

**Nature-Based Recreation
Master Plan
for
Apalachicola River
Wildlife and Environmental Area**



Florida Fish and Wildlife Conservation Commission
Division of Wildlife – Bureau of Wildlife Management
Nature-Based Recreation Program
Nature-Based Recreation Master Plan

Executive Summary

The Florida Fish and Wildlife Conservation Commission (FWC) manages more than four million acres of land to protect fish and wildlife resources for the benefit of the citizens of Florida. Historically, wildlife management areas have been used for hunting and fishing, however the state's dramatic growth has steadily increased the need for additional recreation opportunities on FWC-managed lands.

In recognition of this need, the agency established a Nature-Based Recreation Program (NBR) within the Division of Wildlife's Bureau of Wildlife Management to plan and assist in the developing recreation opportunities focused on wildlife viewing. Six areas were chosen as pilot projects for this effort – Three Lakes, Fred C. Babcock/Cecil M. Webb, J.W. Corbett, Big Bend and Chassahowitzka wildlife management areas and the Apalachicola River Wildlife and Environmental Area.

Nature-based recreation planning workshops were held in each area attended by a multi-disciplinary team including staff from the Office of Informational Services, Division of Law Enforcement, Division of Wildlife regional biologists, area managers and NBR planning staff. Members of the public were involved through focus groups and survey research conducted in cooperation with the University of Florida School's of Forest Resources and Conservation.

The planning process considered:

- the specific purpose for which each WMA was acquired
- its significance
- an analysis of the WMA/WEA's natural resources and existing uses
- interpretive goals and themes
- the range of visitor experiences that should be offered
- the appropriate locations for various recreational activities, and
- indicators, standards and procedures to monitor visitor experience and resource conditions.

The NBR Master Plan provides a long-range vision for developing recreational opportunities on the area and for monitoring recreation-related use to avoid negative resource impacts and to ensure satisfactory visitor experiences. The recommended recreation enhancements include: installing interpretive kiosks at main entrances to orient visitors to the area and its recreation opportunities; developing paddling trails; picnic areas; short interpretive hiking trails and off-road cycling loops; wildlife viewing structures and an area brochure, birding list and paddling guide.

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Introduction

Developing a Vision for the Future



Since its inception, the Florida Fish and Wildlife Conservation Commission has strived to provide Floridians and visitors with high quality hunting and fishing opportunities. The demand to provide additional recreational opportunities on lands managed by the Commission has steadily increased with the growth of and demographic changes in, the state's population.

The rugged character and remote expanses of wildlife management areas provide numerous possibilities for nature-based recreation. Visitors can learn about Florida's wildlife and plant communities and its rich cultural heritage, hike, bike, ride or paddle while experiencing solitude uncommon in our rapidly growing state. However, low awareness, poor roads, and lack of appropriate facilities and staff have limited broader public use.

Recognizing both the need and the opportunity for nature-based recreation on its lands, the FWC established "improving wildlife viewing opportunities" and "increasing participation in nature-based recreation activities" among its priority goals. The NBR Program will contribute to achieving these goals by planning and assisting in the implementation of enhanced recreational and wildlife viewing opportunities and promoting their availability to the public.

Planning Framework

Nature-based recreation program staff modified the Visitor Experience and Resource Protection (VERP) planning process developed by the National Park Service to prepare NBR plans for the six pilot areas. The VERP framework focuses on the impacts of visitor use on visitor experience and natural resources. Visitor behavior, use levels, types of use, timing of use, and location of use are all considered. The VERP framework provides a logical process and rationale for making decisions regarding carrying capacity issues. Careful monitoring and documentation of visitor experience and natural resource impacts as nature-based recreation plans are implemented will provide clear guidelines for limiting use if necessary.

Nine elements are integral to the VERP framework. Although the elements are numbered and may appear to follow a linear process, the elements within the VERP framework are dynamic.

VERP Planning Elements

- Element 1: Assemble an Interdisciplinary Project Team
- Element 2: Develop a Public Involvement Strategy
- Element 3: Development Statements of Area Purpose, Significance and Primary Interpretive Themes, Identify Planning Constraints
- Element 4: Analyze Area Resources and the Existing Visitor Use
- Element 5: Describe a Potential Range of Visitor Experiences and Resource Conditions
- Element 6: Allocate the Potential Zones to Specific Locations in the Area
- Element 7: Select Indicators/Specify Standards for each Zone; Develop a Monitoring Plan
- Element 8: Monitor Resource and Social Indicators
- Element 9: Take Necessary Management Action

Planning Team

Planning teams made up of NBR staff, regional interpretive specialists, regional, district and area biologists, non-game biologists and law enforcement officers participated in three-day workshops to create conceptual plans for each area.

The workshop format included touring the area and reviewing the purposes for which the area was acquired. Planning team members then developed a broad interpretive theme and discussed its influence on the planning process. Area and NBR staff presented an inventory of existing resources and uses of the area as well as planned or existing recreational development on nearby public lands.

