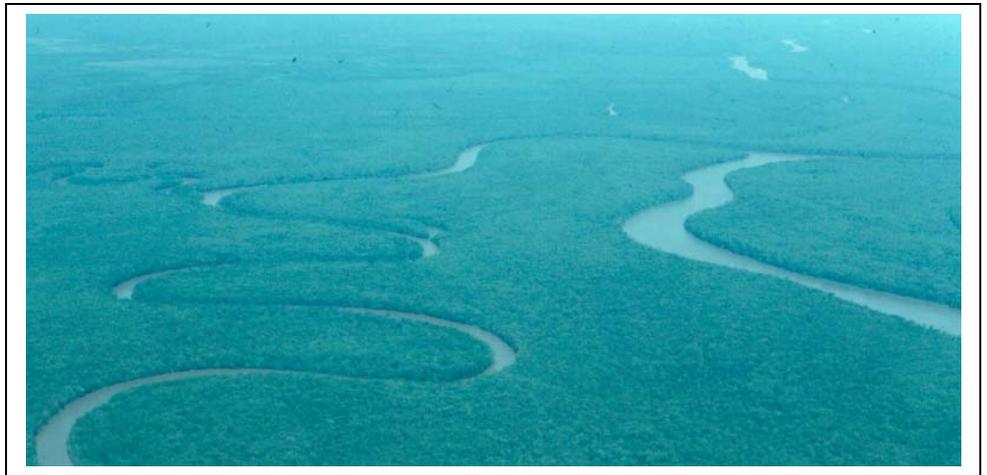


*A Conceptual Management Plan*  
*for*  
**APALACHICOLA RIVER**  
**WILDLIFE AND ENVIRONMENTAL**  
**AREA**  
*2002 - 2007*



*Gulf and Franklin Counties,  
Florida*

---

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



Jeb Bush  
Governor

# Department of Environmental Protection

Marjory Stoneman Douglas Building  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399-3000

David B. Struhs  
Secretary

August 15, 2002

Mr. Hugh Boyter  
FWC  
620 S. Meridian  
Tallahassee, Florida 32399-1600

**Re: Apalachicola River WEA**

**Lease Number: 3584**

Dear Mr. Boyter:

On August 15, 2002, the Acquisition and Restoration Council recommended approval of the Land Management Plan for Apalachicola River WEA. Therefore, the Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund approves this plan. Pursuant to Section 253.034 and 259.032, Florida Statutes, and Chapter 18-2, Florida Administrative Code the plan's five-year update will be due in August 2007.

Approval of this land management plan does not waive the authority or jurisdiction of any governmental entity that may have an interest in this project. Implementation of any upland activities proposed by this management plan may require a permit or other authorization from federal and state agencies having regulatory jurisdiction over those particular activities.

Sincerely,

A handwritten signature in cursive script that reads "Delmas T. Barber".

Delmas T. Barber, OMC Manager  
Office of Environmental Services  
Division of State Lands

CC: Mr. Gary Cochran  
Mr. Scott Sanders

*"More Protection, Less Process"*

*Printed on recycled paper.*

CONCEPTUAL MANAGEMENT PLAN  
FOR THE  
**APALACHICOLA RIVER  
WILDLIFE AND ENVIRONMENTAL AREA**  
GULF AND FRANKLIN COUNTIES, FLORIDA



June, 2002

Approved: Frank Montalbano Date: 6/20/02  
Frank Montalbano  
Director, Division of Wildlife

**LAND MANAGEMENT PLAN EXECUTIVE SUMMARY**

Land Agency: Fish and Wildlife Conservation Commission  
 Common Name of Property: Apalachicola River Wildlife and Environmental Area  
 Location: Gulf and Franklin Counties  
 Acreage: Total: 60,932 acres

Acreage Breakdown:		
<b>Land Cover Classification</b>	<b>Acreage</b>	<b>Percent Coverage</b>
<u>Pinelands</u> *	<u>7,189.9</u>	<u>11.8%</u>
<u>Hardwood Hammock</u> *	<u>1,523.3</u>	<u>2.5%</u>
<u>Wet Prairie/Freshwater Marsh</u> *	<u>7,372.7</u>	<u>12.1%</u>
<u>Cypress Swamp</u> *	<u>3,229.4</u>	<u>5.3%</u>
<u>Hardwood Swamp</u> *	<u>32,233.0</u>	<u>52.9%</u>
<u>Shrub Swamp</u> *	<u>121.9</u>	<u>0.2%</u>
<u>Bottomland Hardwoods</u> *	<u>3,412.2</u>	<u>5.6%</u>
<u>Open Water</u> *	<u>2,863.8</u>	<u>4.7%</u>
<u>Grassland (agriculture)</u> *	<u>122.1</u>	<u>0.2%</u>
<u>Shrub and Brushland</u> *	<u>1,827.9</u>	<u>3.0%</u>
<u>Barren</u> *	<u>1,035.8</u>	<u>1.7%</u>

Lease/Management Agreement No.: 3584

Use: Single \_\_\_\_\_  
 Multiple X

Management Responsibilities:

Agency	Responsibilities
<u>FWC</u>	<u>LEAD (Natural resource management, public use administration, law enforcement)</u>
<u>DOF</u>	<u>COOPERATOR (Natural resource management assistance)</u>
<u>DHR</u>	<u>COOPERATOR (Management of archeological and historical sites)</u>

Designated Land Use: Wildlife and Environmental Area

Sublease (s): Sublease No. 3584-01 (to CAMA, for office space [see Appendix I])

Encumbrances: None

Type Acquisition: EEL, CARL, P-2000 Inholdings and Additions

Unique Features: Natural: Apalachicola River floodplain

Archaeological/Historical: Several archaeological and historical sites

Management Needs: Continued inventory of fish, wildlife and plant species, management of plant and animal communities.

Acquisition Needs/Acreage: See page 20 and Appendix VIII

Surplus Lands/Acreage: None

Public Involvement: Management Advisory Group meeting and Public Hearing (See Appendix II)

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

ARC Approval Date 8-15-02 BTIITF Approval Date: \_\_\_\_\_

Comments: \*NOTE: Although LANDSAT imagery indicates these communities and their respective areas as shown, observations by FWC and FNAI may indicate these communities are different in size and character than reported. Until a comprehensive natural community inventory is completed [see Goal 1, Objective 5], the accuracy of LANDSAT data cannot be accurately and systematically refuted.

**MANAGEMENT PLAN COMPLIANCE CHECKLIST**

<b>REQUIREMENTS</b>	<b>PAGE NUMBERS</b>
<b>18-2.021 Land Management Advisory Council.</b>	
<b>(4) Management Plans.</b> Plans submitted to the division for council review under the requirements of Section 253.034 F.S. should contain where applicable to the management of resources the following:	
1. The common name of the property.	1
2. A map showing the location and boundaries of the property plus any structures or improvements to the property.	8
3. The legal description and acreage of the property.	2
4. The degree of title interest held by the Board, including reservations and encumbrances such as leases.	2
5. The land acquisition program (e.g., C. A. R. L., E. E. L., Save Our Coast), if any, under which the property was acquired.	2
6. The designated single use or multiple use management for the property, including other managing agencies.	23
7. Proximity of property to other significant State, local, or federal land or water resources.	3
8. A statement as to whether the property is within an aquatic preserve or a designated area of critical State concern or an area under study for such designation.	12
9. The location and description of known and reasonably identifiable renewable and non-renewable resources of the property including, but not limited to, the following:	
A. Brief description of soil types, using U. S. D. A. maps when available;	4-6
B. Archaeological and historical resources;	14
C. Water resources including the water quality classification for each water body and the identification of any such water body that is designated as an Outstanding Florida Waters;	12
D. Fish and wildlife and their habitat;	12
E. State and federally listed endangered or threatened species and their habitat;	14-17
F. Beaches and dunes;	14
G. Swamps, marshes and other wetlands;	12
H. Mineral resources, such as oil, gas and phosphate;	12
I. Unique natural features, such as coral reefs, natural springs, caverns, large sinkholes, virgin timber stands, scenic vistas, and natural rivers and streams; and	14
J. Outstanding native landscapes containing relatively unaltered flora, fauna, and geological conditions.	14
10. A description of actions the agency plans, to locate and identify unknown resources such as surveys of unknown archaeological and historical resources.	14
11. The identification of resources on the property that are listed in the Natural Area Inventory.	14
12. A description of past uses, including any unauthorized uses of the property.	18
13. A detailed description of existing and planned use(s) of the property.	24-40
14. A description of alternative or multiple uses of the property considered by the managing agency and an explanation of why such uses were not adopted.	40

**MANAGEMENT PLAN COMPLIANCE CHECKLIST**

<b>REQUIREMENTS</b>	<b>PAGE NUMBERS</b>
15. A detailed assessment of the impact of planned uses on the renewable and non-renewable resources of the property and a detailed description of the specific actions that will be taken to protect, enhance and conserve these resources and to mitigate damage caused by such uses.	24-40
16. A description of management needs and problems for the property.	18
17. Identification of adjacent land uses that conflict with the planned use of the property, if any.	2
18. A description of legislative or executive directives that constrain the use of such property.	2
19. A finding regarding whether each planned use complies with the State Lands Management Plan adopted by the Trustees on March 17, 1981, and incorporated herein by reference, particularly whether such uses represent "balanced public utilization", specific agency statutory authority, and other legislative or executive constraints. A copy of the plan may be obtained by writing to the Department of Environmental Protection, Division of State Lands, Bureau of Land Management Services, 3900 Commonwealth Boulevard, Mail Station 130, Tallahassee, Florida 32399-3000.	44
20. An assessment as to whether the property, or any portion, should be declared surplus.	19 & Appendix VIII
21. Identification of other parcels of land within or immediately adjacent to the property that should be purchased because they are essential to management of the property.	19 & Appendix VIII
22. A description of the management responsibilities of each agency and how such responsibilities will be coordinated, including a provision that requires that the managing agency consult with the Division of Historical Resources before taking actions that may adversely affect archaeological or historic resources.	17
23. A statement concerning the extent of public involvement and local government participation in the development of the plan, if any, including a summary of comments and concerns expressed.	2 & Appendix II
<b>Additional Requirements—Per Trustees</b>	
24. Letter of Compliance of the management plan with the Local Government Comprehensive Plan.	44 & Appendix XIII
<b>253.034 State-Owned Lands; Uses. —</b>	
(5) Each entity managing conservation lands shall submit to the Division of State Lands a land management plan at least every 5 years in a form and manner prescribed by rule by the board.	
25. All management plans, whether for single-use or multiple-use properties, shall specifically describe how the managing entity plans to identify, locate, protect and preserve, or otherwise use fragile nonrenewable resources, such as archaeological and historic sites, as well as other fragile resources, including endangered plant and animal species.	41
26. Provide for the conservation of soil and water resources and for the control and prevention of soil erosion.	41
27. Land management plans submitted by an entity shall include reference to appropriate statutory authority for such use or uses and shall conform to the appropriate policies and guidelines of the state land management plan.	44
28. All land management plans for parcels larger than 1,000 acres shall contain an analysis of the multiple-use potential of the parcel, which analysis shall	40

MANAGEMENT PLAN COMPLIANCE CHECKLIST

REQUIREMENTS	PAGE NUMBERS
include the potential of the parcel to generate revenues to enhance the management of the parcel.	
29. Additionally, the land management plan shall contain an analysis of the potential use of private land managers to facilitate the restoration or management of these lands.	43-44
<p><input checked="" type="checkbox"/> <b>253.034 (9)</b>—The following additional uses of conservation lands acquired pursuant to the Florida Forever program and other state-funded conservation land purchase programs shall be authorized, upon a finding by the board of trustees, if they meet the criteria specified in paragraphs (a)-(e): water resource development projects, water supply development projects, stormwater management projects, linear facilities, and sustainable agriculture and forestry. Such additional uses are authorized where:</p> <ul style="list-style-type: none"> <li>(a) Not inconsistent with the management plan for such lands;</li> <li>(b) Compatible with the natural ecosystem and resource values of such lands;</li> <li>(c) The proposed use is appropriately located on such lands and where due consideration is given to the use of other available lands;</li> <li>(d) The using entity reasonably compensates the titleholder for such use based upon an appropriate measure of value; and</li> <li>(e) The use is consistent with the public interest.</li> </ul> <p><input checked="" type="checkbox"/> <b>This is not a land management plan requirement; however, it should be considered when developing a LMP.</b></p>	

<b>253.036 Forest Management. —</b>	
For parcels larger than 1,000 acres the lead agency shall prepare the analysis, which shall contain a component or section prepared by a qualified professional forester which assesses the feasibility of managing timber resources on the parcel for resource conservation and revenue generation purposes through a stewardship ethic that embraces sustainable forest management practices if the lead management agency determines that the timber resource management is not in conflict with the primary management objectives of the parcel.	12 & Appendix XI
<b>259.032 Conservation And Recreation Lands Trust Fund; Purpose. —</b>	
(10)(a) State, regional, or local governmental agencies or private entities designated to manage lands under this section shall develop and adopt, with the approval of the board of trustees, an individual management plan for each project designed to conserve and protect such lands and their associated natural resources. Private sector involvement in management plan development may be used to expedite the planning process. Individual management plans shall conform to the appropriate policies and guidelines of the state land management plan and shall include, but not be limited to:	
30. Individual management plans required by s. 253.034(5), for parcels over 160 acres, shall be developed with input from an advisory group.	Appendix II
31. The advisory group shall conduct at least one public hearing within the county in which the parcel or project is located.	Appendix II
32. Notice of such public hearing shall be posted on the parcel or project designated for management, advertised in a paper of general circulation, and announced at a scheduled meeting of the local governing body before the actual public hearing.	Appendix II
33. The management prospectus required pursuant to paragraph (9)(d) shall be available to the public for a period of 30 days prior to the public hearing.	Appendix II
34. Individual management plans shall conform to the appropriate policies and guidelines of the state land management plan and shall include, but not be limited to:	
A. A statement of the purpose for which the lands were acquired, the projected use or uses as defined in s. 253.034, and the statutory authority for such use or uses.	44
B. Key management activities necessary to preserve and protect natural resources and restore habitat, and for controlling the spread of nonnative plants and animals, and for prescribed fire and other appropriate resource management activities.	24-40
C. A specific description of how the managing agency plans to identify, locate, protect, and preserve, or otherwise use fragile, nonrenewable natural and cultural resources.	14
D. A priority schedule for conducting management activities, based on the purposes for which the lands were acquired.	24-40
E. A cost estimate for conducting priority management activities, to include recommendations for cost-effective methods of accomplishing those activities.	41-42
F. A cost estimate for conducting other management activities which would enhance the natural resource value or public recreation value for which the lands were acquired. The cost estimate shall include recommendations for cost-effective methods of accomplishing those activities.	41-42

MANAGEMENT PLAN COMPLIANCE CHECKLIST

REQUIREMENTS	PAGE NUMBERS
35. A determination of the public uses and public access that would be consistent with the purposes for which the lands were acquired.	19
<b>259.036 Management Review Teams.—</b>	
36. The managing agency shall consider the findings and recommendations of the land management review team in finalizing the required 5-year update of its management plan.	24

## TABLE OF CONTENTS

	Page #
<b>I. GENERAL INFORMATION AND PROPERTY USAGE.....</b>	<b>1</b>
<b>A. Common name of property.....</b>	<b>1</b>
1. Brief Site History.....	1
2. General Location.....	2
<b>B. Land acquisition program.....</b>	<b>2</b>
<b>C. Legal description.....</b>	<b>2</b>
<b>D. Legislative or executive constraints.....</b>	<b>2</b>
<b>E. Degree of title interest.....</b>	<b>2</b>
<b>F. Public involvement.....</b>	<b>2</b>
<b>II. NATURAL AND CULTURAL RESOURCES.....</b>	<b>4</b>
<b>Locations and Descriptions.....</b>	<b>4</b>
1. Soil Types.....	4
2. Topography.....	7
3. Boundaries & man-made structures.....	7
4. Access points to the property.....	7
5. Vegetation.....	7
6. Fish and Wildlife.....	12
7. Forest, mineral, scenic & water resources.....	12
8. Cultural resources.....	14
9. Unique natural features or outstanding native landscapes.....	14
10. Beaches, dunes, virgin timber, scenic vistas and environmentally sensitive areas such as swamps, marshes or wetlands.....	14
11. A description of agency plans to locate, identify, protect, preserve or otherwise use fragile, nonrenewable natural and cultural resources.....	14
12. FNAI listed resources.....	14
<b>III. MANAGEMENT ACTIVITIES AND PUBLIC USE.....</b>	<b>17</b>
<b>A. Responsibilities.....</b>	<b>17</b>
<b>B. Past uses.....</b>	<b>18</b>
<b>C. Needs and problems.....</b>	<b>18</b>
<b>D. Impact of planned uses assessment.....</b>	<b>19</b>
1. Public uses.....	19
2. Determination of public uses.....	19
<b>E. Acreage that should be acquired or declared surplus.....</b>	<b>19</b>
<b>F. Accomplished objectives from the 1997 ARWEA CMP.....</b>	<b>20</b>
<b>G. Proposed single or multiple use.....</b>	<b>24</b>
1. Resource management goals and objectives.....	24
2. Problems and strategies.....	28
3. Management intent.....	31
4. Analysis of multiple use potential.....	40

<b>H. Resource assessment.....</b>	<b>41</b>
<b>I. Soil and water conservation.....</b>	<b>41</b>
<b>J. Priority schedule.....</b>	<b>41</b>
<b>K. Cost estimates and funding sources.....</b>	<b>41</b>
<b>L. Analysis of potential for contracting management activities.....</b>	<b>43</b>
<b>IV. CONFORMANCE WITH STATE AND LOCAL PLANS.....</b>	<b>44</b>
<b>V. LITERATURE CITED.....</b>	<b>44</b>

**List of Appendices:**

<b>I</b>	- Sublease Agreement
<b>II</b>	- Public Involvement
<b>III</b>	- Wildlife and Fish Species Lists
<b>IV</b>	- Management Procedures for Archaeological and Historical Resources
<b>V</b>	- Florida Natural Areas Inventory Letter
<b>VI</b>	- Land Management Uniform Cost Accounting Council - FWC Activity Code Groupings, Budget Worksheet and 2002 - 03 Annual Work Plan & Budget
<b>VII</b>	- Agency Strategic Plan & Long Range Program Plan
<b>VIII</b>	- Inholdings and Additions List
<b>IX</b>	- Land Management Review
<b>X</b>	- Prescribed Fire Plan
<b>XI</b>	- Timber Management Assessment
<b>XII</b>	- Nature-Based Recreation Enhancements
<b>XIII</b>	- County Compliance Letter

## CONCEPTUAL MANAGEMENT PLAN

### APALACHICOLA RIVER WILDLIFE AND ENVIRONMENTAL AREA

#### I. GENERAL INFORMATION AND PROPERTY USAGE

A: Common Name of the Property: Apalachicola River Wildlife and Environmental Area (ARWEA).

1. Brief Site History: Apalachicola Bay is of major economic importance to Florida, due to its seafood industry that is centered at the town of Apalachicola. The bay area produces over 90 percent of Florida's oysters and is a major nursery for blue crabs and marine finfish. The Apalachicola River provides habitat for a variety of important sport and commercial fish populations. The river and its associated streams, marshes and floodplain forests are essential components of a complex ecological system that accounts for the productivity of the bay.

The river also serves as a transportation route, connecting the Gulf Intracoastal Waterway with several cities in Georgia. In 1945, Congress authorized the U.S. Army Corps of Engineers (COE) to maintain a nine-foot deep by 100-foot wide navigation channel. During times of low water the nine-foot channel depth was sometimes unavailable, but this was not considered to be important until the late 1960's when continued industrial development of Alabama and Georgia brought added emphasis on the navigational aspects of the river. In 1971, Congress authorized the COE to study new ways to maintain a year-round nine-foot channel.

In 1972, the Florida Legislature passed the "Land Conservation Act" which authorized the state to purchase environmentally endangered lands. At about this same time the M-K Ranch began draining and diking large areas of marsh and swamp forest of the Lower Apalachicola region. This action, coupled with an ever-growing need to protect the area, resulted in the authorization of the series of land purchases in the Apalachicola River Basin.

On October 2, 1974, under the Environmentally Endangered Lands Program (EEL), the Governor and Cabinet authorized the first purchase of a large tract of land in the Lower Apalachicola River Basin. Since then, 60,932 acres have been acquired and incorporated into the ARWEA, in Franklin and Gulf Counties. These lands provide for the protection and preservation of the highly productive Apalachicola River and Bay estuarine system. A buffer area was necessary to protect the valuable marshes, and natural vegetation essential to the bay's continued productivity. Additionally, unique and outstanding wildlife habitat, including that of some rare and endangered species, was protected.

The authorization for acquisition stipulated that the property, once acquired, would be managed in accordance with a management concept submitted with the purchase recommendation. The land was purchased to protect the floodplain of the Lower

Apalachicola River for the purposes of: (1) perpetuating its function as a buffer, a filtering system for the removal of silt and pollutants and a source of nutrients and detritus for the river/bay complex; (2) maintaining natural wildlife habitat and (3) protecting rare, threatened, endangered and unique animals and plants.

The ARWEA is within the boundary of the 246,766-acre Apalachicola National Estuarine Research Reserve (ANERR), with the Florida Dept. of Environmental Protection, Division of Marine Resources, Bureau of Coastal and Aquatic Managed Areas (CAMA) as the lead agency. Nationally, the NERRs have been established by the National Oceanic and Atmospheric Administration (NOAA) to help improve coastal management decisions and to provide opportunities for long-term estuarine research and monitoring, as well as estuarine education and interpretation.

2. General Location: ARWEA consists of about 60,932 acres of marsh, floodplain forest and pine flatwoods along the Apalachicola River beginning from a point about one mile north of the town of Apalachicola and extending northward to the vicinity of Wewahitchka. The corridor along the river varies in width with a maximum of almost 12 miles across the southern portion (Figure 1).

B. Land Acquisition Program: The lands that comprise the ARWEA were purchased under the EEL, Conservation and Recreation Lands (CARL), and P-2000 Inholdings and Additions Programs.

C. Legal Description: The full legal descriptions for all properties of ARWEA within lease number 3584 and amendments are located in Central Files of the Florida Fish and Wildlife Conservation Commission (FWC) and are available upon request. All lands comprising approximately 60,932 acres, and posted as a Wildlife and Environmental Area.

D. Legislative or Executive Directives Constraining Use of the Property: Development can be expected to occur in the area around the eastern portion of the bay, in the vicinity of the City of Apalachicola and along privately owned portions of the rivers. Associated changes in water quality and loss of habitat could degrade the area. There are no uses of adjacent properties that are known at this time to represent conflicts with planned uses of the ARWEA properties.

E. Degree of Title Interest held by the Board of Trustees: These lands are held by the Board of Trustees of the Internal Improvement Trust Fund (Trustees) in fee simple title subject to any mineral reservations described in the legal descriptions of the area.

F. Public Involvement: The FWC conducted a Management Advisory Group (MAG) meeting in Apalachicola, Florida on November 28, 2001 to obtain input from both public and private stakeholders regarding management of the ARWEA. Results of this meeting were used by FWC personnel in the development of goals, objectives and strategies for this conceptual management plan. A summary of issues and opportunities raised by the MAG, as well as a listing of participants, are included as Appendix II. A public hearing,

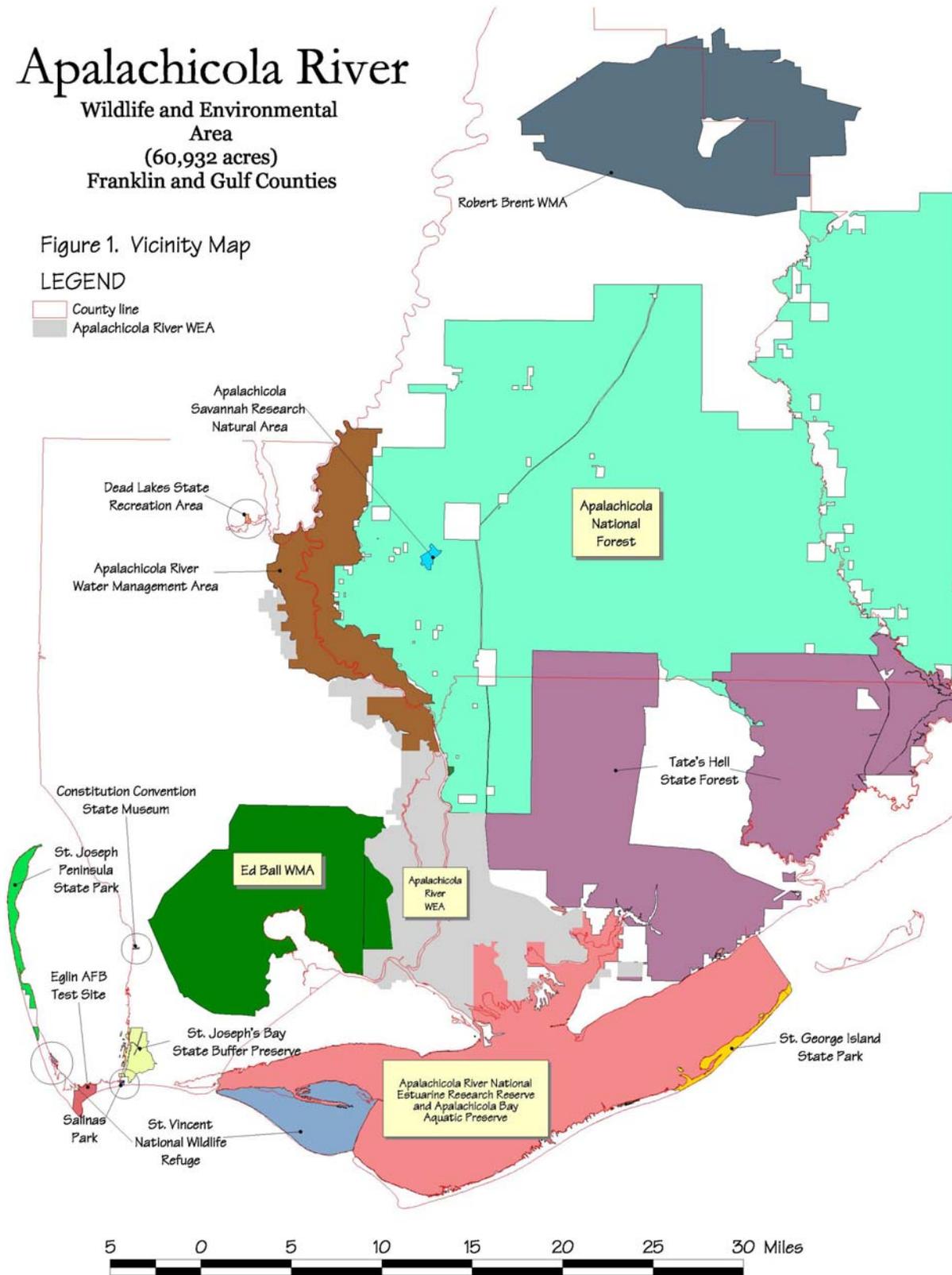
# Apalachicola River

Wildlife and Environmental  
Area  
(60,932 acres)  
Franklin and Gulf Counties

Figure 1. Vicinity Map

## LEGEND

- County line
- Apalachicola River WEA



as required by Ch. 259.032(10), F.S., was held on December 13, 2001. The report of that hearing is also contained in Appendix II. A website is also maintained for receipt of public input at <http://wld.fwc.state.fl.us/planning/>. Further testimony and input is received at a public hearing held by the State's Acquisition and Restoration Council (ARC). Input received from all public involvement efforts has been considered in the development of this CMP.

## II. NATURAL AND CULTURAL RESOURCES

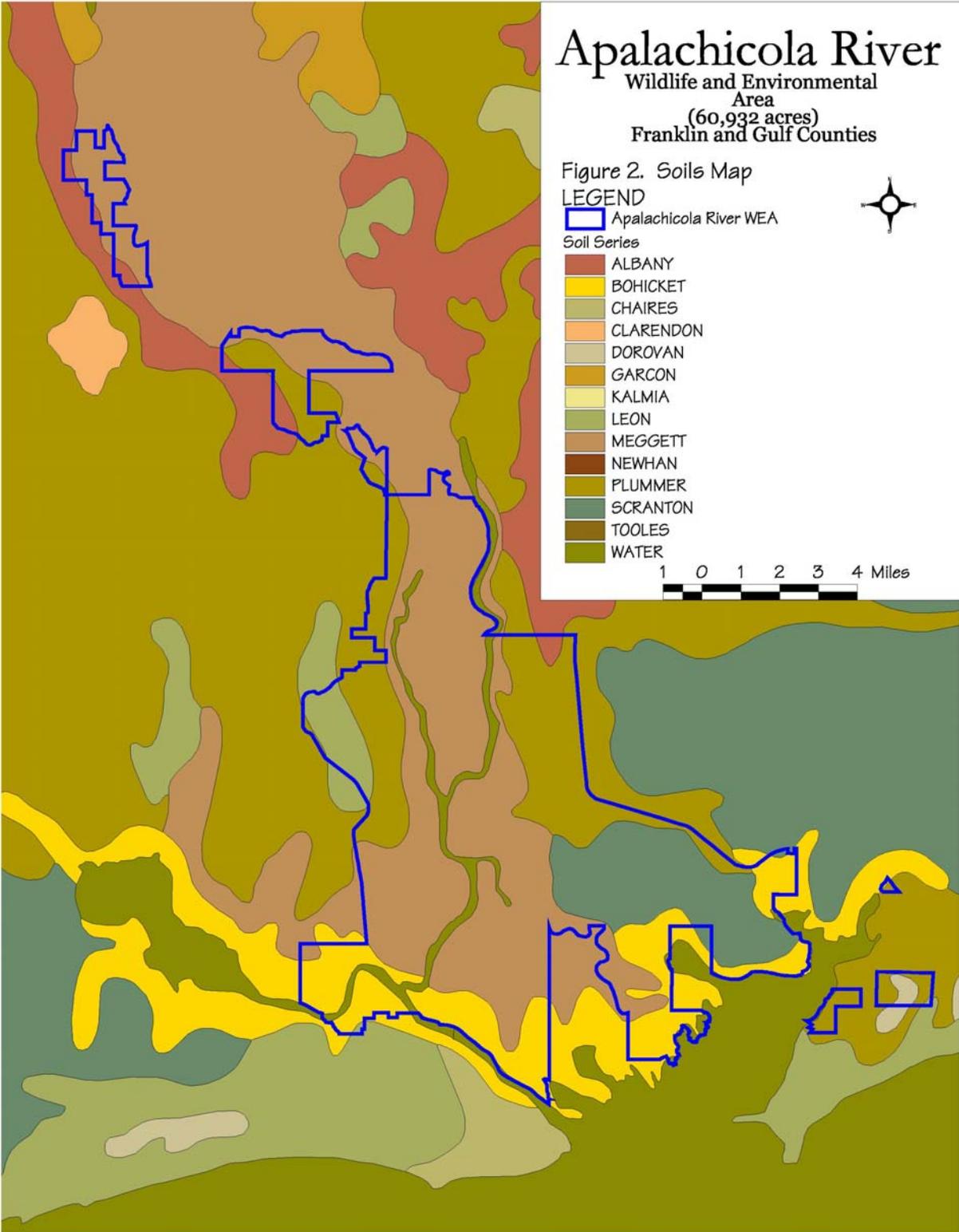
### Locations and Descriptions

1. Soil Types: The Gulf and Franklin counties soil survey prepared by Natural Resources Conservation Service (NRCS) shows 7 series occurring on sites of the ARWEA. Figure 2 depicts the soil profile of the ARWEA (showing the major soil series) developed from the STATSGO soil GIS database of NRCS. The following are taxonomic and physical descriptions of the series found within the ARWEA:

**Albany** – [Loamy, siliceous, subactive, thermic Grossarenic Paleudults] The Albany series consists of very deep, somewhat poorly drained, moderate to slowly permeable soils on terraces and low uplands of the Southern Coastal plain. They formed in marine deposits of sandy material underlain by loamy sediments. Near the type location, the mean annual temperature is about 67 degrees F., and the mean annual precipitation is about 50 inches. Slopes range from 0 to 6 percent. Most areas of Albany soils are used for woodland. A few small areas are used for pasture, row crops, and tobacco. Vegetation consists mostly of cut-over stands of longleaf pine, slash pine, or loblolly pine with intermixed oaks and other hardwood trees. In some areas, an understory of gallberry, wax myrtle, scattered palmetto, and a fairly heavy stand of wiregrass is characteristic.

**Bohicket** – [Fine, mixed, superactive, nonacid, thermic Typic Sulfaquents] The Bohicket series consists of very poorly drained, very slowly permeable soils that formed in marine sediments in tidal marshes. These soils are flooded twice daily by sea water. Slopes are less than 2 percent. Wetland wildlife habitat. Too soft for cattle grazing. Vegetation is smooth cordgrass.

**Dorovan** – [Dysic, thermic Typic Haplosaprists] The Dorovan series consists of very poorly drained, moderately permeable soils on densely forested flood plains, hardwood swamps, and depressions in the Atlantic Coast Flatwoods, Eastern Gulf Coast Flatwoods, and Southern Coastal Plain Major Land Resource Areas. They formed in highly decomposed acid-organic materials. Near the type location, the mean annual temperature is about 67 degrees F., and the annual precipitation is about 57 inches. Slopes are less than 1 percent. Very poorly drained; moderate permeability. Water is at or near the surface most of the time. Nearly all of the soils are used for woodland and wildlife habitat. The native vegetation is blackgum, bald cypress, sweet bay, swamp



tupelo, titi, greenbrier, red maple and scattered pine. The ground cover is ferns, mosses, and other hydrophytic plants.

**Leon** – [Sandy, siliceous, thermic Aeric Alaquods] The Leon series consists of very deep, poorly and very poorly drained, sandy soils that have a Bh horizon within 30 inches of the soil surface. They formed in sandy marine sediments of the Atlantic and Gulf Coastal Plain. They are on flatwoods, depressions, low areas on uplands, stream terraces, and tidal areas. Slopes range from 0 to 5 percent. Leon soils are used for forestry, range and tame pastures. Areas with adequate water control are used for growing potatoes, vegetables, and corn. Natural vegetation is longleaf and slash pines, water oaks, myrtle, and a thick undergrowth of saw palmetto, running oak, fetterbush, inkberry (gallberry), chalky and creeping bluestems and pineland threeawn (wiregrass). In depressions, brackenfern, smooth sumac and swamp cyrilla are common. Vegetation in tidal areas includes bushy seaoxeye, marsh hay cordgrass, seashore saltgrass, batis, and smooth cordgrass.

**Meggett** – [Fine, mixed, active, thermic Typic Albaqualfs] The Meggett series consists of very deep, poorly drained, slowly permeable soils that formed in clayey marine sediments and alluvial materials on Pleistocene terraces. These soils are on broad nearly level, low lying parts of the Coastal Plain. They are saturated in winter and spring and flood plain areas are flooded frequently. Slopes range from 0 to 3 percent. Near the type location, the mean annual temperature is about 68 degrees F. and the mean annual precipitation is about 51 inches. Most areas are in planted pines or native vegetation consisting of water oak, maple, pines, and sweetgum; understory is cabbage palmetto, wax myrtle, and gallberry. A small amount is cleared and used for row crops or pasture.

**Plummer** – [Loamy, siliceous, subactive, thermic Grossarenic Paleaquults] The Plummer series consists of very deep, poorly drained and very poorly drained moderately permeable soils that formed in sandy and loamy sediments on marine terraces. These soils are on level or depressional landscapes and along poorly defined drains of the Coastal Plain. They are saturated in winter, spring, and sometimes into summer. Slope is dominantly 1 percent or less, but ranges to 5 percent. Mostly used for forest. Forest species occur as mixed stands of slash, loblolly, and longleaf pine with swamp tupelo and bald cypress and an understory of gallberry, wax myrtle, southern bayberry, wiregrass, pitcher plants, and brackenfern. Cleared areas are used mostly for pasture.

**Scranton** – [Siliceous, thermic Humaqueptic Psammaquents] The Scranton series consists of very deep, poorly drained, rapidly permeable soils on broad level areas. They formed in sandy marine sediments of the Coastal Plain. Near the type location, the mean annual precipitation is about 48 inches, and the mean annual temperature is about 64 degrees F. Slopes range from 0 to 2

percent. The principal use is for forest. Natural vegetation include longleaf pine, slash pine, loblolly pine, sweetgum, and wax myrtle. Cultivated areas are used for growing corn, small grains, soybeans, and pasture grasses such as Bahiagrass, Coastal Bermuda grass, and annual lespedeza.

2. Topography: The topography of the WEA is dictated by the extensive flat floodplain of the Apalachicola River. Elevations range from six feet in the uplands adjacent to the floodplain, to sea level at the mouth of the river and on the Sand Beach tract adjacent to East Bay. Slopes are gradual where the floodplain intergrades into the adjacent uplands.

There are levees, terraces and flats contained in the bottomlands, although they occupy only a small fraction of the floodplain. The natural levee system is best developed along the east side of Forbes Island, where it occurs as an elongated strip from five to 100 yards wide. Levee topography usually has a local relief of five to ten feet.

3. Boundaries and Man-made Structures: A map showing the current boundaries of the ARWEA is found in Figure 3.

4. Access Points to the Property: There are numerous access points to the area from State Road 71, County Road 381, County Road 387, and Sauls Creek Road in Gulf County. In Franklin County, access points are located off of State Road 65 and US 98.

5. Vegetation: The major vegetation assemblages within the ARWEA are floodplain forest (gum-cypress, bottomland hardwoods), inter-tidal marshes, cypress swamps, pine flatwoods, wet savannas, wetland scrub shrub, maritime hammocks, mixed pine-hardwoods, and ruderal areas. These assemblages include at least 23 of the community classifications used by FNAI in its classification of community types. These are, alluvial stream, basin swamp, baygall-titi, blackwater stream, bottomland forest, floodplain forest, depression marsh, dome swamp, estuarine tidal marsh, flatwoods, prairie lake, floodplain swamp, wet flatwoods, freshwater tidal marsh, maritime hammock, mesic flatwoods, scrubby flatwoods, river floodplain lake, riverine sandbar, saltmarsh shrubland, tidal flats, upland mixed forest and wet prairie.

a. ***Floodplain Forest***: Actions of rivers often result in a number of well-defined topographic and botanical classes within the river's floodplain. Putnam (1960) described sand bars, natural levees, low ridges, flats, terraces, swamps and sloughs of the floodplain forests within the Mississippi drainage. Each of these categories has different soils depending on the river flood velocity in that area and supports a distinct vegetation type. The wetland hydrology and tree species distribution of the Apalachicola River and floodplain have been described in a study by Leitman et al. (1982).

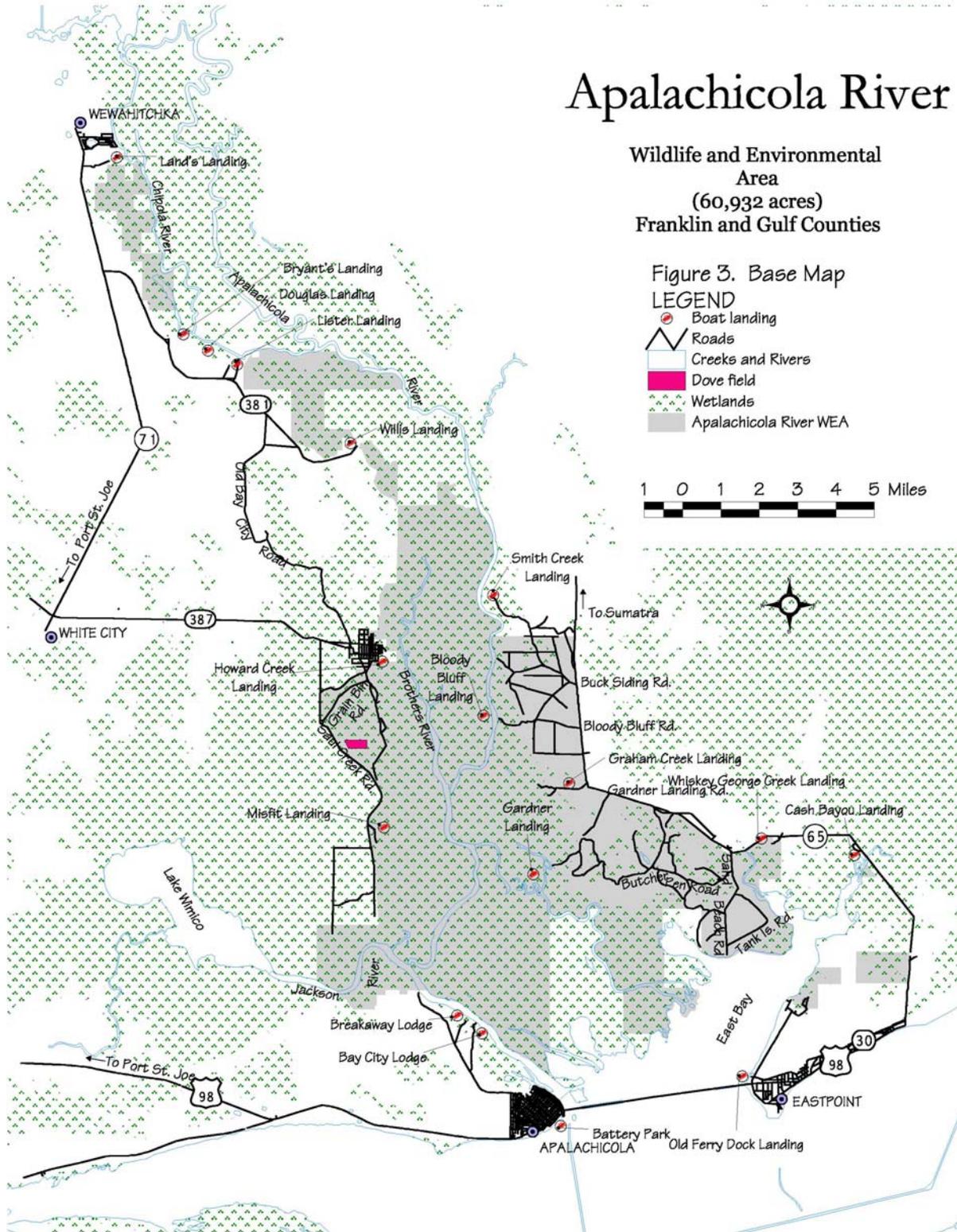
# Apalachicola River

Wildlife and Environmental  
Area  
(60,932 acres)  
Franklin and Gulf Counties

Figure 3. Base Map

LEGEND

-  Boat landing
-  Roads
-  Creeks and Rivers
-  Dove field
-  Wetlands
-  Apalachicola River WEA



The lower portion of the Apalachicola River has a low velocity, less water level fluctuation, and much less topographic diversity than the Mississippi drainage or even its own upstream reach. The topography consists of a narrow levee or series of levees along the river and creeks with a broad, level plain behind the levees. For the purposes of this management plan, the floodplain forest has been divided into gum-cypress and bottomland hardwood plant community associations.

(1) ***Gum-Cypress***: Most of the lower tract is in the delta where the river fans out in a low floodplain up to six miles wide with side channels and cutoffs providing numerous outlets to the bay. The majority of floodplain forests on this reach consists of the gum-cypress association on the broad, flat floodplain which is saturated or submerged during much of the year. The dominant vegetation in this area is bald cypress (*Taxodium distichum*), water tupelo (*Nyssa aquatica*), ogeechee gum (*Nyssa ogeechee*), blackgum (*Nyssa sylvatica*), ash (*Fraxinus* spp.) and red maple (*Acer rubrum*). Shrubs and understory vegetation are sparse due to the presence of water over much of the year. This gives the ground level a clean and open appearance. Many species of wildlife forage on the ground for the fallen fruit of gum trees during early fall when the water is low.

(2) ***Bottomland Hardwoods***: These areas occupy a smaller percentage of the flood plain forest and occur on terraces, flats and narrow natural levees along river shores and within the swamp forest. The levee system is best developed along the east side of Forbes Island, where it occurs as an elongated strip from five to 100 yards wide. Levee topography usually has a local relief of five to ten feet; the higher ground is usually flooded only for brief periods and not always every year. The narrow natural levees along river shores and within the swamp forest support sweetgum (*Liquidambar styraciflua*), red maple, ash, spruce pine (*Pinus glabra*), diamond-leaf oak (*Quercus laurifolia* Michx.), water oak (*Quercus nigra*) water hickory (*Carya aquatica*) and catalpa (*Catalpa bignonioides*). Understory vegetation includes blue beech (*Carpinus caroliniana*), cabbage palm (*Sabal palmetto*), needle palm (*Rhapidophyllum hystrix*), American holly (*Ilex opaca*), cane (*Arundinaria gigantea*) and various grasses and sedges. Over cup oak (*Quercus lyrata*) and water hickory often occur at the zones of intergradation between levees and sloughs; swamp chestnut oak (*Quercus michauxii*) and a few southern magnolias (*Magnolia grandiflora*) are on the higher areas.

b. ***Tidal Freshwater Marsh and Estuarine Marsh***: These fresh, brackish, and salt-water marshes are some of the most productive systems in the world and are vital habitats for a variety of species. The marshes support predominantly fresh to brackish water vegetation consisting primarily of sawgrasses (*Cladium jamaicense*), bullrushes (*Scirpus* spp.), cattails (*Typha* spp.), cordgrasses (*Spartina*

*ssp.*), and needlerushes (*Juncus ssp.*). Large areas of freshwater marsh, primarily sawgrass, are often dissected by creeks and higher elevated areas consisting of a few acres. Along these creeks and waterways, trees such as water tupelo, ogeechee gum, cypress, red maple and ash grow adjacent to the bank. The higher elevated areas are occupied by plants normally found in what is commonly referred to as hydric hammocks. Diamond-leaf oak, cabbage palm, black gum, bay and maple are common.

