*) colonies and 1 great egret (*A. alba*) colony located during the survey. A mixed colony consisting of wood stork nests (n=19), great blue heron nests (n=4), and great egret nests (n=6), as well as snowy egret and little blue heron colonies were observed on the Tupelo Bend Waterfowl Area just north of Howard Creek, Gulf County. Tricolored herons and white ibis have been documented foraging on the area. Models indicate 7,815 acres of potential habitat based on natural communities on ARWEA with 10,575 acres available if historic natural communities could be restored. Many acres of suitable habitat are available on public and private lands throughout the Apalachicola River basin.

Natural community management that includes prescribed fire and exotic plant removal in wet prairie, wet flatwoods, and marsh habitats will enhance and maintain these natural communities in good condition for wading birds by maintaining open areas used for foraging. However, wading bird population levels are highly influenced by regional conditions, especially water level conditions. Although these species are a high priority, there is low opportunity to impact the species at the management area level. Therefore, no measurable objectives have been identified for wading birds. Timing of management activities should be carefully considered to avoid negatively impacting nesting wading bird colonies ([Section 4.3.7](#)). To avoid negative impacts to rookery sites, area staff should continue to monitor rookery use and identify additional nesting locations through annual aerial surveys ([Section 5.2.3](#)).

The area goal is to maintain the suitability of habitat for these species to allow the wading birds using the ARWEA to function as part of a regional population. This will be accomplished through natural community management. However, the long-term persistence of these species on this area will be influenced by actions beyond the control of the area manager, such as water level fluctuations and climate change. If these large scale issues can be appropriately maintained, these species are likely to persist on the area.

### 3.2.12: Florida Black Bear

The Florida black bear is listed at the state-level as threatened. It triggers 2 of the 6 prioritization parameters (probability of a 50% decline on public lands and a high Millsap biological score). The ARWEA is located in the heart of the primary range of the Apalachicola population of the Florida black bear and is surrounded by thousands of acres of potential habitat. Bears are considered common on ARWEA with reproduction having been documented. Though the population density has not been quantified, it is thought to be relatively high due the close proximity to THSF which is known to contain a high density of bears.

This species requires a mosaic of natural communities throughout the year to meet nutritional and reproductive needs. Optimal bear habitat in Florida has been described as a mixture of flatwoods, swamps, scrub oak ridge's, bayheads, and hammock habitats, thoroughly interspersed. Models indicate 53,143 acres of potential habitat based on natural communities on ARWEA with 52, 672 acres available if historic natural communities could be restored. Due to the generalist nature of the species and the large amount of habitat on ARWEA and adjacent lands, this species is likely to persist on the area without directed management. The continued use of prescribed fire and the loss of shrubby areas through existing natural community management will reduce potential escape and denning habitat for this species. This same land management should maintain or possibly enhance foraging habitat for the Florida black bear, and potential escape and denning habitat will remain in fire shadows and natural communities that are not fire maintained. Therefore, the planned management will help facilitate the long-term persistence of the black bear. Additional land management recommendations are found in [Section 4.3.8](#), and monitoring recommendations are found in [Section 5.2.6](#). No species management actions are recommended at this time.

Due to the low opportunity for management and the relative abundance of the species, no SMA is recommended. The area goal is to maintain a viable population that functions as part of the larger regional population.

### 3.2.13: Sherman's Fox Squirrel

The Sherman's fox squirrel is state-listed as a species of special concern and triggers 4 of the 6 prioritization parameters (low proportion of populations modeled to persist on public lands, high Millsap supplemental score, declining Legacy population trend, and low Legacy population status). This subspecies occupies longleaf pine sandhills and flatwoods. The best habitat often contains both pines and oaks, such as along the edges of longleaf pine savannas and live oak (*Quercus virginiana*) forests, especially where there are large, mature trees and fires occur at a 1-3 year return interval.

The Sherman's fox squirrel range was originally defined as running from the Aucilla River east to Nassau County and south to the Caloosahatchee River in southwestern Florida and to Miami-Dade County along the east coast. Some researchers extend the range westward to the Apalachicola River. As both subspecies have similar habitat requirements, the important factor is to restore natural community conditions that would better meet the needs of the species, regardless of

the subspecies. No fox squirrels have been observed on ARWEA and while fox squirrels are present on the ANF, it appears they are not very abundant in areas of ANF and THSF adjacent to ARWEA. Therefore, natural re-colonization of ARWEA by fox squirrels may not occur for some time.

Models indicate 1,314 acres of potential habitat based on natural communities on ARWEA with 4,907 acres available if historic natural communities could be restored. Ongoing natural community management including restoring mature open stands of longleaf pine, while retaining large mast producing hardwoods such as oaks in appropriate locations, will benefit this species. Though general descriptions of preferred habitat exist, quantitative descriptions of habitat requirements are lacking. Without this data, it is difficult to establish quantified DFCs of vegetative parameters for this species.

While this species is considered management responsive, because the species is not known to be present and is not abundant in nearby areas, there is little opportunity for management to have significant impacts for this species on the area at this time. Additionally, fox squirrels were likely never abundant in this area due to the lack of sandhill habitats. Therefore, there is low opportunity for management on the area to have significant impacts on this species and no SMA is recommended. Opportunistic monitoring is recommended ([Section 5.2.6](#)), and if the species is detected, this assessment may need to be reconsidered. Additional land management considerations that will help move the habitat towards conditions more suitable to fox squirrels can be found in [Section 4.3.9](#), and research needs can be found in [Section 5.3.2](#).

The area goal is to provide habitat capable of supporting fox squirrels that will allow any fox squirrels using the ARWEA to function as part of a larger regional population. Staff will work towards achieving this goal by restoring the natural structure and function to the natural communities on the ARWEA that could serve as potential habitat. Once habitat is provided, it is likely a subspecies of fox squirrel will re-colonize this habitat. If no fox squirrels colonize the ARWEA after suitable habitat has been maintained, future strategies may need to consider more direct actions for restoring this species.

#### *3.3.14: Southeastern Bat*

This species was not modeled to have potential habitat on ARWEA due to the nearest known maternity cave being located greater than 25km away. However, significant amounts of habitat exist within the floodplain of the Apalachicola River, and bat researchers believe undiscovered maternity roosts in large hollow trees or man-made structures such as bridges or culverts that may be used for roosts likely exist in this area. Therefore, we applied the potential habitat model to the ARWEA without the requirement of being within 25km of a known maternity roost. This model identified 42,875 acres of potential habitat based on current natural communities with 46,722 acres available if historic natural communities could be restored.

This species is not listed at the state or federal level and it triggers 2 of the 6 prioritization parameters (probability of a 50% decline on public lands and high Millsap supplemental score). However, this species has experienced significant

declines in the past 50 years. In Florida this species is highly dependent on caves, especially during maternity season. However, an unknown percentage of the population is known to roost in large hollow trees or man-made structures. Because most southeastern bats concentrate in just a few maternity colonies, a large part of the population is vulnerable to disturbance at a single roost and loss of any maternity site is significant.

Most habitats used by this species are not actively managed. It forages principally over creeks, rivers, and lakes, but will forage in flatwoods and along the edges of hammocks. Any potential maternity roosts on ARWEA would likely occur within large hollow cypress or tupelo trees within the bottomland or floodplain forests and floodplain swamp. Though the potential for land management to benefit this species is low, maternity roosts located adjacent to actively-managed natural communities could be disturbed by management actions. Therefore, in the event a roost site is located, efforts should be taken to prevent disturbance to roost sites during management activities. Because no maternity roosts are currently known to occur on the area, no SMA, species management, or area goal is recommended at this time. However, if a maternity roost is discovered on the area, this assessment should be revisited. Please see [Section 5.2.6](#) for monitoring recommendations and [Section 6.1.6](#) for coordination recommendations.

### 3.2.15: Other Imperiled Species

With more than 1,300 plant species, 40 amphibian species, and 80 species of reptiles, the Apalachicola River basin is one of the most ecologically diverse areas in the United States and contains the highest diversity of herpetofauna in North America. As a result, ARWEA, which encompasses much of the lower Apalachicola River and the Apalachicola Estuary, contains many imperiled species. The majority of the animal species listed below occur in the river itself or in non-actively managed communities adjacent to the river. As a result, there is little opportunity for directed land management to benefit these species with the exception of some of the plant species. However, these species will be considered during all land management activities to ensure our actions have no adverse effects.

The animal and plant species mentioned below have been documented on the area; however, it is likely other imperiled species occur on ARWEA. All imperiled species will continue to benefit from FWC's ongoing management actions that aim to restore the structure and function of natural communities. Florida's imperiled species are adapted to these natural communities and have a higher probability of persistence under FWC management actions than in the absence of management.

Three listed reptile species have been documented on the ARWEA; the alligator snapping turtle (*Macrochelys temminckii*), the American alligator (*Alligator mississippiensis*), and Barbour's map turtle (*Graptemys barbouri*); all are listed as species of special concern. Additionally, 2 fish species designated as species of special concern [the bluenose shiner (*Pteronotropis welaka*) and the Gulf sturgeon (*Acipenser oxyrinchus desotoi*)], 2 federally endangered invertebrates [the fat three-ridged mussel (*Amblema neislerii*), the oval pigtoe (*Pleurobema pyriforme*)], and 2 federally threatened invertebrates [the Chipola slabshell (*Elliptio chipolaensis*), and the Purple bankclimber (*Elliptoideus sloatianus*)] have been documented on the area.

These species utilize the river itself as well as habitats adjacent to the river. As these habitats are not actively managed, most land management actions on ARWEA have little potential to affect the population. However, factors that influence water flow and quality can affect these species. Therefore, any actions that could have potentially negative effects should continue to be avoided.

The brown pelican (*Pelecanus occidentalis*), a state species of special concern is the only imperiled bird species known to be present on the area other than the focal species. This species is wide-ranging and is occasionally observed in the lower stretches of the river and in Apalachicola Bay. Efforts to maintain water quality, and support healthy fish populations will benefit this species.