The team members considered the strengths, weaknesses, opportunities and threats related to nature-based recreation on the area and generated a matrix of possible recreational activities and user groups. The planning team then broke into two groups and used this information to develop conceptual plans for the area.

Several key factors emerged from the planning workshops and were incorporated in all NBR plans:

- Clearly delineate primary and secondary entrances
- Establish visitor contact points to communicate important information to the public
- Create opportunities for wildlife viewing

- Accommodate a range of visitor experiences
- Preserve visitors' sense of solitude and limit impact on natural resources by concentrating recreation facilities and more intense uses in small "developed" zones and along existing road corridors.

This document incorporates concepts from the planning workshops as well as public input obtained through the use of focus groups and survey research conducted in cooperation with the University of Florida School of Forest Resources and Conservation.

Nature-based Recreation Study

To help determine what types of activities and experiences were most desired on wildlife management areas, the University of Florida was contracted to conduct a study of visitors to the area and the region. The goal of the study was to identify preferred recreation opportunities from the perspective of diverse groups of outdoor recreationists.

The initial phase was a focus group of area stakeholders. Stakeholders identified by the FWC as representatives of existing or potential user groups were invited to participate in two-hour focus/nominal group sessions held in each area. The meetings first addressed the participants' desired nature-based recreation opportunities and then focused on their major concerns with nature-based recreation use of the area. Participants ranked their ten most preferred opportunities and most important concerns from a list generated by the group. To identify the top ten opportunities and concerns, the scores for each opportunity and concern were totaled and ranked from highest to lowest. Recreation opportunities that emerged from the focus group were used to construct a survey of Community Stakeholders and a Visitor Survey. These surveys were conducted on Babcock/Webb WMA and ARWEA as well as recreation areas near each of these management areas.

The focus group findings indicate that stakeholders strongly support maintaining hunting and fishing opportunities. Other topics common to the meetings included the desire for areas to maintain their natural quality; that the areas be managed for passive recreation; that the FWC monitor and manage the impacts of recreation and ensure that sufficient resources will be devoted to recreation management if additional opportunities are developed.

The NBR Master Plan and the Conceptual Management Plan

The NBR Master Plan provides long-range guidance for the design and implementation of recreation enhancements on WMA/WEAs. The NBR goals and objectives should be considered as an area's Conceptual Management Plan (CMP) is updated. Management area and NBR program staff will work together to incorporate selected projects into an appendix to the CMP. As annual work plans and budgets are developed, NBR program staff can assist with developing cost estimates for NBR-related construction such as interpretive kiosks, boardwalks or trails and estimates of hours required for NBR-related tasks such as trail maintenance. NBR staff will design interpretive materials for the areas in consultation with management area staff.

Recreation and Interpretation: a means to an end

The draft NBR plan generated during the planning workshop has been modified by significantly strengthening the emphasis placed on integrating recreation and interpretive planning. Using this approach, the type of recreational experience offered and the location of recreation amenities provided, is strongly influenced by the interpretive goals for the area. Recreation opportunities thus become a means to an end - reaching new visitors with important concepts about an area's natural resources, wildlife and wildlife management. The interpretive goals and themes listed in this section were developed by considering the significance of the area, the purposes for which the area was acquired and its management objectives.



A. Primary Interpretive Themes

1. **The vast floodplain forests of the lower Apalachicola River (including the Wildlife and Environmental Area) protect, feed and nurture Apalachicola Bay.**
2. **The Apalachicola River Wildlife and Environmental Area (ARWEA) is a key tract within a complex of contiguous public lands in the lower floodplain of the river. The area's outstanding wildlife habitats, including floodplain forests, sawgrass marshes, and pine flatwoods, support significant populations of both rare and common wildlife.**

These two themes should be considered in the design of amenities offered to nature-based recreationists and should be bolstered by the following secondary material:

The Apalachicola River is formed by the confluence of the Chattahoochee and Flint Rivers near the point where Florida, Alabama and Georgia converge. The Apalachicola is the lower portion of a massive drainage system that originates in the Blue Ridge Mountains in northeast Georgia, and drains much of the state of Georgia and eastern Alabama before entering Florida. At times, the river marks the eastern boundary of the ARWEA; elsewhere, it flows through the center of the property. Numerous creeks and river tributaries also flow through the property, offering nearly unlimited recreational potential for anglers and paddlers.

The river is characterized by a wide floodplain and heavy sediment load; its fresh water, nutrients, detritus and sediments maintain a complex system of interrelated physical and biological activities in the lower river and bay, which are essential to the sustenance of extremely

productive fisheries in Apalachicola Bay. The floodplain forest and marsh also filter out pollutants and silt and buffer the area from storms, storing and slowly releasing vast amounts of water. The area serves as a vital nursery ground, 85% of all Gulf species must spend their juvenile and larval stages in the marsh.

The natural resources of Apalachicola—freshwater fish, and upland game species, in particular—have been used by humans since Paleoindians first arrived twelve thousand years ago. Twenty-seven archeological and historic sites have been located on the ARWEA. From the beginning, the Apalachicola River has been an important historical artery for human transportation.