Estuarine organisms use the marsh habitat for a nursery ground, breeding area, or feeding zone. Ducks, wading birds, shore birds and numerous predatory species are heavily dependent upon wetlands. Furbearers such as otters, mink, and raccoon are also closely tied to such wet environments. Alligators, turtles, snakes, frogs and many other reptiles and amphibians are often totally dependent upon these habitats. The marsh vegetation is the beginning of the food web for many higher vertebrates that feed on the myriad of crustaceans, shellfish and other minute organisms that originate there.

c. ***Cypress Swamps***: Cypress swamps are characterized as shallow, forested wetlands, that have water at or just below the surface of the ground, and are dominated by either bald or pond cypress (*T. ascendens*). Cypress swamps are located along streams, in shallow depressions (called domes or heads), or along shallow drainage systems (sloughs or strands).

d. ***Pine Flatwoods***: Flatwoods are characterized by an open canopy forest of widely spaced pine trees (historically longleaf pines [*Pinus palustris*]) with little or no understory, but dense ground cover of herbs and shrubs. The mesic flatwoods in this area are an association of slash pine (*Pinus elliottii*), gallberry (*Ilex glabra*), and saw palmetto (*Serenoa repens*) among others and are closely associated with and often grade into hydric flatwoods or scrubby flatwoods. Most flatwoods on the ARWEA have been converted into slash pine plantations. These areas have been bedded, clear cut and replanted several times. Commercial stand thinning, hydrological restoration and the reintroduction of a natural fire regime to these areas will be necessary to restore the natural vegetative communities and enhance wildlife habitat in these areas. Mesic flatwoods planted with off-site slash pine will eventually be reforested with longleaf pine.

e. ***Wet Savannas***: Wet savannas (“wet prairie” community type according to the FNAI classification system) occur in low flatlands and within small ecotones (narrow seepage zones of saturated soil) slightly uphill from cypress or titi drainages and downhill from mesic flatwoods. These areas are grass and sedge dominated wetlands maintained by frequent fires and a high or perched ground water table (Kindell, 2000). Wet savannas are an important rare species habitat, and support the highest levels of plant species richness of any natural community in the U.S. (Walker and Peet 1983). Wet savannas commonly occur in a mosaic pattern with other vegetation types such as mesic or wet flatwoods, basin swamps, wetland scrub shrub, and mixed forested wetlands. Undisturbed, frequently

burned wet savannas have a dense groundcover dominated by wiregrass (*Aristida beyrichiana*), toothache grass (*Ctenium aromaticum*), spurred panic grass (*Panicum spretum*), Chapman's beakrush (*Rhynchospora chapmanii*), few-flowered beakrush (*R. oligantha*), and plumed beakrush (*R. plumosa*). Many other forbs and grasses are common in these savannas and insectivorous plants such as sundews (*Drosera* spp.) and pitcher plants (*Sarracenia* spp.) are often abundant. Shrubs are low to the ground, except in areas where fire has been excluded for extended periods of time. Common shrubs include many species of St. John's wort (*Hypericum* spp.), black titi (*Cliftonia monophylla*), titi (*Cyrilla racemiflora*), bayberry (*Myrica heterophylla*), gallberry (*Ilex glabra*), sweet gallberry (*I. coriacea*), and myrtle-leaved holly (*I. myrtifolia*).

f. **Wetland scrub shrub:** These acid swamp communities composed of titi swamps, bayheads, and shrub bogs are widespread throughout the area and occupy the shallow depressions in flatwoods or occur along the borders of creeks and alluvial swamps. Common species of wetland scrub shrub communities include sweetbay (*M. virginiana*), loblolly bay (*Gordonia lasianthus*), swamp bay (*Persea palustris*), red bay (*P. borbonia*), black titi (*Cliftonia monophylla*), swamp cyrilla (*Cyrilla racemiflora*), large gallberry (*I. coriacea*), fetterbush (*Lyonia lucida*), and myrtle-leaf holly (*I. myrtifolia*). Slash and pond pine (*P. serotina*) are often present and the ground cover may be absent in closed canopy forests except for sphagnum moss. Shrub bogs with open canopies may have an herbaceous stratum predominately comprised of sedges.

g. **Maritime Hammocks:** Maritime hammocks are relatively wet hardwood forests that are found between uplands and true wetlands. These sometimes seasonally wet forests are associated with some non-alluvial peninsula streams, scattered broad lowlands, and are found in a narrow band along parts of the Gulf and Atlantic coasts where they often extend to the edge of coastal salt marshes. These communities contain water oak, live oak (*Q. virginiana*), red maple, Florida elm (*Ulmus americana* var. *floridana*), cabbage palm, red cedar (*Juniperus silicicola*), blue-beech, and sweetgum. These communities may occur as mixed stands of oak and palm, or one of these species can completely dominate the area.

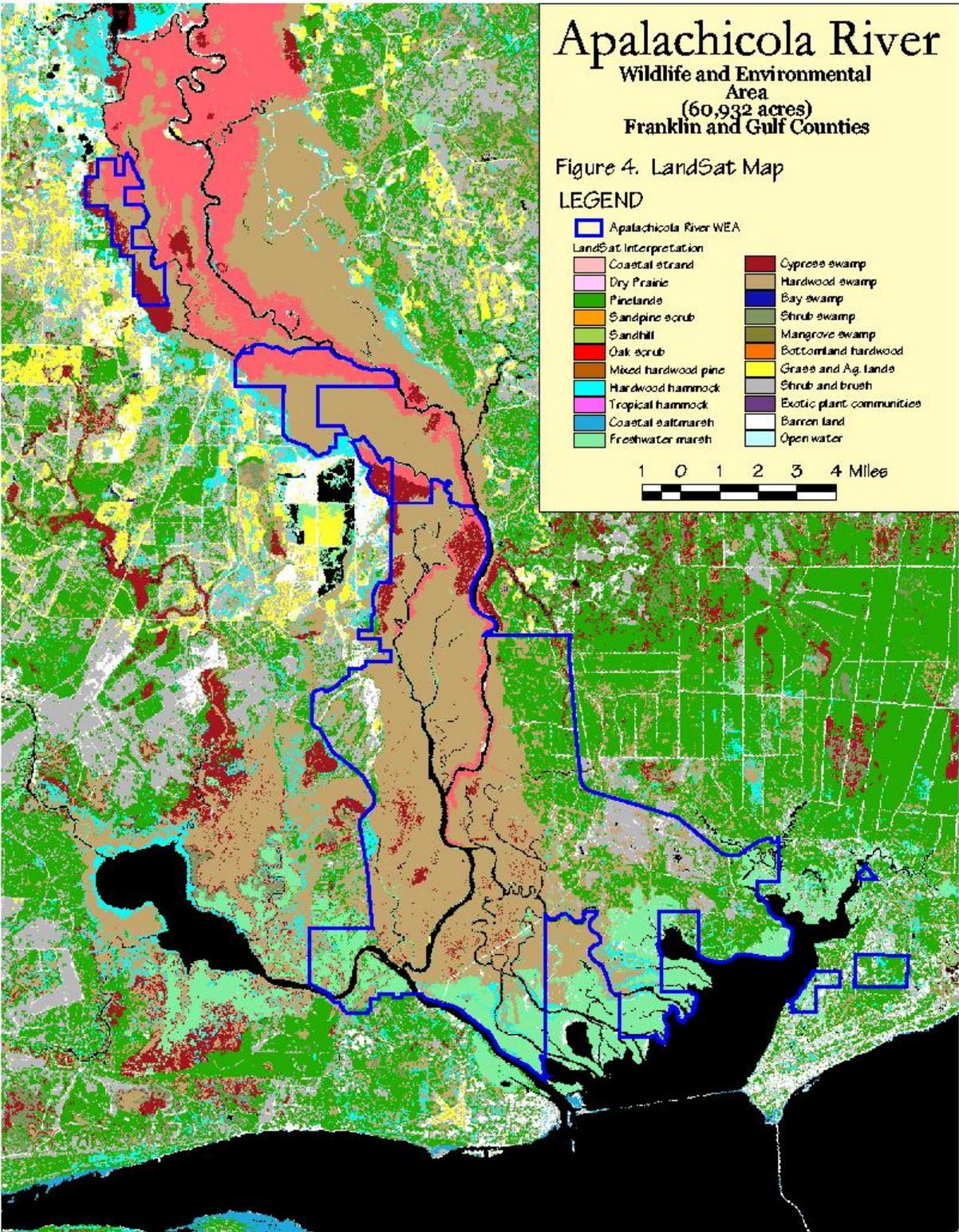
h. **Mixed Pine-Hardwoods:** About 400 acres of the tract are mixed pine-hardwoods. Most of this land is outside the floodplain on the east side of the Apalachicola River. The area is mostly cutover and has a thick understory of regenerating hardwoods and pines. The original vegetation was a mixture of pines and upland mixed hardwoods, the exact composition depending upon the site. Intermixed between these uplands are stands of gum-cypress. The predominantly hardwood sites have regenerated prolifically with young pines and hardwoods since the timber removal several years ago. Groundstory vegetation in cutover areas that were previously longleaf pine-turkey oak communities was not as severely affected by the logging operations.

i. **Ruderal Fields:** Ruderal fields are areas that have been heavily disturbed through agricultural practices and let fallow. The vegetation in these fields is substantially different than the natural vegetation type or community. These fields are also highly susceptible to invasion by exotics or invasive natural species such as titi. Over the years, these fields will vary in vegetative makeup, the first several years the fields will be predominately comprised of the previous plant cover, those plants that were used as cash crop or grasses used as feed for animal stock. As time progresses these communities can become dominated by broom sedge (*Andropogon virginicus*) and may contain high numbers for dog fennel (*Eupatorium capillifolium*), goldenrod (*Solidago canadensis*), blackberry (*Rubus cuneifolius*), and dewberry (*R. trivialis*). Trees also begin to invade the fields, depending on the presence or absence of fire. Loblolly (*P. taeda*), spruce, slash or longleaf pines will start to invade the area. Hardwoods that first follow the pines are sassafras (*Sassafras albidum*), persimmon (*Diospyros virginiana*), chickasaw plum (*Prunus angustifolia*), black cherry (*P. serotina*), water oak, live oak and sweetgum. (Clewell 1986). Some disturbed areas are dominated by invasive native woody brush species such as titi, waxmyrtle (*Myrica cerifera*) and gallberry (*Ilex sp.*)

Figure 4 is a LANDSAT map depicting the major community types on the ARWEA. FWC has contracted with Florida Natural Areas Inventory (FNAI) to prepare a classification map for ARWEA. The map and associated text will be presented when available. A systematic vegetative survey and detailed vegetative cover map are planned. Until this project is complete, LANDSAT data are presented.

6. Fish and Wildlife Species and Their Habitats: FWC biologists intend to continue the task of surveying this large area for wildlife species. Plans for accomplishment of this objective have been formulated (see section III, Goal 2). A number of fish and wildlife species are known to occur on this property, many of which are characteristic of bottomland hardwoods, an extremely important habitat stronghold of a threatened fauna. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service have designated the Apalachicola River and Bay as critical habitat for the gulf sturgeon (gulf race of the Atlantic sturgeon), a federally threatened species. Species that are known to occur on the area appear in Appendix III.

7. Forest, Mineral, Scenic and Water Resources: Section 253.036, Florida Statutes requires plans for 1,000+-acre parcels to contain an analysis of multiple-use potentials, to include a professional forester's assessment of the resource conservation and revenue-producing potentials of the tract's forests. To date, there are no known outstanding agricultural agreements, timber contracts or mineral interests on the lands that have been acquired to date within the ARWEA. Wildlife management objectives indicate a need to harvest timber at this time. Approximately 1,800 acres of timber stands will be commercially thinned during this plan cycle for wildlife habitat enhancement (see appendix XI). The FWC considers sustainable forest management to be consistent with this property, and personnel from the Division of Forestry's



(DOF's) Forest Management Bureau have been consulted for appropriate forestry practices and timber management.

The waters of the bay that are adjacent to Towhead Island and Parcel 16 are Class II waters. The remaining rivers within the ARWEA and their tributaries are Class III waters. The waters within the ARWEA are designated as Outstanding Florida Waters, and to a lesser degree as the Apalachicola Bay Aquatic Preserve. The Aquatic Preserve, established by Trustees' resolution in October 1969, overlaps on the East Bay marshes with acreage leased to FWC as part of the ARWEA.

8. Cultural Resources: A review of the Florida Master Site File indicates that there are currently 24 cultural sites, 13 historic and 11 prehistoric sites, in the ARWEA. Managers working on the property follow the procedures outlined for working near cultural resources. Agency authorities and management procedures, prepared by the Division of Historical Resources (DHR), are contained in Appendix IV. Particular care is exercised during construction of trails, boardwalks, parking areas or other modifications deemed appropriate to the site.

9. Unique Natural Features or Outstanding Native Landscapes: Within and adjacent to the boundaries of lands managed under lease number 3584 and its amendments; the Apalachicola, Brothers, Jackson, Little St. Marks, St. Marks, East, and Chipola rivers (and associated smaller streams) are all in a natural state except for the navigation channels maintained by the COE, a railroad crossing and a power line crossing. As described earlier, the ARWEA contains outstanding examples of native bottomland hardwood and freshwater marsh (sawgrass) communities.

10. Beaches, Dunes, Virgin Timber, Scenic Vistas and Environmentally Sensitive Areas such as Swamps, Marshes or Wetlands: The ARWEA does not contain beaches, dunes, or virgin timber. However, the Apalachicola River and its associated streams, marshes and floodplain forests are essential components of a complex ecological system that is essential to the productivity of the Apalachicola Bay.

11. A Description of Agency Plans to Locate, Identify, Protect, Preserve or Otherwise Use Fragile, Nonrenewable Natural and Cultural Resources: A set of goals, objectives and strategies for the ARWEA, describing agency plans for natural and cultural resource management and protection, has been developed and is contained in section "III, G" below.

12. FNAI Listed Resources: Figure 5 shows known locations of FNAI element occurrences as well as FWC wildlife occurrences from the most recent databases of the respective agencies. Appendix V indicates FNAI permission for FWC to access their database for the purpose of displaying known listed plant and animal resources.

An "element" is any exemplary or rare component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave, or other ecological feature. An element occurrence is a single extant habitat which sustains or otherwise

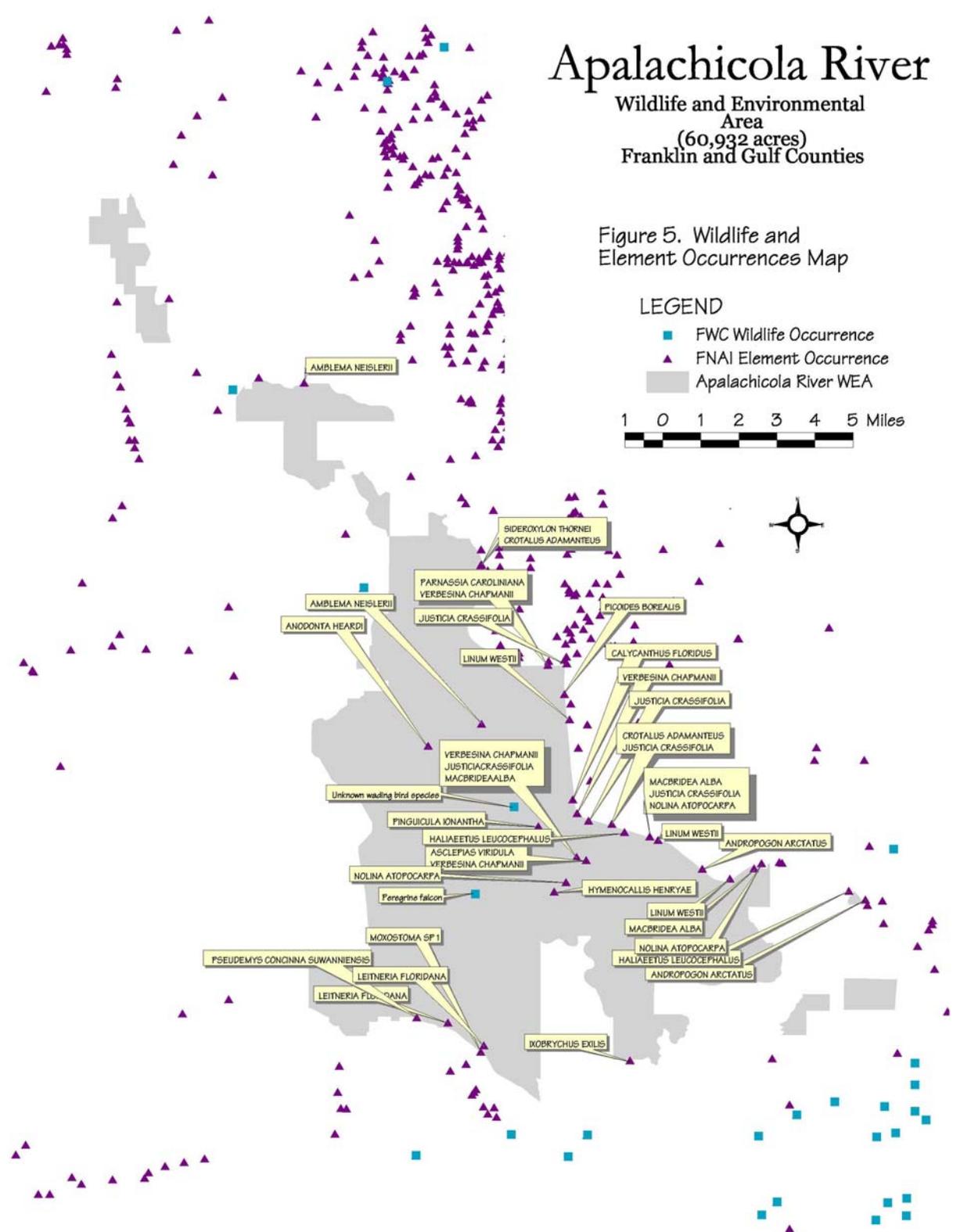
# Apalachicola River

Wildlife and Environmental Area  
 (60,932 acres)  
 Franklin and Gulf Counties

Figure 5. Wildlife and Element Occurrences Map

### LEGEND

- FWC Wildlife Occurrence
- ▲ FNAI Element Occurrence
- Apalachicola River WEA



contributes to the survival of a population or a distinct, self-sustaining example of a particular element.” The following are listed species that may occur on the ARWEA, with descriptions of their habitats: [Abbreviations: FWS = U.S. Fish and Wildlife Service; **E** = Endangered; **T** = Threatened; **T(E/P)** = Threatened/ Experimental Population; **SSC** = Species of Special Concern].

The gopher tortoise (*Gopherus polyphemus*), listed as a species of special concern (SSC) by the State of Florida, occurs on the higher elevations of the ARWEA. The alligator snapping turtle (*Macrolemys temmincki*) is a SSC that can be found on the area in deep water rivers and streams. The Barbour's map turtle (*Graptemys barbouri*) is a SSC that is endemic to the Apalachicola River drainage, which includes the Apalachicola and Chipola rivers in Florida, the Flint River in Georgia and the Chattahoochee Rivers in Georgia and Alabama. The American alligator (*Alligator mississippiensis*), listed as SSC by the State of Florida and threatened due to similarity of appearance by the Federal government, can be found in the rivers and tributaries of the area. The ARWEA contains excellent habitat for the State and Federally threatened Eastern indigo snake (*Drymarchon corais couperi*). The Florida pine snake (*Pituophis melanoleucus mugitus*) is a SSC that has been observed in mesic flatwoods on the area. The threatened bald eagle (*Haliaeetus leucocephalus*) is known to occur and has nested on the area. The State and Federally endangered Florida manatee (*Trichechus manatus*) is occasionally seen in the lower Apalachicola and Jackson Rivers. The Federally endangered red-cockaded woodpecker (*Picoides borealis*) occurs and nests on the area in Franklin County. Numerous listed wading birds have been observed nesting in rookeries on or adjacent to the ARWEA including: little blue heron (*Egretta caerulea*, SSC), snowy egret (*Egretta thula*, SSC), white ibis (*Eudocimus albus*, SSC), and the Federally endangered wood stork (*Mycteria americana*). Two endangered species of bats occur in the area, the Gray bat (*Myotis grisescens*) and the Indiana bat (*Myotis sodalis*). The Atlantic sturgeon (*Acipenser oxyrinchus*) is listed by the State as a SSC. The sturgeon subspecies that occurs in the Apalachicola River, the Gulf sturgeon (*A. o. desotoi*), is listed by the federal government as threatened. In addition, there is healthy population of the Florida black bear (*Ursus americanus floridanus*), a species listed as threatened by the State of Florida.

Two mollusks that occur on the ARWEA have been proposed for Federal listing. The purple bankclimber (*Elliptoideus sloatianus*) inhabits the Apalachicola and Ocklockonee River systems and prefers areas with slow to moderate current over a substrate of sand or sand mixed with mud or gravel. The fat threeridge (*Amblema neislerii*) is endemic to the Apalachicola River system and is found in the main channel of small to large rivers in slow to moderate currents. A large number of listed plants have been found in or adjacent to the ARWEA (Table 1).

Table 1. State and Federally listed plants that occur on or adjacent to the ARWEA. State and Federal listings are followed by an S and F, respectively. Listings include endangered (E), threatened (T), and species of special concern (SSC).

Scientific name	Common name	Listing
<i>Asclepias viridula</i>	Southern milkweed	T-S
<i>Aster spinulosus</i>	Pine-woods aster	E-S
<i>Baptisia simplicifolia</i>	Scare-weed	T-S
<i>Cuphea aspera</i>	Tropical waxweed	E-S
<i>Calycanthus floridus</i>	Sweet shrub	E-S
<i>Gentiana pennelliana</i>	Wiregrass gentian	E-S
<i>Hymenocallis henryae</i>	Panhandle spiderlily	E-S
<i>Justicia crassifolia</i>	Thick-leaved water-willow	E-S
<i>Leitneria floridana</i>	Corkwood	T-S
<i>Lilium catesbaei</i>	Southern red lily	T-S
<i>Linum westii</i>	West's flax	E-S
<i>Macbridea alba</i>	White birds-in-a-nest	E-S, T-F
<i>Nolina atopocarpa</i>	Florida bear-grass	T-S
<i>Oxypolis greenmanii</i>	Giant water-dropwort	E-S
<i>Parnassia caroliniana</i>	Carolina grass-of-parnassus	E-S
<i>Rhexia parviflora</i>	Apalachicola meadowbeauty	E-S
<i>Sideroxylon thornei</i>	Thorn's buckthorn	E-S
<i>Scutellaria floridana</i>	Florida skullcap	E-S, T-F
<i>Verbesina chapmanii</i>	Chapman's crownbeard	T-S

### III. MANAGEMENT ACTIVITIES AND PUBLIC USE

**A. Responsibilities:** The FWC is responsible for operation of the ARWEA as a provision in the lease agreement with the Trustees. The agency's Internal Management Policies and Procedures (IMPP) manual governs the operational actions of FWC personnel. The IMPP manual provides internal guidance regarding many subjects affecting the responsibilities of agency personnel, including personnel management, safety issues, uniforms and personal appearance, training, as well as accounting, purchasing and budgetary procedures.

When public facilities are developed on areas managed by FWC, the agency attempts to comply with Public Law 101-336, the Americans with Disabilities Act. As new facilities are developed, the universal access requirements of this law are taken into account in all cases, except where the law allows reasonable exceptions (e.g., where handicap access is structurally impractical, or where providing such access would change the fundamental character of the facility being provided).

All requirements of the Management Procedures document (Appendix IV) from the DHR are followed with regard to any ground-disturbing activities.

**B. Past Uses:** The central core (EEL Tract) of the Apalachicola River WEA was purchased in 1974 to protect the natural habitats in the area and the seafood industry of the lower Apalachicola River Basin. Prior to state acquisition, uses on most of this area included hardwood logging, dredging and spoil deposition along the main river channel, commercial activities such as fishing and shipping (barge traffic), as well as recreational hunting and fishing. Included in the original purchase was a sawgrass marsh north of the Jackson River and west of the Apalachicola River. This area had been diked and drained in preparation for rice farming at the time of purchase.

In 1985 the state purchased five parcels under the CARL Program. The M-K Ranch unit, the largest of these parcels (8,793 ac), had been intensively altered for cattle grazing and for hay and soybean farming. As with the EEL Tract, the upper Saul Creek marsh was diked, ditched and drained for rice production. A final consent decree was signed in July 1982 between the Environmental Protection Agency and M-K Ranch over their illegal dredge and fill operations. Through the settlement, M-K Ranch agreed to restore the area to pre-project hydrological and biotic regimes prior to state acquisition.

In 1994 the state purchased the Bloody Bluff unit. Originally this unit had been used for timber, cattle grazing and turpentine production. However, with the advent of raised beds for tree planting, the area was managed for intensive silviculture, primarily for slash pine.

Sand Beach and the Quinn Tract units were acquired by the state in 1996 and 1998, respectively. The main use of these areas, prior to their purchase, was primarily for intensive silvicultural practices, though they shared the same history as the Bloody Bluff unit. As a result of past forest management activities, the historic hydrologic patterns were disrupted. Ditching, bedding, and tram or road development have expedited drainage, and in some places, negatively impacted water quality on the area.

Prior to state acquisition, timber companies had leased apiary sites for Tupelo honey production throughout the area, and some of the sites consisted of raised platforms along the Apalachicola River and its tributaries. There were also numerous cabins and floating structures (houseboats) along the waterways of the lower Apalachicola River basin. These “fish camps” were used seasonally by recreational hunters and fishermen and were unregulated by the landowners, primarily timber companies. The Creels site located at the intersection of Sand Beach Rd. and State Rd. 65 (Franklin Co.), along with some smaller sites (Buck Siding and Creels Side Camp), were the location of a historic town and camps associated with the turpentine and lumber industries in the early to mid 20<sup>th</sup> century. These settlements consisted of several buildings, including churches and a commissary, housing for workers, storage or processing points and barns for horses and livestock.

**C. Needs and Problems:** Section III, “G” contains a listing of problems, and strategies to address them, identified during the planning process for this area. Cost estimates for

typical management activities necessary to implement strategies are found in Appendix VI.

**D. Assessment of the Impact of Planned Uses:**

1. Public Uses: It is the policy of the FWC, as expressed in the Agency Strategic Plan (Appendix VII), on lands it owns or manages, to provide a diversity of recreational opportunities that are fish and wildlife oriented, and do not adversely impact the long-term well-being of fish and wildlife populations or habitats. Such opportunities are designed based upon public needs and desires, usually as expressed during MAG meetings and other public involvement efforts of the agency (See Appendix II). Uses planned for the ARWEA are in compliance with the Conceptual State Lands Management Plan.

2. Determination of Public Uses that are Consistent with Acquisition Purposes: The objective of resource management and protection pertain to preserving the natural community associations and hydrological regime through use of appropriate management procedures, restoration techniques as necessary and practical, and environmental monitoring. That has been, and will continue to be, the FWC management emphasis. Other uses, such as hunting, fishing, natural resource education, hiking, and on some sites, camping, and picnicking, have been determined by FWC to be consistent with acquisition purposes.

**E: Acreage that should be acquired or declared surplus:** A number of properties have been identified for acquisition by the agency's Inholdings and Additions Program. These properties have been nominated to further protect the wildlife and other resources of the property, to lessen conflicts caused by housing development within an area where prescribed burning is required for resource management, to achieve an optimum and regular property boundary, and to provide critical habitat connectivity for ARWEA and other public wildlife habitat lands. None of the land within the ARWEA should be declared surplus. The list and maps in appendix VIII contain the ownerships and justification for acquisition of the inholdings and additions.

**F. Accomplished Objectives From the 1997 Apalachicola River WEA Conceptual Management Plan.**

		<u>Percent and date accomplished</u>
<b>Goal 1:</b> Enhance and maintain the integrity of native communities.		
<u>Objectives:</u>		
1.	Continue with longleaf pine restoration project. <b>Comment: 1,522 acres of Bloody Bluff completed at 500 trees per acre.</b>	100% - 2/00
2.	Continue with the restoration of the natural water regimes, e.g. low water crossings, plugs, breeching dikes and culverts.	ongoing
3.	Use timber stand improvement practices for facilitating overstory development and attaining desired plant community composition.	ongoing
4.	Employ a diversified fire management regime.	ongoing
5.	Protect and conserve bottomland hardwoods.	ongoing
6.	Continue emphasis on land acquisition, with a priority on the Quinn tract and Lake Wimico lands. <b>Comment: Quinn tract acquired in 1999, Lake Wimico acquisition pending.</b>	50% - 11/99
7.	Coordinate with DOF to develop forest resource management recommendations.	100% - 12/01
8.	Examine the old spoil banks located in the Apalachicola floodplain and restore these sites if appropriate. <b>Comment: Funding for this objective has not been acquired.</b>	ongoing

	<u>Percent and date accomplished</u>
<b>Goal 2: Survey and inventory natural resources.</b>	
<u>Objectives:</u>	
1. Supplement existing qualitative vegetative data by conducting in-house and contracted vegetative surveys, emphasizing threatened and endangered species. <i>Comment: We have received funding for FY 2002-03 to contract with FNAI to identify historical vegetative community types on the area. In addition, current vegetative community types will be identified, as well as documentation of listed species that may be encountered during the survey.</i>	25% - ongoing
2. Continue inventory and monitoring of game species, i.e. white-tailed deer, bobwhite quail, and furbearers.	ongoing
3. Continue inventory and monitoring of wading bird populations and osprey and eagle nests.	ongoing
<b>Goal 3: Provide quality public recreation opportunities.</b>	
<u>Objectives:</u>	
1. Maintain and improve existing road network, where appropriate, to facilitate access. <i>Comment: Reexamine as new tracts are acquired, or as needs change.</i>	ongoing
2. Assess the feasibility of closing unnecessary roads. <i>Comment: Catfish Levee road and the south end of Saul Creek road have been closed.</i>	ongoing
3. Develop or maintain wildlife openings or food plots on established fallow fields, administrative roads and firelines, as appropriate. <i>Comment: 120 acres of dove fields were established on disturbed upland clearings on the Saul Creek Unit.</i>	100% - 6/98
4. Coordinate with the Commission's Office of Informational Services' environmental education section to seek a FACEE grant for the development of an interpretive plan. <i>Comment: FACEE grants have been discontinued; replaced by a more comprehensive NBR plan.</i>	ongoing

	<u>Percent and date accomplished</u>
5. Determine the suitability of establishing a quality hunting area on the Sand Beach tract (Stone Container / Buck tract). <b>Comment: Determined unsuitable for this activity.</b>	100% - 12/97
6. By 1998-99, with the assistance of the Commission's Division of Fisheries, assess the maintenance and availability needs for boat ramps on the area. <b>Comment: Assessment completed. Four boat ramps and associated parking areas were built.</b>	100% - 12/01

**Goal 4:** Establish clear and enforceable regulations.

Objectives:

1. Examine the feasibility of changing the designation of the WEA to a WMA. <b>Comment: This is part of a Division-wide process for changing land management designations.</b>	ongoing
2. Continue to work with the Division of Law Enforcement to clarify and establish consistent regulations among adjacent Wildlife Management Areas. <b>Comments: Hunting season dates are consistent among adjacent areas.</b>	ongoing
3. Consider the need for regulations to control the impacts of camping. <b>Comment: Portions of camping issues have been addressed through regulation changes. Other regulations are still under consideration.</b>	ongoing

**Goal 5:** Identify and protect archaeological, historical, and cultural resources.

Objectives:

1. Contact the DHR for assistance in conducting an inventory of cultural resources on the WEA.	ongoing
2. Map existing known archaeological sites within the management area.	100% - 10/98
3. Keep the location of undisturbed sites as proprietary information.	ongoing

4. Request assistance from the DHR to prevent the disturbance of archaeological sites.

Percent and date  
accomplished  
ongoing

**G. Proposed Single- or Multiple-Use Management:** Early project assessment documents, as well as the current CARL Annual Report for the lands within ARWEA, indicate the following as primary goals for management:

The objective of resource management and protection pertains to preserving the natural community associations and hydrological regime through use of appropriate management procedures (e.g., controlled burning, reseeding areas, exotic species control, vehicular traffic control), restoration techniques as necessary and practical (e.g., reforestation, removal of barriers to water flow) and environmental monitoring (e.g., water quality). The scientific research program is principally concerned with gaining new information on the dynamic interaction of the River, Bay and Gulf to enhance management of the area.

FWC intends to manage the ARWEA as a multiple use property within the guidance of the ARC and the CARL Program, and advocates the specific uses described above. The FWC has developed goals and objectives for the ARWEA in order to state the specific intentions of the agency as guided by the FWC Agency Strategic Plan, 1999 – 2004 and Long Range Program Plan (see Appendix VII). The following goals and objectives also demonstrate agency intent to comply with the various purposes for land acquisition, as well as the desires of various user constituencies and cooperators as the agency understands them through results of consensus meetings (see Appendix II). Secondary uses will be to protect cultural resources, and to provide natural-resource-based education and recreation. Additionally, the ARWEA was subject to a land management review on September 25, 1997. The agency's response to recommendations can be found in the following goals and objectives. The management review team report is in Appendix IX

1: Resource Management Goals And Objectives: The following goals and objectives have been developed specifically for the ARWEA. They incorporate the ideas of administrative, biological and technical staff of FWC, as well as those of stakeholders from outside the agency. These goals and objectives are consistent with, and are guided by, the FWC Agency Strategic Plan and Long Range Program Plan.

**Goal 1: Enhance and maintain the integrity of native natural communities.**

Objective 1: Utilizing the ARWEA prescribed fire plan (Appendix X) or its modification, continue to employ a diverse fire regime designed to achieve a desired future condition (as determined by vegetative management objectives) on 20,000 acres of fire-dependant plant communities, including the 1,800 acres of reforested longleaf pines at Bloody Bluff and other locations (This responds to the Management Review Team's first checklist finding [see Appendix IX]) (**ongoing**).

Objective 2: Continue to protect and conserve 38,000 acres of floodplain forests, through hydrological restoration, appropriate fire management and management for old-growth forest conditions (**ongoing**).

Objective 3: Continue emphasis on acquisition of identified land parcels, or areas to enhance and protect resource integrity (**ongoing**).

Objective 4: Continue to participate on multi-agency committees and groups dealing with Apalachicola-Chattahoochee-Flint River system issues (**ongoing**).

Objective 5: Contract with Florida Natural Areas Inventory (FNAI) to identify historic and current vegetative community types pursuant to objective-based vegetation management **by 2003**.

Objective 6: In cooperation with NFWFMD, and others, develop a hydrological restoration plan **by 2003**.

Objective 7: Develop quantifiable vegetative management objectives **by 2004**.

Objective 8: Contract for a systematic survey of invasive exotic plant species, such as cogongrass, Chinese tallow, elephant-ear, and Japanese climbing fern **by 2004**. (This responds to the Management Review Team's fifth and sixth checklist findings [see Appendix IX]).

Objective 9: Seek funding through the North Florida Upland Invasive Plant Council, or other sources, for invasive exotic plant control **by 2005** (This responds to the Management Review Team's sixth checklist finding [see Appendix IX]).

Objective 10: Using results of the twelve experimental plots in mesic flatwoods, determine the best treatment methods for achievement of flatwoods management objectives **by 2007**.

Objective 11: In order to protect water resources, maintain, improve or install culverts or hardened low water crossings on at least 25 sites **by 2007**.

Objective 12: Using the silvicultural guidelines developed by DOF (Appendix XI), implement management practices to improve wildlife habitats on Quinn, Sand Beach and Bloody Bluff tracts **by 2007**.

**Goal 2: Survey and inventory natural resources.**

Objective 1: Update faunal inventories, emphasizing rare and listed wildlife species, including wading bird rookeries, bald eagle/osprey nests, flatwoods salamander, Florida black bear, and red-cockaded woodpecker (**ongoing**). (This responds to the Management Review Team's third checklist finding [see Appendix IX]).

Objective 2: Update inventories of game wildlife species, including white-tailed deer, bobwhite quail and furbearers (**ongoing**).

Objective 3: Contract with FNAI to identify historic and current vegetative community types pursuant to objective-based vegetation management **by 2003**.

Objective 4: Contract for a systematic survey of invasive exotic plant species, such as cogon grass, Chinese tallow, elephant-ear, and Japanese climbing fern **by 2004**. (This responds to the Management Review Team's fifth and sixth checklist findings [see Appendix IX]).

Objective 5: Using FNAI's historical vegetative community data, develop quantifiable vegetation management objectives for desired future conditions **by 2004**.

Objective 6: Contract for a systematic survey of reptile and amphibian species **by 2007**.

**Goal 3: Provide and expand nature-based recreation and educational opportunities.**

Objective 1: Continue to maintain and improve 46 miles of the existing road network, as well as roads on new acquisitions, where appropriate (**ongoing**).

Objective 2: Continue to coordinate with Gulf and Franklin counties to assure adequate public access from county roads (**ongoing**).

Objective 3: Continue to assess the need to close unnecessary roads and propose closures as needed (**ongoing**).

Objective 4: Continue to maintain at least 600 acres of wildlife openings, and develop new openings on appropriate disturbed sites, including those on new acquisitions (**ongoing**).

Objective 5: Continue to maintain four boat ramps [Whiskey George Creek, Bloody Bluff, Graham Creek, and Gardner Landing] to allow public access to river and bay fisheries and other resources (**ongoing**).

Objective 6: Involve the DHR staff in planning and development of interpretive information regarding cultural resources (**ongoing**).

Objective 7: Continue to provide a diversity of traditional hunting opportunities, including seasons for white-tailed deer, quail, dove, gray squirrel, turkey, waterfowl, and snipe (**ongoing**).

Objective 8: Monitor the level of public use at all boat ramps, landings, and recreational facilities to determine where picnic tables, trash receptacles, and toilet facilities may be warranted (**ongoing**) [see Appendix XII] (This responds to the Management Review Team's eleventh checklist finding [see Appendix IX]).

Objective 9: **By 2005**, complete the Nature-Based Recreation (NBR) Enhancements for the ARWEA (see Appendix XII).

Objective 10: Install bear resistant trash receptacles at 4 public boat ramps and at the wildlife observation tower/picnic facility at Sand Beach, **by 2004**.

**Goal 4: Continue to identify and protect cultural resources.**

Objective 1: Contact DHR prior to site selection for all ground-disturbing activities (**ongoing**).

Objective 2: Involve DHR staff in planning and development of interpretive information regarding cultural resources (**ongoing**).

Objective 3: Contact DHR to determine the need for further cultural resource survey on the Quinn tract, or others, **by 2002**.

**Goal 5: Maintain adequate infrastructure and supplement existing staff to facilitate operations and visitation.**

Objective 1: Continue to utilize volunteers to aid in management activities, such as dove field planting, wildlife surveys and infrastructure maintenance (**ongoing**).

Objective 2: **By 2004**, supplement existing FWC staffing using appropriate OPS positions and contracted services in response to increased management workloads due to new acquisitions, NBR programs, increased visitation, etc (This responds to the Management Review Team's second recommendation [see Appendix IX]).

Objective 3: Complete the Equipment Storage and Maintenance Facility at the FWC's Howard Creek compound by constructing offices and a tool

room to serve as a field office and equipment storage/maintenance facility for area personnel, **by 2004.**

## 2. Resource Management Problems and Strategies

**Problem A: Titi has invaded and predominated mesic flatwoods sites on the area, reducing habitat diversity for flatwoods-associated wildlife, and reducing the quality of recreational opportunities.**

Strategy: Continue with the experimental design to test the effects of treatments believed to be useful in managing mesic flatwoods communities.

**Problem B: Habitat conditions in pine plantations are not optimal for wildlife species. Previous land uses on Saul Creek, Bloody Bluff, Quinn and Sand Beach tracts resulted in the conversion of these areas to off-site pine species and high densities of titi and other invasive native woody vegetation.**

Strategy: Thin pine plantations to achieve a stem density consistent with vegetation management objectives.

Strategy: Continue the roller chopping and burning program in order to maintain beneficial understory conditions in pinelands.

Strategy: Contract with FNAI to identify and map historic and current vegetative community types in order to define vegetation management objectives.

Strategy: Develop quantifiable vegetative management objectives for the ARWEA that characterize a desired future condition for the area's natural communities.

Strategy: Utilize prescribed fire pursuant to vegetation management objectives on 20,000 acres of fire-dependant plant communities, including 1,800 acres of reforested longleaf pines at Bloody Bluff and other locations.

Strategy: Using results from the experimental plots in mesic flatwoods, determine and apply the best treatment methods for managing native plant communities that have been modified by past management activities.

Strategy: In cooperation with NFWFMD, the FWC Office of Environmental Services and Division of Fisheries, or others, develop a hydrological restoration plan necessary to restore full function to the River

floodplain and marsh system protecting the Apalachicola Bay and its resources.

Strategy: Using silvicultural guidelines developed in cooperation with DOF (Appendix XI), implement management practices necessary to improve wildlife habitats on the Quinn, Sand Beach and Bloody Bluff tracts.

**Problem C: There is a high probability that the ARWEA contains a number of undiscovered archaeological and historical sites that have not been protected.**

Strategy: Cooperate with personnel from the DHR to update the cultural resource inventory and provide adequate protection and/or interpretation for the area's cultural resources.

**Problem D: Due to the dynamics of floral and faunal communities, inventories must be continually updated.**

Strategy: Commission biologists, through opportunistic observations and systematic surveys, will continually update floral and faunal inventories. Inventory data will be supplemented as available with data from other sources that may include, but not be limited to, the USFWS, Division of Recreation and Parks, Division of Forestry, FNAI, The Nature Conservancy, NFWFMD, or private contractors.

**Problem E: Current regulations regarding camping activities on the area do not adequately address problems associated with camping. Camping privileges are frequently abused by persons who camp in the prime locations, especially along the Apalachicola River, for long periods of time.**

Strategy: Determine the need for establishing designated camping areas.

Strategy: Coordinate with stakeholders for input into the development of proposed camping regulations and designated camping areas.

Strategy: Utilize existing rules and enforcement authority to reduce upland impacts resulting from encroachment by houseboats (river camps), and coordinate with DEP enforcement regarding sovereign waters issues. [A complete inventory of houseboats on the ARWEA and associated management problems can be found in the document, "An Assessment of Houseboats, Vessels, and Other Structures on the Apalachicola River Wildlife and Environmental Area March 2002."] (This responds to the

Management Review Team's fourth recommendation and several checklist findings [see Appendix IX]).

**Problem F: Inholdings and certain adjacent lands along the ARWEA boundary, such as the Lake Wimico tract and others, are causing various management problems such as water resource degradation, trespassing issues, illegal dumping, and impediments to prescribed burning.**

Strategy: Identify, map and describe inholdings and additions desirable for acquisition to be sure these lands are included in the FWC land purchase program.

**Problem G: Inventories of flora and fauna are incomplete.**

Strategy: Continue to use volunteer labor for infrastructure maintenance and management of resources.

Strategy: Develop contracts with FNAI and other outside providers to accomplish some of the necessary inventory work, especially with regard to existing plant communities and historic plant communities.

**Problem H: The ARWEA is part of a larger ecosystem over which the Commission has limited control, but within which the activities of others have a great effect on the ARWEA.**

Strategy: Continue to maintain and establish rapport with landowners adjacent to the ARWEA; provide technical assistance and advice in order to assure the welfare of ecosystem components such as rivers, lakes and other wetlands; establish working relationships with local representatives of regulatory agencies (i.e., NFWMD, local governments, DEP, COE) so that if problems arise, solutions can be quickly sought.

Strategy: Provide technical assistance and support to the Apalachicola National Estuarine Research Reserve (DEP & NOAA), COE, NFWMD, and other agencies conducting aquatic inventories, monitoring water quality and other parameters that may indicate present and future conditions of the Apalachicola River/Bay aquatic resources. (This responds to the Management Review Team's tenth checklist finding [see Appendix IX]).

**Problem I: Invasive exotic species, such as cogongrass, Chinese tallow, elephant-ear, Japanese climbing fern and feral hogs occur on the area. These species and other exotics are detrimental to native plant and animal communities.**

Strategy: Monitor the invasion of exotic species and take appropriate measures to eradicate or control them.

Strategy: Seek funding through the North Florida Upland Invasive Plant Council or other sources for invasive exotic plant control.

Strategy: Supplement existing FWC staff monitoring efforts by contracting with a private provider to accomplish a comprehensive inventory of invasive exotic plant species on the ARWEA.

**Problem J: Re-vegetation of all former pastures and agricultural fields would preclude wildlife management techniques that increase recreational opportunities and enhance habitat for species that thrive in early successional communities.**

Strategy: Maintain some old fields or open areas in an early successional state by utilizing prescribed fire, mowing, disking, and roller chopping.

Strategy: Develop and maintain dove fields and wildlife openings at appropriate locations within the ARWEA. Some fields will be disked, fertilized and planted with native wildlife foods and non-invasive agronomic plants attractive to wildlife. These areas will not only provide opportunities for hunters, but will provide wildlife viewing opportunities to the public throughout the year.

**Problem K: Past road building as well as current and past river dredging operations have resulted in significant dysfunction within the river and floodplain system. The dysfunction is evident in loss of fish and wildlife habitat and in water distribution and water quality problems.**

Strategy: Continue to participate on multi-agency committees and groups dealing with Apalachicola-Chattahoochee-Flint River system issues.

Strategy: In cooperation with NFWFMD, or others, develop and implement a hydrological restoration plan that addresses re-establishment of sheetflow on flatwoods communities and wetland drains.

### 3. Management Intent

In general, management intent on ARWEA is to protect and promote old growth conditions in floodplain forests, to enhance water quality by restoring natural hydroperiods, to promote a diversity of wildlife habitats, including restoration of disturbed areas to native vegetative communities, and to provide quality natural-resource-based recreational opportunities.

## **Vegetation**

The FWC is proposing to adopt an objective-based approach to habitat management on Trustees-owned lands where the FWC is designated lead manager. This approach will include delineation of management units, determination of management objectives for those units, and regular plant community monitoring. The first step in this process will be to prepare plant community type maps for each managed area. Plant communities will be type-mapped in accordance with FNAI classifications. Type-mapping will be accomplished by means of contracted services, in accordance with a methodology developed jointly by FNAI and FWC.

Concurrent with managed area type-mapping FWC staff will develop standard operating procedures, describing methodologies for random selection of sampling points, for determining sampling intensity, and for describing sampling methodologies for attributes associated with area management objectives.

After an area has been type-mapped, management units will be delineated. Management unit delineation will take into account plant community type, existing and proposed infrastructure, and other management considerations. Habitat management objectives will be developed for each management unit. Management units with similar characteristics may have the same management objectives. Management objectives will be associated with one or more plant community attributes and their value ranges. These objectives will be aimed at achieving preferred habitat conditions for specified plant or animal species.

Plant community monitoring will involve sampling for variables associated with particular management objectives on an area. Initial sampling would provide FWC staff with baseline data indicating the vegetative condition specified in the management objective. The method for post-treatment sampling will depend upon the nature of the variables specified by the management objective. For example, a variable such as basal area might not require as frequent sampling as mid-story height or species richness. Plant community sampling will be done in accordance with methods outlined in the Bureau of Wildlife Management's Standard Operating Procedures Manual.

On ARWEA, FWC will focus on managing for native habitat diversity, emphasizing maintenance of high-quality natural communities and restoration of disturbed areas. Restoration may be achieved on disturbed areas by restoring historic hydrological conditions, re-introduction of fire, and/or use of forest management techniques. Retention of the native old growth component of forests remains an important consideration.

ARWEA has high-quality native communities including bottomland hardwoods, gum-cypress swamps, and tidal marshes that FWC will continue to manage and protect. FWC will continue to promote native habitat diversity and restore natural communities on the area, but will also continue to utilize traditional habitat management practices such as wildlife openings and food plots (e.g., planted dove fields). The wildlife openings and non-invasive agronomic plantings will benefit species that prefer vegetation in the early successional stages and provide wildlife viewing opportunities.

Primary emphasis is placed on conservation and protection of gum-cypress, bottomland hardwood and hardwood hammock communities. Such conservation is consistent with the purposes stated in original Environmentally Endangered Lands (EEL) program initiatives. Wildlife associated with natural and undisturbed river floodplain forest requires the closed canopy created by a mature hardwood forest, and FWC intends to provide this condition. Wildlife that will benefit from conservation of forest communities includes cavity-nesting species such as wood ducks, owls, woodpeckers, and squirrels. Other species requiring or preferring a well-developed canopy include swallow-tailed and Mississippi kites, red-shouldered and red-tailed hawks, barred owls, ospreys, bald eagles, red-eyed vireos, and yellow-billed cuckoos. Many species of reptiles and amphibians are limited to moist, cool environments created by shaded overstory and accumulated leaf litter provided by mature deciduous hardwoods. Decaying trees, logs and stump cavities offer habitat for ground-dwelling herpetofauna, mammals and invertebrates that would not exist under other management strategies and forest conditions. FWC intends to maximize conservation of this old growth riverine forest habitat primarily because of increasing habitat values due to destruction of large acreages of these ecosystems elsewhere.

Freshwater marshes and tidal estuarine marshes are managed for long-term maintenance and conservation, including restoration where applicable. By maintaining and restoring historic water flows to creeks, drains, and wetlands on the area, fresh water flow will increase downstream and filter into the tidal marshes of East Bay and the lower portions of Apalachicola and Jackson Rivers. The fresh, brackish, and saltwater marshes of this area are among the most productive systems in the world, and are vital habitats for a variety of fish, invertebrate and wildlife species. Enhancing and protecting the integrity of the marshes will help assure that these natural systems will continue to provide a source of food and nutrients, faunal habitats, water purification, storm buffers and shoreline stabilization.

Some of the land that has been acquired has a history of extensive and intensive forestry operations. These operations have included site

conversion to slash pine plantations, development of ditches, construction of a road network and the suppression of fire. It is the intent of FWC to restore these areas, primarily mesic and hydric flatwoods, to the original vegetative composition, habitat structure, species distribution, and habitat functions that existed prior to ground disturbance activities and silvicultural treatments. This will require restoration of normal hydroperiods, replanting of vegetation suitable to these areas, thinning of planted trees, and the reintroduction of a prescribed burning regime that mimics natural fire events. There are also small areas of naturally occurring upland mixed pine-hardwoods, mostly cutover stands with a dense understory of regenerating hardwoods and pines. Some of the restoration techniques listed above may be necessary, but the primary management tool will be to manage the mid- and understory vegetation through an active burning program. (This responds to the Management Review Team 's first checklist finding [see Appendix IX]).