In addition to the listed animals, numerous listed plants have been documented. Panhandle butterwort (*Pinguicula ionantha*), white birds-in-a-nest (*Macbridea alba*), many-flowered grass-pink (*Calopogon multiflorus*), and Florida beargrass (*Nolina atopocarpa*) are considered fire-dependent species. Continuation of a fire regime focusing on a 2-3 year fire return interval will benefit these species. Other listed species found on ARWEA that are not considered fire-dependent but benefit from fire include: tropical waxweed (*Cuphea aspera*), thick-leaved water-willow (*Justicia crassifolia*), white-top pitcher-plant (*Sarracenia leucophylla*), parrot pitcher plant (*Sarracenia psittacina*), Chapman's crownbeard (*Verbesina chapmani*), water sundew (*Drosera intermedia*), and rose pogonia (*Pogonia ophioglossoides*). These species are primarily found in wet prairies, wet flatwoods, and flatwoods-marsh ecotones, and will continue to benefit from the current fire regime. Fire does not play an important role in the management of corkwood (*Leitneria floridana*), which is found on the edges of fresh or tidal marshes, and Washington thorn (*Crataegus phaenopyrum*), which is found in floodplain forests and swamps. Nonetheless, continued burning of marsh habitats on ARWEA will likely not be detrimental to corkwood, and continued control of invasive exotics in the floodplain forests will benefit Washington thorn.

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

While 13 focal species were modeled to have potential habitat on the area (Section 3.1), and 1 species was added because it likely occurs on the area, not all of these species have the same level of management opportunity or need (Section 3.2). The FWC's natural community-based management will promote the habitat conditions necessary for most of these species, without the need for further strategic management actions.

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

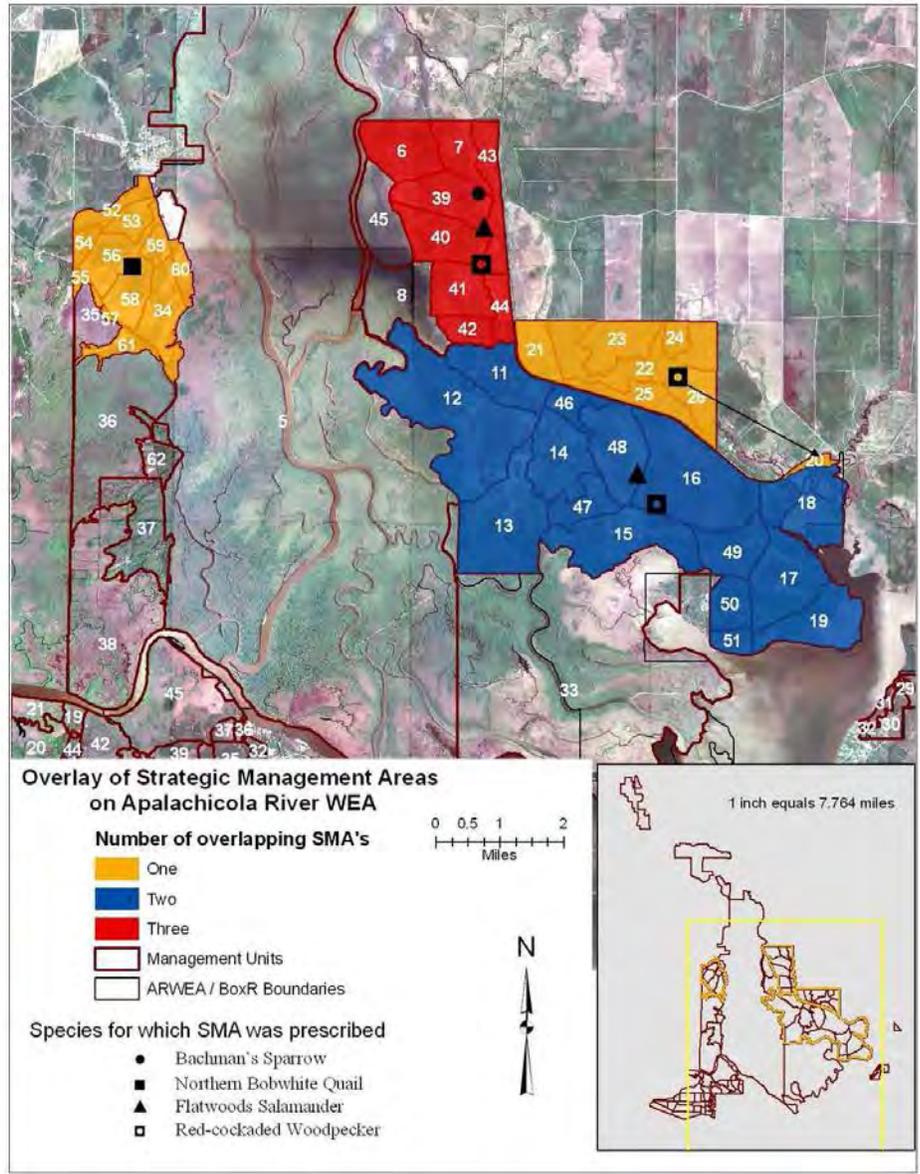
- Identify the area in which to apply specific land or species management that creates the highest probability for persistence/conservation of a species/suite of species. These specific actions may aid in restoring, enhancing or maintaining the habitat or population.

- Identify an area in which to focus specific management actions (land management or species management) for the best chance of success on large areas with more restoration/enhancement than can be accomplished in short order. This might be the first or next step in a sequential series of management actions that will increase the likelihood of occupation and/or persistence of a specific species.
- Identify an area that is so critical to the persistence of a species on the area that it warrants identification to ensure protection against negative alteration.
- Focus efforts on restoration/enhancement of a natural community that will benefit a priority species or a group of focal species. The SMA should identify the area in which these actions have the greatest positive impact for the species of interest.
- Identify areas that are more critical for research or monitoring.
- Recommend specific OBVM DFCs in a specific area to benefit a specific species when we would not want to change the DFCs in the natural community area-wide.

The DFCs established via the OBVM process often are a range of values that will accommodate the needs of a number of species. Some species require a more specific range of preferred habitat parameters than those generally applied via OBVM or require habitat parameters that may not have been included in the initial OBVM DFCs. In order to ensure land management efforts positively impact specific species, more specific DFCs in specific natural communities<sup>7</sup> and MUs may be suggested in the SMAs ([Section 4.1](#)). When there are new OBVM vegetative parameters that need to be considered, or parameter values that need modification that can be applied area-wide, these are identified in [Section 4.2](#). Some species have specific protective measures or land management considerations that are necessary to ensure their continued use of the property. These are prescribed in [Section 4.3](#).

#### 4.1: Strategic Management Areas

While the intent on ARWEA is to restore most restorable natural communities to a more natural condition that will better suit these species, SMAs allow focus on areas with the highest possibility of success and/or areas most critical for the conservation of a species on the area. The WCPR process identified 4 species for which a SMA was established on ARWEA ([Figure 1](#)). For each SMA, a species-specific goal and strategy was developed to guide management. In this document, goals, objectives and strategies are defined as follows: Goals are broad statements of a condition or accomplishment to be achieved in the future; goals may be unattainable, but provide direction and inspiration. Objectives are a measurable, time-specific statement of results that responds to pre-established goals. Strategies are the actions that will be taken to accomplish a goal or objective, and strategies may be measurable.



**Figure 1.** Comprehensive view of management units identified in Strategic Management Areas (SMA) on ARWEA showing overlap of SMAs and species for which actions are prescribed. Colors identify the number of SMAs that overlap the management unit, and symbols represent the species for which an SMA was prescribed.

#### *4.1.1: Frosted Flatwoods Salamander*

The frosted flatwoods salamander is considered a species of special concern by the FWC and threatened by the USFWS. A state management plan has been created to facilitate recovery of this species. Therefore, management actions taken to benefit this species on ARWEA would help fulfill the area's responsibility towards recovery of this species. Though frosted flatwoods salamanders have not been documented on ARWEA, there are 2 confirmed breeding ponds located in close proximity to Bloody Bluff on the ANF (1 pond is ~1.2 miles from the northern boundary of Bloody Bluff). While it is unlikely individuals from these breeding ponds would disperse into the Bloody Bluff area, it is possible individuals from this breeding pond could disperse into breeding ponds closer to Bloody Bluff and eventually colonize the area. It is also possible flatwoods salamanders occupy land on the ANF closer to Bloody Bluff, or even on Bloody Bluff, but they have not been detected. Ongoing natural community management on ARWEA is sufficient to provide upland habitat for this species. However, years of fire suppression have led to hardwood encroachment into ephemeral wetlands which have reduced or eliminated the graminaceous ecotones once present. These ecotonal edges are a vital habitat component for this species. The purpose of designating this SMA is to identify and prioritize ephemeral wetlands in which to focus restoration activities.