Around the turn of the 19th century, like much of Florida, this landscape was subjected to heavy lumbering, and agricultural conversion. The upland plant communities of the ARWEA were historically pine flatwoods, with a much more open and grassy aspect than they have today. Slash pine and evergreen shrubs now dominate those habitats, a legacy of intensive timbering and silvaculture, and attendant alterations in hydrology. The Commission, in cooperation with Division of Forestry, will plan and institute a reforestation program to restore wildlife habitat on selected upland sites. And in cooperation with the Northwest Florida Water Management District and the Corps of Engineers, natural water regimes will be re-established to the extent practicable. 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 and installing hardened low water crossings on improved roads throughout the area.

The Apalachicola ecosystem's diverse habitats support the highest species density of amphibians and reptiles in North American, north of Mexico, as well as the greatest number of freshwater fish species (86) in Florida. Fifty-two species of mammals occur in the river basin. For many years, the bay has supported the largest oyster harvesting industry in Florida, as well as extensive shrimping and commercial fishing. Also occurring are 1162 species of vascular plants, 362 species of mollusks, 308 species of birds and two species of endangered bats (Indian and Gray). The area contains an extensive hardwood floodplain with the largest natural stand of tupelo in the U.S., the source of the tupelo honey that many claim "the best honey in the world."

Since the predominant economic base in the river and bay is based on harvesting natural resources therein, protecting the natural functions that sustain these resources is critical to the state. Human populations in central Florida are increasing, particularly on the coast south, east and west of Apalachicola River WEA. Careful land management can ensure that these extensive wild lands continue to offer healthy habitat to a wide variety of aquatic and upland wildlife species, as well as a good selection of nature-based recreational opportunities.

B. Visitor Experience Goals

At Apalachicola River WEA, the FWC will provide opportunities for visitors and area residents to:

Learn information and stories associated with major interpretive themes, and other related information, through interpretive materials accompanying welcome kiosks, and hiking and biking and paddling trails.

Become oriented to and participate in recreational activities on Apalachicola River WEA, and adjoining natural areas.

Have an enjoyable recreational experience without impairing the natural and cultural values of the site.

Become acquainted with wildlife and natural plant communities on Apalachicola River WEA.

Understand Apalachicola River WEA's natural, cultural and commercial history, in context with the history and prehistory of Florida.

Understand the management role and goals of the FWC on Apalachicola River WEA.

Appreciate the longstanding, sustainable traditions of hunting and fishing on Apalachicola.

The FWC should continue to gather quantitative information concerning:

- The number of visitors to the area
- Patterns of visitation (daily, weekly, seasonally, yearly)
- Length of stay
- Origin
- Motivations for visiting and preferred experiences
- What they already know about the area, and primary interpretive themes

Nature-based Recreation on Apalachicola River WEA

Since the ARWEA was established in 1974, with the purchase of lands through the Environmental Endangered Lands and Conservation and Recreation Lands Programs, the primary public uses have been hunting and fishing and primitive camping. The ARWEA's CMP specifies the recreational uses consistent with the purposes for acquisition and the agency's mission as: hunting, fishing, wildlife observation, hiking, bicycling, horseback riding and primitive camping.

Current Uses

According to the results of a mail survey of hunters on ARWEA, approximately 4,475 user days were expended during year 2000 archery, muzzleloading and general gun seasons. The area is very popular with squirrel hunters many of whom set up camps and enjoy fishing as well as hunting. Deer, turkey, dove, quail, snipe and waterfowl are all popular game species for hunters on ARWEA. Hunting is most active during general gun season (small game and fall turkey seasons coincide with general gun), which runs from late November through the end of January.



Fishing is excellent with many anglers taking advantage of the opportunities that exist on ARWEA. Estimates of fishing effort on the upper river indicate that more than 20,000 user hours are expended between March and April (CMP, 1997). The Commission has accommodated this interest recently by improving ramps at Whiskey George Creek, Gardner's Landing and Bloody Bluff. All have handicapped access.

Commercial outfitters frequently bring patrons to paddle on ARWEA, Graham Creek and the East River in particular. Wildlife watchers are occasionally seen driving area roads. There are no developed trails on the area to accommodate hikers, cyclists or equestrians.

Recreation Potential

The ARWEA could accommodate a range of recreational activities while offering visitors solitude and the sense of being immersed in the natural world. In addition to hunting and fishing, the planning team identified several activities that might be enhanced on ARWEA.

The planning team recommended as most appropriate: scenic viewing tours, paddling, photography, hiking, primitive camping, self-guided wildlife viewing and wildlife watching walks. Launch sites for paddlers and primitive camp platforms along paddling trails, wildlife

observation facilities, improved roads to developed sites and wildlife viewing trails were identified as the most appropriate types of facilities. (See Appendix 1 for the complete list)

The preferred recreational opportunities that emerged from the ARWEA focus group were:

- various types of trails
- fishing
- primitive camping
- swimming
- hunting, and
- opportunities to visit and learn about historic/archeological sites.