FWC's Plant Community Monitoring Section has established 12 experimental plots on the ARWEA to test the effects of various treatments for the management of native ground cover in mesic flatwoods communities. The results from these experiments will determine which management technique is most effective in controlling invasive native woody vegetation (principally titi) and increasing the abundance and species richness of the native plant community. The best method or combination of techniques will then be applied on a landscape basis to manage the native mesic flatwoods plant community, including rare and listed species. This study will also include the effects of roller chopping on the mesic flatwoods vegetative community and potential impacts on listed plant species. In addition, restoration of the native ground cover on disturbed sites may be accomplished by restoring the historic hydrological conditions (sheet flow), establishing an aggressive prescribed fire management program with an emphasis on growing season burns, and the use of forest management techniques such as timber thinnings. (This responds to the Management Review Team's fourth checklist finding [see Appendix IX]).

Disturbed upland clearings in the Saul Creek area, formerly cleared for pasture or agricultural purposes, will be managed for wildlife openings and food plots using non-invasive agricultural plantings. On these disturbed upland sites, as well as the more natural areas, FWC will create, maintain and enhance habitats for a diversity of wildlife species including quail, white-tailed deer, turkey, and dove as well as non-game species such as Bachman's sparrow, red-cockaded woodpecker, flatwoods salamander, and black bear. FWC intends to contract through FNAI or university staff to conduct surveys of current vegetative communities and historic vegetation communities on the ARWEA. Information regarding the probable historic and current coverage of vegetative communities is

needed to guide and prioritize restoration and management efforts on the area. The following factors are recognized as having major influence on the vegetative communities:

### Hydrology

In cooperation with NFWMD and the COE, natural water regimes will be re-established to the extent practical, regardless of land elevation or present vegetative community. This is consistent with the primary purpose for the acquisition of the land, and relates directly to the water quantity and quality aspects of the ecosystem. Considerable progress toward restoring natural water regimes has been made on the area by adding hardened low-water crossings and culverts to existing roadways on the East side of the Apalachicola River, and by establishing a series of breeches and plugs in the major levees and ditches in the Saul Creek tract.

A hydrological restoration plan, involving the NFWMD is needed to provide a comprehensive approach to aquatic habitat restoration and management of the area. This would include water quality studies that monitor storm water runoff and domestic/animal wastes from properties adjacent to the lower Apalachicola River basin, as well as upriver influences from Georgia and Alabama. Baseline aquatic inventories can help assess the condition of riparian zones and the need for restoration efforts on adjacent uplands of the ARWEA.

### Prescribed Burning

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

Unfortunately, timber removal, site preparation, drainage, and subsequent neglect of the area prevent “natural” fire management in the purest sense, because of the combined effects on the availability of fuel and on plant species composition. Site-specific combinations of prescribed fire, mechanical vegetation control, and reforestation are necessary to restore the naturally occurring plant community.

The FWC, in cooperation with the DOF, will continue a prescribed burning program on the ARWEA. FWC employs a fire management regime to increase both species and habitat diversity. Pursuant to

vegetative management objectives, different burning intervals, different intensities (determined by firing methods), and seasonal timing of prescribed burns (dormant vs. growing season) create habitat diversity and a mosaic of vegetation patterns. This mosaic is designed to have both frequently-burned and fire shadow aspects.

On some areas, controlled burning is limited by the buildup of midstory fuels and a lack of understory fuels in the areas invaded by brush. This trend is distinctly negative for most wildlife species. Mechanical control of brush on upland sites by roller chopping, or incidentally by logging equipment during commercial thinning operations, can reduce shading and encourage the grasses and forbs that are necessary to sustain a prescribed fire program.

Single drum (with standard, not offset blades), one-pass roller chopping can be a valuable management tool, enabling the use of prescribed fires in areas heavily invaded by dense woody vegetation. However, roller chopping may damage the herbaceous ground cover, especially wiregrass; therefore, its application will be limited to situations where burning can only be accomplished by first reducing woody vegetation by mechanical means.

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

Mechanical soil disturbance in ecotones such as wet savannas will be prohibited (with the possible exception of wildfire suppression) in order to protect habitats for important rare species that often occur between flatwoods and riparian drainages. Silvicultural site preparation (roller chopping), ORV traffic, and creation of firebreaks are avoided when possible in these zones. Additionally, fires are allowed to burn into the edges of cypress swamps and other drainages in order to maintain these rare habitats. Vegetative management objectives for fire-deprived wet savannas with encroaching shrubs and trees require frequent fires, perhaps initially at 1-2 year fire return intervals. Once a grassy, open appearance has returned to the savanna, vegetative management objectives will likely dictate a fire return interval that averages 2-4 years, preferably during the spring and early summer months.

### Forest Resource Management

FWC continues to manage timber resources for wildlife benefits and community restoration including the use of timber harvesting and reforestation. Reforestation is occurring naturally on some sites. The

primary management technique for encouraging reforestation is protection of young trees and seedlings on these sites from fire or other damage. However, planting trees on selected sites is used to increase the rate of reforestation and to ensure diversity. The forested floodplain forest and bottomland hardwoods is managed for stands with old growth characteristics. Snags are protected to benefit cavity-nesting species.

Since 1997, with acquisition of the Sand Beach and Quinn tracts, there has been a substantial increase in the forest product resource potential of the ARWEA. These resources include primarily slash pine plantations in immediate need of thinning for habitat improvement. Thinning of the forest overstory, hydrological restoration and reintroduction of prescribed burning are the most important factors in re-establishment of vegetative communities and enhancing wildlife habitats in these areas. Mesic flatwoods planted with off-site slash pine are being reforested with longleaf pine where appropriate. Degraded or disturbed bottomland hardwood sites are to be reforested with native wetland oaks and other hardwoods as necessary and appropriate.

The FWC, in cooperation with the DOF, intends to develop a Forest Management Plan to manage timber resources on the area as a product of wildlife habitat improvement.

#### Maintenance of Selected Openings

Various stages of succession on uplands, as well as on wetland/upland edges, contribute to providing favorable habitat for a variety of wildlife species. The diversity of vegetation types also makes these areas particularly amenable to traditional forms of wildlife management, especially vegetation management practices designed for upland game species. Scattered openings (about 600 acres) in the Saul Creek Unit are of particular importance as foraging areas for deer, turkey, rabbits, quail, dove and snipe. Quail are especially dependent on these openings for fulfilling their habitat requirements.

There are opportunities for creating and maintaining wildlife openings during timber harvest operations on recently acquired timberlands in Franklin County. These opportunities will be addressed in the proposed Forest Management Plan to be prepared by FWC and DOF. The FWC will continue management specifically designed to maintain or improve habitat for deer, turkey rabbits, quail, dove and snipe on these openings. Specific management actions will include the use of prescribed burning and mowing to stimulate the production of soft mast, and strip harrowing to stimulate the production of annual food plants and provide dusting and bugging areas for gallinaceous birds. Selected sites will be planted with native or non-invasive agronomic plants to: 1) provide dove hunting

opportunities, 2) provide high quality forage for quail, dove, deer, and wild turkey, and 3) enhance wildlife viewing opportunities.

## **Wildlife**

The ARWEA and the Apalachicola River basin are among areas having the greatest diversity of wildlife in the USA. Species associated with the area's forested communities include wood ducks, several species of owls and woodpeckers, swallow-tailed and Mississippi kites, red-shouldered and red-tailed hawks, ospreys, bald eagles, red-eyed vireos, yellow-billed cuckoos, Bachman's sparrow, red-cockaded woodpecker, flatwoods salamander, and black bear, to name a few. Other natural communities on the ARWEA have an equally impressive list of native and/or endemic species.

A significant need on ARWEA is collection and updating of qualitative and quantitative data on wildlife populations. FWC intends to contact FNAI and others for assistance in updating inventories for certain targeted species or species groups, with emphasis on endangered and threatened species. Monitoring of wildlife species continues as an ongoing effort for personnel on the area. Current surveys of rare and listed wildlife species include flatwoods salamander, Florida black bear, red-cockaded woodpecker, bald eagle/osprey nests, and wading bird rookeries. Through aerial surveys, numerous listed wading birds have been observed nesting in rookeries on or adjacent to the ARWEA. These include snowy egret (SSC), little blue heron (SSC), white ibis (SSC), and wood stork (Federally endangered).

Additional wildlife inventories are in the planning phase. Species for which surveys are planned include gopher tortoise, Barbour's map turtle and alligator. Listed animal species and their habitats are protected and restored by following approved Federal and State recovery plans, guidelines and other scientific recommendations. Land management activities including mechanical soil disturbance, prescribed burning, and timber stand improvements (thinnings) take into account rare species requirements, habitat needs and the potential for negative impacts from recreational activity or habitat management programs. In particular, prescribed burning precautions for red cockaded woodpecker and bald eagle nesting trees and territories are addressed in the Prescribed Fire Plan for ARWEA (Appendix X). (This responds to the Management Review Team's third checklist finding.)

Hunting is a popular recreational activity available on the ARWEA, and the FWC intends to manage game populations on a sustained-yield basis to assure healthy game populations and a high quality recreational

experience. Continued monitoring of game species abundance is accomplished through on-going game species surveys.

### **Fisheries**

Both sport and commercial fishing activities are prevalent over the entire length of the Apalachicola River. Springtime estimates of fishing efforts on the Apalachicola River indicate between 20,000 and 58,000 user-hours are spent fishing in the upper river during March and April. Practically, all native game fish are taken, with catfish, bass, and bream being the most popular. Commercial fishing is active on the river, but no estimates are available for the extent of this activity. Fishing on the ARWEA will be allowed under the same rules and regulations as those on other state freshwater areas.

### **Public Use**

Management of fish and wildlife resources on the area is designed to provide opportunities for natural resource-based recreation. In addition to traditional hunting and fishing opportunities, public uses on the ARWEA include wildlife viewing, picnicking, photography, camping, paddling and other nature-based activities consistent with the approach outlined in the NBR Enhancements for ARWEA (see Appendix. XII). FWC will continue to coordinate with the DHR to identify, monitor, interpret and protect cultural resources on the area.

The Land Management Review Team's recommendation of adding at least 2 additional enforcement officers for the lower Franklin/Gulf County is reasonable and realistic if the expectation is that the Division of Law Enforcement will have a sustained presence greater than the current level. This is especially important in this area since in the last few years Tate's Hell and Womack Creek WMAs, encompassing over 150,000 acres, have been added with no additional law enforcement personnel provided. The ARWEA covers an additional 61,000 acres, including between 300 and 400 miles of potential patrol area along the Apalachicola River, upper bay and numerous feeder rivers, creeks and sloughs that are subject to additional regulations and restrictions.

Adding personnel at this particular time may be a challenge due to current budget constraints. However, additional manpower is the only realistic solution to increase law enforcement presence.

The formation of the FWC and resulting combined law enforcement resources of both parent agencies gives the FWC Division of Law Enforcement the ability to temporarily shift and concentrate manpower resources in specific areas to address enforcement needs. However, the

peak activity periods for ARWEA, such as the opening of the general gun season, coincide with the opening of the gun season in surrounding areas as well as peak periods for marine activity. Significant law enforcement resources must be devoted to the winter mullet run and oyster harvest. It is also important to realize that such manpower adjustments would be temporary in nature and would not result in a sustained, consistent additional law enforcement presence on the area. Substantial capital improvements to the area such as those contemplated under the NBR Program also point to the need for added law enforcement presence. Realistically, without additional personnel, the Law Enforcement Division cannot commit to any greater presence on the area than is currently provided (This responds to the Management Review Team’s seventh and eighth checklist findings[see Appendix IX]).

4. Analysis of Multiple-use Potential

The following uses have been considered as an adjunct to the single-use concept, as possible secondary uses to be allowed on the ARWEA. “Approved” uses are deemed to be in concert with the purposes for state acquisition, with the Conceptual State Lands Management Plan, and with the FWC agency mission, goals and objectives as expressed in the Agency Strategic Plan (see Appendix VII). “Rejected” means the item is not in concert with one or more of these various forms of guidance available for decision-making. “Conditional” means the use may be acceptable, but allowed only if approved through the regulations development process of the FWC:

	<b>Approved</b>	<b>Conditional</b>	<b>Rejected</b>
X Protection of endangered and threatened species	Y		
X Ecosystem maintenance	Y		
X Soil and water conservation	Y		
X Hunting	Y		
X Fishing	Y		
X Wildlife observation	Y		
X Environmental education	Y		
X Interpretive trails	Y		
X Hiking	Y		
X Bicycling	Y		
X Horseback riding	Y		
X Boating	Y		
X Off road vehicle use		Y	
X Developed camping	Y		
X Timber harvest	Y		
X Cattle grazing			Y
X Apiaries	Y		
X Linear facilities			Y

X	Citriculture or other commercial agriculture	Y
<b>Approved    Conditional    Rejected</b>		
X	Preservation of archeological and historical sites	Y
X	(Other uses as determined compatible with objectives on an individual basis)	Y

**H. Resource Assessment:** Agency plans to locate, identify, protect, preserve and provide recreational uses for nonrenewable natural and cultural resources are described in previous sections. A detailed assessment of impacts of planned activities on natural and cultural resources was an integral part of the development of the goals, objectives, problem statements, strategies and management intent language.

**I. Soil and Water Resource Conservation:** Soil disturbing activities are confined to areas that have the least likelihood of experiencing erosion problems (e.g., steepest slopes and streamside management zones). Soil disturbing activities follow landform contours to the extent practicable. On areas that have been disturbed prior to state acquisition, assessments are made to determine if soil erosion is occurring, and, if so, appropriate measures are implemented to stop or control the effects of this erosion.

**J. Priority Schedule:** A priority schedule for conducting management activities was an integral part of the development of the goals, objectives and completion time frames in section III, "G". Highest priorities are listed first, chronologically. Costs associated with the priority activities are shown in section "K", below.

**K. Cost estimates and Funding Sources for conducting management activities:** The Fiscal Year 2002-03 operational plan, showing cost estimates and categories of expenditures may be found in Appendix VI. Funds needed to protect and manage the property, and to fully implement the recommended program, are derived primarily from the CARL Trust Fund, and from State Legislative appropriations. Private conservation organizations, however, may be cooperators with the agency for funding of specific projects. Alternative funding sources, such as monies available through mitigation, will be sought to supplement existing funding.

The following represents the actual and unmet budgetary needs for managing the lands and resources of the ARWEA. This budget was developed using data developed by FWC and other cooperating entities, and is based on actual costs for land management activities, equipment purchase and maintenance, and for development of fixed capital facilities. The budget below, although exceeding what FWC has been receiving through the appropriations process, is consistent with the direction taken by current operational planning for the ARWEA (see Appendix VI):

**Apalachicola River WEA Conceptual Management Plan Budget**  
***FY 2002-2003***

<b><u>Resource Management</u></b>		Priority schedule:
Exotic Species Control	\$54,294.00	Immediate (annual)
Prescribed Burning	\$54,204.90	Intermediate (3-4 years)
Cultural Resource Management	\$2,500.00	Other (5+ years)
Timber Management	\$5,611.60	
Hydrological Management	\$57,294.00	
Other	\$167,951.30	
<b>Subtotal</b>	<b>\$341,855.80</b>	
<b><u>Administration</u></b>		
General administration	<b>\$13,529.00</b>	
<b><u>Support</u></b>		
Land Management Planning	\$33,381.50	
Land Management Reviews	\$658.80	
Training/Staff Development	\$9,058.50	
Vehicle Purchase	\$56,615.00	
Vehicle Operation and Maintenance	\$55,851.00	
Other	\$9,984.50	
<b>Subtotal</b>	<b>\$165,549.30</b>	
<b><u>Capital Improvements</u></b>		
Facility Maintenance	\$289,122.40	
<b>Subtotal</b>	<b>\$289,122.40</b>	
<b><u>Visitor Services/Recreation</u></b>		
Info./Education/Operations	<b>\$9,411.50</b>	
<b><u>Law Enforcement</u></b>		
Resource protection	<b>\$10,450.00</b>	
<b><u>Total</u></b>	<b>\$829,918.00</b>	

**Apalachicola River WEA Conceptual Management Plan Budget**  
**2002-2007 five-year projection**

<b><u>Resource Management</u></b>		Priority schedule:
Exotic Species Control	\$288,254.22	Immediate (annual)
Prescribed Burning	\$287,781.18	Intermediate (3-4 years)
Cultural Resource Management	\$2,500.00	Other (5+ years)
Timber Management	\$29,792.75	
Hydrological Management	\$304,181.63	
Other	\$891,676.26	
<b>Subtotal</b>	<b>\$1,804,186.03</b>	

<b><u>Administration</u></b>	
General administration	<b>\$71,827.30</b>

<b><u>Support</u></b>	
Land Management Planning	\$177,226.92
Land Management Reviews	\$658.80
Training/Staff Development	\$9,058.50
Vehicle Purchase	\$56,615.00
Vehicle Operation and Maintenance	\$296,520.54
Other	\$53,009.07
<b>Subtotal</b>	<b>\$593,088.83</b>

<b><u>Capital Improvements</u></b>	
Facility Maintenance	\$1,534,990.09
<b>Subtotal</b>	<b>\$1,534,990.09</b>

<b><u>Visitor Services/Recreation</u></b>	
Info./Education/Operations	<b>\$49,966.93</b>

<b><u>Law Enforcement</u></b>	
Resource protection	<b>\$55,480.47</b>

<b><u>Total</u></b>	<b>\$4,109,539.64</b>
---------------------	-----------------------

**L. Analysis of Potential for Contracting Management Activities:**

The following management and restoration activities have been considered for outsourcing to private contractors. It has been determined that items selected as “approved” below are those that the FWC either does not have in-house expertise to accomplish, or which can be done at less cost by an outside provider of services. Those items selected as “rejected” represent those that are not applicable for the area, or for which the Commission has in-house expertise, and/or which the agency has found it can accomplish at less expense than through contracting with outside sources. “Conditional” items are those that can be done by the FWC but may be performed by an outside

provider that demonstrates the same level of competence and can perform the task at lower cost:

		<b>Approved</b>	<b>Conditional</b>	<b>Rejected</b>
X	Habitat restoration		Y	
X	Prescribed burning		Y	
X	Exotic species control		Y	
X	Vegetation inventories		Y	
X	Wildlife surveys	Y		
X	Public contact and educational facilities development		Y	
X	Canoe rentals	Y		
X	Road development and maintenance		Y	
X	Fence/fire break construction and maintenance		Y	
X	Debris and trash removal		Y	

#### **IV. CONFORMANCE WITH STATE AND LOCAL PLANS**

Uses planned for the ARWEA are in compliance with the Conceptual State Lands Management Plan and its requirement for “balanced public utilization,” and are in compliance with the mission of the FWC as described in its Agency Strategic Plan (Appendix VII). Such uses also comply with the authorities of the Commission as derived from Article IV, Section 9 of the Florida Constitution as well as the guidance and directives of Chapters 372, 253, 259, 327, 370, 403, 870, 373, 375, 378, 487, and 597 of the Florida Statutes. This plan is also in conformance with the Local Government Comprehensive Plan for Gulf and Franklin counties, Florida, as approved and adopted. The letter confirming compliance is contained in Appendix XIII.

#### **V. LITERATURE CITED**

Kindell, Carolyn E., 2000. Historic Vegetation of Tate’s Hell State Forest. Final Report for the U.S. Fish and Wildlife Service (Agreement #1448-00-96-9102). Florida Natural Areas Inventory, Tallahassee, Florida.

Leitman, H.M., J.E. Sohm, J.E. and M.A. Franklin. 1982. Wetland hydrology and tree distribution of the Apalachicola River floodplain, Florida. USGS Report 82-251. Tallahassee, Florida. 92 pp.

Putnam, J., G.M. Furnival, and J.S. Mcknight. 1960. Management and inventory of southern hardwoods. U.S. Government Printing Office, Washington D.C., 102 p.

Schuster, J.N. et. al. 2001. Soil Survey of Gulf County, Florida. USDA, Natural Resources Conservation Service in cooperation with the University of Florida Institute of Food and Agricultural Sciences, and the Florida Department of Agricultural and Consumer Services, Gainesville.

Sasser, L.D., K.L. Monroe, and J.N. Schuster. 1994. Soil Survey of Franklin County, Florida. USDA, Soil Conservation Service in cooperation with the University of Florida Institute of Food and Agricultural Sciences, and the Florida Department of Agricultural and Consumer Services, Gainesville.

Walker, J. and R. K. Peet 1983. Composition and species diversity of pine-wiregrass savannas of the Green Swamp, North Carolina. *Vegetatio* 55: 163-179.

APPENDIX I

SUBLEASE AGREEMENT WITH DEP, OFFICE OF COASTAL AND AQUATIC  
MANAGED AREAS

SAS1

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

SUBLEASE AGREEMENT

Sublease Number 3584-01

THIS SUBLEASE AGREEMENT, is made and entered into this 12<sup>th</sup> day of January 2001, between the FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION hereinafter referred to as "SUBLESSOR" and the FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF COASTAL AND AQUATIC MANAGED AREAS hereinafter referred to as "SUBLESSEE."

WITNESSETH:

In consideration of covenants and conditions set forth herein, SUBLESSOR subleases the below-described premises to SUBLESSEE on the following terms and conditions:

1. ACKNOWLEDGMENTS: The parties acknowledge that title to the subleased premises is held by the Board of Trustees of the Internal Improvement Trust Fund ("TRUSTEES") and is currently managed by SUBLESSOR as the Magnolia Bluff Tract under TRUSTEES' Lease Number 3584.
2. DESCRIPTION OF PREMISES: The property subject to this sublease, is situated in the County of Franklin, State of Florida, and is more particularly described in Exhibit "A" attached hereto and hereinafter referred to as the "subleased premises."
3. TERM: The term of this sublease shall be for a period concurrent with Lease Number 3584, unless sooner terminated pursuant to the provisions of this sublease.
4. PURPOSE: SUBLESSEE shall manage the subleased premises only

for the establishment and operation of administrative office, land base and maintenance shop, along with other related uses necessary for the accomplishment of this purpose as designated in the Management Plan required by paragraph 6 of this sublease.

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

6. MANAGEMENT PLAN: SUBLESSEE shall prepare and submit a Management Plan for the subleased premises, in accordance with Section 253.034, Florida Statutes, and subsection 18-2.021(4), Florida Administrative Code, within twelve months of the effective date of this sublease. The Management Plan shall be submitted to the TRUSTEES for approval through SUBLESSOR and the Division of State Lands. The subleased premises shall not be developed or physically altered in any way other than what is necessary for security and maintenance of the subleased premises without the prior written approval of the TRUSTEES and SUBLESSOR until the Management Plan is approved. The Management Plan shall emphasize the original management concept as approved by the TRUSTEES on the effective date of this sublease which established the primary public purpose for which the subleased premises are to be managed. The approved Management Plan shall provide the basic guidance for all management activities and shall be reviewed jointly by SUBLESSEE, SUBLESSOR and the TRUSTEES at least every five years. SUBLESSEE shall not use or alter the subleased premises except as provided for in the approved Management Plan without the advance written approval of the TRUSTEES and SUBLESSOR. The Management Plan prepared under this sublease shall identify management strategies for exotic species,

if present. The introduction of exotic species is prohibited, except when specifically authorized by the approved Management.

7. CONFORMITY: This sublease shall conform to all terms and conditions of that certain lease between the TRUSTEES and SUBLESSOR dated October 11, 1983, a copy of which is attached hereto as Exhibit "B", and SUBLESSEE shall, through its agents and employees, prevent the unauthorized use of the subleased premises or any use thereof not in conformance with this sublease.

8. ASSIGNMENT: This sublease shall not be assigned in whole or in part without the prior written consent of the TRUSTEES and SUBLESSOR. Any assignment made either in whole or in part without the prior written consent of the TRUSTEES and SUBLESSOR shall be void and without legal effect.

9. RIGHT OF INSPECTION: The TRUSTEES and SUBLESSOR or their duly authorized agents shall have the right at any time to inspect the subleased premises and the works and operations thereon of SUBLESSEE in any matter pertaining to this sublease.

10. PLACEMENT AND REMOVAL OF IMPROVEMENTS: All buildings, structures, improvements, and signs shall be constructed at the expense of SUBLESSEE in accordance with plans prepared by professional designers and shall require the prior written approval of SUBLESSOR as to purpose, location, and design. Further, no trees, other than non-native species, shall be removed or major land alterations done by SUBLESSEE without the prior written approval of SUBLESSOR. Removable equipment and removable improvements placed on the subleased premises by SUBLESSEE which do not become a permanent part of the subleased premises realty will remain the property of SUBLESSEE and may be removed by SUBLESSEE upon termination of this sublease.

11. INSURANCE REQUIREMENTS: SUBLESSEE 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 subleased 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 sublease immediately upon erection of any structures as allowed by paragraph 4 of this sublease. A copy of said form and immediate notification in writing of any erection or removal of structures or other improvement on the subleased premises and any changes affecting the value of the improvements will be submitted to SUBLESSOR and the Bureau of Public Land Administration, Division of State Lands, Department of Environmental Protection, Mail Station 130, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000.

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

13. ARCHAEOLOGICAL AND HISTORIC SITES: Execution of this sublease 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 subleased premises.

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

15. SUBSUBLEASES: This sublease is for the purposes specified herein and any subsubleases of any nature are prohibited, without the prior written approval of the TRUSTEES and SUBLESSOR. Any subsublease not approved in writing by the TRUSTEES and SUBLESSOR shall be void and without legal effect.

16. ENVIRONMENTAL AUDIT: At SUBLESSOR's discretion, SUBLESSEE shall provide SUBLESSOR with a current Phase I environmental site assessment conducted in accordance with the Department of Environmental Protection, Division of State Land's standards prior to termination of this sublease, and if necessary a Phase II environmental site assessment.

17. SURRENDER OF PREMISES: Upon termination or expiration of this sublease, SUBLESSEE shall surrender the subleased premises to SUBLESSOR. In the event no further use of the subleased premises or any part thereof is needed, written notification shall be made to SUBLESSOR and the Bureau of Public Land Administration, Division of State Lands, Department of Environmental Protection, Mail Station 130, 3800 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, at least six months prior to the release of all or any part of the subleased premises. Notification shall include a legal description, the

lease number, and this sublease number and an explanation of the release. The release shall only be valid if approved by the TRUSTEES and SUBLESSOR through the execution of a release of sublease instrument executed with the same formality as this sublease. Upon termination or expiration of this sublease, all improvements, including both physical structures and modifications to the subleased premises, shall become the property of SUBLESSOR and the TRUSTEES unless SUBLESSOR gives written notice to SUBLESSEE to remove any or all such improvements at the expense of SUBLESSEE. The decision to retain any improvements upon termination of this sublease shall be at SUBLESSOR'S sole discretion. Prior to surrender of all or any part of the subleased premises, SUBLESSOR shall perform an on-site inspection and the keys to any buildings on the subleased premises shall be turned over to SUBLESSOR. If the subleased premises and improvements located thereon do not meet all conditions as set forth in paragraphs 21 and 22 herein, SUBLESSEE shall pay all costs necessary to meet the prescribed conditions.

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

19. PUBLIC LANDS ARTHROPOD CONTROL PLAN: SUBLESSEE shall identify and subsequently designate to the respective arthropod control district or districts within one year of the effective date of this sublease all of the environmentally sensitive and biologically highly productive lands contained within the

subleased 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.

20. MINERAL RIGHTS: This sublease does not cover petroleum or petroleum products or minerals and does not give the right to the SUBLESSEE to drill for or develop the same. However, SUBLESSEE shall be fully compensated for any and all damages that might result to the subleasehold interest of SUBLESSEE by reason of such exploration and recovery operations.

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

22. MAINTENANCE: SUBLESSEE shall maintain the real property contained within the subleased premises and any improvements located thereon, in a state of good condition, working order and repair including, but not limited to, keeping the subleased 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 on the effective date of this sublease.

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

24. BREACH OF COVENANTS, TERMS, OR CONDITIONS: Should SUBLESSEE breach any of the covenants, terms, or conditions of this

sublease, SUBLESSOR shall give written notice to SUBLESSEE to remedy such breach within sixty days of such notice. In the event SUBLESSEE fails to remedy the breach to the satisfaction of SUBLESSOR within sixty days of receipt of written notice, SUBLESSOR may either terminate this sublease and recover from SUBLESSEE all damages SUBLESSOR may incur by reason of the breach including, but not limited to, the cost of recovering the subleased premises or maintain this sublease in full force and effect and exercise all rights and remedies herein conferred upon SUBLESSOR.

25. NO WAIVER OF BREACH: The failure of SUBLESSOR to insist in any one or more instances upon strict performance of any one or more of the covenants, terms, and conditions of this sublease 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 SUBLESSOR 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 SUBLESSOR.

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

27. PARTIAL INVALIDITY: If any term, covenant, condition or provision of this sublease shall be ruled by a court of competent jurisdiction to be invalid, void, or unenforceable, the remainder

shall remain in full force and effect and shall in no way be affected, impaired or invalidated.

28. CONDITIONS AND COVENANTS: All of the provisions of this sublease shall be deemed covenants running with the land included in the subleased 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.

29. TIME: Time is expressly declared to be of the essence of this sublease.

30. DAMAGE TO THE PREMISES: (a) SUBLESSEE shall not do, or suffer to be done, in, on, or upon the subleased premises or as affecting said subleased premises or adjacent properties, any act which may result in damage or depreciation of value to the subleased premises or adjacent properties, or any part thereof. (b) SUBLESSEE 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 subleased premises or any adjacent lands or waters in any manner not permitted by law. For the purposes of this sublease, "hazardous substances" shall mean and include those elements or compounds defined in 42 USC Section 9601 or which are contained in the list of hazardous substances adopted by the United States Environmental Protection Agency (EPA) and the list of toxic pollutants designated by the United States Congress or the EPA or defined by any other federal, state, or local statute, law, ordinance, code, rule, regulation, order, or decree regulating, relating to, or imposing liability, or standards of conduct concerning any hazardous, toxic or dangerous waste, substance,

material, pollutant or contaminant. "Pollutants" and "pollution" shall mean those products or substances defined in Chapters 376 and 403, Florida Statutes, and the rules promulgated thereunder, all as amended or updated from time to time. In the event of LESSEE'S failure to comply with this paragraph, LESSEE shall, at its sole cost and expense, promptly commence and diligently pursue any legally required closure, investigation, assessment, cleanup, decontamination, remediation, restoration, and monitoring of (1) the subleased premises, and (2) all off-site ground and surface waters and lands affected by SUBLESSEE'S such failure to comply, as may be necessary to bring the subleased 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. SUBLESSEE'S obligations set forth in this paragraph shall survive the termination or expiration of this lease. Nothing herein shall relieve SUBLESSEE 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 SUBLESSEE'S activities or facilities. Upon discovery of a release of a hazardous substance or pollutant, or any other violation of local, state, or federal law, ordinance, code, rule, regulation, order, or decree relating to the generation, storage, production, placement, treatment, release, or discharge of any contaminant, SUBLESSEE shall report such violation to all applicable governmental agencies having jurisdiction, and to SUBLESSOR, all within the reporting periods of the applicable agencies.

31. PAYMENT OF TAXES AND ASSESSMENTS: SUBLESSEE shall assume full responsibility for and shall pay all liabilities that accrue to the subleased 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 subleased premises during the effective period of this sublease.
32. RIGHT OF AUDIT: SUBLESSEE shall make available to the TRUSTEES or SUBLESSOR all financial and other records relating to this sublease and the TRUSTEES or SUBLESSOR shall have the right to audit such records at any reasonable time. This right shall be continuous until this sublease expires or is terminated. This sublease may be terminated by SUBLESSOR should SUBLESSEE fail to allow public access to all documents, papers, letters or other materials made or received in conjunction with this sublease, pursuant to Chapter 119, Florida Statutes.
33. NON-DISCRIMINATION: SUBLESSEE 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 subleased premises or upon lands adjacent to and used as an adjunct of the leased premises.
34. COMPLIANCE WITH LAWS: SUBLESSEE agrees that this sublease is contingent upon and subject to SUBLESSEE 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.
35. GOVERNING LAW: This sublease shall be governed by and interpreted according to the laws of the State of Florida.

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

37. ADMINISTRATIVE FEE: SUBLESSEE shall pay TRUSTEES an annual administrative fee of \$300 pursuant to Chapter 18-2.020(8), Florida Administrative Code. The initial annual administrative fee shall be payable within thirty days from the date of execution of this sublease 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 sublease agreement, the fiscal year shall be the period extending from July 1 to June 30. Each annual payment thereafter shall be due and payable on July 1 of each subsequent year.

38. SPECIAL CONDITION: SUBLESSEE shall allow those types of recreational uses on the subleased premises which are approved by SUBLESSOR.

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

FLORIDA FISH AND WILDLIFE  
CONSERVATION COMMISSION

By: Victor J. Heller (SEAL)

Victor J. Heller

Print/Type Name

Title: Assistant Executive Director

"SUBLESSOR"

Brenda Callini  
Witness

Brenda Callini  
Print/Type Witness Name

Cynthia Ward  
Witness

Cynthia Ward  
Print/Type Witness Name

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 14<sup>th</sup> day of December, 2002, by Victor J. Heller, as Assistant Executive Director Florida Fish and Wildlife Conservation 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 Number:  Jimmie C. Bevis  
MY COMMISSION # CC707867 EXPIRES  
December 28, 2001  
Commission Expires: COVERED BY THE TROY FARM INSURANCE, INC.

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

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF COASTAL AND AQUATIC MANAGED AREAS

Witness Ellen L Stere  
Print/Type Witness Name Ellen L Stere  
Witness [Signature]  
Print/Type Witness Name Larry E Noll

By: [Signature] (SEAL)  
Print/Type Name ANNA MARIE HANBORN  
Title: Director  
"SUBLESSEE"

STATE OF FLORIDA  
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 10 day of January, 2001, by ANNA MARIE HANBORN, as Director, Office of Coastal and Aquatic Managed Areas, State of Florida Department of Environmental Protection, who is/are personally known to me or who has produced \_\_\_\_\_ as identification.



Marlene E. Phinney  
MY COMMISSION # C0749735 EXPIRES  
June 9, 2002  
BONDED THRU TRICOR FARM INSURANCE, INC.

[Signature]  
Notary Public, State of Florida  
Marlene E. Phinney  
Print/Type Notary Name  
Commission Number: C0749735  
Commission Expires: 6/9/02

Consented to by the TRUSTEES on 12th day of January, 2001.

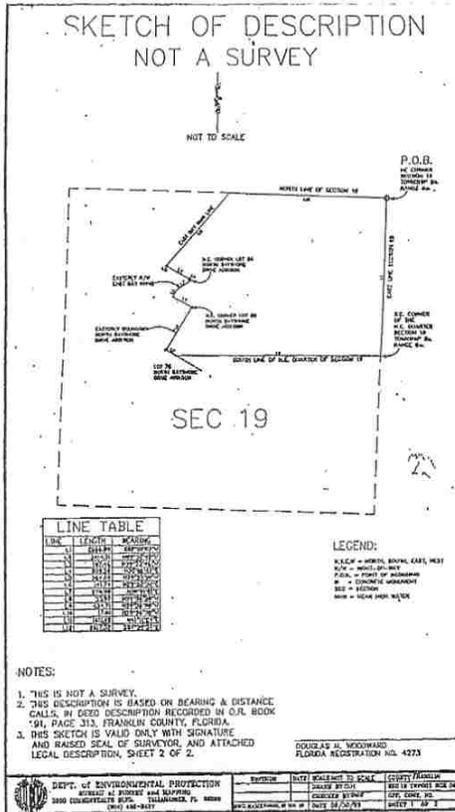
Gloria C. Nelson  
GLORIA C. NELSON, OPERATIONS AND MANAGEMENT CONSULTANT MANAGER, BUREAU OF PUBLIC LAND ADMINISTRATION, DIVISION OF STATE LANDS, DEPARTMENT OF ENVIRONMENTAL PROTECTION

Approved as to Form and Legality  
By: [Signature]  
DEP Attorney

EXHIBIT "A"  
Legal Description of the Subleased Premises

Begin at the Northeast corner of Section 19, Township 8 South, Range 6 West, Franklin County, Florida; and thence run  $302^{\circ}00'03''$  W along the East boundary of said Section 19 a distance of 2666.89 feet to the Southeast corner of the Northeast Quarter of said Section 19; thence run  $N89^{\circ}32'40''$  W along the South Boundary of said Northeast Quarter 3414.31 feet to a point on the Northeasterly boundary of Lot 76 of the North Bayshore Drive Addition (an unrecorded plat); thence run  $N59^{\circ}53'46''$  W along said boundary of Lot 76 a distance of 187.46 feet to a concrete monument; thence run  $N30^{\circ}06'47''$  E along the Easterly boundary of North Bayshore Drive Addition 839.56 feet to a concrete monument marking the Northeast corner of Lot 80 of said North Bayshore Drive Addition; thence run  $N59^{\circ}53'00''$  W along the North boundary of said Lot 80 a distance of 364.69 feet to the Easterly right of way of East Bay Drive; thence  $N29^{\circ}52'32''$  E along the Eastern right of way of East Bay Drive 141.74 feet; thence run  $N58^{\circ}01'01''$  E along the Southeasterly right of way of East Bay Drive 278.98 feet to the Northeast corner of Lot 84 of said North Bayshore Drive Addition; thence run  $N59^{\circ}56'58''$  W along the North boundary of said Lot 84 a distance of 33.07 feet to a concrete monument in the centerline of East Bay Drive; thence continue  $N59^{\circ}56'58''$  W along the North boundary of said Lot 84 a distance of 434.71 feet to a concrete monument; thence continue  $N59^{\circ}56'58''$  W along the North boundary of said Lot 84 a distance of 17.00 feet to the approximate mean high water line of East Bay; thence run in a Northeasterly direction along the mean high water line of East Bay to a point on the North line of section 19 which bears  $N41^{\circ}11'24''$  E 1611.05 feet; thence run  $S87^{\circ}39'57''$  E along the North line of section 19 for 2617.52 feet to the POINT OF BEGINNING.

Containing 203.6 acres more or less.



Page 16 of 21  
 Sublease No. 3584-01  
 Revised 03/10/2000

EXHIBIT "B"  
MULTIPLE AGENCY MANAGEMENT LEASE  
FOR  
LOWER APALACHICOLA RIVER  
ENVIRONMENTALLY ENDANGERED LANDS

LEASE NO. 770-9003

3584

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;

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.

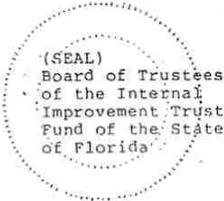
9. This Lease and any rights and privileges contained herein are for the sole use of the managing agencies and shall not be assigned or transferred to another party without the advance approval of the

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. 1987.

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



By: Samuel M. G. Land  
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. Ford  
Resident Attorney

By: David 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. Sullivan  
DEPARTMENT ATTORNEY

APPENDIX II

PUBLIC INVOLVEMENT

# FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION



JULIE K. MORRIS  
Sarasota

DAVID K. MEEHAN  
St. Petersburg

H.A. AHERKY@ HUFFMAN  
Deltona

JOHN D. ROOD  
Jacksonville

QUINTON L. HEDGEPEETH, DDS  
Miami

EDWIN P. ROBERTS, DC  
Pensacola

RODNEY BARRETO  
Miami

ALLAN L. EGBERT, Ph.D., Executive Director  
VICTOR J. HELLER, Assistant Executive Director

FRANK MONTALBANO, Director  
TIMOTHY A. BREAUULT, Assistant Director  
DIVISION OF WILDLIFE  
(850) 488-3831 TDD (850) 488-9542

## MEMORANDUM

November 20, 2001

TO: Apalachicola River WEA Management Advisory Group meeting participants.

FROM: Keith Singleton, Land Management Planner

SUBJECT: Meeting of Wednesday, November 28, 2001

On behalf of the Florida Fish and Wildlife Conservation Commission (FWC), I wish to thank each of you for agreeing to assist us with the planning effort for Apalachicola River Wildlife and Environmental Area (WEA) located in Gulf and Franklin counties, Florida. As you may be aware, the area was acquired through the Environmentally Endangered Lands Program and through Preservation 2000, as a part of the Conservation and Recreation Lands (CARL) Program. This area, as with all lands managed by FWC, is managed for intact ecosystems, and for the range of benefits that such systems provide for fish and wildlife, and the people of Florida.

With regard to management and public use activities, early project assessment documents indicated the land's primary management objectives pertain to preserving the natural community associations and hydrological regime through use of appropriate management procedures, restoration techniques as necessary and practical, and environmental monitoring. Management activities up until now have been focused on pursuing these goals, as well as others developed through previous planning processes.

Attached you will find the "Resource Management Goals and Objectives" from our current Conceptual Management Plan (CMP), indicating our management direction and emphases during the current planning cycle. We fully expect that some of these emphases will remain valid for the upcoming plan. However, as we convene this Management Advisory Group we will be looking for your ideas regarding how and to what extent these current goals and objectives are valid, and for any new emphases you recommend for our management of the Apalachicola River WEA during the next 5-year planning cycle.

For the meeting on November 28, 2001, we ask only that you bring your knowledge and viewpoint, as well as a willingness to hear and respect others' views. I do, however, wish to request that you be **on time**, since the meeting will begin with a summary of known facts regarding the property. This is necessary so that everyone can begin with a similar knowledge base. We will begin **PROMPTLY AT 9:00 A.M., Eastern Time**, with the intention of being finished by 12:00 P.M.

Attached along with the current CMP's goals/objectives/strategies, are the Management Prospectus and a map showing the location of the meeting. If you have questions, please feel free to contact me at (850) 487-1474, or by e-mail at [singlek@fwc.state.fl.us](mailto:singlek@fwc.state.fl.us).

Again, we sincerely appreciate your willingness to assist the FWC as we update the plan for this important public conservation and recreation property.

KGS/

WLD 8-5-2, Apalachicola River WEA

G:\...\Apalachicola River WEA MAG Invitation Memo.wpd

Enclosures

cc: Lt. Col. Louie Robertson  
Maj. Ron Walsingham  
Mr. Nick Wiley  
Mr. Scott Sanders  
Mr. Mike Brooks  
Mr. Brian Millsap  
Mr. Tim O'Meara  
Mr. Billy Sermons  
Mr. Phil Manor  
Mr. Norberto Fernandez

The Commission has developed the following goals and objectives for the area in order to state the specific intentions of the agency as guided by the Commission Agency Strategic Plan, 1994 - 1998 and the Priority Issues of the Agency Strategic Plan, 11-96 (Appendix I). These goals and objectives also demonstrate agency intent to consider the desires of various user constituencies, as expressed in the results of a consensus meeting held in Apalachicola in 1996 (See Appendix VII). To accomplish these objectives and strategies, the Commission will cooperate with the Northwest Florida Water Management District (NFWMD), COE, the Division of Forestry (DOF), the Department of Environmental Protection (DEP), and the Apalachicola National Estuarine Research Reserve, when appropriate.

### **Resource Management Goals and Objectives**

**Goal:** Enhance and maintain the integrity of native communities.

Objectives:

- < Continue with longleaf pine restoration project.
- < Continue with the restoration of the natural water regimes, e.g. low water crossings, plugs, breeching dikes and culverts.
- < Use timber stand improvement practices for facilitating overstory development and attaining desired plant community composition.
- < Employ a diversified fire management regime.
- < Protect and conserve bottomland hardwoods.
- < Continue emphasis on land acquisition, with a priority on the Quinn tract and Lake Wimico lands.
- < Coordinate with DOF to develop forest resource management recommendations.
- < Examine the old spoil banks located in the Apalachicola floodplain and restore these sites if appropriate.

**Goal:** Survey and inventory natural resources.

Objectives:

- < Supplement existing qualitative vegetative data by conducting in-house and contracted vegetative surveys, emphasizing threatened and endangered species.
- < Continue inventory and monitoring of game species, i.e. white-tailed deer, bobwhite quail, and furbearers.
- < Continue inventory and monitoring of wading bird populations and osprey and eagle nests.

**Goal:** Provide quality public recreation opportunities.

Objectives:

- < Maintain and improve existing road network, where appropriate, to facilitate access.
- < Assess the feasibility of closing unnecessary roads.
- < Develop or maintain wildlife openings or food plots on established fallow fields, administrative roads and firelines, as appropriate.
- < Coordinate with the Commission's Office of Informational Services' environmental education section to seek a FACEE grant for the development of an interpretive plan.

- < Determine the suitability of establishing a quality hunting area on the Sand Beach tract (Stone Container / Buck tract).
- < By 1998-99, with the assistance of the Commission's Division of Fisheries, assess the maintenance and availability needs for boat ramps on the area.

**Goal:** Establish clear and enforceable regulations.

Objectives:

- < Examine the feasibility of changing the designation of the WEA to a WMA.
- < Continue to work with the Division of Law Enforcement to clarify and establish consistent regulations among adjacent Wildlife Management Areas.
- < Consider the need for regulations to control the impacts of camping.

**Goal:** Identify and protect archaeological, historical, and cultural resources.

Objectives:

- < Contact the Division of Historical Resources for assistance in conducting an inventory of cultural resources on the WEA.
- < Map existing known archaeological sites within the management area.
- < Keep the location of undisturbed sites as proprietary information.
- < Request assistance from the Division of Historical Resources to prevent the disturbance of archaeological sites.

### **Resource Management Problems and Strategies**

**Problem:** There are insufficient perimeter and interior firelines to implement an effective burning program on the Sand Beach and Saul Creek tracts.

Strategy: Establish adequate firelines by using fireplows, blading, discing, or mowing, as appropriate. Whenever possible, existing firebreaks, such as roads and trails, as well as natural firebreaks, such as creeks and wetlands, will be used to define burning compartments. Disk harrows, mowing and foam lines will be used as necessary to minimize the disturbance and damage created by fire plows.

Strategy: After initial establishment, maintain plowed lines by discing, mowing, or foaming.

**Problem:** Understory conditions in pine plantations are not optimal for game and non-game species. Previous land uses on the Saul Creek tract resulted in the conversion of the area to a titi thicket (approval to roller chop had previously been approved by LMAC).

Strategy: Thin pine plantations to achieve a stem density that approximates what would occur naturally.

Strategy: Continue roller chopping and burning program.

**Problem:** There is a high probability that the WEA contains a number of undiscovered archaeological and historical sites.

Strategy: Cooperate with personnel from the Division of Historical Resources to update (or conduct) the cultural resource inventory.

**Problem:** Due to the dynamics of floral and faunal communities, inventories must be continually updated.

Strategy: Flora and faunal inventories will be continually updated by Commission biologists through opportunistic observations and systematic surveys. Inventory data will be supplemented as available with data from other sources which may include, but not be limited to, the U.S. Fish and Wildlife Service, Division of Recreation and Parks, Division of Forestry, Florida Natural Areas Inventory, The Nature Conservancy, NFWMD, or private contractors.

**Problem:** There are no regulations regarding camping activities on the area. Camping privileges are frequently abused by persons who camp in the prime locations for long periods of time.

Strategy: Determine the need for regulations that address camping issues.

Strategy: Coordinate with stakeholders for input into the development of camping regulations.

**Problem:** Mixture of public and private lands managed by the Commission in the area around the WEA has resulted in differing and confusing rules and regulations.

Strategy: Recommend area designation be changed from WEA to WMA.

**Problem:** Inholdings and adjacent lands, such as the Lake Wimico tract, the Quinn tract, and others, can cause various management problems.

Strategy: Continue to emphasize purchase of inholdings and additions.

**Problem:** Lack of adequate biological staffing has resulted in a large backlog of inventory and monitoring work.

Strategy: In the next five years, recommend the hiring of two additional biological scientists.