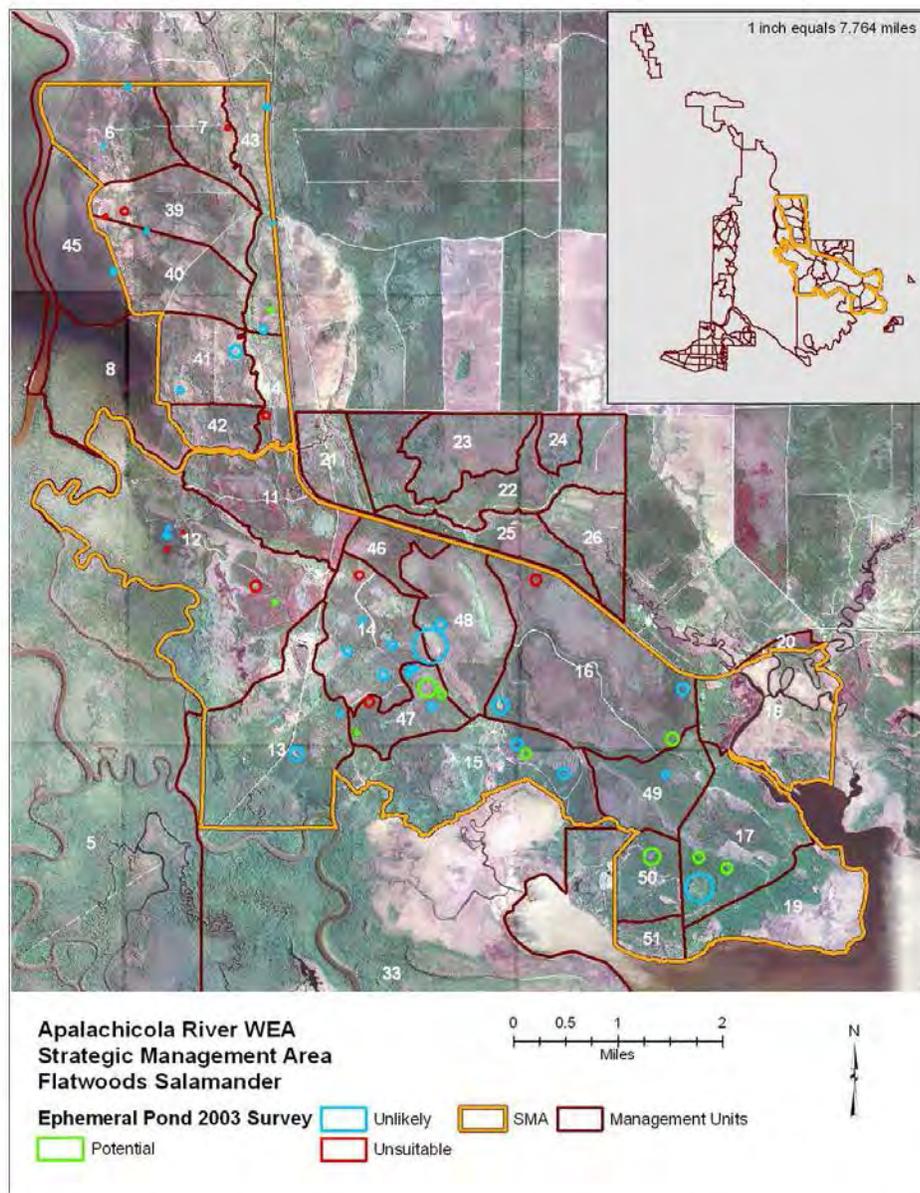
**Area Goal:** Establish and maintain a population of flatwoods salamanders that functions as part of the larger regional population.

**SMA Goal:** Restore appropriate ephemeral wetlands to a condition more suitable to the establishment and maintenance of a viable population of flatwoods salamanders that functions as part of the regional population.

**Objective 1:** Conduct all necessary actions to restore ecotonal edges of ephemeral wetlands identified as potential and unlikely (as defined in the assessment) by 2014.

**Objective 2:** Finish initial survey of potential breeding ponds by 2011, weather permitting.

**Description of the SMA:** This SMA contains all 59 ephemeral wetlands (Depression marsh and dome swamp) ranked during the 2002-2004 survey. This includes wetlands in the Bloody Bluff, Quinn Tract, and Sand Beach areas.



**Figure 2.** Management units and location and condition of ephemeral wetlands in which specific actions are prescribed to benefit the flatwoods salamander on ARWEA.

**Strategy:** Ideal upland habitat for this species consists of an open pine overstory and a biologically diverse ground cover within close proximity of suitable breeding sites. Ideal breeding sites are wetlands that lack predatory fish, have an open overstory, an extensive graminaceous ecotone, and support herbaceous vegetation throughout the basin or at least around the perimeter of the basin. As ongoing natural community management combined with management actions for the Bachman's sparrow and red-cockaded woodpecker are sufficient to restore upland habitat for this species, this SMA focuses on restoring the ephemeral wetlands necessary for breeding sites.

During 2002-2004, surveys were conducted for flatwoods salamanders on ARWEA. During these surveys, 59 ephemeral wetlands were dip-netted in order to determine the presence/absence of flatwoods salamanders. Based on conditions observed during these surveys, each wetland visited was ranked according to its current suitability as a potential breeding pond. Ponds were ranked as potential, unlikely, or unsuitable. These rankings should be used as the basis to prioritize restoration efforts, focusing on potential and unlikely ponds. However, ongoing natural community management since the time of the survey has likely changed the suitability of some of these wetlands. Therefore, on-the-ground reconnaissance of these wetlands should be conducted in order to determine the current state of the wetlands. Upland habitats in the Bloody Bluff area are currently in the most suitable condition for this species and this area is in close proximity to known breeding ponds on the ANF. As such, wetlands in this area should be considered a priority.

To restore potential breeding ponds for flatwoods salamanders, ecotones surrounding potential breeding sites should be restored. To achieve this, ephemeral ponds with potential for restoration should be mechanically cleared of shrubby vegetation to promote graminaceous growth. Additionally, if wetlands do not burn adequately during dormant season burns, efforts should be made to run fire into these wetlands during the growing season when the wetland basins are dry. During mechanical treatments extreme care must be taken to avoid excess soil compaction or other disturbance as well as adverse effects to hydrology.

Any flatwoods salamander potential breeding pond in the SMA should be monitored prior to any treatment (to determine pre-treatment conditions) and again in the growing season following treatment (to determine post treatment conditions). A monitoring protocol that standardizes and directs how information is collected is currently being developed. The following are the minimum parameters to be recorded: presence of predatory fish; width of the grassy ecotone; percent herbaceous ground cover; percent canopy cover and percent shrub cover. The desired conditions are an absence of predatory fish and a grassy ecotone width of > 16.4 ft. The parameters of interest should be measured within 33 ft of the wetland edge and include:

- percent shrub cover < 50%
- percent canopy cover < 50%
- percent herbaceous cover > 40%\*

\* The herbaceous cover of interest includes linear-leaved emergents, such as grasses, sedges, and pipeworts.

Assuming flatwoods salamanders are not currently present on ARWEA; limited dispersal capabilities may prevent this species from re-colonizing ARWEA.

following habitat restoration. Therefore, if presence is not detected within 10 years following restoration, further species management options should be considered. See [Section 5.1.1](#) for species management recommendations, [Section 4.3.1](#) for additional land management considerations, [Section 5.2.1](#) for recommended monitoring to evaluate progress towards objectives, and [Sections 6.1.6](#) and [6.4](#) for coordination recommendations.

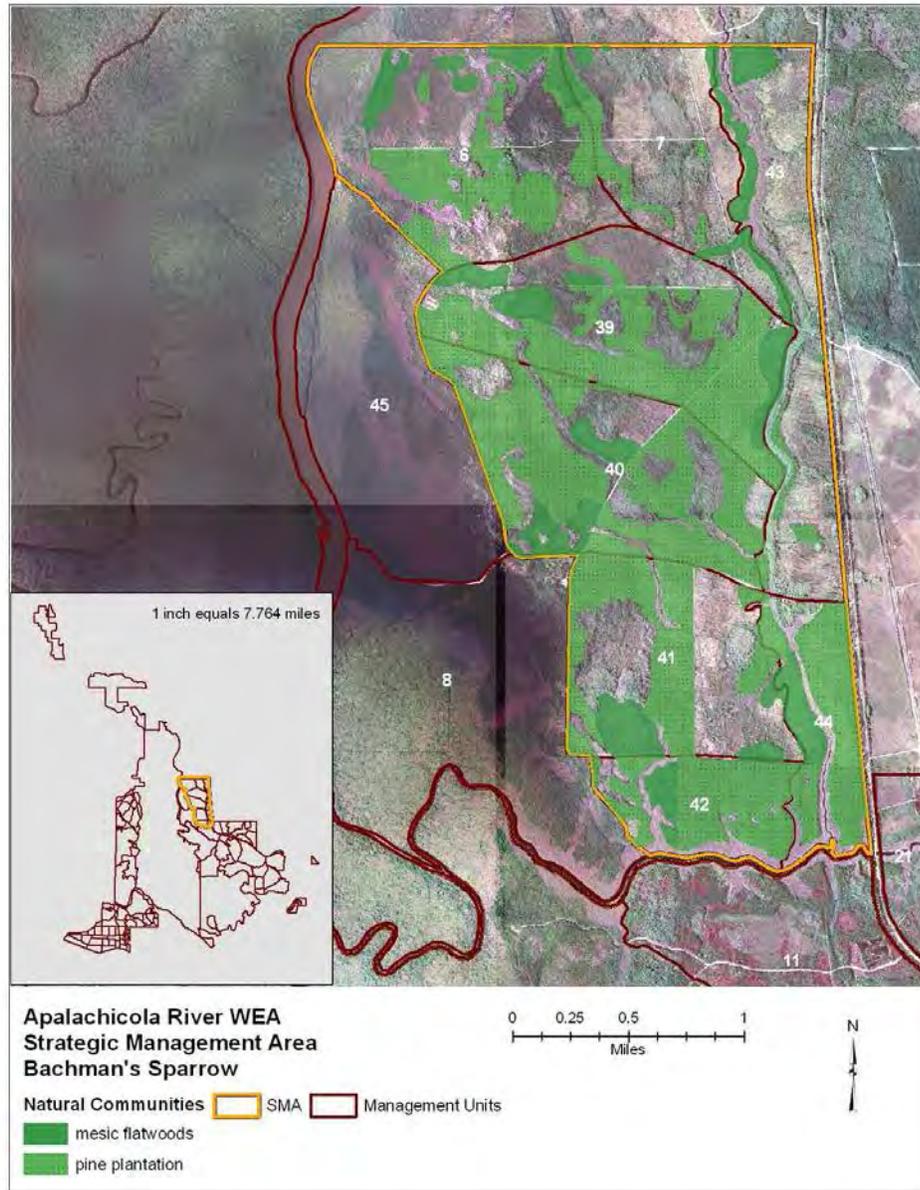
#### *4.1.2: Bachman's Sparrow*

This SMA was chosen to focus land management actions in an area that has the highest potential to provide immediate benefits to Bachman's sparrows. The Bloody Bluff unit currently contains the habitat most suitable to Bachman's sparrows on the ARWEA. Additionally, this unit is close to large amounts of occupied habitat on the ANF making it a high priority area. In this area, 1,800 acres of slash pine plantation that were thinned to approximately 30 BA prior to state acquisition were under-planted with longleaf pine seedlings. The application of a frequent fire return interval and mechanical treatments has allowed this area to be burned during the growing season, resulting in increased herbaceous growth. These management actions have greatly increased the suitability of this area to Bachman's sparrows. However, the northwestern corner and western edge of Bloody Bluff require additional restoration actions. Restoring habitat in these areas in a timely fashion will not only benefit the Bachman's sparrow, but also the red-cockaded woodpecker, northern bobwhite, brown-headed nuthatch, Sherman's fox squirrel, and frosted flatwoods salamander. Restoring habitat for Bachman's sparrows in the Bloody Bluff area is effectively adding to high quality habitat already existing on ANF. By taking actions to restore habitat for this species, ARWEA will be fulfilling its role in the conservation of a species that has experienced a 3.1% annual decline in populations over the last 40 years in Florida.