Focus group participants also wanted some areas left “wild” with no roads. The top concerns that emerged from the focus group were potential environmental degradation – destruction of habitat, trash and noise and water pollution. The group was also concerned with potential conflicts among user groups, enforcement problems and the potential loss of a wilderness experience.

The Community Survey employed a mail-in questionnaire of 191 community stakeholders identified by the Commission. The response rate was 48 percent. The Visitor Survey was distributed on-site at five recreation areas in the region including ARWEA. The response rate was 61 percent. The results indicate that visitors preferred only slightly developed settings (having roads, scenic vistas, pullouts, car campgrounds with limited facilities, rest stops and picnic areas) and that efforts should primarily focus on enhance existing opportunities with better roads, picnic areas, trails and some turnouts as opposed to a variety of new facilities.

The researchers found that respondents were not enthusiastic about any of the potential recreation opportunities listed. They speculate that since visitors were frequent and repeat visitors to natural areas within the region, it could be that visitors are achieving their desired experiences and see little need for different activities. Therefore, they recommend that nature-based recreation development should begin by improving access to, or simply letting people know more about, existing recreation opportunities, improving access, and developing and distributing easy to read maps and brochures.

Survey results show that visitors are interested in learning opportunities and that most people prefer to learn by getting out and exploring natural areas. Interpretive trails, vegetation walks and self-guided driving tours were all desired opportunities. Most respondents were not interested in social activities like organized tours. These findings should be considered in the development of facilities. For example, trails should be designed with pull-outs or side loops to allow for more spacing between groups, picnic tables should be spaced with vegetative cover

separating individual sites instead of one large picnic area. Specific actions recommended by the researchers:

- Construct a trail with vegetation identified
 - Develop trails that highlight natural communities of the area; identify any potential connections with trails through nearby areas
 - Provide access to more diverse fishing opportunities (including disabled access)
 - Identify and establish non-motorized, multiple-use trails
 - Design and provide paddling trails
 - Construct observation towers off major transportation routes
 - Build viewing stands at birding sites
 - Design a self-guided driving tour with turnouts and interpretation
 - Identify and provide interpretation of historical and cultural sites
 - Investigate potential partnerships with related organizations to enhance recreation and environmental education opportunities
- (See Appendix 2 for Nature-based Recreation Study Findings and Recommendations).

Turning plans into on-the-ground amenities

The goals and objectives in this section focus primarily on the east side of river. The planning workshops did not fully develop recommendations for the west side of ARWEA. Among the ideas mentioned were “enhancing existing dove fields and picnic area with a bike trail and bank fishing” and “creating a linkage with the town of Howard Creek by locating a fishing platform and interpretive kiosk on the river.” Additionally, paddling opportunities will expand into the northern and western parts of the area. Further NBR planning should be undertaken to develop specific recommendations for the west side of river.

Goals and objectives:

Goal A. Ensure that all recreation amenities support wildlife management, wildlife viewing and interpretive goals.

1. Site viewing facilities on previously disturbed properties wherever possible.
2. Preserve a sense of solitude and limit impact on natural resources by concentrating recreation uses in small “developed” zones and along existing road corridors.
3. Avoid sensitive areas such as eagles nests or bogs and route trails to avoid fragmenting habitat.
4. Incorporate wildlife viewing ethics into all interpretive materials.
5. Incorporate interpretive themes into all brochures, trail guides and other materials produced to support recreation opportunities.
6. Install interpretive panels as appropriate at all recreation facilities
7. Work with OIS staff to integrate ARWEA into Great Florida Birding Trail

Goal B. Orient visitors to the area and its recreation opportunities

1. Develop and install entrance kiosk at Sand Beach Road that provides a high quality map and information about available recreation opportunities.
2. Develop area brochure and birding list and stock with hunting maps in brochure racks at entrance kiosk
3. Develop secondary information panels at all major water access points
4. Establish a visitor contact point in Eastpoint.

Goal C. Develop wildlife viewing and/or picnicking areas at Cash Creek, Sand Beach, Graham Creek and Bloody Bluff

Goal C1: Cash Creek Viewing Site

1. Determine if DOT will provide assistance with a scenic viewing pulloff near Cash Creek. If a pull off is not feasible pursue objective 2.
2. Obtain permits for a standard viewing platform just west of the unimproved boat ramp at Cash Creek as well as two parking spaces
3. Design and install rail-mounted interpretive sign for viewing platform

Goal C2: Sand Beach Site

1. Repair wildlife viewing tower at Sand Beach.
2. Complete interpretive trail
3. Determine feasibility of vault toilet at site.
4. Monitor level of use to determine if vault toilet is warranted.

Goal C4: Butcher Pen

1. Install kayak launch
2. Install interpretive sign

Goal C3: Graham Creek

1. Develop picnic facilities
2. Install interpretive sign

Goal C4:

1. Monitor level of use at Gardner Landing to determine if toilet facilities are warranted.
2. Install interpretive sign

Goal C5: Bloody Bluff

1. Install camping pads, fire rings and picnic tables at Bloody Bluff campsite.
2. Design and implement two interpretive trails from campsite – one to river and one to cemetery.
3. Install interpretive sign at cemetery.