**Problem:** There is a lack of facilities on the Apalachicola River WEA. DOF has gratuitously provided a trailer in White City for use as a field office for the two Commission staff assigned to the area. However, DOF now plans to remove the trailer and convert the site to other uses. A field office is needed on the area as a focal point for administrative oversight by Commission staff and as an on-site information center for visitors to the area. In addition, a large equipment storage facility is needed to protect and maintain heavy equipment assigned to the area, including a large farm tractor, a backhoe/front-end loader, a bulldozer, a boat and motor, a dump truck, multiple tractor implements, industrial and utility trailers, water pumper fire fighting unit, and ATVs. Presently, cover is available for the boat and ATVs, while the remaining capital investment is necessarily left

to weather outdoors. A covered, partially enclosed shed is needed to protect these assets and function additionally as a small shop for equipment repair and maintenance.

Strategy: Contract the construction of a field office at Howard Creek. Specifications: 1,200 square foot, wood frame structure on 4-foot pilings, with 2 office rooms, a reception / meeting room, storage, and central heat / air, and building permits.

Strategy: Contract the installation of an equipment storage shed at Howard Creek. Specifications: metal building, 60'x150', two bays at 25' and 5 bays at 20', closed on three sides, 6" concrete floor.

**Problem:** The WEA is part of a larger ecosystem over which the Commission has limited control, but within which the activities of others have a great effect on the WEA.

Strategy: Continue to maintain and establish rapport with landowners adjacent to the WEA; provide technical assistance and advice in order to assure the welfare of ecosystem components such as rivers and lakes and other wetlands; establish working relationships with local representatives of regulatory agencies (i.e., NFWMD, local governments, DEP, COE) so that if problems arise, solutions can be quickly sought.

**Problem:** The Chinese tallow tree and feral hogs occur on the area. These species and other exotics are detrimental to native plant and animal communities.

Strategy: Monitor for the invasion of exotic plant species and take appropriate measures to eradicate or control.

Strategy: Wild hogs will be controlled to protect cultural and natural resources from damage.

### **Management Intent**

Management intent on the WEA is to promote old growth flora and fauna in the floodplain forest, to restore more natural hydroperiods, to improve wildlife habitat in the sawgrass marsh, and to improve wildlife habitat in the mixed pine/hardwood forests.

### **Vegetation**

Primary emphasis in both the gum-cypress and bottomland hardwood communities is the conservation and maintenance of these forests. Conservation is recommended due to the trend of recovery from past logging practices and since this most closely follows EEL program objectives. The majority of wildlife associated with natural and undisturbed river floodplain forest requires the closed canopy created by the mature hardwood forest. Wildlife that will benefit from the conservation of forest communities include cavity nesting species such as wood ducks, owls, woodpeckers, and squirrels. Other species requiring or preferring a well-developed canopy include swallow-tailed and Mississippi kites, red-shouldered and red-tailed hawks, barred owls, ospreys, bald eagles, red-eyed vireos, and yellow-billed cuckoos. Many species of reptiles and amphibians are limited to the moist, cool environments created by the shaded overstory and accumulated leaf

litter provided by mature deciduous hardwoods. Decaying trees, logs and stump cavities offer habitat for ground-dwelling herpetofauna, mammals and invertebrates that would not exist under other management strategies. The conservation management strategy has the long-term advantage of increasing habitat value from both an environmental and wildlife point of view as large acreages of this habitat are eliminated outside the EEL tract. These forested wetlands are also important to the conservation of the floodplain and riverine ecosystem because of their influence on hydroperiod and water quality.

While the general policies and objectives of the original EEL plan are applicable to the non-forested areas, the techniques necessary for the management of highly disturbed sites are not addressed. The primary habitat components that are missing or limited because of the development and subsequent neglect of the area are those provided by herbaceous understory vegetation and those provided by mature upland trees. The invasion of brush and the resulting shade has limited the availability of grasses and forbs. Clearing has reduced the availability of upland trees. Restoration of the area will be a long term proposition.

The vegetation management techniques appropriate for a particular disturbed site depend upon a detailed evaluation of the characteristics and conditions of the given site. This includes the site's stage of succession, hydrology, and juxtaposition with other vegetation types. Presently, the non-forested area can be divided into those sites that are predominately herbaceous and those that have been heavily invaded by brush. Some sites are much more mesic than others because of natural variation and attempts to restore natural hydroperiod. Small pines are interspersed throughout some sites while there are scattered clumps of oaks on others.

Maintenance of levee communities can be accomplished by closely monitoring any activities that might threaten their existence. Dredging, spoil deposition or unnatural rerouting of river flow could ultimately change the conditions under which these natural levees were formed. These are prime examples of activities which need to be closely monitored, and, if necessary, the currently approved practices should be modified.

#### 1. Prescribed Burning

Periodic summer fires occurred in the flatwoods under natural conditions. Plant species composition reflected the frequency and intensity of these fires. In the absence of fire, fallow fields on former longleaf pine sites follow a successional pattern through mixed pine-oak-hickory forest to an exclusively hardwood community rather than to the original plant community (Wolfe et al. 1988). The plant species involved may differ slightly on the poorer soils of the slash pine flatwoods but the dominant role of fire in controlling hardwoods is equally important in either ecosystem.

Unfortunately, timber removal, site preparation, drainage, and subsequent neglect of the area prevent "natural" fire management in the purest sense because of their combined effects on the availability of fuel and plant species composition. Site specific combinations of prescribed fire, mechanical vegetation control, and reforestation will be necessary to restore the naturally-occurring plant community.

The Commission, in cooperation with DOF, will initiate a prescribed burning program on the Saul Creek tract. At present, controlled burning is limited by the buildup of midstory fuels and a lack of understory fuels in the areas invaded by brush. Mechanical control of brush on upland sites by rollerchopping or cutting to reduce shading and encourage the grasses and forbs will be necessary to sustain a prescribed fire program.

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

## 2. Reforestation

Reforestation is occurring naturally on some sites. The primary management technique for encouraging reforestation will be protection of the young trees and seedlings on these sites. However, planting trees on selected sites will be used to increase the rate of reforestation and insure diversity.

After the controlled burning program has been established, the Commission, in cooperation with DOF, will plan and institute a program of reforestation designed to develop stands of old growth pine and oaks on selected upland sites for the purpose of providing wildlife habitat. The problems created by fire suppression, canopy closure, and harvest of timber will be mitigated or avoided by planting small areas so controlled burning can continue on adjacent lands, spacing the seedlings widely, and limiting tree harvest. Snags will be protected to benefit cavity nesting species.

## 3. Maintenance of Selected Openings

The various stages of succession on the uplands, as well as the wetland/upland edge, contribute to providing favorable habitat for a variety of wildlife species. The diversity of vegetation types also makes it particularly amenable to traditional forms of wildlife management, especially vegetation management practices designed for upland game species. The scattered openings (about 600 acres) are of particular importance as foraging areas for deer, turkeys, rabbits, quail, and snipe. Quail are especially dependent on these openings to fulfill their habitat requirements.

The Commission will initiate management specifically designed to maintain or improve habitat for deer, rabbits, quail, and snipe on these openings. Specific management recommendations include the use of winter burning, mowing to stimulate the production of soft mast, and strip harrowing to stimulate the production of annual plants and provide bugging areas. Selected sites will be planted with native or non-invasive agronomic plants to: (1) provide dove hunting opportunities, (2) provide high quality forage for quail, dove, deer, and wild turkey, and (3) enhance wildlife viewing opportunities.

## **Wildlife**

A significant need on the WEA is collection and updating of qualitative and quantitative data on wildlife populations. FNAI and the Commission Bureau of Wildlife Diversity Conservation will be contacted for assistance in updating inventories for certain targeted species or species groups, emphasizing endangered and threatened species. Monitoring of wildlife species will continue to be an ongoing effort on the area.

Hunting is a popular recreational activity available on the WEA, and the Commission intends to manage game populations on a sustained-yield basis to assure healthy game populations and a high quality recreational experience. Monitoring of game species abundance will be accomplished

through surveys and by collecting data on harvest per unit effort by hunters. The harvest of wild hogs will be regulated to ensure protection of cultural and natural resources.

### **Fisheries**

Both sport and commercial fishing take place over the entire length of the Apalachicola River. Springtime estimates of fishing effort on the Apalachicola River indicate between 20,000 and 58,000 user-hours are spent fishing in the upper river between March and April. Practically all native game fish are taken, with catfish and bream being the most popular. Commercial fishing is active on the river, but no estimate is available for the extent of this activity. Fishing on the WEA will have the same rules and regulations as other state freshwater areas.

### **Hydrology**

In cooperation with NFWMD and COE, natural water regimes will be re-established to the extent practicable, regardless of land elevation or present vegetative community. This is consistent with the primary purpose for the acquisition of the land and relates directly to the water quantity and quality aspects of the ecosystem. Considerable progress toward restoring natural water regimes has been made by establishing a series of breeches and plugs into the major levees and ditches in the Saul Creek tract.

### **Public Use**

Management of fish and wildlife resources on the area are designed to provide opportunities for natural-resource-based recreation. Public uses, including wildlife viewing, picnicking, photography and nature study, are encouraged on the WEA. Uses will be managed under a sustained-yield concept. The Commission will investigate methodologies to monitor and control the impacts from natural resource-based recreational activities. Camping on the WEA is limited to primitive methods, tents and camping vehicles.

## APALACHICOLA RIVER WILDLIFE AND ENVIRONMENTAL AREA

### Management Prospectus

Section 259.032 (10) of the Florida Statutes requires that the management prospectus for each tract shall be available to the public for 30 days prior to the public hearing. Since no prospectus was required or prepared in the early days of land acquisition, when Apalachicola River WEA was purchased, the following excerpts of “Conformance Criteria” and “Executive Summary” from the ANNUAL REPORT for the 1985-1986 Conservation and Recreation Lands (CARL) project evaluation cycle, are presented in lieu of a management prospectus.

#### Conformance Criteria

Criteria for the establishment of priorities among candidates for acquisition are also provided in the EEL plan. These criteria consist of six land priority categories and eleven general considerations. The Plan directs that highest priority for acquisition be given to areas representing the best combination of values inherent in the six categories, but not to exclusion of areas having overriding significance in only one category. The six categories are:

1. Lands of critical importance to the supplies of freshwater for domestic use and natural systems.
2. Freshwater and saltwater wetlands.
3. Unique and outstanding natural areas.
4. Natural ocean and gulf beach systems.
5. Areas that protect or enhance the environmental values of significant natural resources.
6. Wilderness areas

The Lower Apalachicola River additions project qualifies in the first, second, and fifth categories with only marginal exclusion from the sixth.

In summary the Lower Apalachicola River Additions, portions of the Apalachicola River floodplain and Apalachicola Bay marsh contributes significantly to the water quality in both the river and the bay.

#### Executive Summary

The objective of resource management and protection pertain to preserving the natural community associations and hydrological regime through use of appropriate management procedures (e.g., control burning, reseeding areas, exotic species control, vehicular traffic control), restoration techniques as necessary and practical (e.g., reforestation, removal of barriers to water flow) and environmental monitoring (e.g., water quality). The scientific research program is principally concerned with gaining new information on the dynamic interaction of the River, Bay and Gulf to enhance management of the area.

Currently a variety of public recreational and commercial opportunities occur within the sanctuary area. These include, but not limited to, boating, swimming, hiking, fishing, nature study, bird watching, primitive camping, oystering, crabbing, and shrimping. The environmental education program is aimed at persons interested in such opportunities in the sanctuary environment. Through such informative vehicles as field trips, brochures and seminars, the public will gain a better understanding of the need for a successful management program and the value of the irreplaceable resources they have.

**Apalachicola River Wildlife and Environmental Area  
Management Advisory Group  
Consensus Meeting Results**

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

The Apalachicola River Wildlife and Environmental Area (ARWEA) consensus meeting was held on the morning of November 28, 2001, at the Apalachicola National Estuarine Research Reserve, in Apalachicola, Florida. The ideas found below represent the most important stakeholder considerations, as determined by vote, to be addressed in the 2002 - 2007 Conceptual Management Plan (CMP) for the ARWEA.

The ideas below were provided by the members of the ARWEA Management Advisory Group (stakeholders) and represent a valuable source of information to be used by biologists, planning coordinators, administrators and others during the development of the CMP. Upon approval by the FWC and the Governor & Cabinet, the ARWEA CMP will guide the activities of Commission personnel over the five-year duration of the 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. A lower score indicates higher importance, and is used to break ties when two or more ideas have the same numbers of votes. Ideas not receiving any votes are listed, but carry no judgment with regard to priority. Statements in parentheses following the bold-faced ideas represent a synopsis of the clarifying discussion of "one-liner ideas", as inscribed by the FWC recorder at the meeting. The ideas below are presented in priority order.

<u># of Votes</u>	<u>Score</u>	<u>Rank</u>	
[12]	[23]	1.	<b><u>Manage the land to protect and restore water resources, including Apalachicola Bay fisheries, restore sloughs, and restore natural hydroperiods.</u></b> (Management of uplands can impact water quality; need to manage uplands, bottomlands and water resources. Water releases from dams need to mimic natural hydroperiods.)
[11]	[23]	2.	<b><u>Using traditional habitat management practices, manage native habitat diversity and restore rare species habitat, especially historic red-cockaded woodpecker populations.</u></b> (Using prescribed fire, timber management and other management practices, emphasize high quality habitats, including old growth cypress domes and protection of bottomlands. Thin pine plantations and replace off-site slash pine with longleaf pine. Establish food plots and wildlife

openings on disturbed areas. Restore habitats for all rare species {plant animal upland aquatic, etc.} especially RCWs.)

- |      |      |     |  |
|------|------|-----|--|
| [11] | [30] | 3.  | <b><u>Address knowledge gaps for under-surveyed plant, animal and aquatic species: update inventories emphasizing rare, listed and endangered species (vertebrate and invertebrate), identify historical vegetative communities, map current vegetative communities and define future native habitat target conditions.</u></b> (Use this newly gained knowledge to properly restore and manage all habitats.) |
| [8]  | [31] | 4.  | <b><u>Improve public access while protecting resources.</u></b> (Establish all weather roads and boat ramps. Control and limit access to environmentally and culturally sensitive areas. Work with counties to improve access from county road system.)  |
| [7]  | [28] | 5.  | <b><u>Improve public education by developing interpretive displays for cultural and natural resources.</u></b> (The Nature Based Recreation program could assist with this objective)  |
| [6]  | [19] | 6.  | <b><u>Keep regulations simple, similar and enforceable, and eliminate the existing confusion about WMA Type I, WMA Type II and WEA designations.</u></b> (Existing regulations are confusing and inconsistent among these types of areas.)   |
| [5]  | [18] | 7.  | <b><u>Address agency needs, such as understaffing and equipment, to fulfill enforcement and management goals, including the protecting of cultural resources from vandalism.</u></b> (Self-explanatory.)   |
| [4]  | [11] | 8.  | <b><u>Implement a prescribed burn plan.</u></b> (Self-explanatory.)  |
| [4]  | [16] | 9.  | <b><u>Continue to expand nature based recreational opportunities.</u></b> (NBR master plan includes observation towers, a driving interpretive trail, primitive campsites, and canoe/kayak launches.)  |
| [3]  | [9]  | 10. | <b><u>Continue to provide and enhance traditional hunting opportunities.</u></b> (Self-explanatory.)   |
| [3]  | [10] | 11. | <b><u>Address problems associated with long term uses, such as houseboats and camps.</u></b> (Sewage, firewood cutting, and dumping are problems associated with houseboats and camps. There are legal enforcement concerns regarding "floating structures" and vessels, and designated campsites are lacking.)  |

- [2] [6] 12. **Appropriate use of silvicultural practices.** (Use silvicultural practices properly to restore habitats.)
- [2] [10] 13. **Promote less impactful (non-motorized) activities on terrestrial and aquatic resources.** (Add more kayaks and less four-wheel drive vehicles.)
- [1] [1] 14. Three items of equal rank.
- Enforce all existing county, state and federal regulations.**  
(Self-explanatory.)
- Manage recreational use intensity to be compatible among user types.** (Allow recreation, but minimize impacts on the resource. Include small game hunting, and both still and dog hunting for deer. Address user conflicts, such as hikers and kayakers versus hunters.)
- Recognize federal navigation projects will require maintenance.** (Dredging projects to improve navigation on the Apalachicola River are ongoing.)
- [1] [2] 15. **Include the Division of Historical Resources in planning phase of Nature Based Recreation and any other ground disturbing activity.** (Self-explanatory.)
- [1] [3] 16. **Emphasize further land acquisition.** (Self-explanatory.)
- [1] [4] 17. **Utilize volunteers to aide in management.** (Volunteer groups exist that are willing to assist managers in solving management problems.)
- [1] [5] 18. Two items of equal rank.
- Confront management issues of illegal dumping and informal site use degradation.** (Squatter camps and illegal dumping are increasing and need to be addressed now.)
- Implement a game species management plan.** (Self-explanatory.)

The following ideas received no votes. They represent valuable input to be considered in planning, but carry no rank with regard to the perceptions of the Management Advisory Group:

**Focus on newly acquired lands.** (Newly acquired lands are often in poor condition and usually require improvement work.)

**Consider amphibians and other aquatic species.** (Make sure the management of amphibians and other aquatic species are addressed in the CMP.)

**Control exotic plant and animal species.** (Self-explanatory.)

**Learn to live with houseboats and non-designated campgrounds.** (Self-explanatory.)

**Manage isolated wetlands to benefit amphibians.** (Self-explanatory.)

**Maintain species viability.** (Ensure the viability of rare plant and animal species.)

**Apalachicola River WEA**  
**Management Advisory Group Participant List**

**A. Active participants**

Phil Manor	FWC, Division of Wildlife, BWM
Rusty McKeithen	Florida Dog Hunters and Sportsman Association
George Fisher	NFWFMD
Shane Fuller	St. Joe Timberland Co.
Terry Jangula	USACOE
Brenda Swann	DOS, Division of Historical Resources
Jeanni McMillan	Journeys of St. George Island
Joe Anderson	DOF
Roy Ogles	FDEP/Canoe interest
Steve Thomas	FWC, Division of Law Enforcement
Jim Ruhl	U.S. Forest Service
Carolyn Kindell	FNAI/TNC
Mark Curenton	Franklin County

**B. Supportive participants**

Billy Sermons	FWC, Division of Wildlife, BWM
David Johnson	FWC, Division of Wildlife, BWM
Ted Hoehn	FWC Office of Environmental Services
Norberto Fernandez	FWC, Division of Wildlife, BWM
Karen Lamonte	FWC, Division of Wildlife, BWDC

**C. Facilitator and recorder**

Keith Singleton FWC, Division of Wildlife

David Alden FWC, Division of Wildlife

**D. Invited but unable to attend**

David Harrelson Tupelo SWCD

Ken Campbell Tallahassee Bowhunters Association

Terry Tenold Florida Trail Association

# NOTICE

The Florida Fish and Wildlife Conservation Commission  
announces

## PUBLIC HEARING

for the

### Apalachicola River Wildlife and Environmental Area

Located in Gulf and Franklin Counties, Florida.

**7:00 P.M. Thursday, December 13, 2001**  
**Franklin County Courthouse**  
**33 Market Street, Suite 203**  
**Apalachicola, Florida 32320**

**PURPOSE:** To receive public comments regarding considerations for the FWC's five-year Conceptual Management Plan for the **Apalachicola River Wildlife and Environmental Area (WEA)**.

**This hearing is designed exclusively for discussion of the draft Conceptual Management Plan.** Participants should understand that the purpose for this hearing does not include the opportunity to discuss public use and/or hunting regulations for the Apalachicola River WEA. There is a separate public process for this purpose.

A **Management Prospectus** for the Apalachicola River WEA is available upon request from the Florida Fish and Wildlife Conservation Commission, Land Management Planning Section, 620 South Meridian Street, Tallahassee, Florida 32399-1600. Telephone: (850) 487-1474.

**PUBLIC HEARING REPORT**  
**for**  
**The Apalachicola River Wildlife and Environmental Area (ARWEA)**  
**CONCEPTUAL MANAGEMENT PLAN (CMP)**  
**HELD BY THE**  
**Apalachicola River WEA Management Advisory Group (MAG)**  
**(Franklin County Court House, December 13, 2001)**

Mr. Mark Curenton, representing the ARWEA Management Advisory Group (MAG), opened the public hearing at 7:00 p.m. at the County Court House Chambers in Apalachicola. He welcomed those in attendance, and indicated that this night's public hearing was designed to present the draft goals and objectives proposed by the Fish and Wildlife Conservation Commission (FWC) for the lands comprising the ARWEA. He also stated that the public hearing was being held by the MAG, and that FWC staff had developed the draft plan components using input developed by the MAG. Following the introductory remarks, Mr. Curenton introduced Mr. Hugh Boyter of the FWC Bureau of Wildlife Management's Planning Section, the Biological Scientist who supervises the members of the Planning Section.

Mr. Boyter introduced Mr. Keith Singleton, the principal planner for the ARWEA plan, and Biological Scientists comprising the local (regional) FWC Division of Wildlife, Bureau of Wildlife Management staff, Mr. Phil Manor and Mr. Norberto Fernandez. He then briefly reviewed the agenda for the hearing, and provided a brief presentation of the process by which the FWC develops conceptual management plans, including how plans are reviewed and approved by a number of entities in accordance with statutory procedures for state-owned lands. Mr. Boyter indicated it usually takes from eight months to a year for a draft plan to be approved, depending primarily on how much internal and external review time is involved. He said there would be another opportunity for the public to comment on the plan at another hearing held by the Acquisition and Restoration Council, and that this hearing would be advertised in the Florida Administrative Weekly.

Mr. Boyter asked if there were questions regarding the planning and approval process. Mr. Thomas Lewis asked who is responsible for road maintenance and trash pickup, indicating that roads and maintenance are currently inadequate, and local landowners are burdened with cleaning up behind ARWEA users. He also asked if the State expected Franklin County to take care of the roads. Mr. Manor responded that the particular road Mr. Lewis was inquiring about is county-maintained. Mr. Lewis expressed concern that the responsibility was too much for the county, given the small tax base. Mr. Boyter indicated that Franklin County receives payments-in-lieu-of-taxes (PILT), payments made by the State to poorer counties where purchase of lands removes properties from the tax rolls. Mr. Curenton indicated that Franklin County is receiving approximately

\$170,000 in PILT. Mr. Lewis repeated his concern that, as a local landowner, he feels that not enough is being done in the Sand Beach area to maintain roads, control trash, provide proper signs for public use facilities, etc. He indicated that a sign on the paved road indicated a boat ramp, but that the public with fishing boats had to drive a long distance to find that there is only a dirt canoe launch, and that there are no places adequate for turn-around. He asked specifically whom he should call when the roads and ditches need attention. FWC staff indicated that the county would be the proper authority, since that road was the county's responsibility by mutual agreement.

Mr. Boyter indicated that perhaps some of Mr. Lewis' concerns would be addressed in the presentation of goals and objectives, since the biological staff proposes to obtain help during the next five years from professional recreation planners and designers in the Nature-based Recreation Program. He then called upon Mr. Phil Manor to present the draft goals and objectives for the ARWEA CMP. Mr. Manor indicated that the draft goals and objectives reflected many of the ideas, considerations and concerns expressed by members of the MAG. He then proceeded to present and explain the specific objectives and strategies developed by the area biological staff and planners following the meeting of the MAG on November 28. Some additional explanation regarding Mr. Lewis' road and signage concerns took place during the presentation. When Mr. Manor's presentation was completed, Mr. Boyter asked Mr. Lewis if his concerns had been adequately addressed. Mr. Lewis responded that he had learned a few new things, but his road concerns remain to be answered. Mrs. Lewis, Mr. Lewis' wife, reiterated the need for proper signage to control traffic and provide information to the public. Mr. Lewis then added that he had experienced problems on his property with dog hunting activities. Mr. Boyter asked if he was aware of the Public Involvement Process associated with the regulations development process, and that he could work directly with Col. Roberson to solve such problems. Mr. Lewis said he had not gotten satisfaction through that process, nor through working with the U.S. Forest Service. The local biological staff provided additional discussion and ideas regarding these concerns.

No additional public testimony was received, and the meeting was adjourned at approximately 9:00 PM, after which additional informal discussion took place among the participants

APPENDIX III

ARWEA WILDLIFE AND FISH SPECIES LISTS

**Reptiles and amphibians**

Two-toed amphiuma	<i>Amphiuma means</i>
Lesser siren	<i>Siren intermedia</i>
Greater siren	<i>Siren lacertina</i>
Mole salamander	<i>Ambystoma talpoideum</i>
Marbled salamander	<i>Ambystoma opacum</i>
Tiger salamander	<i>Ambystoma tigrinum</i>
Slimy salamander	<i>Plethodon grobmani</i>
Two-lined salamander	<i>Eurycea cirrigera</i>
Three-lined salamander	<i>Eurycea longicauda</i>
Dwarf salamander	<i>Eurycea quadridigitata</i>
Four-toed salamander	<i>Hemidactylium scutatum</i>
Mud salamander	<i>Pseudotriton montanus</i>
Eastern newt	<i>Notophthalmus viridescens</i>
Eastern spadefoot toad	<i>Scaphiopus holbrookii</i>
Oak toad	<i>Bufo quercicus</i>
Southern toad	<i>Bufo terrestris</i>
Greenhouse frog	<i>Eleutherodactylus planirostris</i>
Cricket frog	<i>Acris gryllus</i>
Little grass frog	<i>Limnaoedus ocularis</i>
Southern chorus frog	<i>Pseudacris nigrita</i>
Upland chorus frog	<i>Pseudacris triseriata</i>
Southern spring peeper	<i>Hyla crucifer bartramiana</i>
Green treefrog	<i>Hyla cinerea</i>
Gray treefrog	<i>Hyla chrysoscelis</i>
Squirrel treefrog	<i>Hyla squirella</i>
Bird-voiced treefrog	<i>Hyla avivoca</i>
Pinewoods treefrog	<i>Hyla femoralis</i>
River frog	<i>Rana heckscheri</i>
Bronze frog	<i>Rana clamitans clamitans</i>
Bull Frog	<i>Rana catesbeiana</i>
Pig frog	<i>Rana grylio</i>
Southern leopard frog	<i>Rana utricularia</i>
Eastern spadefoot toad	<i>Scaphiopus holbrookii</i>
Narrow-mouthed frog	<i>Gastrophryne carolinensis</i>
American alligator	<i>Alligator mississippiensis</i>
Eastern glass lizard	<i>Ophisaurus ventralis</i>
Green anole	<i>Anolis carolinensis</i>
Southern fence lizard	<i>Sceloporus undulatus</i>
Broadhead skink	<i>Eumeces laticeps</i>
Southeastern five-lined skink	<i>Eumeces inexpectatus</i>

Wildlife and fish species on the ARWEA, Gulf and Franklin Counties. (Continued)

---

Ground skink	<i>Scincella lateralis</i>
Mole skink	<i>Eumeces egregius</i>
Eastern six-lined racerunner	<i>Cnemidophorus sexlineatus</i>
Scarlet snake	<i>Cemophora coccinea</i>
Glossy crawfish water snake	<i>Regina rigida</i>
Redbelly water snake	<i>Nerodia erythrogaster erythrogaster</i>
Banded water snake	<i>Nerodia fasciata</i>
Eastern kingsnake	<i>Lampropeltis getula</i>
Black racer	<i>Coluber constrictor</i>
Coachwhip	<i>Masticophis flagellum</i>
Eastern hog-nosed snake	<i>Heterodon platyrhinos</i>
Eastern indigo snake	<i>Drymarchon corais couperi</i>
Ringneck snake	<i>Diadophis punctatus</i>
Gray rat snake	<i>Elaphe obsoleta spiloides</i>
Corn snake	<i>Elaphe guttata</i>
Eastern mud snake	<i>Farancia abacura</i>
Eastern ribbon snake	<i>Thamnophis sauritus sauritus</i>
Garter snake	<i>Thamnophis sauritus</i>
Smooth earth snake	<i>Virginia valeriae</i>
Eastern coral snake	<i>Micrurus fulvius fulvius</i>
Cottonmouth	<i>Agkistrodon piscivorus</i>
Dusky pigmy rattlesnake	<i>Sistrurus miliarius barbouri</i>
Eastern diamondback rattlesnake	<i>Crotalus adamanteus</i>
Common snapping turtle	<i>Chelydra serpentina</i>
Alligator snapping turtle	<i>Macrolemys temminckii</i>
Barbour's map turtle	<i>Graptemys barbouri</i>
Chicken turtle	<i>Deirochelys reticularia</i>
Florida cooter	<i>Pseudemys floridana</i>
Slider	<i>Trachemys scripta</i>
Gulf coast box turtle	<i>Terrapene carolina major</i>
Eastern mud turtle	<i>Kinosternon subrubrum</i>
Loggerhead musk turtle	<i>Sternotherus minor</i>
Stinkpot	<i>Sternotherus odoratus</i>
Gopher tortoise	<i>Gopherus polyphemus</i>
Florida softshell turtle	<i>Apalone ferox</i>
<b>Birds</b>	
Pied-billed grebe	<i>Podilymbus podiceps</i>
Double-crested cormorant	<i>Phalacrocorax auritus</i>
Anhinga	<i>Anhinga anhinga</i>
Cattle egret	<i>Bubulcus ibis</i>
Great egret	<i>Casmerodius albus</i>
Little blue heron	<i>Egretta caerulea</i>
Green heron	<i>Butorides striatus</i>

Wildlife and fish species on the ARWEA, Gulf and Franklin Counties (Continued).

---

Black-crowned night heron	<i>Nycticorax nycticorax</i>
Yellow-crowned night heron	<i>Nycticorax violaceus</i>
American bittern	<i>Botaurus lentiginosus</i>
Least bittern	<i>Ixobrychus exilis</i>
Wood stork	<i>Mycteria americana</i>
White ibis	<i>Eudocimus albus</i>
Snow goose	<i>Chen caerulescens</i>
Wood duck	<i>Aix sponsa</i>
Mallard	<i>Anas platyrhynchos</i>
Mottled duck	<i>Anas fulvigula</i>
Green-winged teal	<i>Anas crecca</i>
Blue-winged teal	<i>Anas discors</i>
Ruddy duck	<i>Oxyura jamaicensis</i>
Bufflehead	<i>Bucephala albeola</i>
Redhead	<i>Aythya americana</i>
Ring-necked duck	<i>Aythya collaris</i>
Lesser scaup	<i>Aythya affinis</i>
Red-breasted merganser	<i>Mergus serrator</i>
Hooded merganser	<i>Lophodytes cucullatus</i>
Turkey vulture	<i>Cathartes aura</i>
Black vulture	<i>Coragyps atratus</i>
Bald eagle	<i>Haliaeetus leucocephalus</i>
Northern harrier	<i>Circus cyaneus</i>
Swallow-tailed kite	<i>Elanoides forficatus</i>
Mississippi kite	<i>Ictinia mississippiensis</i>
Osprey	<i>Pandion haliaetus</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Red-shouldered hawk	<i>Buteo lineatus</i>
Sharp-shinned hawk	<i>Accipiter striatus</i>
Coopers hawk	<i>Accipiter cooperii</i>
American kestrel	<i>Falco sparverius</i>
Wild turkey	<i>Meleagris gallopavo</i>
Northern bobwhite	<i>Colinus virginianus</i>
American coot	<i>Fulica americana</i>
Common moorhen	<i>Gallinula chloropus</i>
Purple gallinule	<i>Porphyryula martinica</i>
Killdeer	<i>Charadrius vociferus</i>
Solitary sandpiper	<i>Tringa solitaria</i>
Common snipe	<i>Gallinago gallinago</i>
American woodcock	<i>Scolopax minor</i>
Mourning dove	<i>Zenaida macroura</i>
Common ground-dove	<i>Columbina passerina</i>
Yellow-billed cuckoo	<i>Coccyzus americanus</i>

Wildlife and fish species on the ARWEA, Gulf and Franklin Counties (Continued).

---

Barred owl	<i>Strix varia</i>
Barn owl	<i>Tyto alba</i>
Great horned owl	<i>Bubo virginianus</i>
Eastern screech owl	<i>Otus asio</i>
Chuck-will's widow	<i>Caprimulgus carolinensis</i>
Whip-poor-will	<i>Caprimulgus vociferus</i>
Common nighthawk	<i>Chordeiles minor</i>
Chimney swift	<i>Chaetura pelagica</i>
Ruby-throated hummingbird	<i>Archilochus colubris</i>
Belted kingfisher	<i>Ceryle alcyon</i>
Northern flicker	<i>Colaptes auratus</i>
Red-bellied woodpecker	<i>Melanerpes carolinus</i>
Red-headed woodpecker	<i>Melanerpes erythrocephalus</i>
Yellow-bellied sapsucker	<i>Sphyrapicus varius</i>
Hairy woodpecker	<i>Picoides villosus</i>
Downy woodpecker	<i>Picoides pubescens</i>
Pileated woodpecker	<i>Dryocopus pileatus</i>
Red-cockaded woodpecker	<i>Picoides borealis</i>
Eastern wood-pewee	<i>Contopus virens</i>
Eastern phoebe	<i>Sayornis phoebe</i>
Great crested flycatcher	<i>Myiarchus crinitus</i>
Acadian flycatcher	<i>Empidonax virescens</i>
Eastern kingbird	<i>Tyrannus tyrannus</i>
Purple martin	<i>Progne subis</i>
Barn swallow	<i>Hirundo rustica</i>
Tree swallow	<i>Tachycineta bicolor</i>
Blue jay	<i>Cyanocitta cristata</i>
American crow	<i>Corvus brachyrhynchos</i>
Fish crow	<i>Corvus ossifragus</i>
Carolina wren	<i>Thryothorus ludovicianus</i>
Eastern bluebird	<i>Sialia sialis</i>
Carolina chickadee	<i>Picoides carolinensis</i>
Tufted titmouse	<i>Picoides bicolor</i>
Blue-gray gnatcatcher	<i>Polioptila caerulea</i>
Brown-headed nuthatch	<i>Sitta pusilla</i>
Ruby-crowned kinglet	<i>Regulus calendula</i>
Wood thrush	<i>Hylocichla mustelina</i>
Veery	<i>Catharus fuscescens</i>
Hermit thrush	<i>Catharus guttata</i>
American robin	<i>Turdus migratorius</i>
Northern mockingbird	<i>Mimus polyglottos</i>
Gray catbird	<i>Dumetella carolinensis</i>
Brown thrasher	<i>Toxostoma rufum</i>

Wildlife and fish species on the ARWEA, Gulf and Franklin Counties (Continued).

---

Loggerhead shrike	<i>Lanius ludovicianus</i>
Cedar waxwing	<i>Bombycilla cedrorum</i>
White-eyed vireo	<i>Vireo griseus</i>
Yellow-throated vireo	<i>Vireo flavifrons</i>
Red-eyed vireo	<i>Vireo olivaceus</i>
Solitary vireo	<i>Vireo solitarius</i>
Northern parula	<i>Parula americana</i>
Black-and-white warbler	<i>Mniotilta varia</i>
American redstart	<i>Setophaga ruticilla</i>
Prothonotary warbler	<i>Protonotaria citrea</i>
Worm-eating warbler	<i>Helmitheros vermivorus</i>
Hooded warbler	<i>Wilsonia citrina</i>
Black-throated blue warbler	<i>Dendroica caerulescens</i>
Yellow-throated warbler	<i>Dendroica dominica</i>
Palm warbler	<i>Dendroica palmarum</i>
Pine warbler	<i>Dendroica pinus</i>
Kentucky warbler	<i>Oporornis formosus</i>
Common yellowthroat	<i>Geothlypis trichas</i>
Swainson's warbler	<i>Limnothlypis swainsonii</i>
Louisiana waterthrush	<i>Seiurus motacilla</i>
Scarlet tanager	<i>Piranga olivacea</i>
Summer tanager	<i>Piranga rubra</i>
Northern cardinal	<i>Cardinalis cardinalis</i>
Blue grosbeak	<i>Guiraca caerulea</i>
Indigo bunting	<i>Passerina cyanea</i>
Bachman's sparrow	<i>Aimophila aestivalis</i>
Chipping sparrow	<i>Spizella passerina</i>
Song sparrow	<i>Melospiza melodia</i>
Swamp sparrow	<i>Melospiza georgiana</i>
White-throated sparrow	<i>Zonotrichia albicollis</i>
American goldfinch	<i>Carduelis tristis</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Brown-headed cowbird	<i>Molothrus ater</i>
Boat-tailed grackle	<i>Quiscalus major</i>
Rusty blackbird	<i>Euphagus carolinus</i>
Bobolink	<i>Dolichonyx oryzivorus</i>
Orchard oriole	<i>Icterus spurius</i>
Eastern meadowlark	<i>Sturnella magna</i>
Eastern towhee	<i>Pipilo erythrophthalmus</i>
<b>Mammals</b>	
Golden mouse	<i>Ochrotomys nuttalli</i>
Cotton mouse	<i>Peromyscus gossypinus</i>
Oldfield mouse	<i>Peromyscus polionotus</i>

Wildlife and fish species on the ARWEA, Gulf and Franklin Counties. (Continued)

---

Hispid cotton rat	<i>Sigmodon hispidus</i>
Eastern woodrat	<i>Neotoma floridana smalli</i>
Pine vole	<i>Microtus pinetorum</i>
Opossum	<i>Didelphis virginiana</i>
Southern short-tailed shrew	<i>Blarina carolinensis shermani</i>
Least shrew	<i>Cryptotis parva</i>
Eastern mole	<i>Scalopus aquaticus</i>
Little brown bat	<i>Myotis lucifugus</i>
Southeastern bat	<i>Myotis austroriparius</i>
Eastern pipistrelle	<i>Pipistrellus subflavus</i>
Big brown bat	<i>Eptesicus fuscus</i>
Red bat	<i>Lasiurus borealis</i>
Hoary bat	<i>Lasiurus cinereus</i>
Northern yellow bat	<i>Lasiurus intermedius</i>
Evening bat	<i>Nycticeius humeralis</i>
Rafinesque's big-eared bat	<i>Plecotus rafinesquii</i>
Brazilian free-tailed bat	<i>Tadarida brasiliensis</i>
Nine-banded armadillo	<i>Dasyus novemcinctus</i>
Eastern cottontail	<i>Sylvilagus floridanus</i>
Marsh rabbit	<i>Sylvilagus palustris</i>
Eastern gray squirrel	<i>Sciurus carolinensis</i>
Eastern fox squirrel	<i>Sciurus niger niger</i>
Southern flying squirrel	<i>Glaucomys volans</i>
Southeastern pocket gopher	<i>Geomys pinetis</i>
Beaver	<i>Castor canadensis</i>
Raccoon	<i>Procyon lotor</i>
Striped skunk	<i>Mephitis mephitis</i>
River otter	<i>Lutra canadensis</i>
Mink	<i>Mustela vison</i>
Gray fox	<i>Urocyon cinereoargenteus</i>
Red fox	<i>Vulpes fulva</i>
Coyote	<i>Canis latrans</i>
Bobcat	<i>Lynx rufus</i>
Black bear	<i>Ursus americanus</i>
Feral pig	<i>Sus scrofa</i>
White-tailed deer	<i>Odocoileus virginianus</i>
<b>Fish</b>	
Southern brook lamprey	<i>Ichthyomyzon gagei</i>
Gulf sturgeon	<i>Acipenser oxyrinchus desotoi</i>
Longnose gar	<i>Lepisosteus osseus</i>
Florida gar	<i>Lepisosteus platyrhincus</i>
Bowfin	<i>Amia calva</i>
Gizzard shad	<i>Dorosoma cepedianum</i>

Wildlife and fish species on the ARWEA, Gulf and Franklin Counties (Continued).

---

Threadfin shad	<i>Dorosoma petenense</i>
Redfin pickerel	<i>Esox americanus</i>
Chain pickerel	<i>Esox niger</i>
Golden shiner	<i>Notemigonus crysoleucas</i>
Bannerfin shiner	<i>Cyprinella leedsi</i>
Pugnose minnow	<i>Opsopoeodus emiliae</i>
Common carp	<i>Cyprinus carpio</i>
Clear chub	<i>Notropis winchelli</i>
Taillight shiner	<i>Notropis maculatus</i>
Coastal shiner	<i>Notropis petersoni</i>
Weed shiner	<i>Notropis texanus</i>
Blacktail shiner	<i>Cyprinella venustus</i>
Spotted sucker	<i>Minytrema melanops</i>
Lake chubsucker	<i>Erimyzon sucetta</i>
Channel catfish	<i>Ictalurus punctatus</i>
Yellow bullhead	<i>Ameiurus natalis</i>
Brown bullhead	<i>Ameiurus nebulosus</i>
Spotted bullhead	<i>Ameiurus serracanthus</i>
White catfish	<i>Ameiurus catus</i>
Flathead catfish	<i>Pylopictis olivaris</i>
Tadpole madtom	<i>Noturus gyrinus</i>
Speckled madtom	<i>Noturus leptacanthus</i>
Lined topminnow	<i>Fundulus tineolatus</i>
Pirate perch	<i>Aphredoderus sayanus</i>
Least killifish	<i>Heterandria formosa</i>
Mosquitofish	<i>Gambusia affinis</i>
Brook silverside	<i>Labidesthes sicculus</i>
Striped bass	<i>Morone saxatilis</i>
White bass	<i>Morone chrysops</i>
Largemouth bass	<i>Micropterus salmoides</i>
Flier	<i>Centrarchus macropterus</i>
Everglades pygmy sunfish	<i>Elassoma evergladei</i>
Banded pygmy sunfish	<i>Elassoma zonatum</i>
Bluespotted sunfish	<i>Enneacanthus gloriosus</i>
Mud sunfish	<i>Acantharchus pomotis</i>
Black crappie	<i>Pomoxis nigromaculatus</i>
Dollar sunfish	<i>Lepomis marginatus</i>
Green sunfish	<i>Lepomis cyanellus</i>
Warmouth	<i>Lepomis gulosus</i>
Spotted sunfish	<i>Lepomis punctatus</i>
Redbreast sunfish	<i>Lepomis auritus</i>
Bluegill	<i>Lepomis macrochirus</i>
Redear sunfish	<i>Lepomis microlophus</i>

Wildlife and fish species on the ARWEA, Gulf and Franklin Counties (Continued).

---

Swamp darter	<i>Etheostoma fusiforme</i>
Gulf darter	<i>Etheostoma swaini</i>
Blackbanded darter	<i>Percina nigrofasciata</i>

APPENDIX IV

MANAGEMENT PROCEDURES FOR ARCHAEOLOGICAL AND HISTORICAL  
SITES AND PROPERTIES ON STATE - OWNED OR CONTROLLED LANDS

MANAGEMENT PROCEDURES FOR  
ARCHAEOLOGICAL AND HISTORICAL SITES AND PROPERTIES  
ON STATE - OWNED OR CONTROLLED LANDS  
(revised August, 1995)

A. GENERAL DISCUSSION

Archaeological and historic sites are defined collectively in 267.021(3), F.S., as "historic properties" or "historic resources". They have several essential characteristics which must be recognized in a management program.

First of all, they are a finite and non-renewable resource. Once destroyed, presently existing resources, including buildings, other structures, shipwreck remains, archaeological sites and other objects of antiquity, cannot be renewed or revived. Today, sites in the State of Florida are being destroyed by all kinds of land development, inappropriate land management practices, erosion, looting, and to a minor extent even by well-intentioned professional scientific research (e.g., archaeological excavation). Measures must be taken to ensure that some of these resources will be preserved for future study and appreciation.

Secondly, sites are unique because individually they represent the tangible remains of events which occurred at a specific time and place.

Thirdly, while sites uniquely reflect localized events, these events and the origin of particular sites are related to conditions and events in other times and places. Sites can be understood properly only in relation to their natural surroundings and the activities of inhabitants of other sites. Managers must be aware of this "systemic" character of historic and archaeological sites. Also, it should be recognized that archaeological sites are time capsules for more than cultural history; they preserve traces of past biotic communities, climate, and other elements of the environment that may be of interest to other scientific disciplines.

Finally, the significance of sites, particularly archaeological ones, derives not only from the individual artifacts within them, but equally from the spatial arrangement of those artifacts in both horizontal and vertical planes. When archaeologists excavate, they recover, not merely objects, but also a record of the positions of these objects in relation to one another and their containing matrix (e.g., soil strata). Much information is sacrificed if the so-called "context" of archaeological objects is destroyed or not recovered, and this is what archaeologists are most concerned about when a site is threatened with destruction or damage. The artifacts themselves can be recovered even after a site is heavily disturbed, but the context - the vertical and horizontal relationships - cannot. Historic structures also contain a wealth of cultural (socio-economic) data which can be lost if historically sensitive maintenance, restoration or rehabilitation procedures are not implemented, or if they are demolished or extensively altered without appropriate documentation. Lastly, it should not be forgotten that historic structures often have

associated potentially significant historic archaeological features which must be considered in land management decisions.

## B. STATUTORY AUTHORITY

Chapter 253, Florida Statutes ("State Lands") directs the preparation of "single-use" or "multiple-use" land management plans for all state-owned lands and state-owned sovereignty submerged lands. In this document, 253.034(4), F.S., specifically requires that "all management plans, whether for single-use or multiple-use properties, shall specifically describe how the managing agency plans to identify, locate, protect and preserve, or otherwise use fragile non-renewable resources, such as archaeological and historic sites, as well as other fragile resources..."

Chapter 267, Florida Statutes is the primary historic preservation authority of the state. The importance of protecting and interpreting archaeological and historic sites is recognized in 267.061(1)(a), F.S.:

The rich and unique heritage of historic properties in this state, representing more than 10,000 years of human presence, is an important legacy to be valued and conserved for present and future generations. The destruction of these nonrenewable historic resources will engender a significant loss to the state's quality of life, economy, and cultural environment. It is therefore declared to be state policy to:

1. Provide leadership in the preservation of the state's historic resources; [and]
2. Administer state-owned or state-controlled historic resources in a spirit of stewardship and trusteeship;...

Responsibilities of the Division of Historical Resources in the Department of State pursuant to 267.061(3), F.S., include the following:

1. Cooperate with federal and state agencies, local governments, and private organizations and individuals to direct and conduct a comprehensive statewide survey of historic resources and to maintain an inventory of such responses.
2. Develop a comprehensive statewide historic preservation plan.
3. Identify and nominate eligible properties to the National Register of Historic Places and otherwise administer applications for listing properties in the National Register of Historic Places.
4. Cooperate with federal and state agencies, local governments, and organizations and individuals to ensure that historic resources are taken into consideration at all levels of planning and development.

5. Advise and assist, as appropriate, federal and state agencies and local governments in carrying out their historic preservation responsibilities and programs.
6. Carry out on behalf of the state the programs of the National Historic Preservation Act of 1966, as amended, and to establish, maintain, and administer a state historic preservation program meeting the requirements of an approved program and fulfilling the responsibilities of state historic preservation programs as provided in subsection 101(b) of that act.
7. Take such other actions necessary or appropriate to locate, acquire, protect, preserve, operate, interpret, and promote the location, acquisition, protection, preservation, operation, and interpretation of historic resources to foster an appreciation of Florida history and culture. Prior to the acquisition, preservation, interpretation, or operation of a historic property by a state agency, the Division shall be provided a reasonable opportunity to review and comment on the proposed undertaking and shall determine that there exists historic authenticity and a feasible means of providing for the preservation, interpretation and operation of such property.
8. Establish professional standards for the preservation, exclusive of acquisition, of historic resources in state ownership or control.
9. Establish guidelines for state agency responsibilities under subsection (2).