**Area Goal:** Provide conditions suitable to Bachman's sparrows on all areas of ARWEA where historic habitat likely once existed.

**SMA Goal:** Establish and maintain a viable population that functions as part of the larger regional population.

**Objective 1:** Detect Bachman's sparrows at 30% of call stations within the SMA by 2019.



**Figure 3.** Management units and natural communities in which specific actions are prescribed to benefit the Bachman's sparrow on ARWEA.

**Description of the SMA:** This SMA contains all currently typed pine plantation, mesic flatwoods, and wet flatwoods in the Bloody Bluff unit. Total acreage for the selected natural communities within the SMA is 2,543 acres (1,330 acres of pine plantation, 857 acres of wet flatwoods, and 356 acres of mesic flatwoods). While wet flatwoods are not typically considered Bachman's sparrow habitat, wet flatwoods in this area are on the drier end of the spectrum and are currently used by Bachman's sparrows; therefore, they are included in this SMA.

Much of the area in the northern part of Bloody Bluff currently typed as pine plantation was historically typed as wet prairie. Currently, this area contains active red-cockaded woodpecker clusters and almost the entire area is considered important foraging habitat. Restoration of these pine plantations to historic wet prairie would have detrimental impacts to the red-cockaded woodpecker population. As a result, area managers have made the decision not to reduce the basal area of the pine plantation to a level consistent with wet prairies in an effort to preserve foraging habitat. In order, to best reflect and describe the habitat types and desired outcomes in this SMA, current natural community types are used as opposed to historic natural community types.

**Strategy:** This species prefers mature pine forests with low basal area and abundant herbaceous vegetation or early-successional oldfield habitat. The occurrence of fire is critical to sustaining this species as use of an area by Bachman's sparrows declines rapidly around 18 months post-fire and sites are typically abandoned if fire is excluded for greater than 3 years. In many areas the optimal fire return interval necessary to achieve desired vegetative parameters for Bachman's sparrow habitat is 2-3 years. These habitat conditions are compatible with current OBVM DFCs for mesic and wet flatwoods in this area.

Land management in this area has already produced habitat suitable to Bachman's sparrows. Recent point counts have detected their presence in the Bloody Bluff area; however, they currently occur at a relatively low density. The mechanical treatments and frequent fire return interval have greatly reduced the hardwood midstory and stimulated herbaceous growth throughout much of the area. However, MUs 6, 39, 40, and 41 require management to control shrubby vegetation and midstory hardwoods.

In order to achieve conditions highly suitable to Bachman's sparrows and increase the population in these areas, a combination of prescribed fire and mechanical treatments are necessary. Based on past experience, fire should continue to be applied at a 2-3 year fire return interval to achieve the OBVM DFCs, and efforts should be made to assure the western edge and northwest corner of this SMA are adequately burned. Growing season fire is preferred, but dormant season fire can be used to maintain fire return intervals if conditions are not suitable during the growing season.

In addition to the application of prescribed fire, roller chopping is needed on approximately 230 acres on the western edge and northwest corner of the area as well as other selected areas in order to remove off-site slash pine regeneration, remove invasive hardwoods, and control the height of the midstory. Small un-chopped areas should be left by applying a "sloppy chop" to provide the necessary shrub patches to serve as perches for singing males. To provide ideal conditions, these mechanical

treatments should be followed by a growing season burn if possible. See [Section 5.2.2](#) for monitoring recommendations to determine progress towards objectives.

#### *4.1.3: Northern Bobwhite*

The northern bobwhite is a game species and is not listed at either the state or federal level. However, BBS data indicate a 3% decline per year range-wide with a 3.6% decline per year in Florida. As a result, this species has become the focus of a number of ongoing conservation initiatives. Efforts taken on ARWEA to increase the local population will help to fulfill the area's role in the conservation of this species as well as other species dependent upon grassland ecosystems.

Though potential habitat models show there is not much additional habitat to be gained via restoration on ARWEA, there is a significant amount of habitat in the Saul Creek unit that can be enhanced with focused management. Saul Creek has received an increased fire frequency, mechanical midstory control, as well as supplemental wildlife plantings since acquisition, at which time the area was highly altered. As a result of the focused management, spring whistle counts suggest a slightly increasing population trend. A fall covey count conducted in 2008 detected 10 coveys in this area. This SMA was chosen due to the large potential to affect the local population of this species as well as to increase hunter satisfaction on ARWEA.

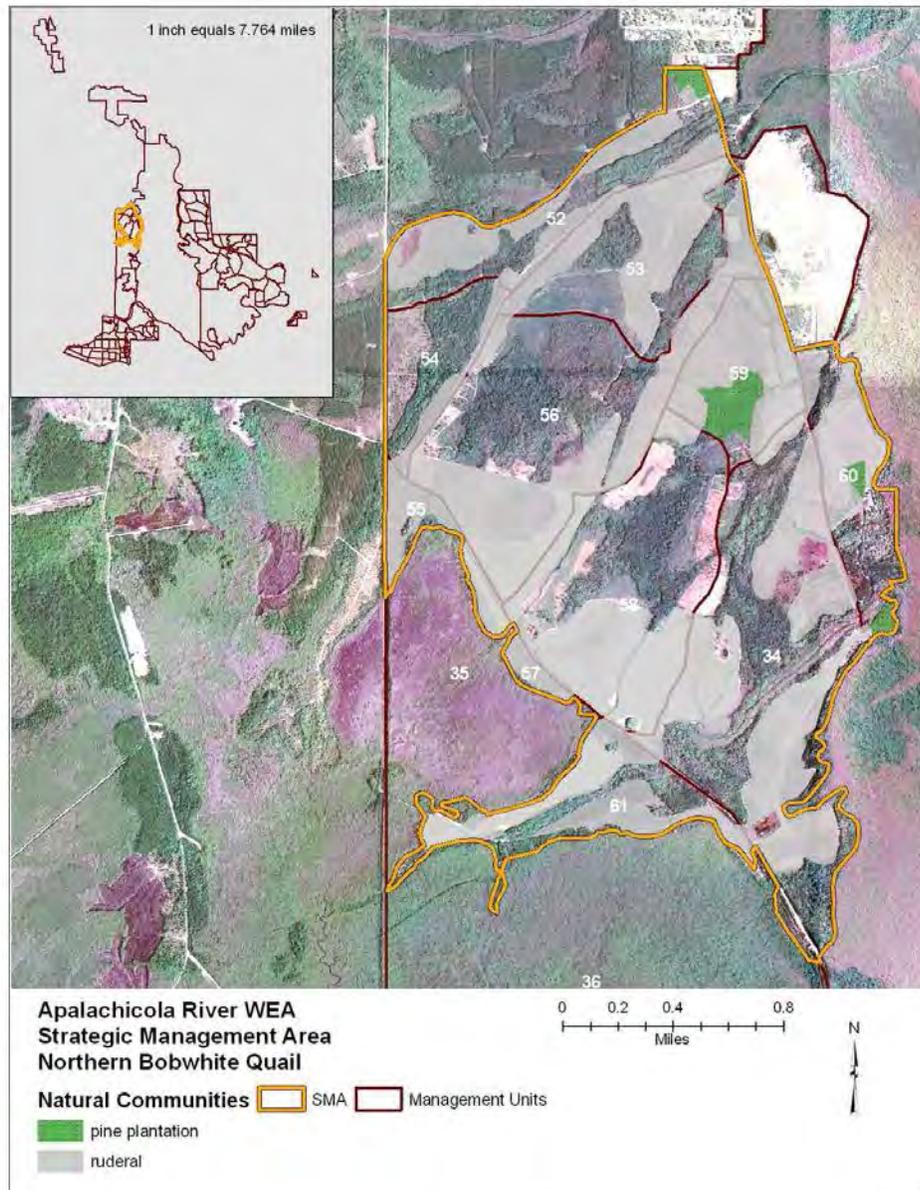
**Area Goal:** Maintain and increase the local population to increase the regional security of the species.

**SMA Goal:** Increase the local population so as to increase hunter opportunity and increase the local security of the species.

**Objective 1:** Increase the number of coveys heard during fall covey counts 50% by 2019.

**Description of the SMA:** This SMA contains all pine plantation and ruderal habitats in the Saul Creek unit. Total acreage for the selected plant communities within the SMA is 1,175 acres (39 acres of pine plantation and 1,136 acres of ruderal).

This area has historically been used for agricultural purposes, and extensive food plots and groundcover restoration areas exist today. As such, much of the area is currently typed as ruderal habitat, and will likely remain that way. In order to provide a more accurate description of the habitat in this area, current habitat types (including ruderal) are used instead of historic habitat types.



**Figure 4.** Management units and plant communities in which specific actions are prescribed to benefit the northern bobwhite on ARWEA.

**Strategy:** The northern bobwhite is highly responsive to active management and depends on multiple early-successional habitats that are well interspersed to meet their annual life requirements. They respond well to the creation of edges or ecotones. This species is associated with open canopy forests and grassland communities dominated by warm season grasses, legumes, and patchy bare ground. Weedy areas are used for raising broods and for bugging habitat; shrubs or other thickets are used as roosting habitat or escape cover. The frequent application of prescribed fire is important when managing this species.

Management in the Saul Creek unit has included burning on a 2-3 year fire return interval, food plot cultivation, longleaf pine reforestation, groundcover restoration, fallow strip disking, and roller chopping. Though current management has been sufficient to provide a slightly increasing trend in northern bobwhite numbers, further actions can be taken to further increase the population size.