Goal D: Design and Implement a Comprehensive Trail System for Hikers, Off-Road Cyclists and Paddlers

Comments: Trails can provide a variety of experiences from a one or two mile loop to multi-day backcountry expeditions. Cyclists, paddlers and hikers range from novice to enthusiast. The challenge desired and time spent engaging in the activity increase accordingly. However, all users will likely spend several hours on the area and thus present an opportunity to develop a more in-depth understanding and appreciation of ARWEA. Cyclists and paddlers especially, tend to be the most likely to adopt new outdoor recreation activities and may be interested in fishing and hunting once exposed to these activities. (Appendix 3, Marketing Plan).

Goal D1: Hiking Trail System

Comments: While ARWEA could easily accommodate the trail system rated highly in the visitor study and in the planning workshops, present staffing levels make establishing, maintaining and monitoring the impacts of an extensive trail system problematic. Land-based trails present the greatest potential for conflict among

current and new user groups and among trail users on multi-use trails, especially as numbers of users increases. Initial planning and implementation of land-based trails should focus on interpretive trail loops at wildlife viewing or other destination points. Trails can be nested to reduce impacts. As staffing levels permit and user demand (and volunteers) increase it may be possible to expand trail opportunities.

Interpretive Trail Objectives

1. Design interpretive trails at Sand Beach and Bloody Bluff (2)
2. Design, produce and install trailhead signs
3. Develop brochures keyed to numbered posts and/or interpretive signs

Hiking Trail Objectives

1. Scout potential trail loops (approximately 3 to 5 miles) at water access points
2. Design and produce trailhead signs
3. Clear and blaze routes

Backcountry Trail

Comments: During the planning workshops interest was expressed in establishing a backcountry trail extending from Sand Beach to the Florida National Scenic Trail (FNST) that runs east/west just north of the ARWEA. The Florida Trail Association is supportive of the concept of a connection and would assist with planning a route. However the local chapter does not have enough active members to develop (or more importantly, to help maintain) additional trails. It may be possible to emulate the FNST model and hire a “trail boss” and use Student Conservation Association volunteers to construct such a trail.

Objectives:

1. Delineate potential routes on a topographic map
2. Scout potential routes to determine best alternatives, avoiding sensitive areas and including scenic features
3. Clear and blaze trail
4. Build structures as necessary to cross wet areas
5. Establish designated campsites as desired
6. Develop trailheads at each end of the trail
7. Design and print trail map

Goal D2: Cycling Trails

Comment: According to the Outdoor Recreation in Florida 2000 report, bicycle riding is among the most popular resource-based activities in this region of the state. The report projects a need for resources and facilities to meet regional demand for

bicycle riding opportunities. Off-road cycling enthusiasts prefer challenging off-road, single-track routes, however novices and families may find the less traveled roads on ARWEA provide pleasant cycling.

Objectives:

1. Determine scenic routes using existing unimproved roads and trams
2. Delineate routes on maps of the area

Goal D3: Paddling Trails

Comment: The many waterways on ARWEA offer outstanding paddling opportunities. Paddling, especially kayaking is an increasingly popular sport and presents an effective way to explore, watch wildlife and fish. Building on initial work by a local paddling outfitter, NBR staff have designed a paddling trail system on the lower portion of ARWEA. Trails range from half-day to multi-day trips. A guide to the trail system has been developed and printed and is being distributed to paddling groups with a survey instrument soliciting their comments and suggestions and their interest in volunteering to support the ARWEA paddling trail system.

1. Compile review of guide from paddlers, revise guide accordingly
2. Investigate and pursue funding opportunities to support future printing costs
3. Investigate feasibility of repairing the well at Sand Beach to support existing multi-day paddling trail
4. Install paddling launch at Butcher Pen
5. Review potential routes on in northern and western portions of the area
6. Scout routes and possible campsites by air, boat and kayak
7. Develop draft descriptions of trail routes
8. Have volunteers of varying abilities ground truth descriptions in canoes and kayaks
9. Install markers and launch facilities as necessary to support the trail
10. Develop, print and distribute guide(s)

Goal E: Develop a Scenic/Wildlife Viewing Driving Tour

Comments: Driving tours can accommodate the casual visitor, those who are older or who have impaired mobility and allow comfortable use of areas in hot, humid summer months. Routes should be designed to incorporate scenic vistas and likely wildlife viewing spots. The best design would be a one-way (for safety) low profile (narrow and inconspicuous) road with numerous pull-offs.

Most of the roads within ARWEA traverse pine plantation and do not provide particularly scenic vistas. Some roads are narrow and have deep ditches making them hazardous for this

purpose. However, if a suitable route can be designated, a tour could be a valuable means to reach these visitors with information about how the Commission is restoring ARWEA and can help them envision how the area will change over time and understand the benefits restoration will provide.