Responsibilities of other state agencies of the executive branch, pursuant to 267.061(2), F.S., include:

1. Each state agency of the executive branch having direct or indirect jurisdiction over a proposed state or state-assisted undertaking shall, in accordance with state policy and prior to the approval of expenditure of any state funds on the undertaking, consider the effect of the undertaking on any historic property that is included in, or eligible for inclusion in, the National Register of Historic Places. Each such agency shall afford the division a reasonable opportunity to comment with regard to such an undertaking.
2. Each state agency of the executive branch shall initiate measures in consultation with the division to assure that where, as a result of state action or assistance carried out by such agency, a historic property is to be demolished or substantially altered in a way which adversely affects the character, form, integrity, or other qualities which contribute to [the] historical, architectural, or archaeological value of the property, timely steps are taken to determine that no feasible and prudent alternative to the proposed demolition or alteration exists, and, where no such alternative is determined to exist, to assure that timely steps are taken either to avoid or

mitigate the adverse effects, or to undertake an appropriate archaeological salvage excavation or other recovery action to document the property as it existed prior to demolition or alteration.

3. In consultation with the division [of Historical Resources], each state agency of the executive branch shall establish a program to locate, inventory, and evaluate all historic properties under the agency's ownership or control that appear to qualify for the National Register. Each such agency shall exercise caution to assure that any such historic property is not inadvertently transferred, sold, demolished, substantially altered, or allowed to deteriorate significantly.
4. Each state agency of the executive branch shall assume responsibility for the preservation of historic resources which are owned or controlled by such agency. Prior to acquiring, constructing, or leasing buildings for the purpose of carrying out agency responsibilities, the agency shall use, to the maximum extent feasible, historic properties available to the agency. Each agency shall undertake, consistent with preservation of such properties, the mission of the agency, and the professional standards established pursuant to paragraph (3)(k), any preservation actions necessary to carry out the intent of this paragraph.
5. Each state agency of the executive branch, in seeking to acquire additional space through new construction or lease, shall give preference to the acquisition or use of historic properties when such acquisition or use is determined to be feasible and prudent compared with available alternatives. The acquisition or use of historic properties is considered feasible and prudent if the cost of purchase or lease, the cost of rehabilitation, remodeling, or altering the building to meet compliance standards and the agency's needs, and the projected costs of maintaining the building and providing utilities and other services is less than or equal to the same costs for available alternatives. The agency shall request the division to assist in determining if the acquisition or use of a historic property is feasible and prudent. Within 60 days after making a determination that additional space is needed, the agency shall request the division to assist in identifying buildings within the appropriate geographic area that are historic properties suitable for acquisition or lease by the agency, whether or not such properties are in need of repair, alteration, or addition.
6. Consistent with the agency's mission and authority, all state agencies of the executive branch shall carry out agency programs and projects, including those under which any state assistance is provided, in a manner which is generally sensitive to the preservation of historic properties and shall give consideration to programs and projects which will further the purposes of this section.

Section 267.12 authorizes the Division to establish procedures for the granting of research permits for archaeological and historic site survey or excavation on state-owned or controlled lands, while Section 267.13 establishes penalties for the conduct of such work without first obtaining written permission from the Division of Historical Resources. The Rules of the Department of State, Division of Historical Resources, for research permits for archaeological sites of significance are contained in Chapter 1A-32, F.A.C.

Another Florida Statute affecting land management decisions is Chapter 872, F.S. Section 872.02, F.S., pertains to marked grave sites, regardless of age. Many state-owned properties contain old family and other cemeteries with tombstones, crypts, etc. Section 872.05, F.S., pertains to unmarked human burial sites, including prehistoric and historic Indian burial sites. Unauthorized disturbance of both marked and unmarked human burial sites is a felony.

### C. MANAGEMENT POLICY

The choice of a management policy for archaeological and historic sites within state-owned or controlled lands obviously depends upon a detailed evaluation of the characteristics and conditions of the individual sites and groups of sites within those tracts. This includes an interpretation of the significance (or potential significance) of these sites, in terms of social and political factors, as well as environmental factors. Furthermore, for historic structures architectural significance must be considered, as well as any associated historic landscapes.

Sites on privately owned lands are especially vulnerable to destruction, since often times the economic incentives for preservation are low compared to other uses of the land areas involved. Hence, sites in public ownership have a magnified importance, since they are the ones with the best chance of survival over the long run. This is particularly true of sites which are state-owned or controlled, where the basis of management is to provide for land uses that are minimally destructive of resource values.

It should be noted that while many archaeological and historical sites are already recorded within state-owned or controlled-lands, the majority of the uplands areas and nearly all of the inundated areas have not been surveyed to locate and assess the significance of such resources. The known sites are, thus, only an incomplete sample of the actual resources - i.e., the number, density, distribution, age, character and condition of archaeological and historic sites - on these tracts. Unfortunately, the lack of specific knowledge of the actual resources prevents formulation of any sort of detailed management or use plan involving decisions about the relative historic value of individual sites. For this reason, a generalized policy of conservation is recommended until the resources have been better addressed.

The generalized management policy recommended by the Division of Historical Resources includes the following:

1. State land managers shall coordinate all planned activities involving known archaeological or historic sites or potential site areas closely with the Division of Historical Resources in order to prevent any kind of disturbance to significant archaeological or historic sites that may exist on the tract. Under 267.061(1)(b), F.S., the Division of Historical Resources is vested with title to archaeological and historic resources abandoned on state lands and is responsible for administration and protection of such resources. The Division will cooperate with the land manager in the management of these resources. Furthermore, provisions of 267.061(2) and 267.13, F.S., combined with those in 267.061(3) and 253.034(4), F.S., require that other managing (or permitting) agencies coordinate their plans with the Division of Historical Resources at a sufficiently early stage to preclude inadvertent damage or destruction to known or potentially occurring, presently unknown archaeological and historic sites. The provisions pertaining to human burial sites must also be followed by state land managers when such remains are known or suspected to be present (see 872.02 and 872.05, F.S., and 1A-44, F.A.C.)
2. Since the actual resources are so poorly known, the potential impact of the managing agency's activities on historic archaeological sites may not be immediately apparent. Special field survey for such sites may be required to identify the potential endangerment as a result of particular management or permitting activities. The Division may perform surveys, as its resources permit, to aid the planning of other state agencies in their management activities, but outside archaeological consultants may have to be retained by the managing agency. This would be especially necessary in the cases of activities contemplating ground disturbance over large areas and unexpected occurrences. It should be noted, however, that in most instances Division staff's knowledge of known and expected site distribution is such that actual field surveys may not be necessary, and the project may be reviewed by submitting a project location map (preferably a 7.5 minute U.S.G.S. Quadrangle map or portion thereof) and project descriptive data, including detailed construction plans. To avoid delays, Division staff should be contacted to discuss specific project documentation review needs.
3. In the case of known significant sites, which may be affected by proposed project activities, the managing agency will generally be expected to alter proposed management or development plans, as necessary, or else make special provisions to minimize or mitigate damage to such sites.
4. If in the course of management activities, or as a result of development or the permitting of dredge activities (see 403.918(2)(6)a, F.S.), it is determined that valuable historic or archaeological sites will be damaged or destroyed, the Division reserves the right, pursuant to 267.061(1)(b),

F.S., to require salvage measures to mitigate the destructive impact of such activities to such sites. Such salvage measures would be accomplished before the Division would grant permission for destruction of the affected site areas. The funding needed to implement salvage measures would be the responsibility of the managing agency planning the site destructive activity. Mitigation of historic structures at a minimum involves the preparation of measured drawings and documentary photographs. Mitigation of archaeological resources involves the excavation, analysis and reporting of the project findings and must be planned to occur sufficiently in advance to avoid project construction delays. If these services are to be contracted by the state agency, the selected consultant will need to obtain an Archaeological Research Permit from the Division of Historical Resources, Bureau of Archaeological Research (see 267.12, F.S. and Rules 1A-32 and 1A-46 F.A.C.).

5. For the near future, excavation of non-endangered (i.e., sites not being lost to erosion or development) archaeological sites is discouraged. There are many endangered sites in Florida (on both private and public lands) in need of excavation because of the threat of development or other factors. Those within state-owned or controlled lands should be left undisturbed for the present - with particular attention devoted to preventing site looting by "treasure hunters". On the other hand, the archaeological and historic survey of these tracts is encouraged in order to build an inventory of the resources present, and to assess their scientific research potential and historic or architectural significance.
6. The cooperation of land managers in reporting sites to the Division that their field personnel may discover is encouraged. The Division will help inform field personnel from other resource managing agencies about the characteristics and appearance of sites. The Division has initiated a cultural resource management training program to help accomplish this. Upon request the Division will also provide to other agencies archaeological and historical summaries of the known and potentially occurring resources so that information may be incorporated into management plans and public awareness programs (See Management Implementation).
7. Any discovery of instances of looting or unauthorized destruction of sites must be reported to the agent for the Board of Trustees of the Internal Improvement Trust Fund and the Division so that appropriate action may be initiated. When human burial sites are involved, the provisions of 872.02 and 872.05, F. S. and Rule 1A-44, F.A.C., as applicable, must also be followed. Any state agent with law enforcement authority observing individuals or groups clearly and incontrovertibly vandalizing, looting or destroying archaeological or historic sites within state-owned or controlled lands without demonstrable permission from the Division will make

arrests and detain those individuals or groups under the provisions of 267.13, 901.15, and 901.21, F.S., and related statutory authority pertaining to such illegal activities on state-owned or controlled lands. County Sheriffs' officers are urged to assist in efforts to stop and/or prevent site looting and destruction.

In addition to the above management policy for archaeological and historic sites on state-owned land, special attention shall be given to those properties listed in the National Register of Historic Places and other significant buildings. The Division recommends that the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (Revised 1990) be followed for such sites.

The following general standards apply to all treatments undertaken on historically significant properties.

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
2. The historic character of a property shall be retained and preserved. The removal of historic materials or alterations of features and spaces that characterize a property shall be avoided.
3. Each property shall be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.
6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.

8. Significant archaeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
9. New additions, exterior alterations, or related new construction shall not destroy materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired. (see Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings [Revised 1990]).

Division of Historical Resources staff are available for technical assistance for any of the above listed topics. It is encouraged that such assistance be sought as early as possible in the project planning.

#### D. MANAGEMENT IMPLEMENTATION

As noted earlier, 253.034(4), F.S., states that "all management plans, whether for single-use or multiple-use properties, shall specifically describe how the managing agency plans to identify, locate, protect and preserve, or otherwise use fragile non-renewable resources, such as archaeological and historic sites..." The following guidelines should help to fulfill that requirement.

1. All land managing agencies should contact the Division and send U.S.G.S. 7.5 minute quadrangle maps outlining the boundaries of their various properties.
2. The Division will in turn identify site locations on those maps and provide descriptions for known archaeological and historical sites to the managing agency.
3. Further, the Division may also identify on the maps areas of high archaeological and historic site location probability within the subject tract. These are only probability zones, and sites may be found outside of these areas. Therefore, actual ground inspections of project areas may still be necessary.
4. The Division will send archaeological field recording forms and historic structure field recording forms to representatives of the agency to facilitate the recording of information on such resources.

5. Land managers will update information on recorded sites and properties.
6. Land managers will supply the Division with new information as it becomes available on previously unrecorded sites that their staff locate. The following details the kind of information the Division wishes to obtain for any new sites or structures which the land managers may report:
  - A. Historic Sites
    - (1) Type of structure (dwelling, church, factory, etc.).
    - (2) Known or estimated age or construction date for each structure and addition.
    - (3) Location of building (identify location on a map of the property, and building placement, i.e., detached, row, etc.).
    - (4) General Characteristics: (include photographs if possible) overall shape of plan (rectangle, "L" "T" "H" "U", etc.); number of stories; number of vertical divisions of bays; construction materials (brick, frame, stone, etc.); wall finish (kind of bond, coursing, shingle, etc.); roof shape.
    - (5) Specific features including location, number and appearance of:
      - (a) Important decorative elements;
      - (b) Interior features contributing to the character of the building;
      - (c) Number, type, and location of outbuildings, as well as date(s) of construction;
      - (d) Notation if property has been moved;
      - (e) Notation of known alterations to building.
  - B. Archaeological Sites
    - (1) Site location (written narrative and mapped location).
    - (2) Cultural affiliation and period.
    - (3) Site type (midden, burial mound, artifact scatter, building rubble, etc.).
    - (4) Threats to site (deterioration, vandalism, etc.).
    - (5) Site size (acreage, square meters, etc.).
    - (6) Artifacts observed on ground surface (pottery, bone, glass, etc.).
    - (7) Description of surrounding environment.
7. No land disturbing activities should be undertaken in areas of known archaeological or historic sites or areas of high site probability without prior review by the Division early in the project planning.

8. Ground disturbing activities may proceed elsewhere but land managers should stop disturbance in the immediate vicinity of artifact finds and notify the Division if previously unknown archaeological or historic remains are uncovered. The provisions of Chapter 872, F.S., must be followed when human remains are encountered.
9. Excavation and collection of archaeological and historic sites on state lands without a permit from the Division is a violation of state law and shall be reported to a law enforcement officer. The use of metal detectors to search for historic artifacts shall be prohibited on state lands except when authorized in a 1A-32, F.A.C., research permit from the Division.
10. Interpretation and visitation which will increase public understanding and enjoyment of archaeological and historic sites without site destruction or vandalism is strongly encouraged.
11. Development of interpretive programs including trails, signage, kiosks, and exhibits is encouraged and should be coordinated with the Division.
12. Artifacts found or collected on state lands are by law the property of the Division. Land managers shall contact the Division whenever such material is found so that arrangements may be made for recording and conservation. This material, if taken to Tallahassee, can be returned for public display on a long term loan.

E. ADMINISTERING AGENCY

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

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

Contact Person: Susan M. Harp  
 Historic Preservation Planner

Telephone (850) 487-2333  
 Suncom 277-2333  
 FAX (850) 922-0496

APPENDIX V

FLORIDA NATURAL AREAS INVENTORY LETTER

## FLORIDA NATURAL AREAS INVENTORY

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

RECEIVED  
MAR 14 1997

March 3, 1997

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

BUREAU OF  
WILDLIFE MANAGEMENT

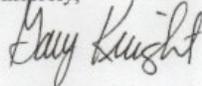
Dear Hugh:

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

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

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

Sincerely,



Gary Knight, Director  
Florida Natural Areas Inventory

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

The Nature Conservancy and the Florida Department of Environmental Protection

APPENDIX VI

LAND MANAGEMENT UNIFORM COST ACCOUNTING COUNCIL - FWC  
ACTIVITY CODE GROUPINGS, BUDGET WORKSHEET AND 2002 – 2003  
ANNUAL WORK PLAN AND BUDGET

**Land Management Uniform Cost Accounting Council and FWC Activity Code Groupings**

**Resource Management**

Exotic Species Control

- 211 Exotic plant control (mechanical)
- 212 Exotic plant control (chemical)

Prescribed Burning

- 206 Prescribed burning - growing season (April 1 to September 30)
- 207 Prescribed burning - dormant season (October 1 to March 31)
- 208 Firebreaks

Cultural Resource Management

- 201 Cultural resource management

Timber Management

- 202 Timber management

Hydrological Management

- 216 Dams, dikes, levees
- 217 Canals
- 218 Water level management
- 194 Lake restoration

Other

- 185 GIS
- 186 Biometrics
- 200 RESOURCE MANAGEMENT
- 203 Tree and shrub planting
- 282 Herbaceous seeding
- 283 Clearings
- 289 Native vegetation management (mechanical)
- 290 Native vegetation management (chemical)
- 221 Animal surveys
- 228 Inland aerial surveys
- 235 Vegetation and plant surveys
- 250 MONITORING AND ASSESSMENTS
- 252 Biomedical monitoring
- 263 Nest box monitoring
- 264 Population demographics
- 295 Biological data collection, analysis, and reporting
- 275 Permits and authorizations
- 276 Commission rule development and review
- 277 Relocation
- 278 CITES tags
- 281 Technical assistance
- 284 Feeding/watering
- 285 Nest structures
- 286 Population control

- 287 Stocking enhancements/population augmentation
- 288 Nuisance animal complaints
- 293 Mortality investigations
- 294 Program coordination and implementation - inter- and intra-agency coordination and program implementation at the section, bureau, or division level

## **Administration**

### Central Office/Headquarters

- 100 ADMINISTRATION - administrative tasks, including preparation of forms, word processing, photocopying, filing, and other clerical/secretarial duties.
- 104 Budget/purchasing/accounting

### Districts/Regions

See Location code

### Units/Projects

See Location code

## **Support**

### Land Management Planning

- 103 Meetings - includes workshops, conferences, staff, and other meetings.
- 204 Resource planning

### Land Management Reviews

- 101 Project inspection - field inspections of projects.

### Training/Staff Development

150 PERSONNEL MANAGEMENT - recruitment, hiring, training, counseling, and supervising.

### Vehicle Purchase

### Vehicle Operation and Maintenance

- 923 FEM - vehicles/equipment

### Other

- 140 REPORT WRITING/EDITING/MANUSCRIPT PREPARATION
- 141 Grant applications
- 180 SYSTEMS ADMINISTRATION AND MANAGEMENT
- 182 Data management
- 184 Metadata development and management
- 187 IT
- 188 Web development
- 721 Geospatial analysis techniques
- 191 Stamp design coordination
- 226 Human dimensions surveys

## **Capitol Improvements**

### New Facility Construction

- 910 New facility construction - buildings/structures
- 912 New construction - roads/bridges

- 913 New construction - trails
- 914 New construction - fences

Facility Maintenance

- 920 Facility and equipment maintenance (FEM) - buildings/structures
- 921 FEM - utilities
- 922 FEM - custodial functions
- 925 FEM - boating access
- 926 FEM - roads/bridges
- 927 FEM - trails
- 928 FEM - fences

**Visitor Services/Recreation**

Information/Education Programs

- 145 Technical bulletin

Operations

- 311 Boundary signs
- 312 Informational signs
- 320 Outreach and education - attending or developing educational or informational materials or events for the public
- 327 Becoming an Outdoor Woman - enhancement
- 331 Wings Over Florida
- 341 Public use administration (hunting)
- 342 Public use administration (non-hunting)
- 350 Customer service support - disseminating written or verbal information or assistance to the public
- 700 STUDIES
- 740 EVALUATIONS AND ASSESSMENTS
- 750 URTD assessment

**Law Enforcement**

Apalachicola River WEA Conceptual Management Plan Budget							Acres	60932
LMUCAC categories			Operational Plan				Needs-based Assessment	
Resource Management	CMP budget	Operational Plan	Activity Code	Amount	Activity Code	Amount	Resource Management	Amount
Exotic Species Control	\$54,294.00	\$54,294.00	100	13,529.00	277	0.00	Burning	\$67,853.93
Prescribed Burning	\$54,204.90	\$54,204.90	101	658.80	278	0.00	Exotics	\$165,161.70
Cultural Resource Management	\$2,500.00	\$2,500.00	103	5,941.00	281	5,764.50	Planting	\$7,493.85
Timber Management	\$5,611.60	\$5,611.60	104	0.00	282	20,352.50	Surveys	\$11,150.00
Hydrological Management	\$57,294.00	\$57,294.00	140	494.10	283	0.00	Repl. Equip.	\$118,435.00
Other	\$167,951.30	\$167,951.30	141	0.00	284	0.00	Mgt. T.A.	0.00
<b>Subtotal</b>	<b>\$341,855.80</b>	<b>\$341,855.80</b>	145	0.00	285	0.00	Resource protection	10,450.00
			150	9,058.50	286	0.00	Equip.	\$56,615.00
<b>Administration</b>			180	0.00	287	0.00	Hydrologic R	\$10,200.00
General administration	\$13,529.00	\$13,529.00	182	9,490.40	288	823.50	<b>Subtotal</b>	<b>447,359.48</b>
			184	0.00	289	7,117.50		
<b>Support</b>			185	0.00	290	1,947.00	<b>Visitor Services/Recreation</b>	
Land Management Planning	\$33,381.50	\$33,381.50	186	0.00	293	0.00	Rd/Trl Dev.	\$758,782.26
Land Management Reviews	\$658.80	\$658.80	187	0.00	294	0.00	Fac. Maint.	0.00
Training/Staff Development	\$9,058.50	\$9,058.50	188	0.00	295	0.00	Bldg. maint.	0.00
Vehicle Purchase	\$56,615.00	N/A	191	0.00	311	1,323.50	Fence/Gate maint.	\$50,171.00
Vehicle Operation and Maintenance	\$55,851.00	\$55,851.00	194	0.00	312	4,294.00	Signage	\$290.03
Other	\$9,984.50	\$9,984.50	200	2,500.00	320	823.50	Res. maint.	0.00
<b>Subtotal</b>	<b>\$165,549.30</b>	<b>\$108,934.30</b>	201	2,500.00	327	0.00	Rd./Trl. maint.	\$186,226.23
			202	5,611.60	331	0.00	Fence/Gate Dev.	\$1,003,420.00
<b>Capital Improvements</b>			203	13,617.50	341	2,147.00	<b>Subtotal</b>	<b>1,998,889.52</b>
New Facility Construction	\$0.00	\$0.00	204	27,440.50	342	0.00		
Facility Maintenance	\$289,122.40	\$289,122.40	206	15,735.00	350	823.50	<b>Capitol Improvements</b>	
<b>Subtotal</b>	<b>\$289,122.40</b>	<b>\$289,122.40</b>	207	32,528.90	700	0.00	Bld. Dev.	0.00
			208	5,941.00	721	0.00	Fac. Dev.	0.00
<b>Visitor Services/Recreation</b>			211	0.00	740	0.00	<b>Subtotal</b>	<b>0.00</b>
Info./Education/Operations	\$9,411.50	\$9,411.50	212	54,294.00	750	0.00		
			216	0.00	910	0.00	<b>Total</b>	<b>2,446,249.00</b>
<b>Law Enforcement</b>			217	0.00	912	0.00		
Resource protection	\$10,450.00		218	57,294.00	913	0.00		
			221	16,593.70	914	0.00		
<b>Total</b>	<b>\$829,918.00</b>	<b>\$762,853.00</b>	226	0.00	920	204,705.50		
			228	6,617.60	921	0.00		
Priority schedule:			235	92,617.50	922	3,794.00		
Immediate (annual)			250	0.00	923	55,851.00		
Intermediate (3-4 years)			252	0.00	925	2,152.90		
Other (5+ years)			263	0.00	926	74,176.00		
			264	0.00	927	0.00		
			275	0.00	928	4,294.00		
			276	0.00	<b>Total</b>	<b>\$762,853.00</b>		

**FY 2002-03**  
**Project 7275 - APALACHICOLA WEA**

	<b>Man Days</b>	<b>Salary</b>	<b>FuelCost</b>	<b>Other</b>	<b>Total</b>	<b>Units Accomplishments</b>
Species 9200 - All wildlife						
Activity - <a href="#">100</a> Administration						
	70.00	\$11,200.00	\$329.00	\$2,000.00	\$13,529.00	0 PROCESS INVOICES AND REQUIRED PAPERWORK. CLERICAL DUTIES. SUPERVISORY DUTIES (\$2000 EXP. FOR SUPPLIES).
Activity - <a href="#">101</a> Project inspection						
	4.00	\$640.00	\$18.80	\$0.00	\$658.80	0 MONITOR STATUS AND PROGRESS OF AREA PROJECTS AND ACTIVITIES.
Activity - <a href="#">103</a> Meetings						
	30.00	\$4,800.00	\$141.00	\$1,000.00	\$5,941.00	0 ATTEND VARIOUS MEETINGS CONCERNING AREA PROJECTS AND ACTIVITIES (\$1000 FOR TRAVEL).
Activity - <a href="#">104</a> Budget/purchasing/accounting						
	0.00	\$0.00	\$0.00	\$0.00	\$0.00	26 MONITOR AND TRACK AREA EXPENDITURES.
Activity - <a href="#">128</a> New Vehicle and Equipment Purchases						
	0.00	\$0.00	\$0.00	\$0.00	\$0.00	3 PURCHASE OF MATERIALS AND EQUIPMENT FOR THE AREA.
Activity - <a href="#">140</a> Report writing/editing/manuscript preparation						
	3.00	\$480.00	\$14.10	\$0.00	\$494.10	0 COMPILE ANNUAL AND PERIODIC SUMMARY

	<b>Man Days</b>	<b>Salary</b>	<b>FuelCost</b>	<b>Other</b>	<b>Total Units</b>	<b>Accomplishments</b>
						REPORTS ON AREA ACTIVITIES.
Activity - <a href="#">150</a>	Personnel management					
	55.00	\$8,800.00	\$258.50	\$0.00	\$9,058.50	0 SUPERVISION OF AREA FTES AS WELL AS HIRING AND SUPERVISION OF OPS AND VOLUNTEERS.
Activity - <a href="#">182</a>	Data management					
	22.00	\$3,520.00	\$103.40	\$5,867.00	\$9,490.40	0 INPUT AND MONITORING OF DAILY ACTIVITIES, VEHICLE AND EQUIPMENT LOGS AND OTHER ROUTINE PAPERWORK (\$5867 FOR 2 COMPUTER REPLACEMENTS S.C.).
Activity - <a href="#">200</a>	Resource Management					
	0.00	\$0.00	\$0.00	\$2,500.00	\$2,500.00	0 VOYGER FUEL CARD CHARGES (\$2,500 EXP.)
Activity - <a href="#">202</a>	Timber management					
	28.00	\$4,480.00	\$131.60	\$1,000.00	\$5,611.60	0 COORDINATE WITH DOF FOR TIMBER MANAGMENT AND HARVEST (\$1000 EXP. FOR SUPPLIES).
Activity - <a href="#">203</a>	Tree and shrub planting					
	25.00	\$4,000.00	\$117.50	\$9,500.00	\$13,617.50	0 RESTORE NATIVE WETLAND HARDWOODS WITHIN SAUL CREEK UNIT. ASSIST COE WITH MONITORING HARDWOOD

	Man Days	Salary	FuelCost	Other	Total	Units	Accomplishments
							RESTORATION PLOTS (\$2500 EXP. FOR PURCHASE OF HARDWOODS; CARL ENHANCEMENT = \$7000 FOR LESPEDEZA PLANTINGS).
Activity - <a href="#">204</a>	Resource planning						
	90.00	\$14,400.00	\$423.00	\$500.00	\$15,323.00	0	PLANNING, SCHEDULING AND COORDINATION OF WORK PROJECTS AND ACTIVITIES ON THE AREA. (\$500 FOR SUPPLIES).
Activity - <a href="#">206</a>	Prescribed burning - growing season						
	50.00	\$8,000.00	\$235.00	\$7,500.00	\$15,735.00	500	PRESCRIBE BURN 500 ACRES TO ENHANCE WILDLIFE HABITAT (\$2000 EXP. FOR EQUIP. USE AND SUPPLIES; CARL ENHANCEMENT = \$5500 FOR DOLPHIN FLOATING PUMPS).
Activity - <a href="#">207</a>	Prescribed burning - dormant season						
	87.00	\$13,920.00	\$408.90	\$18,200.00	\$32,528.90	2500	PRESCRIBE BURN 2500 ACRES (\$5200 EXP. FOR EQUIP. USE, SUPPLIES AND HELICOPTER TIME; CARL ENHANCEMENT = \$13,000 FOR SLIDE-IN PUMPER UNIT AND AIDS SPHERES).
Activity - <a href="#">208</a>	Firebreaks						

	<b>Man Days</b>	<b>Salary</b>	<b>FuelCost</b>	<b>Other</b>	<b>Total</b>	<b>Units</b>	<b>Accomplishments</b>
	30.00	\$4,800.00	\$141.00	\$1,000.00	\$5,941.00	0	MAINTAIN FIREBREAKS BY DISKING OR BLADING AS NEEDED (\$1000 EXP. FOR EQUIP. USE AND SUPPLIES)
Activity - <a href="#">212</a> Exotic plant control (chemical)	20.00	\$3,200.00	\$94.00	\$51,000.00	\$54,294.00	0	SURVEY AND CONTROL EXOTIC INVASIVE PLANTS (\$1000 EXP. FOR HERBICIDES, SUPPLIES AND EQUIP. USE; CARL INTERIM = \$50,000 FOR CONTRACTUAL SERVICES).
Activity - <a href="#">218</a> Water level management	20.00	\$3,200.00	\$94.00	\$54,000.00	\$57,294.00	0	ASSESS WATER CONTROL NEEDS. MAINTAIN, REMOVE OR RESTORE LOW WATER CROSSINGS, PLUGS AND CULVERTS AS NEEDED TO INSURE NATURAL HYDROPERIODS (\$4000 FOR MATERIALS AND SUPPLIES; CARL ENHANCEMENT = \$50,000 FOR HYDROLOGIC SURVEY AND RESTORATION PLAN).
Activity - <a href="#">235</a> Vegetation and plant surveys	25.00	\$4,000.00	\$117.50	\$88,500.00	\$92,617.50	0	CONDUCT INVENTORY OF ENDANGERED AND THREATNED

	Man Days	Salary	FuelCost	Other	Total	Units	Accomplishments
							FLORA. DEVELOP GEO-REFRENCED PHOTOGRAPHIC DATABASE. ASSIST PCM WITH MONITORING VEGETATIVE RESPONSE (\$1000 EXP. FOR SUPPLIES AND EQUIPMENT; CARL ENHANCEMENT = \$87,500 FOR FNAI CONTRACTUAL SERVICES)
Activity - <a href="#">281</a>	Technical assistance						
	35.00	\$5,600.00	\$164.50	\$0.00	\$5,764.50	0	PROVIDE TECHNICAL INFORMATION AND ASSISTANCE TO COOPERATING AGENCIES REGARDING WILDLIFE MANAGEMENT.
Activity - <a href="#">282</a>	Herbaceous seeding						
	75.00	\$12,000.00	\$352.50	\$8,000.00	\$20,352.50	80	MAINTAIN 80 ACRES OF DISTURBED UPLAND CLEARINGS FOR DOVE HUNTING OPPORTUNITIES ON THE SAUL CREEK UNIT. (\$8,000 FOR EQUIP USE AND SEED AND FERTILIZER).
Activity - <a href="#">288</a>	Nuisance animal complaints						
	5.00	\$800.00	\$23.50	\$0.00	\$823.50	0	RESPOND TO NUISANCE ANIMAL COMPLAINTS. (NFA)
Activity - <a href="#">289</a>	Native vegetation management (mechanical)						

	<b>Man Days</b>	<b>Salary</b>	<b>FuelCost</b>	<b>Other</b>	<b>Total Units</b>	<b>Accomplishments</b>
	25.00	\$4,000.00	\$117.50	\$3,000.00	\$7,117.50	0 MOW ROAD SHOULDERS. ROLLERCHOP PCM SECTION'S EXPERIMENTAL PLOTS AND OTHER AREAS OF INVASIVE NATIVE WOODY VEGETATION. (\$3,000 EXP. FOR FUEL AND SUPPLIES).
Activity - <a href="#">290</a> Native vegetation management (chemical)						
	10.00	\$1,600.00	\$47.00	\$300.00	\$1,947.00	0 APPLY HERBICIDE TO PCMS EXPERIMENTAL PLOTS AND COMPOUND (\$300 EXP. FOR SUPPLIES)
Activity - <a href="#">311</a> Boundary signs						
	5.00	\$800.00	\$23.50	\$500.00	\$1,323.50	0 ASSIST LAW ENFORCEMENT WITH MAINTAINING AND POSTING BOUNDARY SIGNS (\$500 EXP. FOR SUPPLIES).
Activity - <a href="#">312</a> Informational signs						
	20.00	\$3,200.00	\$94.00	\$1,000.00	\$4,294.00	0 MAINTAIN AND REPAIR ENTRANCE AND INFORMATIONAL SIGNS AS NEEDED. (\$1000 EXP. FOR SUPPLIES).
Activity - <a href="#">320</a> Outreach and education						
	5.00	\$800.00	\$23.50	\$0.00	\$823.50	0 PRESENTATIONS TO LOCAL SCHOOLS OR ORGANIZATIONS.
Activity - <a href="#">350</a> Customer service support						

Man Days	Salary	FuelCost	Other	Total Units	Accomplishments
5.00	\$800.00	\$23.50	\$0.00	\$823.50	0 PROVIDE INFORMATION TO PUBLIC CONCERNING AGENCY GOALS, PROJECTS, WILDLIFE MANAGEMENT, REGULATIONS AND RECREATIONAL OPPORTUNITIES.

Activity - [920](#) FEM -- buildings/structures

30.00	\$4,800.00	\$141.00	\$138,000.00	\$142,941.00	3 MAINTAIN SHOP, OFFICE AND COMPOUND STRUCTURES. FINISH EQUIPMENT STORAGE ENCLOSURE(\$1000 EXP. FOR SUPPLIES AND MATERIALS; \$35,000 FOR SHOP COMPLETION S.C.; CARL ENHANCEMENT = \$102,000 FOR SHOP COMPLETION AND ROCK FOR COMPOUND).
-------	------------	----------	--------------	--------------	---

Activity - [922](#) FEM -- custodial functions

20.00	\$3,200.00	\$94.00	\$500.00	\$3,794.00	0 CONDUCT PATROLS TO ENSURE PROTECTION OF CAPITAL IMPROVEMENTS AND FISH/WILDLIFE ASSESTS. MONITOR HOUSE BOAT TRESPASS SITUATION. (\$500 FOR SUPPLIES).
-------	------------	---------	----------	------------	--

Activity - [923](#) FEM -- vehicles/equipment

	<b>Man Days</b>	<b>Salary</b>	<b>FuelCost</b>	<b>Other</b>	<b>Total Units</b>	<b>Accomplishments</b>
	70.00	\$11,200.00	\$329.00	\$44,322.00	\$55,851.00	0 REPAIR AND MAINTAIN EQUIPMENT USED ON THE AREA (\$7322 EXP. FOR PARTS AND LABOR; \$12,000 FOR ATV AND GAS WELDER S.C.; CARL ENHANCEMENT = \$25,000 FOR NEW POSITION VEHICLE).
Activity - <a href="#">925</a> FEM -- boating access	7.00	\$1,120.00	\$32.90	\$1,000.00	\$2,152.90	4 MAINTAIN AND REPAIR EXISTING RAMPS (4) AND PARKING AREAS (\$1000 EXP. FOR MATERIALS).
Activity - <a href="#">926</a> FEM -- roads/bridges	80.00	\$12,800.00	\$376.00	\$61,000.00	\$74,176.00	0 REPAIR ROADS, INSTALL CROSSINGS AND CULVERTS AND CLEAR BRUSH AS NEEDED (\$10,000 EXP. FOR SUPPLIES AND MATERIALS; CARL INTERIM = \$51,000 FOR CONTRACTUAL SERVICES.)
Activity - <a href="#">928</a> FEM -- fences	20.00	\$3,200.00	\$94.00	\$1,000.00	\$4,294.00	0 MAINTAIN ENTRANCE AND PERIMETER GATES AND REPAIR EXISTING FENCES AS NEEDED (\$1000 EXP. FOR MATERIALS).

---

	<b>Man Days</b>	<b>Salary</b>	<b>FuelCost</b>	<b>Other</b>	<b>Total</b>	<b>Units</b>	<b>Accomplishments</b>
Species 9200	971.00	\$155,360.00	\$4,563.70	\$501,189.00	\$661,112.70		
Total							

---

Species 9210 - Game wildlife

Activity - [221](#) Animal surveys

45.00	\$7,200.00	\$211.50	\$1,000.00	\$8,411.50	0	CONDUCT DEER SURVEYS AND QUAIL CALL COUNT SURVEYS (\$1000 EXP. FOR SUPPLIES AND EQUIP. USE).
-------	------------	----------	------------	------------	---	--

Activity - [341](#) Public use administration (hunting)

10.00	\$1,600.00	\$47.00	\$500.00	\$2,147.00	0	ADMINISTER PUBLIC HUNTS, COLLECT AND REPORT HUNTER HARVEST AND PRESSURE DATA. PREPARE ANNUAL HUNT MAPS AND BROCHURES (\$500 EXP. FOR SUPPLIES).
-------	------------	---------	----------	------------	---	---

---

Species 9210	55.00	\$8,800.00	\$258.50	\$1,500.00	\$10,558.50		
Total							

---

Species 9240 - Nongame wildlife

Activity - [221](#) Animal surveys

6.00	\$960.00	\$28.20	\$100.00	\$1,088.20	0	ASSIST WITH FLATWOODS SALAMANDER SURVEYS (\$100 EXP. FOR SUPPLIES). NFA.
------	----------	---------	----------	------------	---	--

Activity - [228](#) Inland aerial surveys

8.00	\$1,280.00	\$37.60	\$5,300.00	\$6,617.60	0	CONDUCT WADING BIRD SURVEYS (\$5300 EXP. FOR SUPPLIES AND AIRCRAFT)
------	------------	---------	------------	------------	---	---

	Man Days	Salary	FuelCost	Other	Total	Units	Accomplishments
Species 9240	14.00	\$2,240.00	\$65.80	\$5,400.00	\$7,705.80		
Total							
<hr/>							
Species 9280 - All threatened and endangered wildlife							
Activity - <a href="#">221</a> Animal surveys							
	20.00	\$3,200.00	\$94.00	\$3,800.00	\$7,094.00	0	MONITOR EXISTING RCW CLUSTERS AND SURVEY POTENTIAL RCW HABITAT \$3800 EXP. FOR SUPPLIES AND AIRCRAFT).
Species 9280	20.00	\$3,200.00	\$94.00	\$3,800.00	\$7,094.00		
Total							
<hr/>							
Species 9800 - Nature based recreation							
Activity - <a href="#">204</a> Resource planning							
	25.00	\$4,000.00	\$117.50	\$8,000.00	\$12,117.50	0	PLANNING AND COORDINATING NBR WORK PROJECTS ON THE AREA (\$1000 EXP. FOR SUPPLIES; CARL INTERIM = \$7000 FOR NBR PROJECTS, SIGNAGE, GUIDES, MAPS).
Activity - <a href="#">920</a> FEM -- buildings/structures	35.00	\$5,600.00	\$164.50	\$56,000.00	\$61,764.50	0	MAINTAIN AND REPAIR NBR FACILITIES (\$1000 EXP. FOR SUPPLIES; CARL ENHANCEMENT = \$55,000 FOR REBUILDING OBSERVATION TOWER AND CONTRACT MAINTENANCE

**Man**      **Salary** **FuelCost**      **Other**      **Total Units Accomplishments**  
**Days**

OF FACILITIES).

---

Species 9800	60.00	\$9,600.00	\$282.00	\$64,000.00	\$73,882.00
Total					

---

Project 7275	1,120.00	\$179,200.00	\$5,264.00	\$575,889.00	\$760,353.00
Total					

**ORG - Category Breakdown**

ORG	Category	Total
77302030100	040000	\$70,022.00
77302030100	100228	\$52,867.00
77302090100	100228	\$345,000.00
77302090100	103889	\$108,000.00

APPENDIX VII

AGENCY STRATEGIC PLAN  
AND  
LONG RANGE PROGRAM PLAN

Final  
AGENCY STRATEGIC PLAN  
FOR THE  
FLORIDA GAME AND FRESH WATER FISH COMMISSION  
FY 1999-2000 THROUGH FY 2003-2004

SUBMITTED TO THE EXECUTIVE  
OFFICE OF THE GOVERNOR

November 1998

THE FLORIDA GAME AND FRESH WATER FISH COMMISSION

Mr. Thomas B. Kibler, Chairman

Mr. James L. "Jamie" Adams  
Vice-Chairman

Ms. Julie K. Morris  
Member

Mrs. Gilbert W. Humphrey  
Member

Dr. Quinton L. Hedgepeth  
Member

**THE MISSION OF THE FLORIDA  
GAME AND FRESH WATER FISH COMMISSION**

**To manage fish and wildlife for the benefit of people and  
the long-term welfare of the resource.**

EXECUTIVE SUMMARY

The Florida Game and Fresh Water Fish Commission has authority for the State's wildlife and freshwater fish.

The Commission's Strategic Issue for FY 1999-00 through FY 2003-04 is:

Fishing, Hunting and Wildlife Viewing

Over 65 percent of Floridians actively pursue freshwater fishing, hunting and wildlife viewing. In addition to the recreational benefits to participants, these activities generate a total annual economic benefit to Florida of \$5.8 billion. The Commission seeks to increase participation in freshwater fishing and hunting, and improve services offered to wildlife viewers.

A majority of the state's wildlife and the habitats upon which they depend is in private ownership. Prudent management of these lands is critical to the future of fish and wildlife. To this end, private landowners are important partners with government in fish and wildlife management, and important customers of GFC services.

Both the Commission and Floridians benefit from direct involvement by citizens in the agency's programs. The Commission seeks to increase its community involvement in efforts that further fish and wildlife conservation.

There are no major changes to strategic issues from the previous year's Agency Strategic Plan (ASP).

INTRODUCTION

The Florida Game and Fresh Water Fish Commission has authority for the State's wildlife and freshwater fish. In effecting the authority, the Commission oversees over 800 species of fish and wildlife in the State's 37 million acres which benefit over 14 million Floridians and 40 million tourists who actively pursue wildlife-related recreation.

#### EXPLANATION OF THE AGENCY STRATEGIC PLAN FORMAT

This Agency Strategic Plan (ASP) is presented as a Strategic Issue. This Strategic Issue is the area on which the Commission will focus during FY 1999-00 through FY 2003-04. The Commission uses this document to guide development of its Legislative Budget Request, and internal operational plans prepared annually for each agency work unit. Twice each year work units prepare a report to the Executive Director on progress toward ASP accomplishment as a result of their work unit.

Following the Issue, Trends and Conditions Analyses, Objectives, and Strategies are presented. Endnotes appear after the Issue showing literature and references used by agency staff to prepare the ASP. An Appendix (A) is included that links our Strategic Issue with the State Comprehensive Plan's goals and policies for which we are responsible. Another Appendix (B) presents the relationship between the Strategic Issue and Florida Benchmarks. Appendix (C) presents the Commission's organizational structure. Appendix (D) enumerates the Commission's authority and responsibility as specified in the Constitution, Statutes and Executive Orders. Appendix (E) defines terms used in this ASP, Appendix (F) presents an ASP Cross Reference Matrix, while Appendix (G) shows any relationships between new constitutional and/or statutory authority and the ASP.

**Priority Issue #1: Fishing, Hunting and Wildlife Viewing**

**Goal 1: Increase Participation and Satisfaction Levels for Participants in Fishing, Hunting, and Wildlife Viewing.**

Baseline Data Indicator	Current Data	
	FY 1995-96	FY 1996-97
The number of licensed resident freshwater anglers	487,229	479,247

**Objective 1:**

Increase the number of licensed resident freshwater anglers 10 percent over FY 1996-97 levels of 479,247 by FY 2003-04. (Fisheries Program).

**Projection Table**

FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04
2%	4%	6%	8%	10%

**Objective 2:**

Through FY 2003-04, maintain or exceed the fishing satisfaction level of resident freshwater anglers at the FY 1996-97 level of 75 percent. (Fisheries Program).

**Projection Table**

FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04
75%	75%	75%	75%	75%

**Objective 3:**

Increase the number of licensed nonresident freshwater anglers 10 percent over FY 1996-97 levels of 136,680 by FY 2002-03 and maintain this increased level. (Fisheries Program).

**Projection Table**

FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04
4%	6%	8%	10%	10%

**Strategies:**

- 1.1 Assess fishing-related rules so as to encourage participation and compliance.
- 1.2 Develop and implement fishing regulations that improve fish populations.
- 1.3 Improve public access to fishing waters, e.g. increase bank-fishing opportunities, including access to South Florida canals.
- 1.4 Develop additional areas where fishing is exceptional by entering into agreements with private landowners for public access to private waters.
- 1.5 Expand the "Becoming an Outdoors Woman" program and maintain the "Outdoor Adventure" programs to introduce more people to outdoor activities.
- 1.6 Implement recent Legislative changes to the licensing system that make it easier to buy a fishing license.
- 1.7 Develop and implement a marketing plan for providing fishing opportunities for first-time anglers and to regain anglers who have dropped-out.
- 1.8 Improve the quality of fishing (the number and size of catchable fish) so as to encourage a return to fishing by those who have dropped-out.
- 1.9 Increase the hours of fishing effort on waters currently under management in urban areas, and bring additional urban waters under management.
- 1.10 Conduct a large-scale fishing celebration to inform anglers of Florida's freshwater fishing opportunities.
- 1.11 Promote fishing licenses and fishing opportunities via consumer-directed advertising and consumer incentives in partnership with third parties.
- 1.12 Improve security at recreational facilities such as public boat ramps and WMA campgrounds.
- 1.13 Enhance public relations about fishing.
- 1.14 Contact and assist tax collectors and license subagents to facilitate ease in license purchasing by the public.

- 1.15 Reduce conflict between anglers and recreational boaters.
- 1.16 Improve public knowledge about where to go fishing and where the fishing is good.
- 1.17 Promote, communicate and educate the public about fishing opportunities and regulations.
- 1.18 Be more positive in our dealings with the public.
- 1.19 Enhance information resource management capabilities.

**Objective 4:**

Increase the number of licensed resident hunters 5 percent over FY 1996-97 levels of 168,408 by FY 2002-03. (Wildlife Program).

**Projection Table**

FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04
1%	2%	3%	4%	5%

**Objective 5:**

Increase the hunting satisfaction level of hunters by 10 percent over FY 1993-94 levels of 73% by FY 2003-04. (Wildlife Program).

**Projection Table**

FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04
2%	4%	6%	8%	10%

**Indicators:**

- number of resident hunting licenses sold as compared to previous year's sales.
- level of satisfaction with their hunting experience among hunters as compared to previous years.

**Strategies:**

- 2.1 Increase small game and dove hunting by improving opportunities on existing wildlife management

areas and providing additional opportunities on new areas, especially close to urban areas.

- 2.2 Improve access to wildlife management areas, e.g. improve existing roads and improve parking areas.
- 2.3 Promote hunting licenses and hunting opportunities via consumer-directed advertising and consumer incentives in partnership with third parties.
- 2.4 Provide additional quality hunting areas.
- 2.5 Expand the "Becoming an Outdoors Woman" program and maintain the "Outdoor Adventure" programs to introduce more people to outdoor activities.
- 2.6 Promote, communicate and educate the public about hunting opportunities and regulations.
- 2.7 Be more positive in our dealings with the public.
- 2.8 Enhance information resource management capabilities.

**Objective 6:**

Increase the number of wildlife viewers over 1996 levels of 2.849 million through FY 2002-03. (Wildlife Program).

**Projection Table**

FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04
1%	2%	3%	4%	5%

**Objective 7:**

Through FY 2002-03, maintain wildlife viewer satisfaction at the 1993 level of 92 percent. (Wildlife Program).

**Projection Table**

FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04
92%	92%	92%	92%	92%

**Strategies:**

- 3.1 Develop and implement a marketing plan for wildlife viewing opportunities on wildlife management areas and other public lands and waters.

- 3.2 Conduct a statewide watchable wildlife conference each year.
- 3.3 Develop mutually-agreed upon site-selection criteria for establishing wildlife viewing on GFC managed lands.
- 3.4 Select areas and create interpretive plans to make them "viewer friendly" (e.g., increase ease of access, publicize how and where to go, develop bird lists and area brochures for viewers).
- 3.5 Promote wildlife-viewing-related projects and activities, such as the "Wings Over Florida" certificate program, Florida Wildlife Viewing Guide, Project Bunting, local songbird festivals, etc.
- 3.6 Communicate, through the media, nongame and watchable wildlife opportunities as indicated in operational plans and the agency-wide watchable wildlife plan.
- 3.7 Promote wildlife viewing on private lands, in rural communities, and on other properties not managed by the GFC.
- 3.8 Establish partnerships with public and private entities, including nature tour operators, to further wildlife viewing throughout Florida.
- 3.9 Collaborate with the nature tour industry to establish guidelines for ethical wildlife viewing.
- 3.10 Educate the public regarding the relationship between humans, wildlife and their habitats through a variety of approaches, such as festivals, seminars, workshops and self-guided tours.
- 3.11 Stimulate local economies and/or GFC financial status through wildlife watching programming and activities.
- 3.12 Maintain a formal outreach program directed at the private sector to promote wildlife-related recreation.
- 3.13 Enhance information resource management capabilities.

**Objective 8:**

Increase the number of participants enrolled in achievement programs by 10 percent over FY 1996-97 levels of 3463 by FY 2000-01 and maintain this level through FY 2003-04. (Wildlife Program).