The size of existing burn units in Saul Creek are likely too large to provide the multiple early-successional habitats that northern bobwhites require. Therefore, burn units should be reduced in size by allowing the newly defined OBVM MUs to serve as burn units. As the new OBVM MUs follow existing roads and natural fire breaks, smaller burn units can be created without the need for new fire breaks. Additionally, experience has shown that in order to meet the OBVM DFCs the target fire return interval should be changed from every 2-3 years to every 2 years, while continuing to favor growing season burns.

Despite only 39 acres of pine plantation being accounted for in the natural community mapping, approximately 82 acres of merchantable timber is scattered throughout this SMA (many of these areas are typed as ruderal). Thinning of these pine plantations would benefit northern bobwhite by opening up the canopy, allowing more sunlight to hit the forest floor, thereby promoting herbaceous growth. Unfortunately, at this time it is likely not cost effective to thin these areas due to equipment mobilization costs and low timber volume and acreage. If timber sales are planned in the future in areas near Saul Creek, staff should make efforts to include these pine plantations.

To date, 318 acres of invasive hardwoods (predominately titi) have been roller chopped in this area. The prescribed burn following this chop was unsuccessful at controlling regeneration due to flooding conditions prior to the burn. Therefore, this area should be roller chopped again, followed by a growing season burn if possible. Following the chop and burn, this area should be burned on a frequent fire return interval in order to promote herbaceous growth, increase fine fuels, and prevent titi regeneration. Once the ground cover has responded, staff will investigate the appropriateness of replanting longleaf pine. To date 281 acres have been reforested with longleaf pine seedlings in the Saul Creek unit predominately in this designated SMA.

There is a need to continue ongoing land management actions such as fallow strip disking (~15 acres interspersed), ground cover restoration activities (10.5 acres), and the planting of annual food plots (~180 acres for quail) at the current rate. These activities provide habitat heterogeneity in the form of vertical cover and edges; they also provide high quality food sources and attract insects, all of which benefit northern bobwhite.

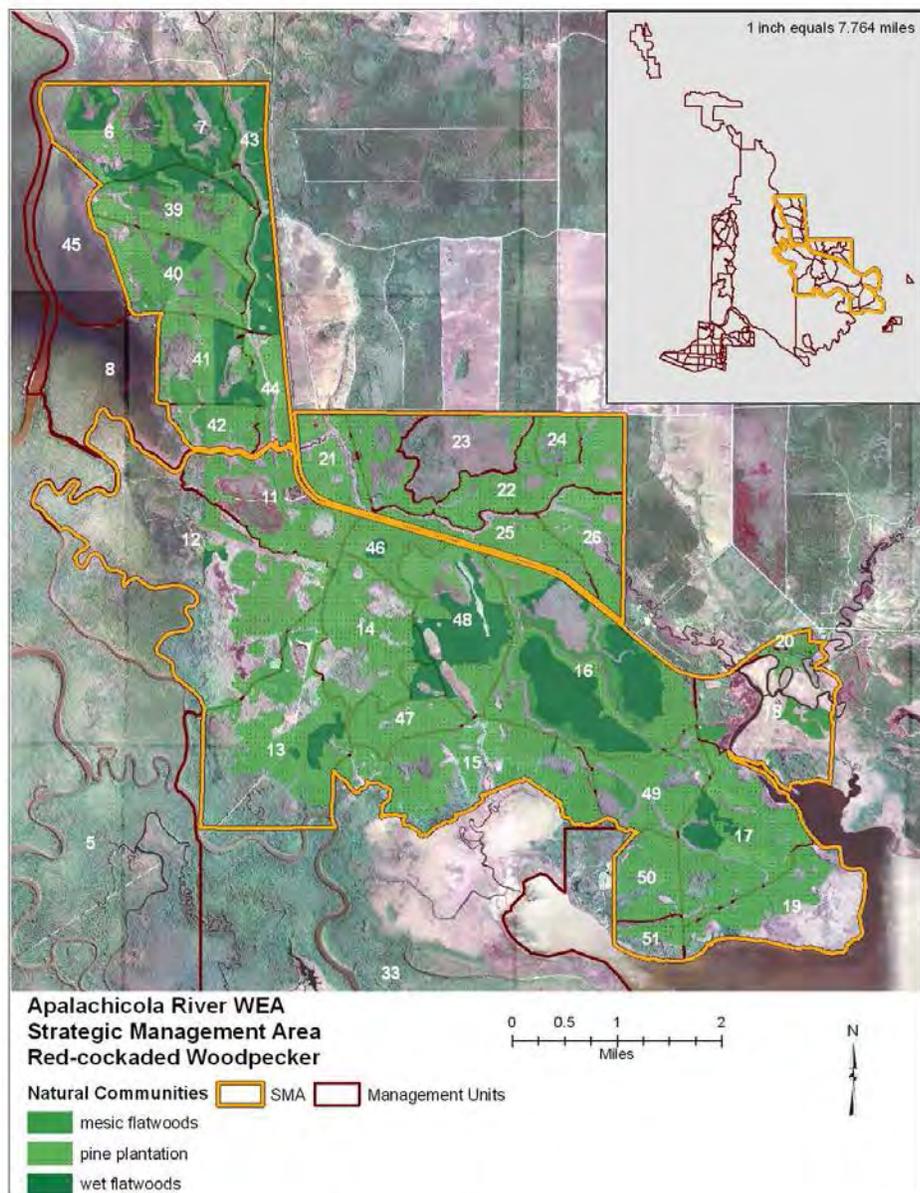
If habitat quality begins to increase, and northern bobwhite numbers begin to respond, there is a chance increased hunting pressure could prevent the area from reaching its SMA objective of a 50% increase in coveys heard during fall covey counts by 2019. Therefore, there is a need to observe the impact of harvest on population growth. If increased hunting pressure results in harvest mortality greater than 15%, staff should consider instituting a quota hunt season to cap harvest mortality at 15%. As changes to hunting regulations require commission approval, it could take some time for this change to be initiated, and the ability to reach the measurable objectives may be beyond the control of area staff. Therefore, if it is determined a switch to a quota hunt season is necessary; the process should be initiated as soon as possible to insure adequate time is left to realize desired population gains.

Monitoring is necessary to determine if management is having the desired effect, to determine progress towards reaching objectives for the species, and to determine if instituting a quota hunt season is necessary. See [Section 5.2.4](#) for monitoring recommendations and [Section 6.1.2](#) for coordination recommendations.

#### *4.1.4: Red-Cockaded Woodpecker*

The red-cockaded woodpecker is often considered an umbrella species as many species benefit from management for this species. The cavities excavated by red-cockaded woodpeckers are used by a number of small mammals and birds as well as several species of reptiles, amphibians, and insects. The red-cockaded woodpecker is listed as an endangered species by the USFWS and as a species of special concern by FWC. There is a federal recovery plan for the species and an FWC management plan. Both documents call for increased populations of red-cockaded woodpeckers as benchmarks to recovery. Therefore, management for this species on ARWEA would help further the goals of recovery efforts.

The purpose of designating this SMA is to identify areas in which placement of artificial cavities to create recruitment clusters would have the best chance of success and have the largest impact on the local population. This SMA contains all currently typed pine plantation and mesic and wet flatwoods in the Bloody Bluff, Quinn Tract, Doyle Creek, and Sand Beach areas. Red-cockaded woodpecker clusters occur in the Bloody Bluff area and the Doyle Creek area. Though these areas are situated in close proximity, the nearest clusters between the 2 areas are separated by approximately 3 miles, which is greater than the typical dispersal of red-cockaded woodpeckers. By continuing a program of recruitment cluster creation focusing on expanding from the current clusters towards each other, we will in effect establish a corridor of occupied territories. If this can be achieved, ARWEA has the potential to increase the regional security of the species by joining extant populations on the ANF and ARWEA with those occurring on THSF. Additionally, habitats in the Quinn Tract and Sand Beach areas are approximately 10 years away from having trees large enough to receive artificial cavities. These areas are included in the SMA because as trees mature these areas will be important in expanding the existing population towards the southern portion of the WEA where no current clusters exist. Specific land management actions taken now in these areas will help to ensure habitat is at its most suitable when trees are capable of receiving artificial inserts.



**Figure 5.** Management units and natural communities in which specific actions are prescribed to benefit the red-cockaded woodpecker on ARWEA.

**SMA Goal:** Expand and maintain the existing population to enhance its role in the larger regional population on the ANF and THSF.

**Objective 1:** Install 3 additional recruitment clusters by 2019.

**Objective 2:** Maintain at least 6 potential breeding groups.

**Description of the SMA:** This SMA contains all currently typed mesic flatwoods, wet flatwoods, and pine plantation from the Bloody Bluff area southward through the Sand Beach area (Figure 2). Total acreage for the selected plant communities within the SMA is 9,133 acres (669 acres of mesic flatwoods, 1,979 acres of wet flatwoods, and 6,485 acres of pine plantation).

Much of the area in the northern part of Bloody Bluff currently typed as pine plantation was historically typed as wet prairie. Currently, this area contains active red-cockaded woodpecker clusters and almost the entire area is considered important foraging habitat. Therefore, restoration of these pine plantations to historic wet prairie would have detrimental impacts to the red-cockaded woodpecker population. As a result, area managers have made the decision not to restore these habitats back to wet prairie. In order, to best reflect and describe the habitat types and desired outcomes in this SMA, current natural community types are used as opposed to historic natural community types.

**Strategy:** In order to achieve the goal of this SMA, species and land management actions will need to be taken. This includes installing additional cavities in the Bloody Bluff area, and prescribed land management actions in the Quinn Tract and Sand Beach areas.