1. Design a route(s) that incorporates wildlife viewing and/or cultural sites as well as management and restoration projects.
2. Improve and/or maintain roads along the route(s) to provide year-round, two-wheel drive access
3. Create and/or maintain openings at suitable points along the route to increase the likelihood of viewing wildlife.
4. Develop an interpretive driving tour guide keyed to numbered posts and/or interpretive signs easily visible from a car.

Goal F: Manage recreational use to minimize negative resource impacts and maximize visitor satisfaction

1. Implement monitoring strategy to assess resource impacts
2. Institute corrective management actions if indicators begin to approach standards
3. Utilize calendars (on NBR website and other publications) to publicize hunting seasons and encourage use outside general gun season.

Challenges and Strategies

There are numerous challenges facing the effective implementation and management of nature-based recreation opportunities on ARWEA. Challenges and proposed strategies to address them are discussed in this section.

Challenges:

- The potential audience for the amenities we are providing at ARWEA is growing. According to the 2001 Census data, about half a million people live in Franklin County and the seven counties surrounding it (Gulf, Liberty, Wakulla, Leon, Calhoun, Gadsden and Bay), and like most of Florida, population trends are steadily increasing. According to the nature-based recreation study, we know that slightly less than half of our present visitors live in the region; just over half visit from out of state. Another potential market will be out-of-state vacationers at St. George Island and in the town of Apalachicola.
- Expectations for public use of the area will continue to grow. This will occur even faster if the area is promoted to any degree. As recreational uses expand in scope and increase in volume, resource impacts and conflicts among user groups may occur.
- Dumping and illegal structures are a problem on the area, especially at water access sites where individuals and groups camp for extended periods.

- There is no organized volunteer group to help support nature-based recreation activities on ARWEA.
- The majority of recreational amenities proposed for ARWEA are located on the east side of the river along US 65 where most public access to the area is found. There are no Commission offices on the east side of the river. As a result, monitoring and managing current recreational use is difficult.
- Area staff are busy with existing management responsibilities. There is no staff person with outdoor recreation management experience and expertise assigned to the area.
- Significant staff and financial resources are being expended on an area where revenue is not recouped from day use fees or management area stamps.

Strategies:

- Assign an additional staff person with appropriate education and experience to be responsible for implementing recreational trails, maintaining recreational amenities, monitoring recreation related resource impacts and visitor satisfaction, and recruiting, training and supervising volunteers.
- Design and build a facility in East Point to provide a visitor and volunteer contact point, space for a concessionaire, educational exhibits and gift shop as well as office space for an NBR staff person and other commission staff as desired.
- Contract with a concessionaire to provide livery services, wildlife viewing/paddling tours, houseboat rental, etc.
- Continue to seek cooperation from Franklin County for support in law enforcement patrols, litter collection and mowing of vegetation at recreation sites.
- Obtain cooperation from Commission law enforcement personnel in enforcing camping regulations.

Recreation Management Zones

Recreation studies demonstrate that visitors come to recreate on public lands with many different expectations. Providing a variety of settings allows visitors to select the type of experience they desire, simplifies management and reduces conflicts between visitors who are seeking different types of experiences. In this section are the zones delineated by the planning team. Each zone is described in terms of the type of experience it offers, the natural resources related to the experience and the level of management required. Linear zones are delineated within some larger zones.

Primitive Zone

This zone offers an experience of solitude deep in a natural landscape with no evidence of human development. This zone encompasses sensitive natural resources, access is difficult and the number of people should be limited. Only limited recreation and interpretation opportunities should be developed in this zone. A minimal level of management is necessary for resource protection and safety.

Backcountry Trail

The Backcountry Trail is a linear zone within the Primitive Zone consisting of a primitive trail. The corridor extends 5 feet (1.5 meters) on each side of the trail centerline to take into account impacts caused by trail maintenance work and by occasional visitor movements off the trail. The Backcountry Trail offers the visitor a sense of adventure and challenge. Substantial time commitment and physical exertion is required to use the trail. The probability of encountering other visitors or FWC staff is low. A low level of management is necessary (periodic trail maintenance).

Unimproved Road Zone

This zone encompasses all roads in the WMA except the scenic driving tour and its spurs. For monitoring purposes, the zone extends 20 feet (6m) from the centerline. The visitor experience is generally dependent on a vehicle or bicycle. Cycling or driving offers visitors enjoyment from observing wildlife and the natural environment. The probability of encountering other visitors is low to moderate, and low for encountering FWC staff. In some cases, visitors will need four-wheel-drive vehicles to use the roads. A low level of management is necessary (establishing and maintaining road signs).

Semi-primitive Zone

Like the primitive zone, the semi-primitive zone provides a sense of being immersed in a natural landscape with opportunities for solitude. Observation structures, boardwalks, fishing platforms, interpretative signs, and unpaved trails are the only types of recreational facilities in this zone. A moderate level of management is provided for resource protection and safety.