**Projection Table**

FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04
9%	10%	10%	10%	10%

**Objective 9:**

Increase the number of outreach participants through clinics and derbies by 25 percent over FY 1996-97 levels of 8154 by FY 2000-01 and maintain this increased level through FY 2003-04. (Fisheries Program).

**Projection Table**

FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04
15%	25%	25%	25%	25%

**Strategies:**

- 4.1 Market Fisheries and Wildlife outreach activities to target markets.
- 4.2 Enhance information resource management capabilities.

**Goal 2: Increase Outdoor Recreational Opportunities.**

<u>Baseline Data</u>	<u>Current Data</u>	
<u>Indicator</u>	<u>FY 1995-96</u>	<u>FY 1996-97</u>
The number of acres of publicly-owned lands managed by the GFC	3,511,769	3,637,887

**Objective 10:**

Increase the number of water bodies and acres managed by the GFC to improve fishing by 5% and 2%, respectively, over FY 1996-97 levels of 119/738,653 by FY 1999-00 and maintain this increased level through FY 2003-04. (Fisheries Program).

**Projection Table**

FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04
5%/2%	5%/2%	5%/2%	5%/2%	5%/2%

**Objective 11:**

Increase the number of fishing access points established and maintained by 20% over the average of FY 1993-94, 94-95 and 95-96 of 35 by FY 1999-00 and maintain this increased level through FY 2003-04. (Fisheries Program).

**Projection Table**

FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04
20%	20%	20%	20%	20%

**Objective 12:**

Increase the number of acres of publicly-owned lands managed by the GFC for wildlife-related outdoor recreation by 5% over FY 1995-96 levels of 3,511,000 by FY 2003-04. (Wildlife Program).

**Projection Table**

FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04
2%	2%	3%	4%	5%

**Objective 13:**

Restore the number of acres of privately-owned lands leased by the GFC for wildlife-related outdoor recreation to FY 1995-96 levels of 856,800 by FY 2002-03 and maintain this restored level through FY 2003-04. (Wildlife Program).

**Projection Table**

FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04
-3%	-2%	-1%	0%	0%

**Objective 14:**

Maintain the percent of acreage under GFC management control that is available to the public for wildlife-related outdoor recreation at FY 1995-96 levels of 99.9% through FY 2002-03. (Wildlife Program).

**Projection Table**

FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04
99.9%	99.9%	99.9%	99.9%	99.9%

**Goal 3: Protect and Conserve Natural Habitats and Fish and Wildlife Populations.**

Baseline Data

Current Data

Indicator

FY 1995-96

FY 1996-97

The conservation status of 80 wildlife species listed as endangered, threatened or species concern

29.62

29.62

**Objective 15:**

Maintain the conservation status of 63 game species at FY 1995-96 levels of 16.44 through FY 2003-04. (Wildlife Program).

**Projection Table**

FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04
0%	0%	0%	0%	0%

**Objective 16:**

Maintain the conservation status of 389 nongame wildlife species at FY 1995-96 levels of 13.21 through FY 2003-04. (Wildlife Program).

**Projection Table**

FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04

0%	0%	0%	0%	0%
----	----	----	----	----

**Objective 17:**

Maintain the conservation status of 80 wildlife species listed as endangered, threatened or species of special concern at FY 1995-96 levels of 29.62 through FY 2003-04. (Wildlife Program).

**Projection Table**

FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04
0%	0%	0%	0%	0%

**Objective 18:**

Increase the number and acreage of water bodies undergoing habitat rehabilitation planning by 87% and 12%, respectively, over the 5-year average of FY 1991-92 through FY 1995-96 of 8/37,900 by FY 1999-00 and maintain this increased level through FY 2003-04. (Fisheries Program).

**Projection Table**

FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04
87%/12%	87%/12%	87%/12%	87%/12%	87%/12%

**Objective 19:**

Increase the number and acreage of water bodies where habitat rehabilitation has been completed by 50% and 82%, respectively, over the 5-year average of FY 1991-92 through FY 1995-96 of 4/11,000 and maintain this increased level through FY 2003-04. (Fisheries Program).

**Projection Table**

FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04
50%/82%	50%/82%	50%/82%	50%/82%	50%/82%

**Objective 20:**

Increase the acreage managed by GFC for wildlife habitat by 4% over FY 1995-96 levels of 4,368,600 and

maintain this increased level through FY 2003-04.  
(Wildlife Program).

**Projection Table**

FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04
4%	4%	4%	4%	4%

**Strategies:**

- 5.1 Increase GFC use of proactive, non-regulatory approaches to fish and wildlife conservation.
- 5.2 Continue to implement the Private Lands Initiative through cooperation with other state agencies under a signed Memorandum of Understanding.
- 5.3 Increase landowner participation in the Forest Stewardship Program.
- 5.4 Seek to prevent dog hunter/landowner conflicts first through improved identification and management of problem areas. Failing that, employ regulatory means to prevent the conflicts.
- 5.5 Continue enhanced trespass enforcement to landowners in fish and game protection.
- 5.6 Promote, communicate and educate the public on issues or programs related to private property owners.
- 5.7 Eliminate unnecessary rules and assess the impact on private property of new proposed rules.
- 5.8 Be more positive in our dealings with people.
- 5.9 Assist private landowners in the promotion, management and interpretation of wildlife-related activities appropriate for their properties.
- 5.10 Develop and test a "property owner service program" that explains what services we do and do not provide.
- 5.11 Enhance information resource management capabilities.

**Goal 4: Improve Public Safety in the Outdoor Environment.**

Baseline Data

Current Data

<u>Indicator</u>	<u>FY 1992-96</u>	<u>FY 1996-97</u>
The number of boating accidents	226	177

**Objective 21:**

Decrease from FY 1996-97 levels the number of boating accidents from 226 to 210 and maintain this decreased level through FY 2003-04. (Law Enforcement Program).

**Objective 22:**

Decrease from FY 1996-97 levels of 26 the number of boating fatalities and maintain this decreased level through FY 2003-04. (Law Enforcement Program).

**Objective 23:**

Decrease from FY 1996-97 levels of 136 the number of boating injuries and maintain this decreased level through FY 2003-04. (Law Enforcement Program).

**Projection Table**

FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04
210	210	210	210	210
26	26	26	26	26
136	136	136	136	136

**Objective 24:**

Maintain at FY 1996-97 levels the number of hunting accidents at 23 through FY 2003-04. (Law Enforcement Program).

**Objective 25:**

Maintain at FY 1996-97 levels the number of persons causing hunting accidents who attended or graduated from hunter education courses at 7 through FY 2003-04. (Law Enforcement Program).

**Projection Table**

FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04
23	23	23	23	23
7	7	7	7	7

**Goal 5: Reduce Regulation Violations and Other Careless and Abusive Acts.**

Baseline Data <u>Indicator</u>	Current Data <u>FY 1995-96</u>	<u>FY 1996-97</u>
The total number of Violations	29,237	29,130

**Objective 26:**

Increase the number of land, water and air hours spent in preventive patrol by 5% over CY 1996 levels of 592,823 by FY 2002-03 and maintain this increased level through FY 2003-04. (Law Enforcement Program).

**Projection Table**

FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04
2%	3%	4%	5%	5%

**Strategies:**

- 6.1 Concentrate boating safety efforts on water bodies that have heavy boating traffic.
- 6.2 Continue boating safety education efforts designed to improve safe boating behavior.
- 6.3 Expand loaner life vest program to additional areas of the state.
- 6.4 Continue hunter safety education efforts designed to improve safe hunting behavior.
- 6.5 Keep authorized positions filled with quality employees.
- 6.6 Improve the status of our vehicle fleet so as to minimize employee down-time.
- 6.7 Enhance information resource management capabilities.

**FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION**  
**Goals and Objectives**  
**(In Priority Order)**

**GOAL: TO PROVIDE FOR HEALTHY RESOURCES AND SATISFIED CUSTOMERS.**

**OBJECTIVE 1A: TO PROVIDE FOR INCREASING OR STABLE FISH AND WILDLIFE POPULATIONS.**

**OUTCOME 1A: Percent of critical habitat (hot spots) protected through land acquisition, lease or management contract.**

Baseline/ Year	FY 2001-02	FY 2002-03	FY 2003-04	FY 2004-05	FY 2005-06
38%	38%	39%	39%	39%	40%

**OUTCOME 1B: Percent of wildlife species that are increasing or stable.**

Baseline/ Year	FY 2001-02	FY 2002-03	FY 2003-04	FY 2004-05	FY 2005-06
71.5%	71.5%	71.5%	71.5%	71.5%	71.5%

**OUTCOME 1C: Percent of freshwater fish populations that are increasing or stable.**

Baseline/ Year	FY 2001-02	FY 2002-03	FY 2003-04	FY 2004-05	FY 2005-06
70%	70%	70%	70%	70%	70%

**OUTCOME 1D: Percent of marine fishery stocks that are increasing or stable.**

Baseline/ Year	FY 2001-02	FY 2002-03	FY 2003-04	FY 2004-05	FY 2005-06
79%	80%	81%	82%	83%	84%

**OUTCOME 1 E: Number of public contacts by law enforcement.**

Baseline/ Year	FY 2001-02	FY 2002-03	FY 2003-04	FY 2004-05	FY 2005-06
973,920	973,920	973,920	973,920	973,920	973,920

**OUTCOME 1F: Percent of research projects that provide management recommendations or support management actions.**

Baseline/ Year	FY 2001-02	FY 2002-03	FY 2003-04	FY 2004-05	FY 2005-06
100%	100%	100%	100%	100%	100%

**FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION**  
**Goals and Objectives**  
(In Priority Order)

**OBJECTIVE 2A: TO INCREASE THE NUMBER OF CUSTOMERS AND CONTINUE TO PROVIDE CUSTOMER SATISFACTION.**

**OUTCOME 2A: Percent change in licenses and permits issued.**

<b>Baseline/ Year</b>	<b>FY 2001-02</b>	<b>FY 2002-03</b>	<b>FY 2003-04</b>	<b>FY 2004-05</b>	<b>FY 2005-06</b>
-0.1%	0.2%	0.5%	0.4%	0.4%	0.3%

**OUTCOME 2B: Percent change in the number of information and education materials provided to citizens.**

<b>Baseline/ Year</b>	<b>FY 2001-02</b>	<b>FY 2002-03</b>	<b>FY 2003-04</b>	<b>FY 2004-05</b>	<b>FY 2005-06</b>
0%	0%	0%	0%	0%	0%

APPENDIX VIII

INHOLDINGS AND ADDITIONS LIST

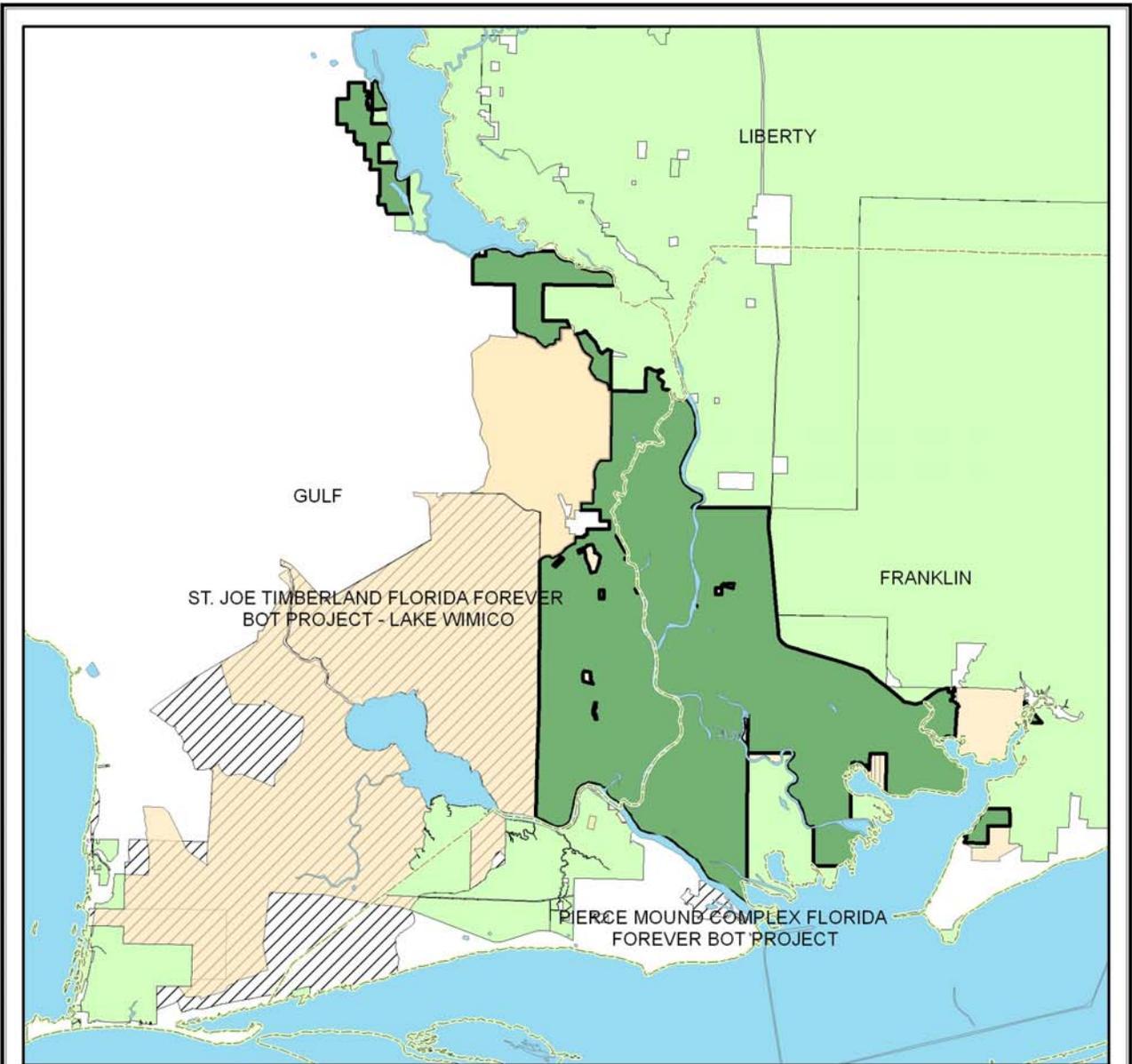
**Apalachicola River WEA**  
**Proposed Inholding and Addition Purchases**

**DESCRIPTION OF AREA**

Apalachicola River WEA begins at the mouth of the Apalachicola River and extends north to the Brickyard cut-off and the Brother's river, with additional parcels further north along the Chipola River, near the vicinity of Wewahitchka (see Figure 1). The Apalachicola River Water Management Area (NFWFMD) and the Apalachicola National Forest bound it on the north, on the east by Tate's Hell State Forest and SR-65, on the south by East and Apalachicola Bays and the Jackson river, and on the west by Ed Ball WMA (Saul Creek Rd.), the community of Howard's Creek, and St. Joe Timberlands (Tupelo Bend Water Fowl Management Area).

The WEA contains 60,932 acres of land, comprised of hardwood-flooded forests, bottomlands, inter-tidal marshes, pine flatwoods, maritime hammocks and ruderal areas.

Interspersed within this area are numerous private parcels. These parcels present problems with regards to management of the area and environmental issues. Such problems include limiting the options or eliminating prescribed burning on adjacent areas, as a vector for the introduction of exotic plants and animals, ease of access onto the area or river system for "deadhead logging", protection of water and watersheds, and encroachment and personal use of state lands.



**Apalachicola River  
Wildlife and Environmental Area**  
St. Joe Tupelo Bend Tract  
Gulf County, Florida  
8,595 Acres



*Created in ArcGIS 9.2 by the Florida Fish and Wildlife Conservation Commission August, 2009.*

**Legend**

- Florida Counties
- Major Waters
- Prospective Acquisitions
- Apalachicola River WEA
- Conservation Land
- Florida Forever Project

APPENDIX IX

LAND MANAGEMENT REVIEW

---

**Land Management Review of Apalachicola Wildlife and Environmental Area,  
Franklin and Gulf Counties (Lease No. 3584): September 25, 1997**

*Prepared by Division of State Lands Staff*

Robert Clark, Environmental Administrator  
William Howell, OMCM  
Amy Knight, Planner

**October 20, 1997**

### Management Review Team Members

Agency Represented	Team member appointed	Team member in attendance
DEP/DRP	Mr. Dana Bryan	Mr. Dana Bryan
DEP Northwest District	Mr. Charlie Goddard	Mr. Randy Payne
DACS/DOF	Mr. Ken Weber	Mr. Ken Weber
GFC	Mr. Frank Smith	Mr. Frank Smith
Soil and Water Cons. District	Mr. Donald Wood (Franklin Co.)	none
County Commission	Mr. Jimmy Mosconis (Franklin Co.)	none
Conservation Organization	Mr. Jim Murrian (TNC)	Mr. Jim Murrian
Private Land Manager	Mr. Lucas Morgan (St. Joe Timberland)	Mr. Lucas Morgan

### Process for Implementing Regional Management Review Teams

***Legislative Intent and Guidance:***

Section 8 of CS/CS/HBs 1119 & 1577 (§259.036, F. S.) was enacted to determine whether state-owned conservation, preservation, and recreation lands are being managed for the purposes for which they were acquired and in accordance with adopted land-management plans. It establishes land management review teams to evaluate the extent to which the existing management plan provides sufficient protection to threatened or endangered species, unique or important natural or physical features, geological or hydrological functions, or archaeological features, and to evaluate the extent to which the land is being managed for the purposes for which it was acquired and the degree to which actual management practices, including public access, are in compliance with the adopted management plan. If a land-management plan has not been adopted, the review shall consider the extent to which the land is being managed for the purposes for which it was acquired and the degree to which actual management practices are in compliance with the management policy statement and management prospectus for that property. If the land management review team determines that reviewed lands are not being managed for the purposes for which they were acquired or in compliance with the adopted land management plan, management policy statement, or management prospectus, or if the managing agency fails to address the review findings in the updated management plan, the Department shall provide the review findings to the Board, and the managing agency must report to the Board its reasons for managing the lands as it has. No later than the second board meeting in October of each year, the Department shall report the annual review findings of its land management review team.

---

## Review Site

The management review of the Apalachicola River Wildlife and Environmental Area considered approximately 55,000 acres of uplands in Franklin and Gulf Counties that are managed by the Florida Game and Fresh Water Fish Commission (see attachment 1 for map). LAMAC approved the management plan on August 27, 1997 and the next management plan update is due in August, 2002.

## Review Team Analysis

The management review checklist was analyzed as follows: The checklist consisted of two parts: a plan review section that answered whether or not the management plan sufficiently addressed protection/ restoration/ management needs for a series of items; and a field review section that scored to what extent sufficient management actions were being taken for a series of items. For each item in each section the scores for all team members were averaged. Items for which the average score was low ( $\leq 0.5$  for plan review;  $< 3$  for field review) are described in the following checklist results and highlighted in the corresponding checklist (Attachment 2).

## Review Team Findings

### Checklist results

---

I.A.1.d. Mixed Pine-Hardwoods	Should be managed through a burning program.
I.A.1.f. Wet Prairie	Also termed "Seepage Slope". This community should be described and its management addressed in the plan. Encroaching shrubs and trees should be managed through a burning program.
I.A.2. Listed Animal Species Requiring Management	Protection/management needs and goals of listed animals should be addressed in plan.
III.B.2. Ground Cover	Ground cover restoration should be addressed in plan.
III.D.2.b. elephant-ear	Removal program for elephant-ear should be implemented.
III.D.2.d. Japanese climbing fern	Removal program for Japanese climbing fern should be implemented.
III.F.1.a. Poaching animals	Problem of animal poaching should be identified and control measures addressed in plan.
III.F.1.b. Poaching plants	Problem of plant poaching (cypress trees) should be identified and control measures addressed in plan.

---

III.F.4.a. Houseboats	Problems associated with houseboats should be identified and control measures addressed in plan; control measures should be implemented.
III.G.2.b. Storm water/effluent	Problem of storm water runoff and domestic and animal waste from property adjacent to the river should be addressed in plan.
III.H.1.a. Trash cans	Adequacy of waste removal should be addressed in plan.
III.H.1.b. Toilets	Adequacy of sanitary facilities should be addressed in plan.
III.H.3.a. Buildings	Existing buildings are inadequate; new buildings should be constructed.
III.H.4. Staff	Additional personnel are needed.
IV.B.1. Houseboats + facilities	Houseboats permanently tied up to state lands constitute a private use of public lands, which is inconsistent with the purposes for which the property was acquired. Additional management actions should be taken.
IV.B.2. Long-term camping	Long-term camping is a private use of public land and is inconsistent with the purposes for which the property was acquired. Additional management actions should be taken.

---

***Recommendations to the managing agency***

The following recommendations resulted from a discussion and consensus of review team members.

1. At least two additional wildlife enforcement officers are needed for the lower Franklin/Gulf County Area.
2. More personnel, especially biologists, are needed in the White City/Howard's Creek Field Office to manage the lower Apalachicola River public lands.
3. A field office and storage barn need to be constructed for staff and equipment at the Howard's Creek management area.
4. Management of the floating houses needs to be addressed by the multiple agencies involved. The team recommended a task force be set up to review the issues involved.

The checklist items described above and recommendations to the managing agency should be noted in the next management plan update as having been identified by the review team as needing to be addressed in the management plan update. The checklist items should be addressed in relation to the category(ies) in which they received a low score, e.g. whether the plan sufficiently addressed protection/

---

restoration/ management needs, or whether sufficient management actions were being taken.

***Is the land being managed for the purpose for which it was acquired?***

After completing the checklist, team members were asked to answer "yes" or "no" to this question and given the opportunity to provide general comments. All team members agreed that the land is being managed for the purpose for which it was acquired. Comments are compiled in Attachment 3.

***Are actual management practices, including public access, in compliance with the management plan?***

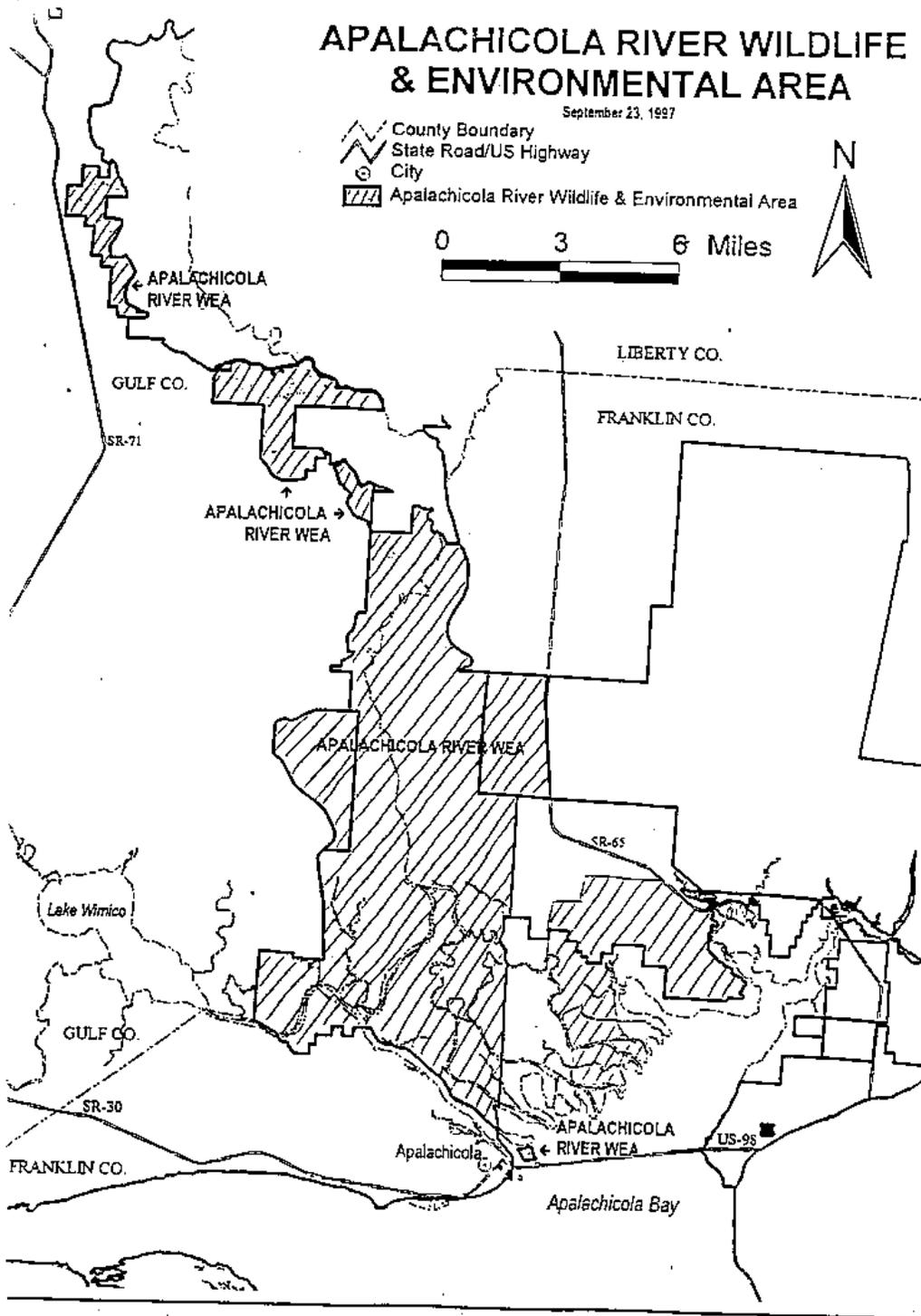
After completing the checklist, team members were asked to answer "yes" or "no" to this question and given the opportunity to provide general comments. All team members agreed that actual management practices, including public access, were in compliance with the management plan. Comments are compiled in Attachment 3.

# APALACHICOLA RIVER WILDLIFE & ENVIRONMENTAL AREA

September 23, 1997

-  County Boundary
-  State Road/US Highway
-  City
-  Apalachicola River Wildlife & Environmental Area

0 3 6 Miles



Attachment 2

Management Review Checklist

Apalachicola River Wildlife and Environmental Area Lease No. 3584

**Instructions:** Please take time to review the management plan and check the Yes/No boxes in the Plan Review section before the field trip. During and after the field review you will be asked to rank items in the checklist from 1 - 5 based on the following criteria: (1) = poor; (2) = low- fair; (3) = fair; (4) = good; (5) excellent.

**SCORING: Yes = 1, No = 0**

	Plan Review		SCORE	Field Review					SCORE
	Does the management plan sufficiently address protection/restoration/management needs?			To what extent are sufficient management actions being taken?					
<b>I. Natural Resources</b>									
<b>A. Biological Resources</b>									
<b>1. Natural Communities</b> (pp. 7-11, 16, 18, 21-23)									
a. Gum-Cypress	<input type="checkbox"/> Yes	<input type="checkbox"/> No	1.0	1	2	3	4	5	4.2
b. Bottomland Hardwoods	<input type="checkbox"/> Yes	<input type="checkbox"/> No	1.0	1	2	3	4	5	4.2
c. Sawgrass Marsh	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.8	1	2	3	4	5	3.7
d. Mixed Pine Hardwoods	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.7	1	2	3	4	5	3.7
e. Pine Flatwoods	<input type="checkbox"/> Yes	<input type="checkbox"/> No	1.0	1	2	3	4	5	3.7
f. Wet prairie	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.5	1	2	3	4	5	3.5
g. Hydric Hammock	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.8	1	2	3	4	5	3.6
<b>2. List of Animal Species Requiring Management (pp. 11-13, 16, 18-19)</b>									
	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.5	1	2	3	4	5	3.2
<b>3. Listed Plant Species Requiring Management (pp. 11-13, 16, 18-19)</b>									
	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.6	1	2	3	4	5	3.5

Attachment 2

	<u>Plan Review</u>		SCORE	<u>Field Review</u>					SCORE
	Does the management plan sufficiently address protection/restoration/management needs?			To what extent are sufficient management actions being taken?					
B. Physical Features									
1. Unique Natural Features (pp. 7,12)									
a. <u>Apalachicola River &amp; tributaries</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.8	1	2	3	4	5	4.0
II. Cultural Resources									
A. <u>Archaeological Sites</u> (pp. 14,17)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.8	1	2	3	4	5	3.7
III. Resource Management									
A. Prescribed Burning (pp. 16,18,22,24)									
1. <u>quality</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.7	1	2	3	4	5	3.3
2. <u>frequency</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.8	1	2	3	4	5	3.6
B. Restoration of Disturbed Natural Communities (pp.16,23)									
1. <u>Reforestation</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	1.0	1	2	3	4	5	4.3
<del>2. <u>Groundcover</u></del>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<del>0.5</del>	1	2	3	4	5	3.3
C. <u>Wildlife Habitat</u> (pp.18,24)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	1.0	1	2	3	4	5	4.0
D. Non-native Invasive Species Control (p.20)									
1. Animals									
a. <u>feral hogs</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	1.0	1	2	3	4	5	4.3
2. Plants									
a. <u>Chinese Tallow</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.8	1	2	3	4	5	3.0
<del>b. <u>Japanese Knotweed</u></del>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.6	1	2	3	4	5	<del>1.9</del>
c. <u>cogon grass</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.8	1	2	3	4	5	3.3
<del>d. <u>Japanese Knotweed</u></del>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.6	1	2	3	4	5	<del>1.9</del>

Attachment 2

	Plan Review			Field Review					
	Does the management plan sufficiently address protection/restoration/management needs?		SCORE	To what extent are sufficient management actions being taken?					SCORE
<b>E. Hydrologic/Geologic Function</b>									
1. Hydro-Alteration (pp. 16,21-22,25)									
a. <u>spoil deposition</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	1.0	1	2	3	4	5	4.2
b. <u>culverts, ditches</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.8	1	2	3	4	5	4.2
c. <u>soil erosion/disturbances</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	1.0	1	2	3	4	5	4.0
d. <u>roads &amp; firelines</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	1.0	1	2	3	4	5	3.5
e. <u>water budget</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	1.0	1	2	3	4	5	4.2
<b>F. Unauthorized Uses</b>									
1. Poaching									
a. <u>hunting</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.5	1	2	3	4	5	3.4
b. <u>poaching</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.5	1	2	3	4	5	3.5
2. <u>Vandalism</u>									
3. <u>Dumping</u>									
4. <u>Other</u>									
a. <u>nonhabitat</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.0	1	2	3	4	5	1.6
<b>G. Boundary</b>									
1. Boundary Issues									
2. Incompatible Adjacent Property Uses (pp. 4,19,20)									
a. <u>land use</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.8	1	2	3	4	5	3.8
b. <u>storm water/effluent</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.4	1	2	3	4	5	3.2
c. <u>inholdings/additions</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	1.0	1	2	3	4	5	3.8
<b>H. Adequate Facilities</b>									
1. Maintenance									
a. <u>trails</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.0	1	2	3	4	5	3.7
b. <u>polls</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.0	1	2	3	4	5	3.5

Attachment 2

	<u>Plan Review</u>			<u>Field Review</u>					
	Does the management plan sufficiently address protection/restoration/management needs?		SCORE	To what extent are sufficient management actions being taken?					SCORE
2. Public Access									
a. roads	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.8	1	2	3	4	5	3.8
b. trails	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.8	1	2	3	4	5	3.8
c. parking	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.7	1	2	3	4	5	3.3
3. Infrastructure									
a. buildings	<input type="checkbox"/> Yes	<input type="checkbox"/> No	1.0	1	2	3	4	5	1.8
b. equipment	<input type="checkbox"/> Yes	<input type="checkbox"/> No	1.0	1	2	3	4	5	4.3
c. staff	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.8	1	2	3	4	5	2.0

Attachment 2

Purpose for which Land was Acquired

"The land was purchased to protect the floodplain of the Lower Apalachicola River for the purpose of: (1) perpetuating its function as a buffer, a filtering system for the removal of silt and pollutants and a source of nutrients and detritus for the river/bay complex; (2) maintaining natural wildlife habitat and (3) protecting rare, threatened, and endangered and unique animals and plants."

IV. Managed Area Uses	Are uses consistent with purposes for which property was acquired and other restrictions?		SCORE	To what extent are sufficient management actions being taken?					SCORE
	Yes	No		1	2	3	4	5	
A. Proposed Uses									
1. <u>endangered species protection</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	1.0	1	2	3	4	5	3.5
2. <u>soil and water conservation practices</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	1.0	1	2	3	4	5	4.2
3. <u>hunting</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	1.0	1	2	3	4	5	4.0
4. <u>fishing</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	1.0	1	2	3	4	5	4.3
5. <u>wildlife observation</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	1.0	1	2	3	4	5	4.2
6. <u>hiking</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	1.0	1	2	3	4	5	3.7
7. <u>biking</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.8	1	2	3	4	5	3.8
8. <u>horseback riding</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	1.0	1	2	3	4	5	3.8
9. <u>limited timber harvest</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.8	1	2	3	4	5	3.2
10. <u>primitive camping</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.8	1	2	3	4	5	4.0
11. <u>off-road vehicle use</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.8	1	2	3	4	5	3.3
12. <u>environmental education</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	1.0	1	2	3	4	5	3.7
13. <u>preserve archaeological/historical site</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	1.0	1	2	3	4	5	3.5
14. <u>wildlife food plots</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.8	1	2	3	4	5	3.7
B. Additional Existing Uses									
15. <u>hunting and wildlife observation</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.7	1	2	3	4	5	2.3
16. <u>primitive camping</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	0.6	1	2	3	4	5	2.7

Attachment 2

SUMMARY

1. Is the land being managed for the purpose for which it was acquired?

Yes  No Explanation \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Are actual management practices, including public access, in compliance with the management plan?

Yes  No Explanation \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Agency \_\_\_\_\_

Estimated cost incurred by your agency on this review \_\_\_\_\_

Name of team member \_\_\_\_\_ Title \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

---

### Attachment 3

***Review Team Comments: Is land being managed for the purpose for which it was acquired?***

"On-site staff should receive more support from Talla."

"To a large extent, the present management is appropriate for the stated purposes of the area. There are, however, certain gaps in management priorities and the agencies responsible for implementing management regimes in these areas. This was evident in occasionally long and non-productive discussion on many items on the review checklist."

"For the purpose for which it was acquired is being accomplished by no action or protection from public impact for the #1 purpose. Both #2 and #3 is being accomplished through prescribed burning, inventory of rare and endangered species; closure of roads."

"GFC is restoring and maintaining plant communities, surveying wildlife species and plants, providing quality public recreational opportunity and preserving archaeological, historical and cultural resources and doing a fairly good job at all of these."

"Certain issues which were identified by category in the preceding 5 pages should be addressed in the next comprehensive management plan. Specifically, aquatic inventories should be included to assess the success or, perhaps identify where resource management of the riparian zone and adjacent uplands needs more attention."

***Review Team Comments: Are actual management practices, including public access, in compliance with the management plan?***

"Plans need to be developed and implemented to ensure more consistent management of exotics and prescribed burning. The uncontrolled access, camping and houseboat use should receive the highest attention to control. The roller chopping program should be reviewed in ensure there is no adverse impacts on listed species."

"Yes, but only to a certain extent. There are still gaps in fulfilling management goals due to various constraints in manpower, funding, and goals which are poorly stated, vague, or not relevant to actually implement."

"All activities are in compliance with the management plan. Prescribed fire should be emphasized to help restore native ground cover with R & E plants. Timber sales should also be conducted to improve forest health."

"Reforestation and restoration of native plant communities, prescribed burning, surveys of historical resources and providing decent road access are in compliance with the management plan."

"Additional staffing may allow more timely attention be given to resource needs, e.g. prescribed burning occur at the time needed to attain maximum benefit."

APPENDIX X

PRESCRIBED FIRE PLAN

## Apalachicola River WEA Prescribed Burning Plan

### INTRODUCTION

Fires, naturally occurring or man-induced, are an integral part of the ecology of the southern pine (*Pinus spp.*) region (Miller 1963) and have maintained a fire-dependent plant community in the southeast for countless years. Exclusion of fire reduces nutrient cycling and changes the vegetative community from an open canopy system to a closed one. The growth of dense brush shades out fire-dependent plants, included listed species, and has an adverse affect on fire-dependent animals such as red-cockaded woodpeckers. Exclusion of fires allows successional stages to occur until a climax hardwood community exists. Areas covered by dense brush lose much of their value to wildlife. For example, food and browse plants are less palatable, access is restricted and predator's ability to capture prey is hampered. Additionally, heavy fuel accumulation results in increased wildfire hazard.

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

## BURN OBJECTIVES

Prescribed fire will be used on the ARWEA as a habitat management tool exclusively or in conjunction with other management techniques to accomplish a variety of objectives. The primary objective for using prescribed fire on the ARWEA is to restore and /or maintain fire-dependent native habitat communities. This will result in preserving native plant communities while simultaneously improving wildlife habitat. Secondary objectives for the use of prescribed fire include the maintenance of early successional habitats and timber management in some burn units. Early successional habitats are important for many species of wildlife found in the Saul Creek Burn Unit. Timber management is important in many of the burn units and prescribed fire will be used as a prep tool prior to forest regeneration; to help release recently planted longleaf pine; and to reduce understory vegetation prior to marking timber for sale.

The benefits that will be derived from prescribed burning on the ARWEA include not only long term preservation of native plant communities and improved wildlife habitat but numerous others as well:

- 1) Reduction of fuel loads, which will help to prevent or mitigate effects of wildfires.
- 2) Enhancement of the areas aesthetics by controlling undesirable vegetation.
- 3) Control of exotic plant species.
- 4) Improved public access.
- 5) Increased success of longleaf pine regeneration.

## DESCRIPTION OF AREA

Apalachicola River WEA begins at the mouth of the Apalachicola River and extends north to the Brickyard cut-off and the Brother's river, with additional parcels further north along the Chipola River, near the vicinity of Wewahitchka. The Apalachicola River Water Management Area (NFWFMD) and the Apalachicola National Forest bound it on the north, on the east by Tate's Hell

State Forest and SR-65, on the south by East and Apalachicola Bays and the Jackson river, and on the west by Ed Ball WMA (Saul Creek Rd.), the community of Howard's Creek, and St. Joe Timberlands (Tupelo Bend Water Fowl Management Area).

The WEA contains 60,932 acres of land, comprised of pine flatwoods, hardwood-flooded forests, bottomlands, wetland scrub shrub, inter-tidal marshes, maritime hammocks and ruderal areas.

### ***Mesic Flatwoods:***

Mesic flatwoods are characterized by an open canopy forest of widely spaced pine trees (historically longleaf pines [*Pinus palustris*]) with little or no under story, but dense ground cover of herbs and shrubs. The mesic flatwoods in this area are an association of slash pine (*Pinus elliottii*), gallberry (*Ilex glabra*), and saw palmetto (*Serenoa repens*) among others and are closely associated with and often grade into wet flatwoods or scrubby flatwoods. Most of the mesic flatwoods on the Apalachicola River WEA have been converted into slash pine plantations. These areas have been bedded, clear cut and replanted several times. The reintroduction of a natural fire regime to these areas will be necessary to restore these mesic flatwoods to their natural vegetative conditions.

### ***Cypress Swamps:***

Cypress swamps are characterized as shallow, forested wetlands, that have water at or just below the surface of the ground, and are dominated by either bald cypress (*Taxodium distichum*) or pond cypress (*T. ascendens*). Cypress swamps are located along streams, in shallow depressions (called domes or heads), or along shallow drainage systems (sloughs or strands).

Two of the prominent natural communities that occur on the area are in the flood plain forest: (1) gum/cypress and, (2) bottomland hardwood (mixed coniferous/hardwood) plant community associations.

***Gum/Cypress:***

The majority of the flood plain forest on the lower reaches of the Apalachicola River and its tributaries consists of gum/cypress association on the broad, flat floodplain, which is saturated or submerged during much of the year. The dominant vegetation in this area is bald cypress, ogeechee gum (*Nyssa ogechee*), water tupelo (*N. aquatica*), blackgum (*N. biflora*), ash (*Fraxnis* spp.) and red maple (*Acer rubrum*). The shrub and under story vegetation is sparse due to presence of water for a significant portion of the year.

***Bottomland Hardwood:***

Bottomland hardwoods occupy a smaller percentage of the flood plain forest and occur on terraces, flats and narrow natural levees along river shores and within the swamp forest. Typical species include sweetgum (*Liquidambar styraciflua*), red maple, ash, spruce pine (*P. glabra*), diamond-leaf oak (*Quercus laurifolia* Michx.), water oak (*Q. nigra*) water hickory (*Carya aquatica*), and catalpa (*Caltapa bignonioides*). Under story vegetation includes cabbage palm (*Sabal palmetto*), blue-beech (*Carpinus caroliniana*), needle palm (*Rhapidophyllum hystrix*), American holly (*I. opaca*), cane (*Arundinaria gigantea*), and various grasses and sedges. Zones of integration may have overcup oak (*Q. lyrata*), swamp chestnut oak (*Q. michauxii*), and southern magnolias (*Magnolia grandiflora*).

***Wetland scrub shrub:***

These acid swamp communities composed of titi swamps, bayheads, and shrub bogs are widespread throughout the area and occupy the shallow depressions in flatwoods or occur along the borders of creeks and alluvial swamps. Common species of wetland scrub shrub communities include sweetbay (*M. virginiana*), loblolly bay (*Gordonia lasianthus*), swamp bay (*Persea palustris*), red bay (*P. borbonia*), black titi (*Cliftonia monophylla*), swamp cyrilla (*Cyrilla racemiflora*),

large gallberry (*I. Coriacea*), fetterbush (*Lyonia lucida*), and myrtle-leaf holly (*I. myrtifolia*). Slash and pond pine (*P. serotina*) are often present and the ground cover may be absent in closed canopy forests except for sphagnum moss. Shrub bogs with open canopies may have a herbaceous stratum predominately comprised of sedges.

***Tidal Freshwater Marsh and Estuarine Marsh:***

These fresh, brackish, and salt-water marshes are some of the most productive systems in the world and are vital habitats for a variety of species. The marshes support predominantly fresh to brackish water vegetation consisting primarily of sawgrasses (*Cladium ssp.*), bullrushes (*Scirpus ssp.*), cattails (*Typha ssp.*), cordgrasses (*Spartina ssp.*), and needlerushes (*Juncus ssp.*). Estuarine organisms use the marsh habitat for a nursery ground, breeding area, or feeding zone.

***Maritime Hammocks:***

Maritime hammocks are relatively wet hardwood forests that are found between uplands and true wetlands. These sometimes seasonally wet forests are associated with some non-alluvial peninsula streams, scattered broad lowlands, and are found in a narrow band along parts of the Gulf and Atlantic coasts where they often extend to the edge of coastal salt marshes. These communities contain water oak, live oak (*Q. virginiana*), red maple, Florida elm (*Ulmus americana* Var. *floridana*), cabbage palm, red cedar (*Juniperus silicicola*), blue-beech, and sweetgum. These communities may occur as mixed stands of oak and palm, or one of these species can completely dominate the area.

***Wet Savannas:***

Wet savannas (“wet prairie” community type by FNAI classification system) occur in low flatlands and within small ecotones (narrow seepage zones of saturated soil) slightly uphill from cypress or titi drainages and downhill from mesic flatwoods. These areas are grass and sedge dominated wetlands maintained

by frequent fires and a high or perched ground water table (Kindell 2000). Wet savannas are an important rare species habitat, and support the highest levels of plant species richness of any natural community in the U.S. (Walker and Peet 1983). Wet savannas commonly occur in a mosaic pattern with other vegetation types such as mesic or wet flatwoods, basin swamps, wetland scrub shrub, and mixed forested wetlands. Undisturbed, frequently burned wet savannas have a dense groundcover dominated by wiregrass (*Aristida beyrichiana*), toothache grass (*Ctenium aromaticum*), spurned panic grass (*Panicum spretum*), Chapman's beakrush (*Rhynchospora chapmanii*), few-flowered beakrush (*R. oligantha*), and plumed beakrush (*R. plumosa*). Many other forbs and grasses are common in these savannas and insectivorous plants such as sundews (*Drosera* spp.) and pitcher-plants (*Sarracenia* spp.) are often abundant. Shrubs are low to the ground, except in areas where fire has been excluded for extended periods of time. Common shrubs include many species of St. John's wort (*Hypericum* spp.), black titi (*Cliftonia monophylla*), titi (*Cyrilla racemiflora*), bayberry (*Myrica heterophylla*), gallberry (*Ilex glabra*), sweet gallberry (*I. coriacea*), and myrtle-leaved holly (*I. myrtifolia*).

### ***Ruderal Fields***

Ruderal fields are areas that have been heavily disturbed through agricultural practices and let fallow. The vegetation in these fields is substantially different than the natural vegetation type or community. These fields are also highly susceptible to invasion by exotics or invasive natural species such as titi. Over the years, these fields will vary in vegetative makeup, the first several years the fields will be predominately comprised of the previous plant cover, those plants that were used as cash crop or grasses used as feed for animal stock. As time progresses these communities can become dominated by broom sedge (*Andropogon virginicus*) and may contain high numbers for dog fennel (*Eupatorium capillifolium*), goldenrod (*Solidago canadensis*), blackberry (*Rubus cuneifolius*), and dewberry (*R. trivialis*). Trees also begin to invade the fields, depending on the presence or absence of fire. Loblolly (*P. taeda*), spruce, slash or

longleaf pines will start to invade the area. Hardwoods that first follow the pines are sassafras (*Sassafras albidum*), persimmon (*Diospyros virginiana*), chinksaw plum (*Prunus angustifolia*), black cherry (*P. serotina*), water oak, live oak and sweetgum. (Clewell 1986)

## PRESCRIBED BURNING PROGRAM

Due to the area size and layout, the ARWEA Burn Plan will be divided into different land tracts for ease of presentation (See Figure 1.)

### ***Bloody Bluff***

Bloody Bluff is located just south of the Apalachicola National Forest and west of Tate's Hell State forest off of SR-65. The Apalachicola River bounds the west side of Bloody Bluff and Graham Creek denotes the southern boundary. Bloody Bluff is 4,788 acres comprised of a variety of vegetative communities, which include mesic flatwoods, drains and flooded forests. Most of the mesic flatwoods areas had been converted into pine plantations. Currently the vegetation in these areas is made up of an overstory of slash and loblolly pines that have had a residential cut. The understory is composed of wax myrtle, oaks, titi, gallberry, saw palmetto, rusty lyonia, broom sedge and other grasses and forbs. Longleaf pines have been planted in an effort to restore the native vegetative communities.

#### A. Firelines

Natural features (e.g. drains, creeks and rivers) and existing roads are utilized as firelines whenever feasible. Many of the roads that are utilized as firebreaks are maintained for public access and management. Some of the less used roads however have re-vegetated, therefore, disking or grading are required to maintain functional firebreaks. Additional firebreaks will follow the guidelines required for state-owned lands. There are approx. 0.5 miles of firelines on the area at this time. This line was added to finish separating Bloody Bluff from the national forest.

B. Size and Arrangement of Compartments

Eighteen compartments have been delineated on Bloody Bluff, averaging 266 acres in size (range: 56-754; Figure 2). Ideally, burns should be conducted at 3-5 year intervals, or on a prescribed need to burn in consecutive years if objectives are not accomplished. Compartments BB 08 and BB 14 are comprised mostly of hardwood flooded forests and will have a longer fire-return interval. Every effort is made, when burning, to introduce fire to the mesic flatwoods areas within these compartments.

C. Type of Burn

An initial backfire will be used to secure the area to be burned. Aerial ignition will constitute the main form of ignition on the area, which reduces smoke hazards, the time necessary to burn a compartment and burning cost.

D. Season and Time of Day

Initially, most prescribed burning of pine flatwoods will be conducted during the dormant season (October-March). When the heavy fuel loads have been reduced, burns will be switched to primarily growing season (April-September). Burning will be conducted primarily during daylight hours; night burning will be avoided due to problems associated with smoke dispersal. However, if favorable conditions exist and permits can be obtained, burning will be continued into the night.