The use of artificial cavities allows managers to place recruitment clusters in demographically favorable locations even when the pines may not be old enough for natural cavities. In March 2005, 14 artificial cavity inserts were installed to form 3 new recruitment clusters in suitable but unoccupied habitat at Bloody Bluff. During late December 2007 and early January 2008 a total of 14 additional artificial cavity inserts were installed in the Bloody Bluff area. The cavity inserts were used to form 2 new recruitment clusters as well as to supplement existing clusters with replacement cavities. There are currently a total of 8 red-cockaded woodpecker clusters being monitored on the ARWEA; 3 occur in natural clusters and 5 occur in artificial clusters. Two of these known red-cockaded woodpecker clusters are located within the Doyle Creek area which is separated from the existing clusters in Bloody Bluff by approximately 3 miles. As area staff continues to add additional recruitment clusters, efforts should be made to place any new artificial clusters in areas south and east of Bloody Bluff in an effort to form an occupied corridor between Bloody Bluff and Doyle Creek. When trees in the Quinn Tract and Sand Beach areas are of suitable size (~10 years), staff should consider creating additional cavities in these areas to facilitate the southward expansion of red-cockaded woodpeckers. Each year, staff should evaluate all cluster (both active and recruitment) to verify each cluster has at least 4 suitable cavities. Any cluster with less than 4 suitable cavities should be supplemented with additional artificial cavities.

High quality habitat for red-cockaded woodpeckers tends to have older pines stocked at an intermediate density (40-80 BA) with an open stand structure that is typically maintained by regular fire. To help achieve these conditions within the SMA, the minimum value of the OBVM DFC for basal area of pine in mesic and wet flatwoods should be raised to 30 (currently 20; [Section 4.2.1](#)). The preferred land management action within this SMA is the frequent use of prescribed fire. Experience indicates maintaining the current 2-3 year return interval should aid in meeting OBVM DFCs.

Bloody Bluff already contains suitable habitat and is in a condition in which it can receive growing season burns. Therefore, burns should be administered during the growing season to favor the development or enhancement of a healthy herbaceous ground cover. If a burn scheduled during the growing season cannot be conducted due to adverse environmental conditions it can be executed during the next dormant season. Prior to state acquisition the basal area of much of this tract was reduced to approximately 40 BA. Since that time, approximately 1,800 acres of remaining slash pine has been under-planted with longleaf pine. Therefore, there is currently no need for additional timber harvest.

Most of the Doyle Creek area was thinned in 2006-2007 bringing the basal area into the preferred range of 40-80 BA. The remainder of the pine plantations in this area should be thinned when trees are of merchantable size. Though there are trees in this area currently capable of receiving artificial cavities, much of the area contains trees that are approximately 10 years away from being large enough to receive artificial cavities. To continue moving this area towards the DFCs suitable to red-cockaded woodpeckers, 1 additional dormant season burn should be conducted within the next 3 years to reduce fuel loads. Following this dormant season burn, growing season burns should be favored on the 2-3 year return interval.

The Quinn Tract which is located south of the Bloody Bluff area is currently ~10 years away from having trees large enough to support artificial cavities. In order to ensure habitat in this area is suitable to red-cockaded woodpeckers by the time the trees are large enough to receive inserts, thinning needs to occur. Additionally, thinning the pine plantations will encourage radial growth, which could allow for trees to reach a size capable of receiving artificial cavities faster than if not thinned. Therefore, timber thinning within existing pine plantations should be initiated within MUs 37, 38, and 39 to bring the basal area into the 40-80 range by 2014. Additionally, the remainder of the pine plantations in the Quinn Tract should be thinned when trees are of a merchantable size. In conjunction with thinning, fire should be used to manipulate the vegetation to reach DFCs for shrub height, and percent ground cover preferred by this species. One dormant season burn should be conducted to reduce existing fuel loads, and then priority should be switched to growing season burns on a 2-3 year return interval.

A large portion of the Sand Beach area was thinned during 2003-2006 bringing the basal area into the preferred range of 40-80 BA. Trees in this area are approximately 10 years away from being large enough to receive artificial cavities. This area is close to being able to receive growing season burns. It is likely 1 additional dormant season burn is necessary before switching to growing season burns on a 2-3 year return interval.

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

Objective-Based Vegetation Management (OBVM) will be used to monitor progress towards Desired Future Conditions (DFCs) of various natural community parameters. As such, OBVM will be effective in monitoring progress towards land management strategies. The OBVM DFCs were designed to target a range in values for various habitat parameters within actively managed communities. However, some focal species require a more restricted range in habitat parameters than is reflected in the DFCs. If habitat parameters important to a particular species are not currently monitored as part of OBVM, suggestions are made as to which parameters should be added (Section 4.2.1). If the needs of the species require a change in the DFC area-wide, this is recommended in Section 4.2.1.

**Table 2.** Current Desired Future Conditions for specific vegetative parameters in actively managed natural communities at ARWEA.

<b>Mesic Flatwoods</b>	<b>Wet Flatwoods</b>
Total Basal Area (sq. ft/acre): 20 – 70	Total Basal Area (sq. ft/acre): 20 - 60
Non-LL Pine BA (sq. ft/acre): ≤ 20	Non-LL Pine BA (sq. ft/acre): ≤ 30
LL Pine Regen. ≤ 20 ft.: Present/absent	LL Pine Regen. ≤ 20 ft.: Present/absent
Average Maximum Shrub Height (ft): ≤ 4ft	Average Maximum Shrub Height (ft): ≤ 5ft
Shrub Cover (%): 10 – 50	Shrub Cover (%): 20 – 60
Herbaceous Cover (%): ≥ 25%	Herbaceous Cover (%): ≥ 25
Weedy Cover (%): ≤ 15	Weedy Cover (%): ≤ 15
Exotics (%): 0	
<b>Scrubby Flatwoods</b>	<b>Prairie</b>
LL Pine Basal Area (sq. ft/acre): 10 – 50	Pine Stem Density(stems/ac): < 5
Non-LL Pine BA (sq. ft/acre): 0	Average Maximum Shrub Height (ft): ≤ 2
LL Pine Regen. ≤ 20 ft.: Present/absent	Shrub Cover (%): ≤ 30
Average Maximum Shrub Height (ft): 3-7 ft	Herbaceous Cover (%): ≥ 75
Shrub Cover (%): 40 – 80	Wiry Gram. Cover: ≥ 50
Herbaceous Cover (%): 5-50%	Weed and Exotic Cover (%): ≤ 15
Weedy Cover (%): ≤ 15	Exotics Cover (%): 0
Exotics (%): 0	
<b>Tidal Marsh</b>	
Shrub Cover (%): ≤ 10	
Decadent Sawgrass Cover (%): ≤ 50	

##### 4.2.1: Modifications to Desired Future Conditions

###### Scrubby Flatwoods

###### Shrub Cover (%)

All Management Units: change from 40-80 to <60

*Justification:* Scrubby flatwoods can be important habitats for gopher tortoises. As the percentage of shrub cover increases, the amount of herbaceous cover decreases.

Modifying the DFC for this parameter will help ensure management is successfully maintaining the habitat in a condition suitable to gopher tortoises.

#### **Mesic Flatwoods**

##### Snags > 5 inch DBH per acre (New parameter to be added)

All Management Units: >1 snags/acre

*Justification:* The brown-headed nuthatch is dependent on the availability of snags for nesting. Adding this parameter will allow OBVM monitoring to track the availability of this important resource.

#### **Mesic and Wet Flatwoods**

##### Total Basal Area (sq. ft/acre)

All Management Units in the red-cockaded woodpecker SMA: change minimum basal area from 20 to 30

*Justification:* The literature suggests optimal basal area for red-cockaded woodpeckers is 40-80. Though red-cockaded woodpeckers are capable of utilizing habitats outside of the 40-80 basal area range, the amount of foraging habitat decreases with decreasing basal area. Therefore, increasing the lower limit of this parameter will enhance the suitability of these stands for the red-cockaded woodpecker, while still allowing for lower basal areas preferred by species such as the Bachman's sparrow and brown-headed nuthatch.

#### **4.3: Further Land Management Considerations**

It is commonly believed that most species will benefit from management that restores the natural structure and function of the natural communities they use. However, for some species, specific management recommendations and precautions are necessary to ensure the continued suitability of the area for the species. The following recommendations will help ensure ARWEA continues to fulfill its role in the conservation of these species.

##### *4.3.1: Frosted Flatwoods Salamander*

Growing season (April–September) burns, preferably after April, are more beneficial to the flatwoods salamander than dormant season (October–March) burns because they are more effective at reducing shrub cover and litter in the wetland basin, stimulating the growth of herbaceous emergent vegetation, enhancing the wetland/upland ecotone, and stimulating the reproduction of wiregrass in the surrounding uplands. Dormant season burning may affect migrating adult salamanders (October–January) and dispersing post-metamorphic salamanders (March–April) by removing the pine needle litter and groundcover vegetation that may provide moist microhabitat conditions and cover from predators. Therefore, efforts to avoid dormant season burns should be made, especially in occupied areas if frosted flatwoods salamanders ever recolonize the area. While growing season fires are preferred, it is better to burn during the dormant season than to avoid burning.

#### 4.3.2: Gopher Tortoise

Within the Magnolia Bluff area, timing of roller-chopping should, whenever appropriate, occur during the dormant season to minimize negative impacts to the gopher tortoise. This species generally is less active and remains in burrows during the winter months. Therefore, roller-chopping at this time will be less likely to crush or otherwise harm foraging tortoises. Regardless of timing, efforts should be made to minimize impacts on known burrows.

#### 4.3.3: American Swallow-Tailed Kite

Because swallow-tailed kites exhibit high nest site fidelity, any known nest sites should be protected from disturbance and alteration, and all of the tallest pines in the area of nest sites should be retained. If documented on the area, kite nesting areas should be allowed to have a higher shrub height and density than surrounding areas when feasible. If kite activity is observed during nesting season, particularly if kites are observed carrying nesting material, mobbing, or in groups of 3 or more, this information will be documented and an effort to locate the nest should be made. For information on how to locate nests, see:

Meyer, K. D., and M. W. Collopy. 1995. Status, distribution, and habitat requirements of the American swallow-tailed kite (*Elanoides forficatus*) in Florida. Project Report, Florida Game and Fresh Water Fish Commission, Tallahassee.  
[http://research.myfwc.com/engine/download\\_redirection\\_process.asp?file=95mever%5F0231%2Epdf&objid=47206&dltvpe=publication](http://research.myfwc.com/engine/download_redirection_process.asp?file=95mever%5F0231%2Epdf&objid=47206&dltvpe=publication)

#### 4.3.4: Brown-Headed Nuthatch

This species is a cavity nester and is dependent on the presence of snags for suitable nesting habitat. As such, an effort should be made to retain snags during timber thinning operations. The impact of burning on snags should be evaluated to ensure consumed snags are being replaced by new snags. If there is a net loss of snags during prescribed fire, consider taking efforts to protect snags or taking actions to create new snags. Old stumps or snags with flaking bark or soft wood are also important nesting sites for this species and care should be taken to keep this particular type of snag.