Hiking Trails

Hiking Trails are narrow, moderate-use trail corridors. The corridor extends 5 feet (1.5 meters) on each side of the trail centerline to take into account impacts caused by trail maintenance work and by occasional visitor movements off the trails. Visitors must commit some time and effort on the trail. The probability of encountering other visitors is moderate to high (although there are opportunities for solitary experiences) and low for encountering FWC staff. A moderate level of management is provided for resource protection and safety purposes (e.g. more frequent trail monitoring for maintenance, approximately 3 times per year).

Scenic Driving Zone

This zone consists of improved roads that will be utilized for scenic views, wildlife viewing and interpretation stops. The zone is a fairly narrow corridor. For monitoring purposes, the zone extends 50 feet (15m) from the centerline of the road. The visitor experience is generally dependent on a vehicle or bicycle. The probability of encountering other visitors is high, and moderate for encountering FWC staff. Most facilities should be universally accessible. A moderate level of management is necessary to ensure resource protection and public safety (maintaining roads to allow year round two-wheel drive accessibility; periodic clearing of openings for wildlife viewing, frequent litter collection).

Developed Zone

The developed zone is an area with visitor facilities such as campgrounds, visitor centers and picnic areas. The visitor's experience in this zone is highly social. Trails may be paved or hardened. Visitors and facilities are intensively managed in this zone for resource protection and safety purposes. Staff should be on hand to monitor visitor behavior and attend to maintenance needs. The most intensive interpretation is provided in the developed zone. This is the only zone in which building construction is permitted.

Sensitive Resource Protection Zone

Sensitive resource protection zones encompass areas with rare and endangered species, archaeological/historical sites, or fragile habitats. This zone cannot support any visitor impact. Only limited and strictly controlled access should be allowed for interpretation purposes.

Indicators and Standards

A major premise of the VERP process is that management zone characteristics, which are qualitative in nature, must be translated into quantitative measures through the use of indicators and standards. Measurable indicators for monitoring key aspects of the visitor's experience and resources at Apalachicola River WEA are described hereafter. Standards represent the point at which visitor experience and resource conditions become unacceptable. Indicators should be monitored for each zone, and when necessary, management actions taken to ensure that visitor use and resource impacts remain within the established standards.

Provisional Resource Indicators and Standards

These indicators and standards are provisional and should be tested to ensure they are feasible to monitor and provide useful data. They should be revised as necessary after field-testing and then maintained. Indicators measure both resource and social conditions and should be measured annually. If indicators show that conditions are approaching or exceeding a standard, monitoring frequency may need to be increased to determine if corrective management actions are having the desired effect.

Social Indicators and Standards:

ZONE	INDICATORS	STANDARDS
Back Country Trail and Paddling Trail	Conflicts between different groups	No conflicts during Hunting season
	Number of groups encountered per day	1 group of 2 to 4
Developed (wildlife viewing facilities, picnic areas)	People at one time (PAOT) per zone	3 – 4 groups of 3 each
	Parking congestion	Parking area at 75% capacity
Sensitive Resource Protection Zone	PAOT	0
Backcountry Road Zone	Number of parties (vehicles) encountered	0 – 1
Scenic Touring Zone	Number of vehicles encountered	1 – 2

Resource Indicators and Standards:

- Trail Widening
- Density of Social (unofficial) Trails
- Road Widening
- Ground Cover (percent cover)
- Frequency of litter

Trail Width – Some variance in tread width is acceptable and even preferred. But, if sections of the trail seem to be widening due to use (such as hikers cutting corners, avoiding unfavorable tread, etc) document existing and potential problem areas and specify exact location so immediate corrective action can be taken.

Trail type	Tread Width (m)	Cleared Width (m)	Grade	Height (m)
Hiking Trails	0.6	1.2	Max. 10%	2.1
Biking	Desirable 2.4 Min. 1.5	Same	Max. 8%	2.1
Equestrian	1	2.4	Max. 10%	Min. 3.5

Source: National Recreation and Park Association

- 1 = width is at standard
- 2 = width exceeds standard in a few spots
- 3 = trail widening and social trail observed in numerous areas

Erosion – Observers should visually estimate erosion based on the following criteria:

- 1 = Very Little
- 2 = Some: Tree roots or standing water evident
- 3 = Moderate: Exposed trees or rocks but little evidence of widening, some exposed soil
- 4 = Extensive: Tree roots exposed and damaged. Many exposed patches of soil. On trails, ruts formed and evidence of widening
- 5 = Very Extensive: Eroded to substrate or tree roots severely damaged. On trails, ruts significant and significant evidence of widening. Extensive stretches of exposed soil.

Litter – Observers should estimate the amount of litter collected along trails or in developed areas based on the following criteria:

- 1 = None
- 2 = Very Little, <5 pieces.
- 3 = Some, 5 – 10 pieces
- 4 = Extensive, 10 – 15 pieces
- 5 = Very Extensive, 15 + pieces

Sanitation – To determine the need for toilet facilities, note the amount of litter associated with human waste

Monitoring

Resource and visitor data should be regularly collected in a consistent manner to determine if standards are being exceeded. This task should be incorporated into the work plan for the area. Monitoring data can demonstrate if visitor use is exceeding capacity and will support decisions to limit recreational access if necessary.