E. Optimal Weather Conditions

For Bloody Bluff, winds out of the east, especially southeast, are best for burning. These winds will push fire and smoke away from SR-65 and away from any nearby communities. Though easterly winds are not as stable as a western wind, the incoming southeastern seabreeze is the steadiest wind.

F. Smoke Management

Direction, volume and dissipation of smoke from prescribed burning on Bloody Bluff are of primary concern due to the proximity of smoke-sensitive areas. Areas that may be affected by smoke (or particulates carried by smoke) under optimum burning conditions are SR-65 (eastern boundary), river traffic (if burning around Bloody Bluff landing and inholdings within the area).

To minimize smoke problems, burning should be conducted when the atmosphere is slightly unstable, with mixing height a minimum of 1,600 feet and transport wind speed of 9-13 mph (Southern Forest Fire Laboratory 1976, Crow and Shilling 1983). Additionally, use of backfires, as prescribed, will produce less smoke and consume fuel more completely than headfiring (Mobley et al. 1973, Southern Forest Fire Laboratory 1976, Crow and Shilling 1983).

Smoke management is difficult when night burning because smoke often stays close to the ground and smoke drift is difficult to predict. Additionally, smoke tends to seek lower laying areas (along streams and creeks) and may drift east across SR-65. Night burning will be approached with caution and in close association with the Division of Forestry to avoid these problems.

Preferred wind direction has a strong easterly component, which will carry the smoke over the river and its associated forests.

G. Personnel

Under ideal conditions, burning can be conducted with a minimum crew of eight to eleven. Two ignition crews (three members each), one crew to man the pumper (two members) and three individuals in the helicopter, as pilot, observer and AIDS operator, can burn the area in two days.

Commission personnel from the Northwest Region who are DOF-certified for prescribed burning will conduct the burning. Personnel from other

state and federal agencies (DOF, DEP, USFS) will be used if they are available.

H. Equipment

Along with PPEs and hand-held radios; fire flaps, fire rakes, shovels, drip torches, burn fuel, trucks, water pumper, helicopter and AIDS machine are required equipment. Smoke caution signs for SR-65 and fire hazard signs may be necessary. A tractor/crawler and other fire suppression equipment will be supplied to the site by FWC; however, equipment from Division of Forestry (DOF) or the US Forest Service will be on standby. Other fire suppression equipment will be acquired, as funds become available.

I. Permits and Notifications

A permit will be obtained from DOF on the morning of the burn. In addition, arrangements will be made to have a FWC, DOF or USFS suppression crew on stand-by during the burn. Notification of burning will be given to:

1. Franklin Co. Sheriff Dept.
2. Residents of the inholdings
3. USFS (Apalachicola National Forest)
4. Apiary lease holders (2)

J. Evaluation of Burn

Initial evaluation of the fire will be conducted within one week and include: percent crown scorch, bark char (height), fuel consumption, flame height, fire behavior, smoke dispersion, any escape, adverse publicity, progress toward objectives and other observations. A follow-up evaluation will be completed within one month and will include crown scorch, understory kill, adverse insect activity and other observations. These observations will be incorporated into future burn prescriptions.

K. Special Considerations

Attention will be given to the safety of private inholdings. The firebreaks around the inholdings will be reinforced; a pumper unit and/or a fireplow will be stationed nearby to expedite response time to the area if required. There are two apiary leases on the area. The fence line for these sites will be raked of heavy vegetation and the fence posts will be sprayed with water prior to fire reaching them. The cemetery at Bloody Bluff is well maintained by the county, so any required pre-burn preparations will be minimal. When fire is being applied around the cemetery however, a wet line will be applied to prevent fire from entering, and water will be applied to the monument to prevent damage from scorching. Any campers will be notified of the impending burn and advised to leave the area for the duration of the burn. They will be asked to remove the camper, if the camping vehicle cannot be removed, a wetline will be interposed between the fire and the vehicle. The campsite will be monitored for the duration of the fire. Telephone pedestals, power poles and entrance signs will be raked of heavy vegetation and sprayed with water prior to fire reaching them.

Special care will be given to Red-cockaded woodpeckers (RCW) (*Picoides borealis*) and their cavity trees. The area around the cavity trees will be raked of heavy vegetation/duff and foamed to prevent ignition and to keep fire from running up the tree.

Gopher tortoises (*Gopherus polyphemus*) seem somewhat dependent on vegetation responses to fire, and research has shown no adverse effects on this species from prescribed burning (Means and Campbell 1981).

Although individual tortoises may be destroyed by fire on rare occasions, prescribed burning provides better habitat for tortoise populations than unburned areas (J. Diemer, FGFWFC, pers. commun.).

Growing season burning may affect various wildlife species that are highly active during this period. Moreover, growing season burns may also adversely impact other nesting reptiles, birds and mammals,

particularly by fast-moving headfires. Consideration for summer burning will be given to areas having desirable burning conditions.

L. Growing Season Burning Procedure

Growing season prescribed burning is generally performed for site preparation and hardwood brush control. High air temperatures reduce the amount of heat needed to raise plant temperatures to lethal levels.

Actively growing plants are more easily killed by fire than dormant plants, which results in better hardwood brush control than winter fires (Mobley et al. 1973, G. Evans, Tall Timbers Research Station, pers. commun.). In addition, growing season burns promote an increase in herbaceous vegetation growth, promote species diversity, releases planted longleaf pine seedlings from vegetative competition, helps control brown-spot disease and mimic naturally occurring summer lightning fires. Therefore, prescribed burning in the summer will be preferred method on Bloody Bluff with special attention given to wildlife, Tupelo honey season and weather conditions.

Growing season burns will be conducted during April through September with desired wind speed and relative humidity as described. The preferred and most reliable winds during the summer burning period are easterly to southeasterly (Krueger and Pachence 1961; B. Hodges, DOF, pers. commun.). In the coastal zone, these wind conditions occur primarily in the afternoon with the presence of high pressure over or slightly north of the area. Backfires will be set along the lee side of the compartments to establish a baseline. After baseline establishment, tight runs by the helicopter will help minimize the potential for overstory damage and prevent fires from building high intensity.

***Quinn Tract***

The Quinn Tract is located just south of Bloody Bluff and west of Tate's Hell State Forest off of SR-65. It is bounded by the East River on the west and abuts

the Sand Beach tract on the east and south. The Quinn Tract burn unit is 5,633 acres comprised of a variety of vegetative communities, which include mesic flatwoods, drains and flooded forests. Most of the mesic flatwoods areas had been converted into pine plantations. Currently the vegetation in these areas is made up of an overstory of slash, loblolly and some longleaf pines. The understory is composed of wax myrtle, oaks, titi, gallberry, saw palmetto, rusty lyonia, sedge broom and other grasses and forbs. This area was recently purchased (1998) and no burns have occurred on the area for habitat improvement or wildlife enhancement. The most recent burn on the area was a site improvement burn just prior to planting of a slash pine plantation.

A. Firelines

Natural features (e.g. drains, creeks and rivers) and existing roads are utilized as firelines whenever feasible. Many of the roads that are utilized as firebreaks are maintained for public access and management. Some of the less used roads however have re-vegetated, therefore, disking or grading are required to maintain functional firebreaks.

B. Size and Arrangement of Compartments

Eleven compartments have been delineated on the Quinn tract, averaging 512 acres in size (range: 56-961; Figure 3). Ideally, burns should be conducted at 3-5 year intervals, or on a prescribed need to burn in consecutive years if objectives are not accomplished. Compartments QU04, 05, and 06 have a large portion of their area composed of hardwood flooded forests and will have a longer fire-return interval. Every effort is made, when burning, to introduce fire to the mesic flatwoods areas within these compartments.

C. Type of Burn

An initial backfire will be used to secure the area to be burned. Aerial ignition will constitute the main form of ignition on the area, which

reduces smoke hazards, the time necessary to burn a compartment and burning costs.

D. Season and Time of Day

Initially, most prescribed burning of pine flatwoods will be conducted during the dormant season (October-March). When the heavy fuel loads have been reduced, burns will be switched to primarily growing season (April-September). Burning will be conducted primarily during daylight hours; night burning will be avoided due to problems associated with smoke dispersal. However, if favorable conditions exist and permits can be obtained, burning will be continued into the night.

E. Optimal Weather Conditions

For the Quinn Tract, winds out of the east, especially southeast, are best for burning. These winds will push fire and smoke away from SR-65 and away from any nearby communities. Though easterly winds are not as stable as a western wind, the incoming southeastern seabreeze is the steadiest wind.

F. Smoke Management

Direction, volume and dissipation of smoke from prescribed burning on the Quinn Tract are of primary concern due to the proximity of smoke-sensitive areas. Areas that may be affected by smoke (or particulates carried by smoke) under optimum burning conditions are SR-65 (eastern boundary), the river system on the west (river traffic), the railroad and inholdings within the area.

To minimize smoke problems, burning should be conducted when the atmosphere is slightly unstable, with mixing height a minimum of 1,600 feet and transport wind speed of 9-13 mph (Southern Forest Fire Laboratory 1976, Crow and Shilling 1983). Additionally, use of backfires, as prescribed, will produce less smoke and consume fuel more completely

than headfiring (Mobley et al. 1973, Southern Forest Fire Laboratory 1976, Crow and Shilling 1983).

Smoke management is difficult when night burning because smoke often stays close to the ground and smoke drift is difficult to predict. Additionally, smoke tends to seek lower laying areas (along streams and creeks) and may drift east across SR-65 or down into the river system itself.

Night burning will be approached with caution and in close association with the Division of Forestry to avoid these problems.

Preferred wind direction has a strong easterly component, which will carry the smoke over the river and its associated forests.

G. Personnel

Under ideal conditions, burning can be conducted with a minimum crew of eight to eleven. Two ignition crews (three members each), one crew to man the pumper (two members) and three individuals in the helicopter, as pilot, observer and AIDS operator, can burn the area in three days.

Commission personnel from the Northwest Region who are DOF-certified for prescribed burning will conduct the burning. Personnel from other state and federal agencies (DOF, DEP, USFS) will be used if they are available.

H. Equipment

Along with PPEs and hand-held radios; fire flaps, fire rakes, shovels, drip torches, burn fuel, trucks, water pumper, helicopter and AIDS machine are required equipment. Smoke caution signs for SR-65 and fire hazard signs may be necessary. A tractor/crawler and other fire suppression equipment will be supplied to the site by FWC; however, equipment from Division of Forestry (DOF) or the US Forest Service will be on standby. Other fire suppression equipment will be acquired, as funds become available.

I. Permits and Notifications

A permit will be obtained from DOF on the morning of the burn. In addition, arrangements will be made to have a FWC or DOF suppression crew on stand-by during the burn. Notification of burning will be given to:

1. Franklin Co. Sheriff Dept.
2. Residents of the inholdings
3. Apiary lease holder
4. Apalachicola Northern R.R.

J. Evaluation of Burn

Initial evaluation of the fire will be conducted within one week and include: percent crown scorch, bark char (height), fuel consumption, flame height, fire behavior, smoke dispersion, any escape, adverse publicity, progress toward objectives and other observations. A follow-up evaluation will be completed within one month and will include crown scorch, understory kill, adverse insect activity and other observations. These observations will be incorporated into future burn prescriptions.

K. Special Considerations

Attention will be given to the safety of private inholdings. The firebreaks around the inholdings will be reinforced; a pumper unit and/or a fireplow will be stationed nearby to expedite response time to the area if required. There are two apiary leases on the area. The fence line for these sites will be raked of heavy vegetation and the fence posts will be sprayed with water prior to fire reaching them. Any campers will be notified of the impending burn and advised to leave the area for the duration of the burn. They will be asked to remove the camper, if the camping vehicle cannot be removed, a wetline will be interposed between the fire and the vehicle. The campsite will be monitored for the duration of the fire. Telephone pedestals, power poles and entrance signs will be raked of heavy vegetation and sprayed with water prior to fire reaching them.

Special care will be taken to protect environmentally sensitive areas. Bald eagle (*Haliaeetus leucocephalus*) nests will be excluded from dormant season burning. Tracts within the primary zone may be burned with the following considerations: (1) the tract is not to be burned between 1 October and 15 May (nesting season); and (2) the nest tree is to be excluded from burning to prevent fire-induced mortality (T. Logan, FWC, pers. commun.).

Growing season burning may affect various wildlife species that are highly active during this period. Another area of concern, are the wading bird rookeries. Moreover, growing season burns may also adversely impact other nesting reptiles, birds and mammals, particularly by fast-moving headfires. Consideration for growing season burning will be given to areas having desirable burning conditions.

L. Growing Season Burning Procedure

Growing season prescribed burning is generally performed for site preparation and hardwood brush control. High air temperatures reduce the amount of heat needed to raise plant temperatures to lethal levels.

Actively growing plants are more easily killed by fire than dormant plants, which results in better hardwood brush control than winter fires (Mobley et al. 1973, G. Evans, Tall Timbers Research Station, pers. commun.). In addition, growing season burns promote an increase in herbaceous vegetation growth, promote species diversity, releases planted longleaf pine seedlings from vegetative competition, helps control brown-spot disease and mimic naturally occurring summer lightning fires. Therefore, prescribed burning during the growing will be the preferred method on the Quinn Tract with special attention given to wildlife, weather conditions and Tupelo honey season.

Growing season burns will be conducted during April through September with desired wind speed and relative humidity as described. The preferred and most reliable winds during the growing season burn period are

easterly to southeasterly (Krueger and Pachence 1961; B. Hodges, DOF, pers. commun.). In the coastal zone, these wind conditions occur primarily in the afternoon with the presence of high pressure over or slightly north of the area. Backfires will be set along the lee side of the compartments to establish a baseline. After baseline establishment, tight runs by the helicopter will help minimize the potential for overstory damage and prevent fires from building high intensity.

### ***Sand Beach***

Sand Beach is located just east of the Quinn Tract and south of Tate's Hell State forest off of SR-65. East Bay bounds Sand Beach on the south and east, as well as Whiskey/George Creek (on the east). Sand Beach is 6,485 acres comprised of a variety of vegetative communities, which include mesic flatwoods, drains, wetland scrub shrub, inter-tidal marshes, maritime hammocks and flooded forests. Most of the mesic flatwoods areas had been converted into pine plantations. Currently the vegetation in these areas is made up of an overstory of slash and loblolly pines. The understory is composed of wax myrtle, oaks, titi, gallberry, saw palmetto, rusty lyonia, sedge broom and other grasses and forbs. This area was purchased in 1996 and only two burns have occurred on the area for habitat improvement, timber management or wildlife enhancement (compartments SB 06, 07, 08, 09 and 10).

#### **A. Firelines**

Natural features (e.g. drains, creeks and rivers) and roads are utilized as firelines whenever feasible. Many of the roads that are utilized as firebreaks are maintained for public access and management. Some of the less used roads however have re-vegetated, therefore, disking or grading are required to maintain functional firebreaks. Firelines may have to be added depending on the cooperation of adjacent landowners.

#### **B. Size and Arrangement of Compartments**

Ten compartments have been delineated on Sand Beach, averaging 649 acres in size (range: 8.6-1946; Figure 4). Ideally, burns should be conducted at 3-5 year intervals, or on a prescribed need to burn in consecutive years if objectives are not accomplished.

C. Type of Burn

An initial backfire will be used to secure the area to be burned. Aerial ignition will constitute the main form of ignition on the area, which reduce the time necessary to burn a compartment and reduce burning cost.

D. Season and Time of Day

Initially, most prescribed burning of pine flatwoods will be conducted during the dormant season (October-March). When the heavy fuel loads have been reduced, burns will be switched to the growing season (April-September). Burning will be conducted primarily during daylight hours; night burning will be avoided due to problems associated with smoke dispersal. However, if favorable conditions exist and permits can be obtained, burning will be continued into the night.

E. Optimal Weather Conditions

For Sand Beach, winds out of the west or east, especially southeast, are best for burning. These winds will push fire and smoke away from SR-65, US Highway 98, Apalachicola and its airport. Though easterly winds are not as stable as a western wind, the incoming southeastern seabreeze is the steadiest wind.

G. Smoke Management

Direction, volume and dissipation of smoke from prescribed burning on the Sand Beach are of primary concern due to the proximity of smoke-sensitive areas. Areas that may be affected by smoke (or particulates carried by smoke) under optimum burning conditions are SR-65 (eastern and northern boundaries), the river system on the west and south (river

traffic), Apalachicola and airport to the southwest, US Highway 98 to the south and inholdings within the area.

To minimize smoke problems, burning should be conducted when the atmosphere is slightly unstable, with mixing height a minimum of 1,600 feet and transport wind speed of 9-13 mph (Southern Forest Fire Laboratory 1976, Crow and Shilling 1983). Additionally, use of backfires, as prescribed, will produce less smoke and consume fuel more completely than headfiring (Mobley et al. 1973, Southern Forest Fire Laboratory 1976, Crow and Shilling 1983).

Smoke management is difficult when night burning because smoke often stays close to the ground and smoke drift is difficult to predict. Additionally, smoke tends to seek lower laying areas (along streams and creeks) and may drift east or north across SR-65, disrupt traffic on US 98 or down into the river system itself. Night burning will be approached with caution and in close association with the Division of Forestry to avoid these problems.

Preferred wind direction has a strong easterly component, which will carry the smoke over the river and its associated forests.

#### G. Personnel

Under ideal conditions, burning can be conducted with a minimum crew of eight to eleven. Two ignition crews (three members each), one crew to man the pumper (two members) and three individuals in the helicopter, as pilot, observer and AIDS operator, can burn the area in four days.

Commission personnel from the Northwest Region who are DOF-certified for prescribed burning will conduct the burning. Personnel from other state and federal agencies (DOF, DEP, USFS) will be used if they are available.

#### H. Equipment

Along with PPEs and hand-held radios; fire flaps, fire rakes, shovels, drip torches, burn fuel, trucks, a water pumper, helicopter, and AIDS machine are required equipment. Smoke caution signs for SR-65 and fire hazard signs may be necessary. A tractor/crawler and other fire suppression equipment will be supplied to the site by FWC; however, equipment from Division of Forestry (DOF) or the US Forest Service will be on standby. Other fire suppression equipment will be acquired, as funds become available.

I. Permits and Notifications

A permit will be obtained from DOF on the morning of the burn. In addition, arrangements will be made to have a FWC or DOF suppression crew on stand-by during the burn. Notification of burning will be given to:

1. Franklin Co. Sheriff Dept.
2. Residents of the inholdings

J. Evaluation of Burn

Initial evaluation of the fire will be conducted within one week and include: percent crown scorch, bark char (height), fuel consumption, flame height, fire behavior, smoke dispersion, any escape, adverse publicity, progress toward objectives and other observations. A follow-up evaluation will be completed within one month and will include crown scorch, understory kill, adverse insect activity and other observations. These observations will be incorporated into future burn prescriptions.

K. Special Considerations

Attention will be given to the safety of private inholdings. The firebreaks around the inholdings will be reinforced; a pumper unit and/or a fireplow will be stationed nearby to expedite response time to the area if required.

Any campers will be notified of the impending burn and advised to leave the area for the duration of the burn. They will be asked to remove the camper, if the camping vehicle cannot be removed, a wetline will be interposed between the fire and the vehicle. The campsite will be monitored for the duration of the fire. Telephone pedestals, power poles and entrance signs will be raked of heavy vegetation and sprayed with water prior to fire reaching them.

Special care will be taken to protect environmentally sensitive areas. Bald eagle (*Haliaeetus leucocephalus*) nests will be excluded from dormant season burning. Tracts within the primary zone may be burned with the following considerations: (1) the tract is not to be burned between 1 October and 15 May (nesting season); and (2) the nest tree is to be excluded from burning to prevent fire-induced mortality (T. Logan, FWC, pers. commun.).

Growing season burning may affect various wildlife species that are highly active during this period. Another area of concern, are the wading bird rookeries. Moreover, growing season burns may also adversely impact other nesting reptiles, birds and mammals, particularly by fast-moving headfires. Consideration for summer burning will be given to areas having desirable burning conditions.

#### L. Growing Season Burning Procedure

Growing season prescribed burning is generally performed for site preparation and hardwood brush control. High air temperatures reduce the amount of heat needed to raise plant temperatures to lethal levels.

Actively growing plants are more easily killed by fire than dormant plants, which results in better hardwood brush control than winter fires (Mobley et al. 1973, G. Evans, Tall Timbers Research Station, pers. commun.). In addition, growing season burns promote an increase in herbaceous vegetation growth, promote species diversity, releases planted longleaf pine seedlings from vegetative competition, helps control brown-spot

disease and mimic naturally occurring summer lightning fires. Therefore, prescribed burning in the summer will be the preferred method on Sand Beach with special attention given to wildlife and weather conditions. Growing season burns will be conducted during May through September with desired wind speed and relative humidity as described. The preferred and most reliable winds during the growing season burning period are easterly to southeasterly (Krueger and Pachence 1961; B. Hodges, DOF, pers. commun.). In the coastal zone, these wind conditions occur primarily in the afternoon with the presence of high pressure over or slightly north of the area. Backfires will be set along the lee side of the compartments to establish a baseline. After baseline establishment, tight runs by the helicopter will help minimize the potential for overstory damage and prevent fires from building high intensity may be utilized.

### ***Environmentally Endangered Lands***

The EEL Unit is located along the north side of the lower Apalachicola River and East Bay. The EEL burn unit is 8,105 acres comprised mostly of inter-tidal marshes, maritime hammocks and flooded forests. This area was part of the original purchase in 1974 under the Environmentally Endangered Lands Program and contains additional tracts purchased under the subsequent CARL Program. Except for numerous wildfires, only one burn has occurred on the area for habitat improvement or wildlife enhancement (EE 11).

#### **A. Firelines**

Natural features (e.g. creeks, rivers and bay) are utilized as firelines.

#### **B. Size and Arrangement of Compartments**

Twelve compartments have been delineated on the EEL unit, averaging 675 acres in size (range: 22-1637; Figure 5). Ideally, burns should be conducted at 3-5 year intervals, or on a prescribed need to burn in consecutive years if objectives are not accomplished.

C. Type of Burn

An initial backfire will be used to secure the area to be burned. Aerial ignition will constitute the main form of ignition on the area, which reduce smoke hazards, the time necessary to burn a compartment and burning costs.

D. Season and Time of Day

Most prescribed burning of the inter-tidal marshes will be conducted during the growing season (April-September). Burning will be conducted primarily during daylight hours; night burning will be avoided due to problems associated with smoke dispersal. However, if favorable conditions exist and permits can be obtained, burning will be continued into the night.

E. Optimal Weather Conditions

For the EEL unit, winds out of the south, especially southeast, are best for burning. These winds will push fire and smoke away from US Highway 98, Eastpoint, Apalachicola and its airport. Though easterly winds are not as stable as a western wind, the incoming southeastern seabreeze is the steadiest wind.

F. Smoke Management

Direction, volume and dissipation of smoke from prescribed burning on the EEL Unit are of primary concern due to the proximity of smoke-sensitive areas. Areas that may be affected by smoke (or particulates carried by smoke) under optimum burning conditions are: Apalachicola and airport to the south and southwest, US Highway 98 to the south and southeast, Eastpoint to the east and southeast, the Apalachicola River system to the west and southwest and the Apalachicola Northern R. R. to the west.

To minimize smoke problems, burning should be conducted when the atmosphere is slightly unstable, with mixing height a minimum of 1,600 feet and transport wind speed of 9-13 mph (Southern Forest Fire Laboratory 1976, Crow and Shilling 1983). Additionally, use of backfires, as prescribed, will produce less smoke and consume fuel more completely than headfiring (Mobley et al. 1973, Southern Forest Fire Laboratory 1976, Crow and Shilling 1983).

Smoke management is difficult when night burning because smoke often stays close to the ground and smoke drift is difficult to predict.

Additionally, smoke tends to seek lower laying areas (along streams and creeks) and may drift south across US 98, disrupting traffic. Night burning will be approached with caution and in close association with the Division of Forestry to avoid these problems.

Preferred wind direction has a strong southerly component, which will carry the smoke over the river and its associated forests or state owned lands to the northeast.

G. Personnel

Under ideal conditions, burning can be conducted with a minimum crew of eight to eleven. Three holding crews on boats with motorized pumps, and three individuals in the helicopter, as pilot, observer and AIDS operator can burn the area in four days. Commission personnel from the Northwest Region who are DOF-certified for prescribed burning will conduct the burning. Personnel from other state and federal agencies (DOF, DEP) will be used if they are available.

H. Equipment

In addition to PPEs, handheld radios, shovels, drip torches, burn fuel, fire flaps, fire rakes, boats, motorized water pumps, helicopter and an AIDS machine are required equipment. Smoke caution signs for US 98 and fire hazard signs may be necessary. Depending on which of the units is being

burned a tractor/crawler and other fire suppression equipment will be supplied to the site by Division of Forestry (DOF), FWC or the US Forest Service. Other fire suppression equipment will be acquired, as funds become available.

I. Permits and Notifications

A permit will be obtained from DOF on the morning of the burn. In addition, arrangements will be made to have a FWC or DOF suppression crew on stand-by during the burn. Notification of burning will be given to:

1. Franklin Co. Sheriff Dept.
2. Gulf Co. Sheriff Dept.
3. Residents of the inholdings
4. Apalachicola Northern R.R.

J. Evaluation of Burn

Initial evaluation of the fire will be conducted within one week and include: fuel consumption, flame height, fire behavior, smoke dispersion, any escape, adverse publicity, objectives reached and other observations. A follow-up evaluation will be completed within one month and will include understory kill, adverse insect activity and other observations. These observations will be incorporated into future burn prescriptions.

K. Special Considerations

Attention will be given to the safety of private inholdings; a pumper unit and/or a fireplow will be stationed nearby to expedite response time to the area if required. Due to the proximity of US 98 to some of the burn units, close cooperation with the Highway Patrol, the Sheriff Departments (Franklin and Gulf) as well as with local police will be necessary. Growing season burning may affect various wildlife species that are highly active during this period. Another area of concern, are the wading

bird rookeries. Moreover, growing season burns may also adversely impact other nesting reptiles, birds and mammals, particularly by fast-moving headfires. Consideration for summer burning will be given to areas having desirable burning conditions.

L. Growing Season Burning Procedure

Growing season prescribed burning is generally performed for site preparation and hardwood brush control. High air temperatures reduce the amount of heat needed to raise plant temperatures to lethal levels. Actively growing plants are more easily killed by fire than dormant plants, which results in better hardwood brush control than winter fires (Mobley et al. 1973, G. Evans, Tall Timbers Research Station, pers. commun.). In addition, growing season burns promote an increase in herbaceous vegetation growth, promote species diversity and mimic naturally occurring summer lightning fires. Therefore, prescribed burning in the summer will be the preferred method on the EEL burn units with special attention given to wildlife and weather conditions.

*Saul Creek*

The Saul Creek Unit is approximately 6,773 acres in size and adjoins the original EEL tract on the east, in Gulf Co. The western boundary abuts Ed Ball WMA (St. Joe Timberland) and a small residential community (Howard Creek), Jackson River denotes the south boundary and St. Joe Timberland property is on the northern boundary. Private holdings are distributed throughout the unit. Prior to development, the landscape of the area included a low and broken ridge of pine flatwoods that projected into the floodplain forest from the north (Eicholz 1982). These flatwoods are interspersed with forested wetlands and strands. In the southern portion of the area the floodplain forest and mixed pine/hardwood areas gives way to sawgrass marsh which extends to the Jackson River. During development of the area, natural water regimes were manipulated by the construction of elevated roads, ditches, and levees. The purpose of the

development was to provide land for agricultural production. Construction of ditches and levees was most intense in the sawgrass marsh at the southern end of the unit. The EPA using a series of ditch plugs in 1983 restored most of the area's hydrology.

The more upland portions of the flatwoods and mixed pine/hardwood areas were cleared and prepared for farming or pasture. Plant species vary with elevation and past management practices, but are typically ruderal communities in varying states of succession. The fields planted for pasture have little woody plant growth except along their edges. Varying densities of brush have become established on most of the cultivated fields. Pine and hardwood trees have regenerated naturally in some of the brushy areas. The FWC has also reforested some of the degraded areas primarily with longleaf pine, but also with slash and loblolly pines.

Degraded bottom/hardwood sites have been replanted with native wetland oaks and hardwood species. The Saul Creek area has been burned on a yearly basis. The last series of burns included compartments SC 02,03,04 (burned in 2001 & 2002) and SC 12 and 13 (burned in 2000).

A. Firelines

Natural features (e.g. drains, creeks and rivers) and existing roads are utilized as firelines whenever feasible. Many of the roads that are utilized as firebreaks are maintained for public access and management. Some of the less used roads however have re-vegetated, therefore, disking or grading are required to maintain functional firebreaks. There are 16 miles of firelines on this unit. Most of the firelines were established when the main form of ignition was done by hand, and compartments had to be of a manageable size. Some of the firelines will be reviewed to determine if they are still needed and will be discontinued if found to be unnecessary.

B. Size and Arrangement of Compartments

Thirteen compartments have been delineated on Saul Creek, averaging 460 acres in size (range: 12-3,360; Figures 6a and 6b). Ideally, burns

should be conducted at 3-5 year intervals, or on a prescribed need to burn in consecutive years if objectives are not accomplished.

C. Type of Burn

An initial backfire will be used to secure the area to be burned. Aerial ignition will constitute the main form of ignition on the area, which reduces smoke hazards, the time necessary to burn a compartment and burning costs.

D. Season and Time of Day

Prescribed burning of pine flatwoods, mixed pine/hardwoods and ruderal areas on the Saul Creek Unit will be conducted on an opportunistic basis, varying the season, intensity, and frequency of the fire based management objectives. The lower Saul Creek Units (marsh) will be burned primarily during the growing season (March-September) to reduce hardwood encroachment in the sawgrass marsh. Burning will be conducted primarily during daylight hours; night burning will be avoided due to problems associated with smoke dispersal. However, if favorable conditions exist and permits can be obtained, burning will be continued into the night.

E. Optimal Weather Conditions

For Saul Creek, winds out of the east, especially southeast, are best for burning. These winds will push fire and smoke away from private property to the east and from Howard's Creek to the north. Though easterly winds are not as stable as a western wind, the incoming southeastern seabreeze is the steadiest wind.

F. Smoke Management

Direction, volume and dissipation of smoke from prescribed burning on the Saul Creek Unit are of primary concern due to the proximity of smoke-

sensitive areas. Areas that may be affected by smoke (or particulates carried by smoke) under optimum burning conditions are private properties (eastern boundary), SR 71 to the west, Port St. Joe to the southwest, US Highway 98 to the south and CR-387 to the north. To minimize smoke problems, burning should be conducted when the atmosphere is slightly unstable, with mixing height a minimum of 1,600 feet and transport wind speed of 9-13 mph (Southern Forest Fire Laboratory 1976, Crow and Shilling 1983). Additionally, use of backfires, as prescribed, will produce less smoke and consume fuel more completely than headfiring (Mobley et al. 1973, Southern Forest Fire Laboratory 1976, Crow and Shilling 1983).

Smoke management is difficult when night burning because smoke often stays close to the ground and smoke drift is difficult to predict. Additionally, smoke tends to seek lower laying areas (along streams and creeks) and may drift east across SR-71 or north across County Rd. 387, disrupting traffic or down into the river system itself. Night burning will be approached with caution and in close association with the Division of Forestry to avoid these problems.

Preferred wind direction has a strong easterly component, which will carry the smoke over Ed Ball WMA.

G. Personnel

Under ideal conditions, burning can be conducted with a minimum crew of eight to eleven. Two ignition crews (three members each), one crew to man the pumper (two members) and three individuals in the helicopter, as pilot, observer and AIDS operator, can burn the area in four days.

Commission personnel from the Northwest Region who are DOF-certified for prescribed burning will conduct the burning. Personnel from other state and federal agencies (DOF, DEP, and USFS) will be used if they are available.

H. Equipment

Along with PPEs and hand-held radios, fire flaps, fire rakes, shovels, drip torches, burn fuel, trucks and a water pumper are required equipment. Smoke caution signs for SR-71, CR-387 or Saul Creek Rd., and fire hazard signs may be necessary. A tractor/crawler and other fire suppression equipment will be supplied to the site by FWC; however, equipment from Division of Forestry (DOF) will be on standby. Other fire suppression equipment will be acquired, as funds become available.

I. Permits and Notifications

A permit will be obtained from DOF on the morning of the burn. In addition, arrangements will be made to have a DOF suppression crew on stand-by during the burn. Notification of burning will be given to:

1. Gulf Co. Sheriff Dept.
2. Residents of the inholdings and the nearby community.
3. Apiary lease holder.

J. Evaluation of Burn

Initial evaluation of the fire will be conducted within one week and include: percent crown scorch, bark char (height), fuel consumption, flame height, fire behavior, smoke dispersion, any escape, adverse publicity, progress toward objectives and other observations. A follow-up evaluation will be completed within one month and will include crown scorch, understory kill, adverse insect activity and other observations. These observations will be incorporated into future burn prescriptions.

K. Special Considerations

Attention will be given to the safety of private inholdings. The firebreaks around the inholdings will be reinforced; a pumper unit and/or a fireplow will be stationed nearby to expedite response time to the area if required. There is an apiary lease on the area. The fence line for these sites will be

raked of heavy vegetation and the fence posts will be sprayed with water prior to fire reaching them. Any campers will be notified of the impending burn and advised to leave the area for the duration of the burn. They will be asked to remove the camper, if the camping vehicle cannot be removed, a wetline will be interposed between the fire and the vehicle. The campsite will be monitored for the duration of the fire. Telephone pedestals, power poles, groundwater monitoring well and entrance signs will be raked of heavy vegetation and sprayed with water prior to fire reaching them.

Growing season burning may affect various wildlife species that are highly active during this period. Moreover, growing season burns may also adversely impact other nesting reptiles, birds and mammals, particularly by fast-moving headfires. Consideration for summer burning will be given to areas having desirable burning conditions.

L. Growing Season Burning Procedure

Growing season prescribed burning is generally performed for site preparation and hardwood brush control. High air temperatures reduce the amount of heat needed to raise plant temperatures to lethal levels.

Actively growing plants are more easily killed by fire than dormant plants, which results in better hardwood brush control than winter fires (Mobley et al. 1973, G. Evans, Tall Timbers Research Station, pers. commun.). In addition, growing season burns promote an increase in herbaceous vegetation growth, promote species diversity, releases planted longleaf pine seedlings from vegetative competition, helps control brown-spot disease and mimic naturally occurring summer lightning fires. Therefore, prescribed burning in the summer will be the preferred method on the Saul Creek Unit with special attention given to wildlife, weather conditions and Tupelo honey season.

Growing season burns will be conducted during April through September with desired wind speed and relative humidity as described. The preferred

and most reliable winds during the summer burning period are easterly to southeasterly (Krueger and Pachence 1961; B. Hodges, DOF, pers. commun.). In the coastal zone, these wind conditions occur primarily in the afternoon with the presence of high pressure over or slightly north of the area. Backfires will be set along the lee side of the compartments to establish a baseline. After baseline establishment, tight runs by the helicopter will help minimize the potential for overstory damage and prevent fires from building high intensity may be utilized.

### ***Highway Tract***

Highway tract is located just north of state road 65 and south of Tate's Hell State Forest (THSF). It is bounded by SR-65 on the south and west and abuts THSF on the east and north. Highway Tract burn unit is 2585 acres comprised of a variety of vegetative communities, which include mesic flatwoods, drains and flooded forests. Most of the mesic flatwoods areas had been converted into pine plantations. Currently the vegetation in these areas is made up of an overstory of slash, loblolly and some longleaf pines. The understory is composed of wax myrtle, oaks, titi, gallberry, saw palmetto, rusty lyonia, sedge broom, wire grass, pitcher plants, and other grasses and forbs. This area was recently purchased (1998) and burn units HW09 and HW10 received a dormant season burn during January of 2002 for habitat improvement and fuel reduction. No other units have been burned.

#### **A. Firelines**

Natural features (e.g. drains, creeks and rivers), the railroad track, and existing roads are utilized as firelines whenever feasible. Many of the roads that are utilized as firebreaks are maintained for public access and management. Some of the less used roads however have re-vegetated, therefore, disking or grading are required to maintain functional firebreaks. Approximately 0.9 miles of fireline need to be installed and maintained along shared boundaries with private property. The Highway

Tract shares approximately 2.2 miles of wooded boundary with THSF. Rather than installing and maintaining firelines, these blocks (HW01, HW05, HW09, HW12) should be burned in conjunction with DOF.

B. Size and Arrangement of Compartments

Twelve compartments have been delineated on the Highway tract, averaging 214 acres in size (range: 45 - 1325; Figure 7). Ideally, burns should be conducted at 2-5 year intervals, or on a prescribed need to burn in consecutive years if objectives are not accomplished.

C. Type of Burn

Initially, a combination backfire with flank and spot fires (as conditions warrant) will be used to secure the area to be burned. Until fuel reduction is achieved, hand burns will be necessary on the smaller blocks bordering SR-65. Aerial ignition will constitute the main form of ignition on HW07, which reduces smoke hazards, time necessary to burn a compartment, and burning costs. This compartment would benefit from an initial burn under wetter conditions, to allow for a safe burn on the ridges and under pines, followed by a burn under dryer conditions that would allow fire to enter the cypress flats/savannah areas. Compartments HW01 and HW05 should be burned in conjunction with adjacent blocks on THSF to reduce the need for fireline installation and maintenance, and to allow for more efficient aerial burns on these blocks.

D. Season and Time of Day

Initially, most prescribed burning will be conducted during the dormant season (October-March). When the heavy fuel loads have been reduced, burns will be switched to primarily growing season (April-August). Burning will be conducted primarily during daylight hours; however, if favorable conditions exist and permits can be obtained, burning will be continued into the night.

E. Optimal Weather Conditions

For the Highway tract, winds from the south or west are best for burning. These winds will push fire and smoke away from SR-65 and away from any nearby communities. Ideally, burns should be conducted 3 – 5 days after a rain, however this may not always be possible. Surface winds ideally should be 3 – 15 mph, with transport winds at 10 – 20 mph. Minimum mixing height should be 1600 feet, with day time dispersion index of 30 – 80, and night time dispersion index > 2. To help prevent spotting out of the burn unit, relative humidity should not be below 25%, however, to ensure good fuel consumption, relative humidity should not be above 70%. It should be realized that limiting burns to those days that meet all “ideal” conditions would severely limit the amount of burning that can be done, thus burns can be conducted when some parameters are not in the “ideal range”, as long as other parameters compensate and allow for a safe burn that also will allow for the burn objectives to be realized.

H. Smoke Management

Direction, volume and dissipation of smoke from prescribed burning on the Highway tract are of primary concern due to the proximity of smoke-sensitive areas. Areas that may be affected by smoke (or particulates carried by smoke) under optimum burning conditions are SR-65, the river system to the west (river traffic), the railroad and inholdings within the area. To minimize smoke problems, burning should be conducted when the atmosphere is slightly unstable, with mixing height a minimum of 1,600 feet, and when there is an appropriate wind to carry smoke away from sensitive areas. Preferred wind direction has a strong south or west component, which will carry the smoke away from SR-65. Decreasing the amount of time fire is on the ground will also help reduce smoke impacts. As such, all burns should use the method of ignition which allows for the

quickest burnout that can be safely conducted while meeting burn objectives.

G. Personnel

Staffing on burns will be dependant on the size and complexity of the unit being burned. Small hand burns can be conducted with as few as three individuals, however larger aerial burns may require upwards of 10. No burn will be conducted unless the minimum staffing requirements identified on the burn plan are fulfilled. Commission personnel performing controlled burns must have completed a minimum training of S130/190. Personnel from other state and federal agencies (DOF, DEP, USFS) will be used if they are available.

H. Equipment

Along with PPEs , hand-held radios, a variety of fire related hand tools, burn fuel, trucks, ATVs, tractor plow unit, water pumper, helicopter and AIDS machine are potentially required equipment, depending on the unit being burned. Smoke caution signs for SR-65 and fire hazard signs may be necessary. When possible, fire suppression equipment will be supplied to the site by FWC, however, it may be necessary rely on equipment and personnel from other agencies (DOF, DEP, USFS). Other necessary fire suppression equipment will be acquired as funds become available.

I. Permits and Notifications

A permit will be obtained from the DOF on the morning of the burn. In addition, when possible, arrangements will be made to have a FWC or DOF suppression crew on stand-by during the burn. Notification of burning will be given to:

1. Franklin Co. Sheriff Dept.
2. Residents of the inholdings and neighbors
5. Apalachicola Northern R.R.

6. THSF Headquarters
7. FL Power

J. Evaluation of Burn

Initial evaluation of the fire will be conducted within two weeks and include: percent crown scorch, bark char (height), fuel consumption, flame height, fire behavior, smoke dispersion, any escape, adverse publicity, objectives reached and other observations. A follow-up evaluation will be completed during the concurrent growing season and will include crown scorch, understory kill, adverse insect activity and other observations. These observations will be incorporated into future burn prescriptions.

K. Special Considerations

Attention will be given to the safety of private inholdings and neighbors. The firebreaks around the inholdings will be reinforced, a pumper unit and/or a fireplow will be stationed nearby to expedite response time to the area if required. Telephone pedestals, power poles and entrance signs will be raked of heavy vegetation and sprayed with water prior to fire reaching them.

Special care will be taken to protect environmentally sensitive areas. Prior to the burn day, excess fuels will be removed from around RCW trees. If possible without jeopardizing personnel, these trees will be blacked out prior to the main fire reaching the area.

L. Growing Season Burning Procedure

Summer prescribed burning is generally performed for site preparation, hardwood brush control, and ground cover restoration. High air temperatures reduce the amount of heat needed to raise plant temperatures to lethal levels. Actively growing plants are more easily killed by fire than dormant plants which results in better hardwood brush control than winter fires (Mobley et al. 1973, G. Evans, Tall Timbers Research Station, pers.

commun.). In addition, summer burns promote an increase in herbaceous vegetation growth, promote species diversity, releases planted longleaf pine seedlings from vegetative competition, helps control brown-spot disease and mimic naturally occurring summer lightning fires. Therefore, prescribed burning in the summer will be the preferred method on the Highway Tract with special attention given to wildlife, weather conditions and ground cover needs.

Growing season burns will be conducted during April through August with desired wind speed and relative humidity as described. Backfires will be set along the lee side of the compartments to establish a baseline. After baseline establishment, tight runs by the helicopter will help minimize the potential for overstory damage and prevent fires from building high intensity.

## LITERATURE CITED

- Clewell, A. F. 1986. Natural Setting and Vegetation of the Florida Panhandle. U.S. Army Corps of Engineers, Mobile District, Report No. COESAM/PDEI-86/001
- Crow, A. B., and C. L. Shilling. 1983. Prescribed burning in Louisiana pinelands. Louisiana State Univ. Coop. Ext. Serv. Pub. 1618.
- Eicholz, N. F. 1982. M-K Ranches Project Assessment Report. Document AMP2a of the Office of Environmental Services, Florida Game and Freshwater Fish Commission.
- Givens, L. S. 1962. Use of fire on southeastern wildlife refuges. Proc. Annu. Tall Timbers Fire Ecol. Conf. 1:121-126.
- Halls, L. K. 1977. Southern fruit-producing woody plants used by wildlife. U. S. For. Serv. Gen. Tech. Rep. SO-16.
- Krueger, D. W., and A. M. Pachence. 1961. Wind directions for prescribed burning in southeastern United States. Southeast. For. Exp. Sta., Pap. 131.
- Means, D. B., and H. W. Campbell. 1981. Effects of prescribed burning on amphibians and reptiles. Pages 89-97 in G. W. Wood (ed.). Prescribed fire and wildlife in southern forests. Belle W. Baruch Forest Science Institute, Clemson Univ., Georgetown, S.C.
- Miller, H. A. 1963. Use of fire in wildlife management. Proc. Annu. Tall Timbers Fire Ecol. Conf. 2:19-30.
- Mobley, H. E., R. S. Jackson, W. E. Balmer, W. E. Ruziska, and W. A. Hough. 1973. A guide for prescribed fire in southern forests. U. S. For. Serv., Southeastern State and Private Forestry-2, Atlanta, Ga.
- Southern Forest Fire Laboratory. 1976. Southern forestry smoke management guidebook. U.S. For. Serv. Gen. Tech. Rep. SE-10.
- Stoddard, H. L. 1963. Bird habitat and fire. Proc. Annu. Tall Timbers Fire Ecol. Conf. 2:163-175.
- Stoddard, H. L. 1971. Wildlife habitat management handbook--southern region. FSH 2609.23R, U. S. For. Serv., Atlanta, Ga.
- U. S. Forest Service. 1969. Wildlife Habitat Improvement Handbook. FSH 2609.11, U.S. For. Serv., Washington, D.C.