If this species is documented in any MU on ARWEA during the breeding season, an effort should be made to avoid prescribed fire during February and March in the MU. The loss of nests early in the season frequently results in re-nesting attempts. Most re-nesting occurs during periods of increased snake activity which results in greater predation on nesting females and their eggs and young. However, if this is the only time in which suitable conditions occur for a burn, it is better to burn than to avoid burning.

#### *4.3.5: Cooper's Hawk*

During the nesting season (April-July), Cooper's hawks are secretive and intolerant of human disturbance near the nest site. Males show a strong fidelity to traditional territories. For this reason, whenever possible, known nesting sites should be protected from human disturbance (e.g., prescribed fire, timber thinning, mechanical treatments) by maintaining a 50 foot buffer around the nest during the nesting season, and avoiding heavy alteration of the nesting location. Whenever signs of Cooper's hawk nesting (e.g., carrying nesting material, aggressive dive bombing) are encountered, the location should be documented and an effort made to locate the nest.

#### *4.3.6: Southern Bald Eagle*

State and federal law requires protection of bald eagles, including avoiding disturbance of nesting eagles. Managers will consider the management guidelines available at: [http://myfwc.com/imperiledspecies/plans/Eagle\\_Plan\\_April\\_2008.pdf](http://myfwc.com/imperiledspecies/plans/Eagle_Plan_April_2008.pdf) (or any subsequent version) when planning activities within 660 feet of known eagle nests. Any new nests that are located will be documented. As it is undesirable to have unnaturally dense stands around eagle nests, when eagle nests occur in actively managed stands the nest buffer area should continue to be managed but with proper planning to avoid negative impacts to the eagles, per the guidance of the management plan. Large, mature pines should be preserved as potential future nesting sites during management activities.

#### *4.3.7: Wading Birds*

It is possible that ongoing actions (e.g., prescribed fire, timber harvest) could have negative impacts on wading birds if the needs of the species are not considered during the planning of these activities. The potential to have negative impacts on these species can be reduced by taking actions to avoid disturbing colonies of nesting wading birds. This is accomplished by providing a 330 foot buffer around colonies during nesting season.

#### *4.3.8: Florida Black Bear*

Bears require some areas of dense vegetation for escape and denning cover. Efforts to restore natural communities will result in a more open-structured landscape with reduced tree density and lower shrub height. However, the number and interspersed wetland communities will likely ensure this area always provides suitable bear habitat. To ensure some dense patches remain, avoid efforts to "burn out" patches within stands that remain after the initial burn. Do not take extra measures to put fire in fire shadows. When possible, plan to avoid mechanical treatments of likely den sites during denning season (December – April).

#### 4.3.9: Sherman's Fox Squirrel

As habitat restoration occurs on ARWEA, it is likely the area will become more suitable for fox squirrels. To ensure the area reaches its potential for fox squirrels, prescribed fire and thinning should continue to create an open forest structure. Where appropriate, continue to plant longleaf pine when conducting reforestation. As fox squirrels require an oak component, some oaks should be retained in appropriate sites (i.e. fire shadows) during natural community restoration. Ideally, a variety of oak species in a range of age classes should be retained, but not to the extent this interferes with other species' needs and natural community management.

## Section 5: Species Management Opportunities

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

### 5.1: Species Management

Species management as used here refers to non-monitoring actions taken for a specific species. It can include actions such as translocation, restocking, installing artificial cavities, etc. Monitoring related actions, including banding or tagging, will be covered in [Section 5.2](#). Most land management actions, such as prescribed fire or mechanical treatments, are covered in Section 2 and Section 4.

#### 5.1.1: Frosted Flatwoods Salamander

If frosted flatwoods salamanders have not been detected on the area after 10 years following restoration, reintroduction should be considered. If reintroduction is deemed necessary, a reintroduction and management plan should be created. Successful restoration of a breeding population of flatwoods salamanders on this area would be consistent with actions called for in FWC's Flatwoods Salamander Management Plan available at: <http://myfwc.com/imperiledspecies/pdf/Flatwoods-salamander.pdf>.

## 5.2: Species Monitoring

Monitoring is critical to evaluating the impact of the management actions described in this Strategy. While we are unable to monitor all of the focal species on ARWEA, the recommended monitoring will assess species in all actively managed communities, select wetland dependant species, and includes opportunistic monitoring for uncommon or hard to monitor species. The FWC is currently developing a monitoring database. When this is in place, all WMA species monitoring data will be loaded into the database. Until the monitoring database is functional, data collected will be reported to the regional conservation biologist for inclusion in the appropriate database. Monitoring data will be made available to cooperating agencies and organizations such as the Florida Natural Areas Inventory (FNAI) ([Section 6](#)).

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

### 5.2.1: Flatwoods Salamander Monitoring

The purpose of dip net surveys for flatwoods salamanders is to verify successful breeding of the species in specific wetlands within the SMA. It is not intended to be used to estimate population size and is more of a presence/absence type approach.

The standardized monitoring protocol currently in development specifies dip-netting potential breeding ponds a total of 3 times during each of 3 good sampling years. If these surveys are unsuccessful in  $\geq 3$  good sampling years the wetlands are presumed to not be breeding sites. If presence of flatwoods salamanders is not detected, no further dip net surveys need be conducted. In addition to ponds within the SMA, potential breeding ponds in the Doyle Creek unit should also be surveyed as these areas were not dipnetted during the 2002-2004 survey.

### 5.2.2: Avian Spring Call Count Survey

The purpose of monitoring the Bachman's sparrow, brown-headed nuthatch and other grassland birds is to establish a baseline and track relative abundance over time. Surveys will be point counts likely using a distance sampling methodology that is currently being developed and based on protocol developed for the Upland Ecosystem Restoration Program (UERP). If necessary, the use of callback tapes may be incorporated into the call station protocol. On ARWEA, these avian surveys should occur annually, though if resources are limited they can be conducted every other year.

### 5.2.3: Annual Aerial Surveys

Staff currently conducts annual aerial surveys for nesting bald eagles in January of each year and wading bird rookery surveys in April and May of each year. These surveys allow staff to keep track of changes in occupancy and identify areas in

which to apply protective measures during land management activities. These surveys should continue as long as funding allows.

#### *5.2.4: Northern Bobwhite Fall Covey Call Surveys*

The purpose of monitoring northern bobwhites is to determine if management is having the desired effect, to determine progress towards reaching objectives for the species, and to determine if instituting a quota hunt season is necessary. Surveys will be point counts likely using a distance sampling methodology that is currently being developed and based on protocol developed for the Upland Ecosystem Restoration Program (UERP). If necessary, the use of callback tapes may be incorporated into the call station protocol.

#### *5.2.5: Red-Cockaded Woodpecker Monitoring*

Area staff currently conducts annual cavity tree inspections, nest checks, fledge checks, and roost checks. These activities should continue as they help determine the need to replace existing artificial cavities, the need for additional artificial cavities, occupancy status, nest success, and other information. Plans to initiate a comprehensive banding program of fledglings should continue in order to determine if the area is serving as a source or a sink, to determine the sex and age structure of the population, and determine the survival of birds. Coordination with the USFWS, ANF, and the FWC biologist on THISF is recommended ([Sections 6.3 and 6.4](#))

#### *5.2.6: Opportunistic Monitoring*

The purpose of opportunistic monitoring is to document the presence of specific species. Opportunistic monitoring is the process of recording important information as it is encountered. Documentation of opportunistic sightings including approximate lat/long or appropriate MU, number of individuals, behavior, and habitat type should be forwarded to the regional conservation biologist. Monitoring data will be made available to cooperating agencies and organizations such as FNAI ([Section 6.6](#)). Encounters with or sign of the following focal species should be recorded:

- Swallow-tailed kite (aggregations of 3 or more birds on regular basis in one area during spring and any nesting activity)
- Cooper's hawk (nesting activity only)
- Florida pine snake (individuals and burrow observations)
- Gopher Tortoise
- Sherman's fox squirrel
- Southeastern bat (maternity roosts in hollow cypress/tupelo trees)
- Black bear (denning sites only)
- Any listed species that does not have a monitoring protocol in this section

### 5.3: Species Research Needs

Species management recommendations in other sections of this document are based on the most current information regarding management strategies for a given species. However, cases arise when little or no information is available to guide management. This section outlines research needs identified through the WCPR process.

#### *5.3.1: Translocation as a Management Tool*

Translocations are an effective method of facilitating recovery of species such as the gopher tortoise and the red-cockaded woodpecker. However, in many cases, the first translocations do not bring success, and multiple attempts are needed to determine successful protocol. For species with limited dispersal capabilities translocation may be the only feasible option to re-establish a population. The successful use of translocations for the flatwoods salamander has not been evaluated. Research is needed to identify if restocking of flatwoods salamanders can be successful, and if so, what protocol should be followed. Once translocation has been shown to be feasible, it could be considered as an option following habitat restoration. Following habitat restoration, ARWEA could be used to test the feasibility of restocking this species.

#### *5.3.2: Development of Desired Future Conditions for Fox Squirrels*

While the fox squirrel is an important focal species, publications specifying measurable desired habitat parameters are lacking. There is a need for research to identify the natural community parameters most critical to this species and provide the desired and suitable range of values for these parameters.

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

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

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

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

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

Monitoring animal populations on a WMA/WEA gives managers a way to gauge animal response to management. If this information is not shared with others,

valuable data that can be used to assess state-wide conservation efforts often is lost. Therefore, monitoring data should be shared with the appropriate taxa coordinator and program coordinator for species in which conservation initiatives or other management programs have been developed. The regional SCP biologist is a good source of information on the regional status of non-game species. Additionally, FWC staff is authorized to handle federally listed species if it is done consistent with the requirements of the agency's Endangered Species Act Section 6 Cooperative Agreement. To meet these requirements, reporting as outlined in the Agreement will be provided to the agency's Endangered Species Coordinator. Please note some contacts will also be covered under [Section 6.1.6](#); FWRI, and [Section 6.1.4](#); Florida's Wildlife Legacy Initiative.