# Apalachicola River WEA Burn Units

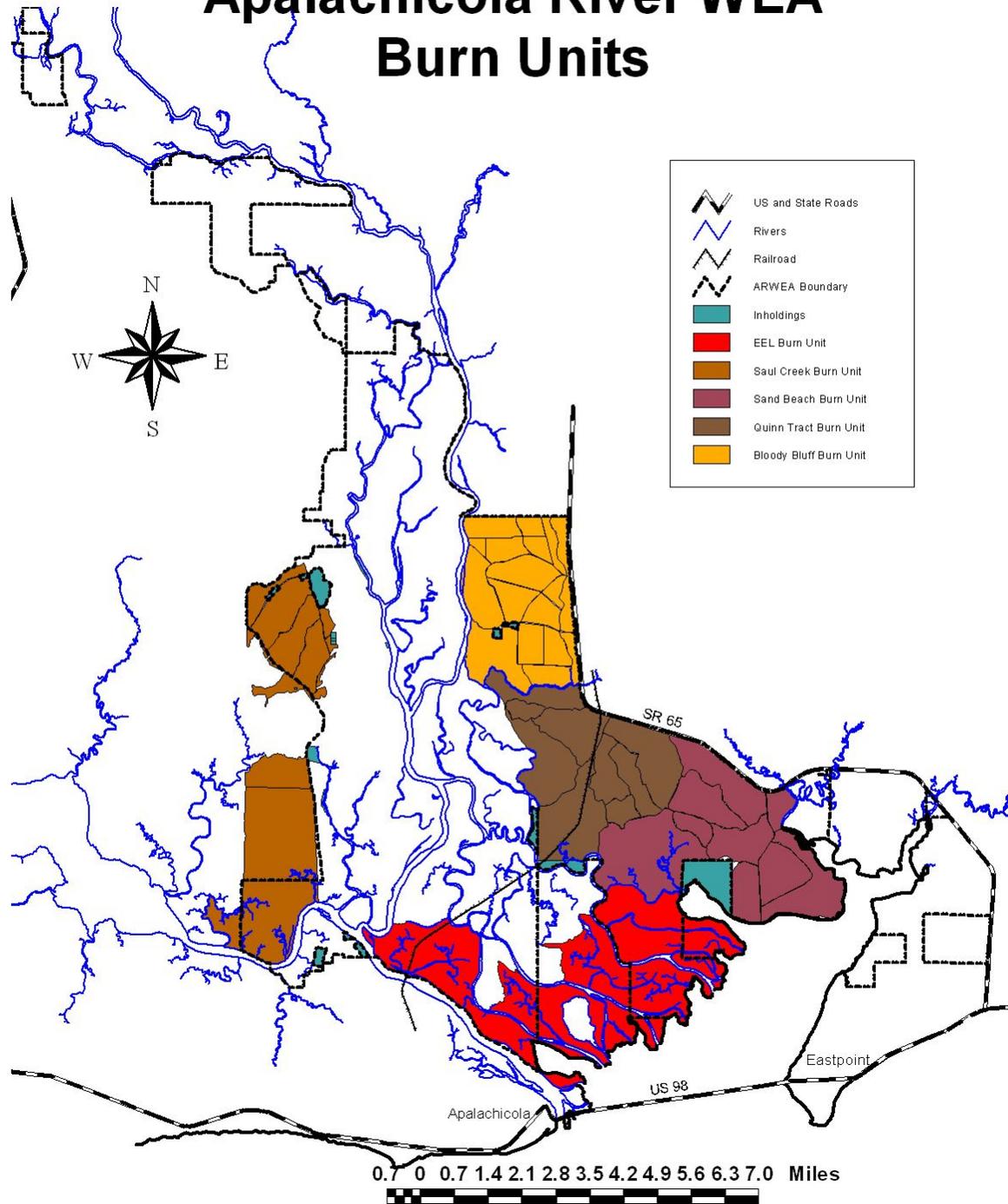


Figure 1. Apalachicola River WEA Burn Units

# Bloody Bluff Burn Units

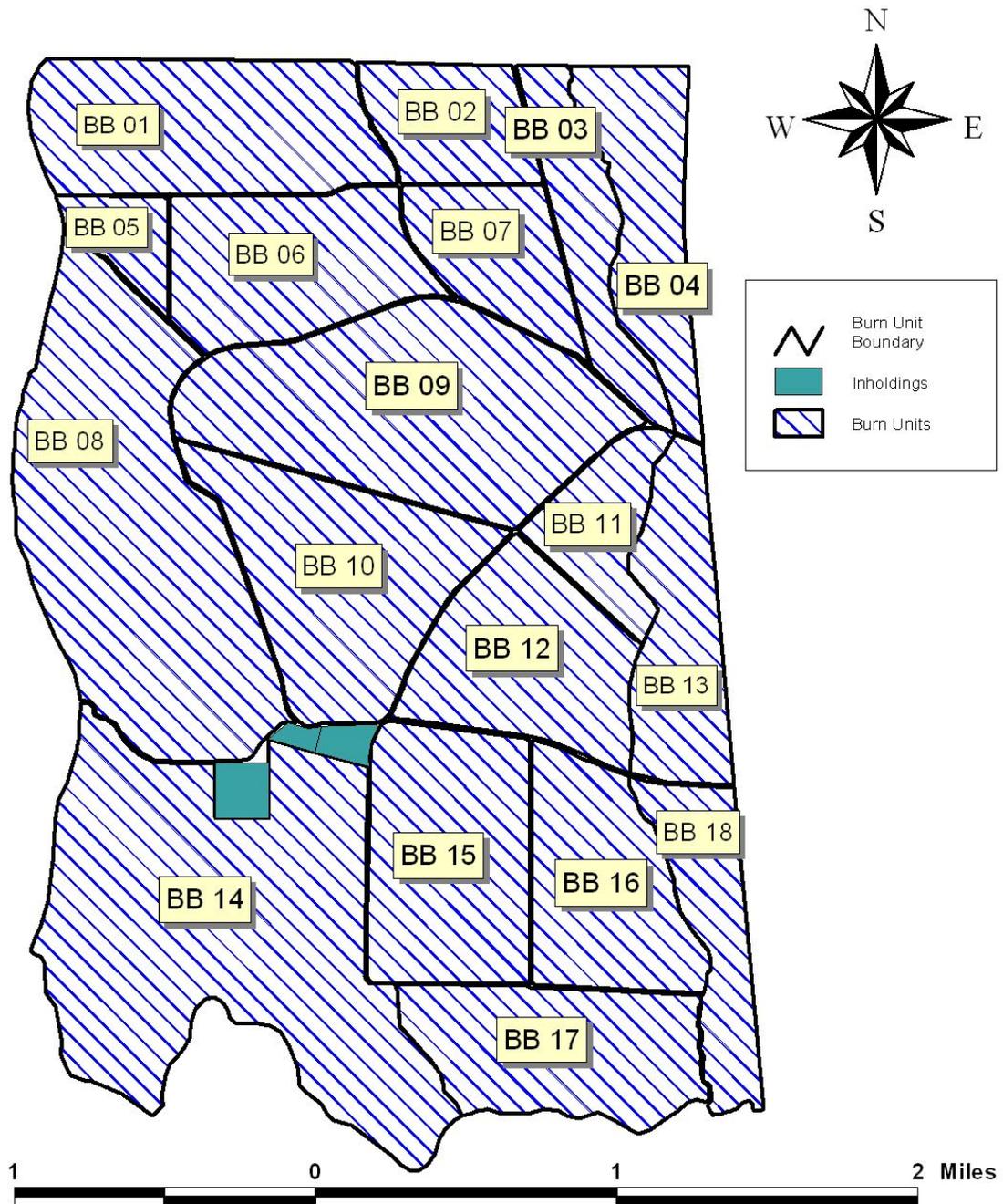


Figure 2. Bloody Bluff Burn Units

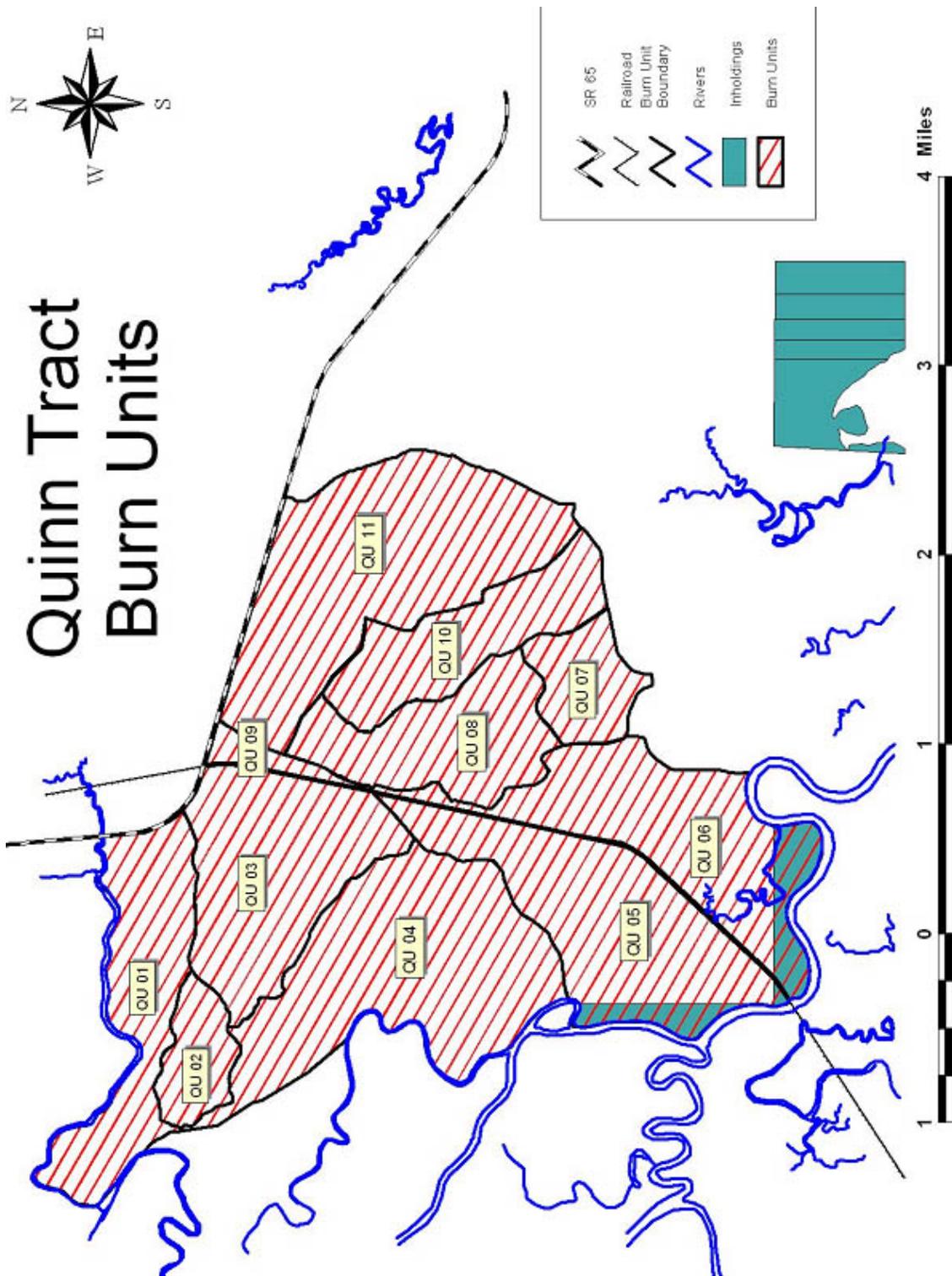


Figure 3. Quinn Tract Burn Units

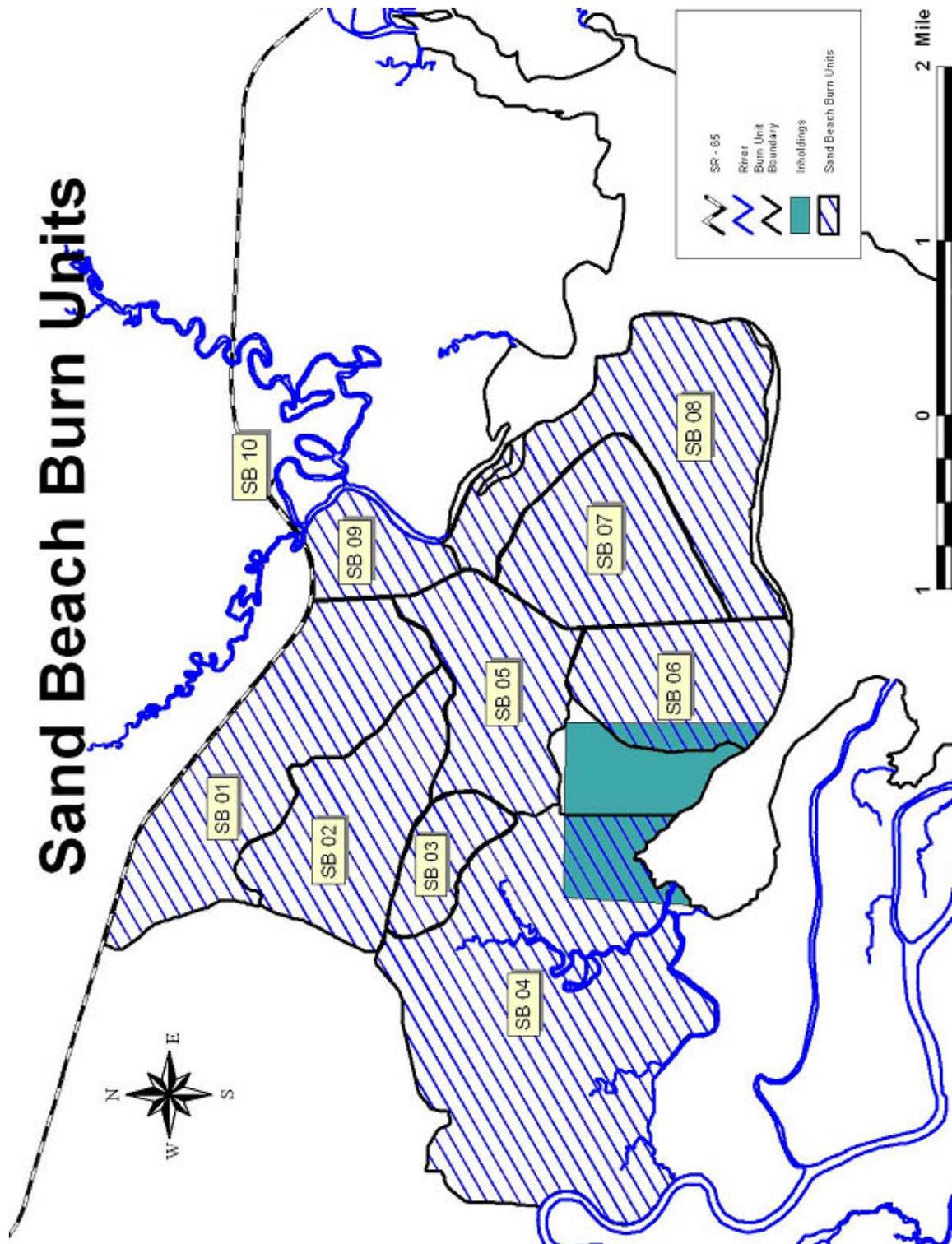


Figure 4. Sand Beach Burn Units

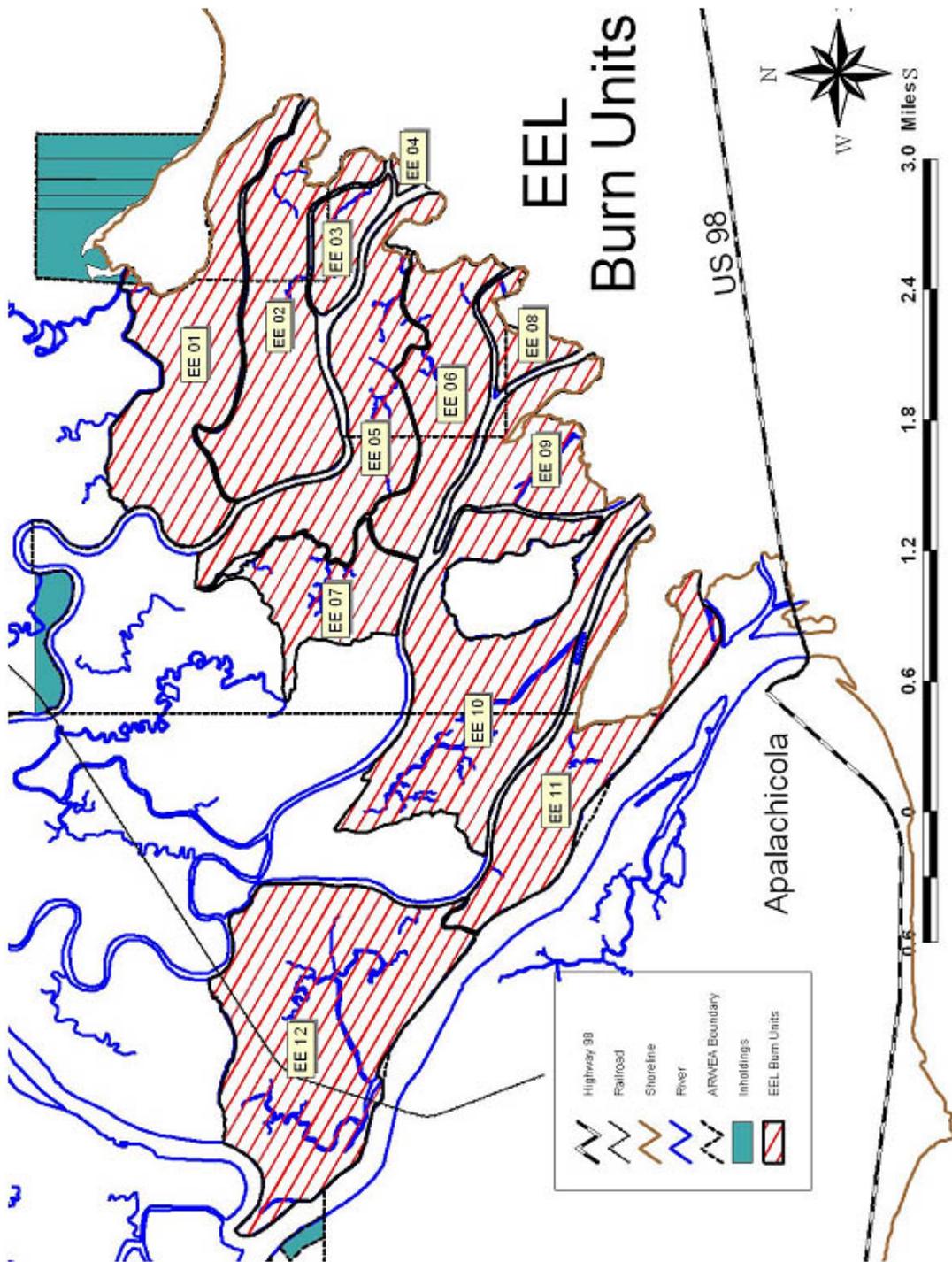


Figure 5. EEL Burn Units

# Upper Saul Creel Burn Unit

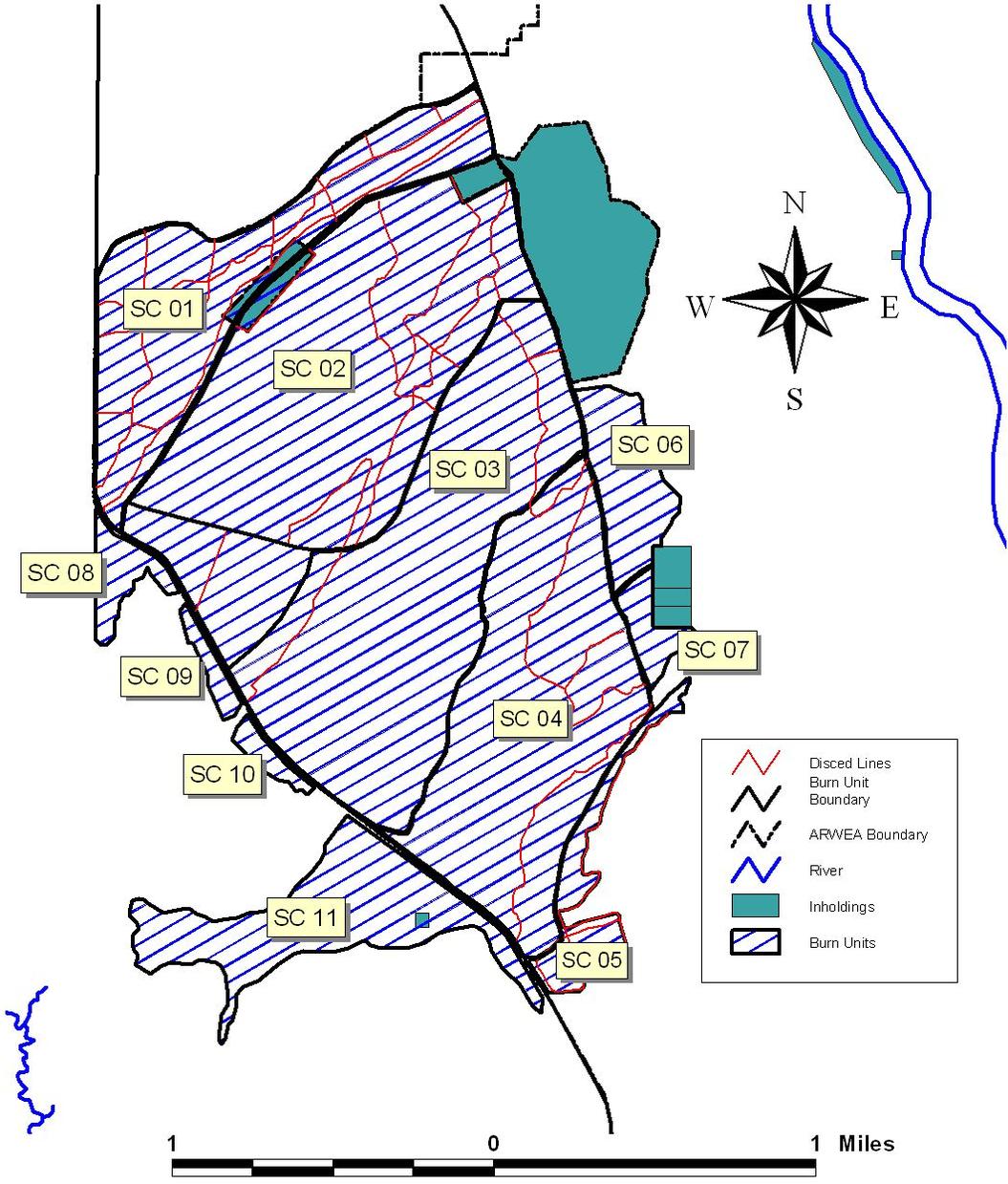


Figure 6a. Upper Saul Creek Burn Units

# Lower Saul Creek Burn Units

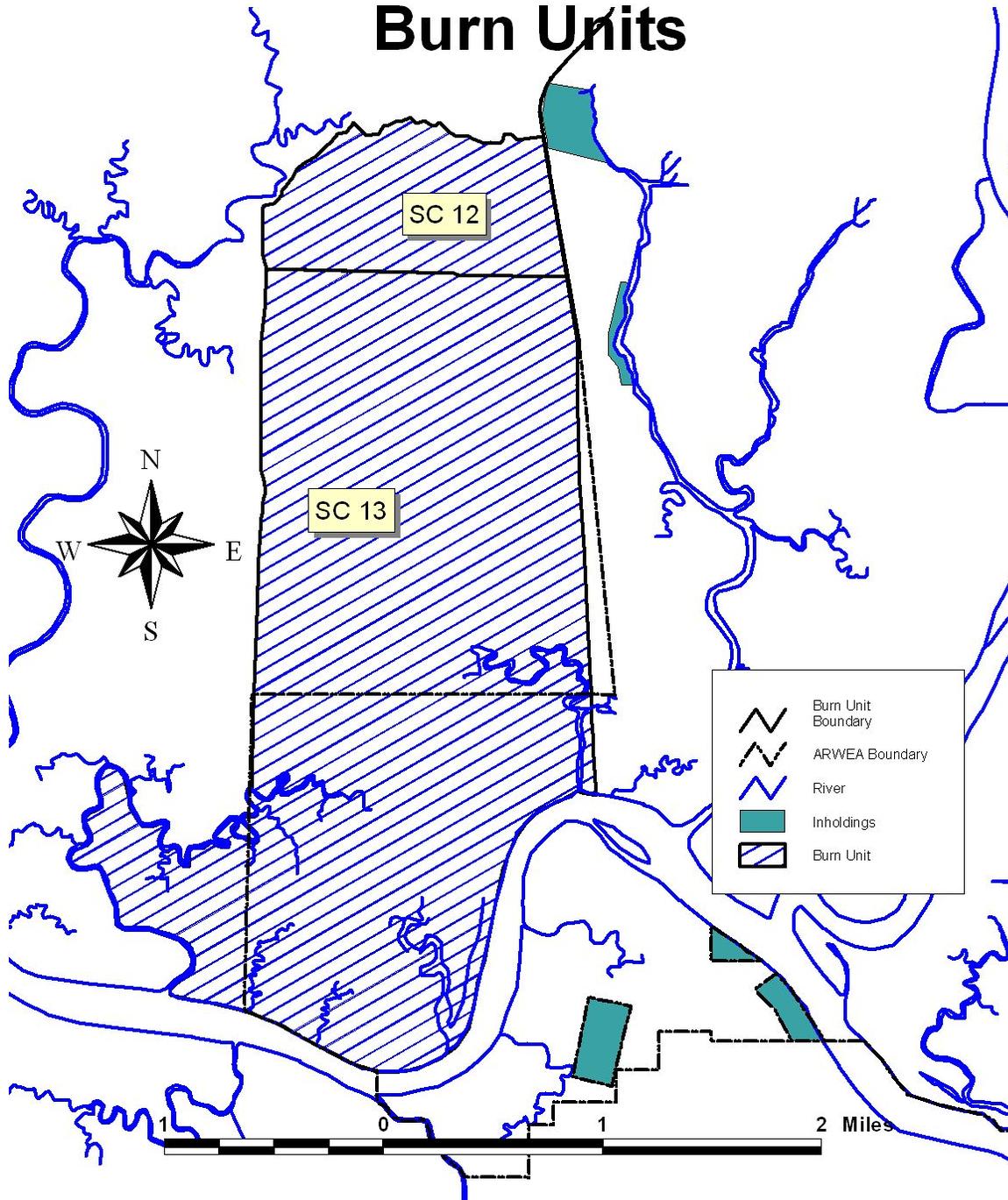


Figure 6b. Lower Saul Creek Burn Units

# Highway Tract Burn Units

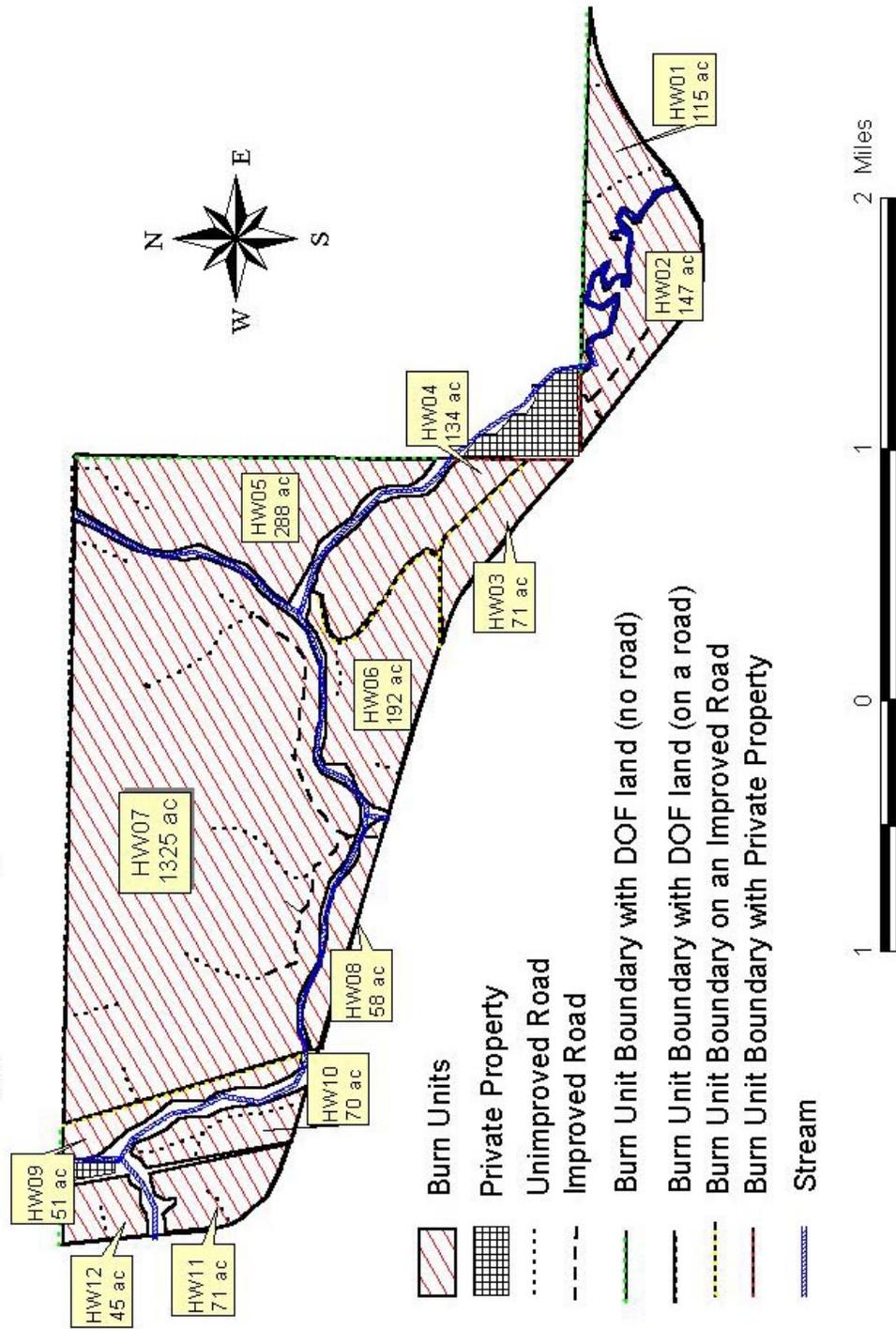


Figure 7. Highway Tract Burn Units

APPENDIX XI

TIMBER MANAGEMENT ASSESSMENT

## **Apalachicola Wildlife and Environmental Area**

### **Timber Management Assessment**

**Prepared by:**

**Leon Irvin**

**State Lands Silviculturist**

**Florida Division of Forestry**

#### **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. Overview of the History of Pines in Florida**

The original pine forests of Florida were a mixed component comprising of slash, longleaf, loblolly, and sand pines. According to Bartram's description of such species "...the pines are small, shrubby, and very thinly planted and the soil a hard sterile white..." (155) possibly refers to sand pine while his comment "...continued passing over midling high level grassy pine forests, bearing very large timber..."(156) suggests a description of longleaf. His statement "...now we enter a level forest of short leafed pine mixed with red and black oak..." (157) implies the presence of loblolly and or slash. Finally, his statement "...the land falls away from the top of the hills & becomes a lower flat or nearly level forest of pine, oaks, bay, magnolia & cabbage trees..." (158) reveals the presence of slash in the flatwoods. It is apparent Bartram saw Florida's landscape which had large expanses of pine forests with several different pine species.

Much of the pine forests in the south were exploited starting from the 1700's through 1900's. Florida was no exception. By the early part of the 1900's, logging, agriculture, and range production for cattle had severely denuded the area of mature merchantable pine species

(Frost 17). "...A timber famine was at hand..." (Pisani 18). These pine forests of slash, loblolly and longleaf grew back through natural regeneration.

When considering natural regeneration, longleaf is by far the inferior seed producer of the southern pines. The species produces cone crops every 4-7 years, averaging 65 cones/tree and 50 seed /cone, with seed dispersal range within 66 feet of the parent tree (Boyer 12). Slash pine is a relatively good seed producer and yields seed almost every year, producing about 10 and 20 thousand seed per pound (Lohrey and Kossuth 339). More than 90 % of seed fall within 150 feet of the parent tree and may be wind blown 250 feet (Shoulders 163). Loblolly is a prolific seed producer each year and generally has 13 to 26 thousand seed /pound and a dissemination range of up to 300 feet from the parent tree (Baker 37,38).

Knowing the amount of seeds produced by species and how far they travel one can deduce that over time there occurred more slash and loblolly over the general area than longleaf. This was assisted by the lack of fire in the wetter areas. Specifically, larger densities of these species were found throughout as Bartram suggests. All the species of pine were thinned through natural process such as wildfires, natural disaster (wind, ice, rain), and fires set by indigenous peoples. Later the "clear-cut and get out" policy of many lumber industries in the mid and late 1800's and early 1900's further removed many of the longleaf pine because it was easier to get to. That, and the lack of controlled fires, led to off-site invasion by some pine species, particularly loblolly and slash.

### **III. General Information**

The ARWEA is divided into five distinct tracts. They are:

1. Saul Creek Tract with approximately 6900 acres. There are approximately 550 acres of planted loblolly, slash, and longleaf pine. The remainder is natural slash and loblolly mixed with hardwoods, ruderal fields, swamps with cypress and gum, and sawgrass flats.
2. Sand Beach Tract with approximately 5400 acres. Approximately 3800 acres are in planted slash with some mix of natural longleaf and loblolly pines. The remainder is

natural slash and loblolly mixed with hardwoods and swamps with cypress, gums, other hardwoods, and sawgrass flats.

3. Quinn Tract with approximately 6800 acres. Approximately 4500 acres are in planted slash pine with the remainder being natural slash mixed with hardwoods and swamps with cypress, gum, and other mixed hardwoods.
4. Bloody Bluff Tract with approximately 3500 acres. Approximately 2400 acres are in planted slash and loblolly stands that have been thinned to a seed tree cut of around 30 trees per acre. Some regeneration has already taken place with the slash and loblolly pines. In addition, 1,762 acres have been replanted with longleaf pine. The remainder is comprised of natural slash, loblolly, and longleaf pines mixed with hardwoods, and swamps with cypress and gum.
5. Original Environmental Endangered Lands (EEL) Tract (and other CARL program acquisitions) with approximately 38,400 acres. This area is dominated by floodplain forests of gum-cypress and bottomland hardwoods grading into freshwater and estuarine marshes (primarily sawgrass) towards Apalachicola Bay. There are also scattered hardwood hammocks and areas of wetland scrub shrub. The floodplain 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 1960's through 1990's. 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. With the exception of small areas scattered over all the ARWEA of bottomland forests, there are areas that contain natural longleaf pine, slash pine and loblolly pine, small pockets of savannas and cypress ponds, and hardwoods. Otherwise, the flatwoods consist entirely of planted slash, loblolly and some limited acres of longleaf pine.

Re-establishing the natural hydrology, prescribed burning, timber thinnings, 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. Considerable progress has been accomplished in 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 intervals (1-5 years, or fire exclusion), 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 three-five year rotation. Because the previous property owners did not use prescribed fires, the ARWEA has a dangerous buildup of fuels on the Sand Beach and Quinn tracts.

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. Another 1,821 acres on the Sand Beach and Quinn tracts are targeted for this type of restoration in the next 3 years. These thinnings are intended improve the quality of the 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 provided abundant open areas for natural ground cover regeneration.

Reforestation is occurring naturally on many sites. The primary management technique for encouraging reforestation will be protection of young trees and seedlings on these sites from fire or other damage. However, planting trees on selected sites will be used to increase the rate of reforestation and to ensure diversity. Presently 1,762 acres have been reforested with longleaf pine seedlings on the Bloody Bluff tract (from 1996-2000) and approximately 550 acres have been planted with longleaf, slash and loblolly pine in the Saul Creek area.

#### **IV. Goals and Objectives Related to Timber Management**

The following are Goals and Objectives for the ARWEA that relate directly to timber management. Other objectives found in this Five Year Comprehensive 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 timber stand description of currently and potential forested areas is needed. This information would group stands with similar needs by species composition, age, stocking levels, and growth.
3. Continue and increase efforts to restore fire dependent communities with emphasis on growing season burns.

#### **V. Mesic Flatwoods**

With the exception of the floodplain forest, approximately 50% of the remaining forested lands found on the ARWEA are in this Florida Natural Areas Inventory (FNAI) type. This is only an estimate as there is a need for a complete forest inventory of all the ARWEA. The canopy cover varies from sparse to complete closure. Most of the area has been planted with predominantly slash pine with some stands of loblolly pine. All planted pines occur in varying degrees of density. The understory consists of grasses, herbs, shrubs (mainly gallberry and fetterbush), some oaks, and palmetto. Within the more recently acquired tracts, fire has been excluded in this community for many years resulting in hazardous fuel levels. 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, however much there ends up being, will continue through succession. If fire remains in the system at regular intervals, 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 due to time and manpower constraints. The reader should be aware that all acreage figures are “best estimates” using aerial photos and GIS software. Density estimates are based on a small number of sample points and do not withstand statistical scrutiny. A more intensive survey would be beneficial to more accurately portray the timber resource for long range planning purposes.

These areas are characterized by a planted slash pine overstory with either a saw palmetto or gallberry understory. Small pockets of savannas can also be found within these areas. Most of this ecotype was planted sometime in the 1960's through 1990's and are variable with regards to stocking levels, size classes, and densities. To date, 60 acres have been thinned for ecosystem restoration with more acres in the process of being prepared for timber harvest.

A useful measurement of stand stocking and density is its' Basal Area (BA) per acre. B.A. is the cross sectional area (in square feet) of a tree measured 4 ½ feet above the ground.

Today, basal areas on most of the mesic flatwoods range from 10 B.A. to 130+ B.A. with the average being around 100 B. A. Volumes per acre range from 2-30 cords/acre with the average being around 16 cords/acre. Areas that have been recently harvested exhibit much lower basal areas (40-60 sq. ft/acre) and volumes (10-12 cords/acre). The site index rating for these mesic flatwoods is 80. 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.

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. 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 60 – 80 sq. ft. BA per acre each time they reach 100 sq. ft. BA per acre 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 30-50 sq. ft. BA per acre through a series of thinnings. 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. One recommended change would be to thin to a basal area rather than to trees per acre. This is because the lower the average diameter of a stand, the more trees per acre should be growing. Basal area better achieves the proper density.

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. Natural regeneration should become established without much difficulty after harvest if the ground becomes sufficiently scarified. Areas with off-site slash or loblolly pine will be harvested after reaching pole and sawtimber size and then reforested with longleaf pine.

## **VI. Hydric Flatwoods**

### **Ecological Trends**

Not including the floodplain forest, approximately 40% of the remaining forested lands found on the ARWEA are in this FNAI community type. Most of the merchantable planted slash pine and loblolly pine in this community was planted in the late 1960's up to the early 1980's. Some of it has been row thinned while much of it has never been thinned. There are few spots with younger pine trees in the wet flatwoods. The abundance of gallberry, fetterbush, titi and other ground species growing in the understory makes it difficult, if not impossible, for the pine to regenerate without some type of ground disturbance. Prescribed fire can be a risky option 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.

### **Timber Resources**

The unburned areas of this type are composed of a moderate to dense overstory of slash and loblolly pine with a moderate to dense understory of gallberry, titi, fetterbush, shrubs and grasses. Pine basal areas range from 10-160 sq ft/acre with the average being 100 sq ft/acre. Volumes per acre are generally high, averaging over 20 cords/acre. The product mix is pulpwood, chip-n-saw, small poles and some sawtimber.

### **Management Options**

Management of the wet flatwoods 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.

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 30-50 sq. ft. BA per acre through a series of thinning. 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. One recommended change would be to thin to a basal area rather than to trees per acre. This is because the lower the average diameter of a stand, the more trees per acre should be growing. Basal area better achieves the proper density.

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. Natural regeneration should become established without much difficulty after harvest if the ground becomes sufficiently scarified. This method of management is to simulate natural occurrences through the removal of wood fiber products. 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 increase the uneven-aged character of the pine stands and to keep understory competition from taking over.

## **VII. Basin Swamp**

These areas are characterized as largely irregularly shaped basin vegetated with hydrophilic trees and shrubs that can withstand extended hydro periods. Infrequent fire is essential for the maintenance of these basin swamps. Excluding the vast floodplain forest of the

Apalachicola River, approximately 10% of the remaining forested acres are in this FNAI community type.

### **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 50-60 B.A. when the B.A. reaches 100 B.A. All BMP's are to be followed when harvesting in this area. 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. 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 it was purchased by the State. Currently the goal is to burn fire dependent natural communities once every three – five 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 fairly recently by the State and have a history of fire exclusion by the previous landowners. Therefore, flatwoods stands on ARWEA exhibit unnaturally heavy fuel buildups due to this lack of fire. Currently

fuels, especially in portions of the wet flatwoods, are such that it would be risky to attempt burning without first implementing some kind of mechanical treatment. One option would be to thin the area first and then conduct a series of cool backing fires at frequent intervals (every 1-2 years) until it becomes safe to conduct more aggressive growing season burns. Again, a series of cool backing fires should be implemented until eventually the fuel loads become more manageable.

The major objective when prescribed burning in timber should be minimal mortality of the trees. Historic 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, burning intervals may need to be adjusted after regeneration of these species until the majority of the trees are big enough to withstand a burn. One study suggests that once seedlings surpass 1.5 inches diameter 6 inches above the ground, most will survive, providing the fire is cool (Johansen, R.W. and Wade, D.D. 1987). 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 or flood.

Planted longleaf seedlings at Bloody Bluff and Saul Creek tracts will continue to be prescribed burn on a 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.

ARWEA is located in southern Franklin and Gulf Counties and is approximately 2 hours to major pulp-processing facilities in Perry, Florida and Cedar Springs, Georgia. It is approximately 1 hour to a pulp processing facility at Panama City, Florida. There are two other wood processing facilities within 1-½ hours at West Bay and Bristol, Florida. At the present time there is little interest in pulpwood from any mills in this area. There continues to be limited interest in the chip-n-saw and bigger products.

**XI. Summary**

It is possible to manage almost all the mesic flatwoods and at least a portion 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 tract is in the restoration process and to date has had 60 acres thinned and another 455 acres have been marked for thinning. A total of 1,821 acres are scheduled to be thinned through DOF negotiated contracts within the next 3 years on the Sand Beach and Quinn tracts. Additional acreage will be thinned after this 3 year interval if market conditions remain favorable.

Most of the flatwoods on the ARWEA have been subjected to fire exclusion for a number of years and it is extremely risky to attempt introducing prescribed fire at this time. The potential for wildfire in these areas is high to extreme. A possible way to reduce this risk is to harvest timber.

## Literature Cited

Baker, James B., 1983. In Silviculture Systems for the Major Forest Types of the United States comp. P. 148-152. USDA Forest Service, Agriculture Handbook 445. Washington, D.C.

Bartram, J 1942. “ Diary of a Journey through the Carolinas, Georgia, and Florida, 1773-74. “ [Annotated by Francis Harper.]

Frost, Cecil C. 1993. Proceedings of the Tall Timbers Fire Ecology Conference, No. 18, The Longleaf Pine Ecosystem: ecology, restoration and management, Tall Timber Research Station, Tallahassee, Fl.

Kossuth, Susan and Lohrey, Richard, 1990. Silvics of North America comp. P 338-345. USDA Forest Service, Agriculture Handbook 654. Washington, D.C.

Pisani,D.J. “ The Pivotal Decade American Forestry in the 1870’s “*Journal of Forestry* Nov.(2000):6-10.

Shoulders, Eugene 1983. In Silviculture Systems for the Major Forest Types of the United States comp. P.162-165. USDA Forest Service, Agriculture Handbook 445. Washington, D.C.

Johansen, R.W. and Wade, D.D. 1987. An insight into thinning young slash pine stands with fire, pp 103-106. In: Douglas R. Phillips (comp.) Proceedings of the Forth Biennial Southern Silvicultural Research Conference; 1986 November 4-6; Atlanta, GA. USDA Forest Service Southeastern Forest Experiment Station General Technical Report, SE-42.

APPENDIX XII

NATURE-BASED RECREATION ENHANCEMENTS

## Nature-based Recreation Enhancements for Apalachicola River Wildlife and Environmental Area

Nature-based Recreation enhancements on the Apalachicola River WEA will focus on experiences that provide visitors opportunities to learn about the wildlife habitats on the area; the significant populations of both rare and common wildlife that they sustain; and on how the area functions to protect and nurture Apalachicola Bay. Planned facilities are concentrated at river access points and new recreational opportunities are primarily water-based.

### Wayfinding and Road Improvements

- Improve and maintain roads to boat ramps and landings to provide year-round, two-wheel drive accessibility.
- Improve roads from Sand Beach Road to Butcher Pen landing to provide year-round, two-wheel drive accessibility.
- Obtain permission from DOT to install waterway signs under boat ramp signs along State Road 65. Install and maintain directional signs along interior roads so visitors can find landings.

### Interpretive and Promotional Products

- Develop an area brochure that contains a high quality map and interpretive information.
- Develop and install interpretive displays at five sites. Each panel to depict the ARWEA on one side and paddling trails accessible from the ramp/landing on the other. To be installed at: Cash Creek, Graham Creek, Butcher Pen Landing, Gardner Landing and Whiskey George Creek.
- Assist in development of webpage for ARWEA. Provide information to update the page as necessary.
- Create portable document format versions of paddling trails for website.

### Paddling Trail System

- Install and maintain paddling trail markers at designated points.
- Install small kayak dock at Whiskey George Creek campsite.
- Determine feasibility of well repair at Sand Beach to provide water for multi-day paddling trail.
- Explore partnerships with groups such as Franklin and Gulf county tourist development councils and chambers of commerce for funds to sustain printing of paddling trail guide.
- Approach local kayak outfitters and groups such as Apalachicola Riverkeeper to ask them to adopt popular trails, maintaining signs and cleaning campsites.
- Install bike racks at Graham Creek, Gardner Landing and Whiskey George to accommodate paddle/pedal shuttle.

### Sand Beach

- Rebuild wildlife observation tower, pier and install floating dock. Install interpretive signs on tower and at picnic site.
- Develop brochure for interpretive trail.
- Install accessible surface from parking to accessible picnic tables and boardwalk.
- Repair well at Sand Beach to provide water for paddlers on multi-day trail.
- Monitor level of use to determine if vault toilet is warranted.

#### **Butcher Pen**

- Install canoe/kayak launch.

#### **Cash Creek**

- Evaluate possibility of hiking loop and scenic overlook.

#### **Picnic and Toilet Facilities**

- Monitor level of use at all boat ramps and landings to determine where picnic and toilet facilities may be warranted.

APPENDIX XIII

COUNTY COMPLIANCE LETTERS

---

# FRANKLIN COUNTY

REPLY TO

BOARD OF COUNTY COMMISSIONERS  
33 MARKET STREET, SUITE 203  
APALACHICOLA, FL 32320  
(850) 653-8861, EXT. 100  
FAX (850) 653-2261



REPLY TO

PLANNING & BUILDING DEPT.  
33 COMMERCE STREET  
APALACHICOLA, FL 32320  
(850) 653-9783  
FAX (850) 653-9799

July 18, 2002

Keith G. Singleton  
Land Management Planner  
Bureau of Wildlife Management  
Florida Fish and Wildlife Conservation Commission  
620 South Meridian Street  
Tallahassee, Florida 32399-1600

RE: Draft Conceptual Management Plan for  
Apalachicola River Wildlife and Environmental Area

Dear Mr. Singleton:

I have reviewed the draft conceptual management plan for the Apalachicola River Wildlife and Environmental Area for compatibility with the Franklin County comprehensive plan. The conceptual management plan is consistent and compatible with Franklin County's comprehensive plan.

Sincerely,

A handwritten signature in cursive script that reads "Mark C. Curenton".

Mark C. Curenton  
Assistant County Planner

---

EDDIE CREAMER  
District One  
Chairman

CHERYL SANDERS  
District Two  
Vice-Chairman

CLARENCE WILLIAMS  
District Three

JIMMY G. MOSCONIS  
District Four

BEVIN PUTNAL  
District Five

---

BOARD OF COUNTY COMMISSIONERS  
GULF COUNTY, FLORIDA  
**PLANNING/BUILDING DEPARTMENT**  
*Michael L. Hammond, Building Official*

1000 CECIL G. COSTIN, SR. BLVD., ROOM 301 • PORT ST. JOE, FLORIDA 32456 • PHONE (850) 229-8944 • FAX (850) 229-7873

July 24, 2002

Mr. Keith G. Singleton  
Land Management Planner  
Florida Fish and Wildlife Conservation Commission  
620 South Meridian Street  
Tallahassee, FL 32399-1600

RE: Gulf County response to ARWEA Management Plan

Dear Mr. Singleton,

In reviewing the draft conceptual management plan for the Apalachicola River Wildlife and Environmental Area, Gulf County submits the following comments.

Overall, the management plan does not directly contravene the Gulf County Comprehensive Plan. However, in reviewing the plan, the following are items that could have a negative impact on the citizens of Gulf County.

- There was no public hearing held in Gulf County, only in Franklin County. Considering the potential impact to existing landowners and public recreation, a public hearing should have been held in Gulf County. It appears that Gulf County was not afforded a fair opportunity for public comments except the St. Joe Company. Gulf County should have a fair opportunity to be involved in the management plan considering the acreage of Gulf County land that is referenced in the plan and involvement of small individual property owners.
- In reviewing the plan, the proposed purchase of land will impact current recreational and private land use. Gulf County Comprehensive Plan supports a recreational LOS and depending how this land is used, it could adversely affect the recreational opportunities in Gulf County.
- Gulf County readily acknowledges the need for sound environmental management or protection plans. It is very important that Gulf County citizens and visitors alike have access to Gulf County's natural resources. Recreation in this area is an important part of Gulf County's economy. Therefore, the list found on page 36 as 4. Analysis of Multiple-use Potential is a reasonable listing of activities. Gulf County should be involved in management policies for items on the listed issues and some items that are not listed such as houseboats.

CARMEN L. McLEMORE  
District 1

BILLY E. TRAYLOR  
District 2

CARL W. FOX  
District 3

NATHAN PETERS, JR.  
District 4

JERRY W. BARNES  
District 5

---

Page 2 of 2

The Gulf County Board of County Commissioners (BOCC) are accountable to the citizens they represent. It appears they were not given a fair opportunity to represent the citizens of Gulf County in the development of this document and how it might affect the County's economy and recreational opportunities. Page 80, Apalachicola River WEA Management Advisory Group Participant List and Page 161, Management Review Team Members do not have a person representing the BOCC. Therefore, Gulf County respectfully request that the BOCC be included in developing future management policies involving Gulf County lands within the ARWEA. Since protection of the environment is so important, developing management plans that has local government and the public actively supporting the plan will certainly improve the plan's chances for success.

If you have any questions or comments, feel free to contact this office at 850-229-8944 between the hours of 9:00 AM and 5:00 PM Eastern, Monday through Friday.

Respectfully,

Board of County Commissioners

A handwritten signature in cursive script that reads "David Richardson".

David Richardson  
Assistant Planner