Contacts:

Elsa Haubold, Species Conservation Planning Section Leader: (850) 488-3831  
Robin Boughton, Avian Taxa Coordinator: (352) 732-1225  
Melissa Tucker, Mammalian Taxa Coordinator: (386) 758-0525 ext 114  
Bill Turner, Herp Taxa Coordinator: (850) 410-0656 ext 17331  
John Himes, Regional Biologist: (850) 265-3676 ext 222  
Brad Gruver, Endangered Species Coordinator: (850) 488-3831

*6.1.2: Hunting & Game Management*

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

Contacts:

Paul Schulz, Section Leader: (850) 488-3831  
Chuck McKelvy, Small Game Program Coordinator: (850) 342-0256  
Roger Shields, Regional Public Hunting Areas Coordinator: (850) 265-8560

*6.1.3: Habitat Conservation Scientific Services (HCSS)*

Private lands biologists within FWC's HCSS section work to provide technical and financial assistance to landowners interested in managing their properties. These biologists are able to write management plans for landowners and can get them enrolled in cost-share programs that will offset some of the financial costs associated with land management. Though a large portion of ARWEA is surrounded by public lands, if private landowners near ARWEA express an interest in management of their lands, HCSS biologists should be contacted and given the landowner's information.

Contacts:

Arlo Kane, HCSS Regional Coordinator: (850) 265-3677

*6.1.4: Wildlife Legacy Initiative*

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

Contact:

Kate Haley, Program Coordinator: (850) 488-3831  
Shea Armstrong, Regional Legacy Biologist: (850) 265-3676

*6.1.5: Invasive Plant Management Section*

The FWC Invasive Plant Management Section provides technical and financial assistance in the control of invasive exotic plants to area staff.

Contacts:

Jeff Schardt, Aquatics sub-section administrator: (850) 245-2815  
Greg Jubinsky, Uplands sub-section administrator: (850) 245-2821

*6.1.6: Fish and Wildlife Research Institute (FWRI)*

Area staff should share results of annual bald eagle surveys and wading bird surveys with the appropriate contact listed below. If southeastern bats are detected on the area or if a roost site is found, staff should contact Jeff Gore for guidance on management/protection. Additionally, as frosted flatwoods salamander breeding ponds are restored, area staff should contact Kevin Enge for technical assistance and to determine the status of reintroduction research.

Contacts:

Tim O'Meara, Section Leader: (850) 488-3831  
Janell Brush, FWRI Wildlife Biologist (bald eagle): (352) 955-2081  
Kevin Enge, FWRI Herpetologist (frosted flatwoods salamander): (352) 955-2081  
Jim Rodgers, FWRI Wildlife Biologist (wading birds): (352) 955-2081  
Jeff Gore, FWRI Wildlife Biologist (southeastern bat): (850) 265-3677

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

On ARWEA, DOF authorizes prescribed burns and assists on escaped fires and wildfires. Efforts should be made to continue to coordinate with DOF's State Lands Forester on timber management issues, if needed. Additionally, many of ARWEA's species also

occur on THSF. Coordination with THSF staff is important in coordinating efforts for the red-cockaded woodpecker and possibly the gopher tortoise.

Contacts:

Dennis Hardin, Forest Ecologist: (850) 414-8293 (RCW)  
Jason Love, State Lands Forester: (850) 228-7814 (Timber contracts)  
DOF Dispatch Office: (850) 922-5155 (Burn authorizations and escapes)

**6.3: U.S. Fish and Wildlife Service**

As ARWEA staff initiate a comprehensive RCW banding program, coordination with the USFWS will be necessary for technical assistance. Michael Keys from the St. Marks National Wildlife Refuge can also assist with artificial cavity inserts.

Contact:

Michael Keys, Wildlife Biologist: (850) 925-6121

**6.4: U.S. Forest Service, Apalachicola National Forest**

There is currently a research proposal designed to experimentally translocate frosted flatwoods salamanders within the ANF. If this research is funded and successful, staff from ARWEA should coordinate with staff from ANF in order to develop a translocation plan for ARWEA if it is deemed necessary. Additionally, Chuck Hess currently helps coordinate RCW banding activities on the ANF, THSF, as well as private lands. Coordination with Chuck will be necessary once banding of RCWs begins.

Contact:

Chuck Hess, Wildlife Biologist: (850) 926-3561

**6.5: Florida Department of Environmental Protection, Apalachicola National Estuarine Research Reserve (ANERR)**

The ARWEA staff maintains a close working relationship with ANERR. Annual wading bird and eagle surveys include portions of ANERR. The locations of wading bird rookeries and active eagle nests as well as other relevant information should be shared with ANERR.

Contact:

Seth Blitch, Reserve Manager: (850)653-8063  
Jean Huffman, Ecologist, St. Joseph Bay State Buffer Preserve: (850) 229-1787

**6.6: Florida Natural Areas Inventory**

The FNAI collects, interprets, and disseminates ecological information critical to the conservation of Florida's biological diversity. The FNAI's database and expertise facilitate environmentally sound planning and natural resource management to protect the plants,

animals, and communities that represent Florida's natural heritage. The FNAI maintains a database of rare and listed species that are often used for planning purposes.

Contacts:

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

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

There is enough potential habitat (with management) to support some of ARWEA's focal species, such as the northern bobwhite, Bachman's sparrow and brown-headed nuthatch. There is the potential to enhance the regional population of frosted flatwoods salamanders and red-cockaded woodpeckers on the ARWEA if these species can be successfully re-established and maintained on the area. The ARWEA could play a limited role in the conservation of fox squirrels and Florida pine snakes, though the area will likely only serve as support for the larger populations occurring on the ANF. A number of ARWEA's wide-ranging species (i.e. Florida black bear, southern bald eagle, swallow-tailed kite) cannot be supported on ARWEA in isolation. However, as ARWEA is part of a large matrix of public conservation land, there is a high probability of these species persisting.

Due to the size of ARWEA and the current condition and intended use of neighboring lands, there are limited beyond the boundaries considerations for the area at this time. The ARWEA's northern border adjoins lands managed by the NFWFMD as well as the ANF, its eastern border adjoins THSF, and its southern border adjoins ANERR and Box-R WMA. As such, coordination with neighboring land management agencies will be a top priority. The western border is the only area that is not adjacent to publicly owned lands; though, there are a number of small private holdings along the eastern edge. The optimal management boundary encompasses all identified important habitat within this area. As it is unlikely all lands identified in the optimal boundary will be acquired, area staff should make every effort to cooperate on the conservation of focal species with adjacent private landowners. Staff should coordinate with HCSS to ensure receptive private landowners get the proper technical assistance and are informed of incentive programs to encourage conservation based management. Fostering a positive relationship with neighboring landowners may increase the willingness of the landowner to become a partner in conservation-based land management.

As ARWEA is located within a large matrix of publicly managed land, coordination and information sharing with cooperators and agencies managing adjacent lands is necessary. The ongoing coordination that occurs with staff of the ANF and THSF for red-cockaded woodpecker management and banding should continue. Future coordination with ANF staff on flatwoods salamander management may be necessary. While there is not enough current or historic potential habitat on ARWEA to make gopher tortoise management a high priority, if THSF begins restoration of historic dune habitats located near Magnolia Bluff, close coordination with THSF staff could allow for coordinated management to provide the most benefit to gopher tortoises. Continued active communication and coordination with adjacent managing agencies will help the ARWEA maximize its potential to function as an extension of existing focal species habitat thereby enhancing regional populations.

While being part of a large matrix of public lands increases the likelihood of persistence of many of the wide-ranging species that use the ARWEA, significant changes in management or land use beyond the boundaries may have significant impact on some species

such as the Florida black bear. Further, many of the area's species are wetland dependent. In addition to regional fluctuations in rainfall, regional water management has the potential to influence the hydrology in ways that could significantly impact these species. Many of the imperiled species that occur in the river are especially susceptible to water management regimes.

**Document Map**

Species	Species objective	Land management actions	Species management actions	Species monitoring	Research needs
<a href="#">Frosted flatwoods salamander</a>	<a href="#">3.2.1</a>	<a href="#">4.1.1</a> & <a href="#">4.3.1</a>	<a href="#">5.1.1</a>	<a href="#">5.2.1</a>	<a href="#">5.3.1</a>
<a href="#">Florida pine snake</a>				<a href="#">5.2.6</a>	
<a href="#">Gopher tortoise</a>		<a href="#">4.3.2</a>		<a href="#">5.2.6</a>	
<a href="#">American swallow-tailed kite</a>		<a href="#">4.3.3</a>		<a href="#">5.2.6</a>	
<a href="#">Bachman's sparrow</a>	<a href="#">3.2.5</a>	<a href="#">4.1.2</a>		<a href="#">5.2.2</a>	
<a href="#">Brown-headed nuthatch</a>	<a href="#">3.2.6</a>	<a href="#">4.3.4</a>		<a href="#">5.2.2</a>	
<a href="#">Cooper's hawk</a>		<a href="#">4.3.5</a>		<a href="#">5.2.6</a>	
<a href="#">Northern bobwhite</a>	<a href="#">3.2.8</a>	<a href="#">4.1.3</a>		<a href="#">5.2.4</a>	
<a href="#">Red-cockaded woodpecker</a>	<a href="#">3.2.9</a>	<a href="#">4.1.4</a>		<a href="#">5.2.5</a>	
<a href="#">Southern bald eagle</a>		<a href="#">4.3.6</a>		<a href="#">5.2.3</a>	
<a href="#">Wading birds</a>		<a href="#">4.3.7</a>		<a href="#">5.2.3</a>	
<a href="#">Florida black bear</a>		<a href="#">4.3.8</a>		<a href="#">5.2.6</a>	
<a href="#">Sherman's fox squirrel</a>		<a href="#">4.3.9</a>		<a href="#">5.2.6</a>	<a href="#">5.3.2</a>
<a href="#">Southeastern Bat</a>				<a href="#">5.2.6</a>	