An initial survey should be conducted to serve as a baseline and monitoring should be conducted annually. Traffic counters can be installed at Sand Beach or other roads as desired to generate data on vehicles entering the area. Photos stations should be set and photos taken each time the area is monitored.

Trail Maintenance

Trail conditions should be inspected approximately once every 3 months. Ideally, volunteers can assist in checking trails and document litter, erosion, and trail widening, vandalism, trail obstructions, wet conditions and informal trails. A logbook may be placed near the trail for users to document any experiences on the trail, including species seen, obstructions or hazards, signage problems and general comments.

Example Monitoring Form

Observer: _____

Date: _____

Site: _____

Litter Rank (circle one):

1 = None

3 = Some, 5 – 10 pieces

5 = Very Extensive, 15 + pieces

2 = Very Little, < 5 pieces.

4 = Extensive, 10 – 15 pieces

Comments:

Were there any erosion problems? Please note the exact location and rank according to following criteria:

1 = Very Little

2 = Some: Tree roots or standing water evident

3 = Moderate: Exposed roots/rocks but little evidence of widening, some patches of exposed soil.

4 = Extensive: Many tree roots exposed, many spots of exposed soil, ruts and/or trail widening.

Comments:

The hiking trail should be between about 3 and 4 feet wide. Please rank overall trail width.

1 = 3 ft. (OK)

3 = 5 ft. (exceeding standards)

2 = 4 ft. (just about “normal”)

4 = 6 ft. (unacceptable)

If there were problem areas, please describe condition and exact location:

How many other groups of hikers did you encounter along the trail? How many vehicles were in the parking lot?

_____ groups _____ approx. # in the group

_____ vehicle in parking area

Recreation and Wildlife Viewing Facilities Guidelines

Careful design and placement of recreational facilities can provide suitable visitor experiences and minimize impacts to the natural and cultural history of the area. The following guidelines should be incorporated into all recreational and wildlife viewing facilities planned for the area:

- **Entrances**

Should welcome visitors to the area, identify the Commission, describe the range of potential experiences on the area, describe the wildlife viewing experiences by season, time of day or wildlife event.

- **Auto Tours**

Pull-outs should be placed only at truly interesting features, consider if they are seasonal in nature. If so, interpretive information should mention this. Interpretive panels or brochures should mention wildlife or other sites that might be missed. Turnouts should be located to allow viewing but not disturb wildlife.

- **Viewing towers**

Each ramp should focus visitor attention to a different habitat or feature. The structure should include wildlife identification or other interpretive information. The structure should be surrounded by and focused on wildlife and habitat, rather than being the focus itself.

- **Trails**

Trails should be described at the trailhead with length or time required. If the focus is wildlife viewing include best seasons. Interpretive panels or brochure stops should be well-spaced and focused by season and should not exceed ½ to ¾ of a mile.



General considerations in developing facilities:

- Consider physical characteristics and the historical and natural character of the location
- Adapt parking lots, buildings, and other physical developments to existing topography
- Retain on site surface water run-off generated by development
- Use porous pavements where surface hardening is required
- Consider sewage disposal needs
- Use native plants representative of the area for all landscaping
- Design and build trails and observation structures to avoid disturbing wildlife and to minimize negative impacts such as erosion
- Use elevated boardwalks in wet areas and swamps and walkovers to protect dunes

Universal Access

Nature-based Recreation facilities and programs must be developed and implemented in compliance with the Americans with Disabilities Act. All facilities in developed zones should be universally accessible. Recreation facilities in semi-primitive or primitive zones should be planned to be accessible to the degree possible except where:

- compliance will cause harm to cultural, historic or religious sites or significant natural features or characteristics
- compliance will substantially alter the nature of the setting or purpose of the facility or portion of the facility
- compliance would require construction methods or materials prohibited by federal, state or local regulations or statutes, or
- compliance would not be feasible due to terrain or prevailing construction practices.

Appendix 1 – Planning Team Workshop Documentation

S.W.O.T. Analysis

During its workshop, the planning team members analyzed what they felt were the Strengths, Weaknesses, and Opportunities and Threats (S.W.O.T.) for the area. The strengths can be described as a permanent part of the character of the area that is inherent (i.e. expansive habitat) and can be enhanced or protected as needed. Weaknesses are limitations that can be overcome to improve the management of the area. Opportunities are improvements and additions that can be made to improve the management of the area. Threats are things that may harm the visitor experience or the ecological health of the area and cannot easily be changed. These strengths, weakness, opportunities and threats were identified by each team member, recorded and discussed as a group.

Strengths

- Access to waterways
- Vast nearly pristine flood plain forest and marsh
- Inter-agency cooperation in management of area
- Vistas and landscape
- 1300 plus endangered and threatened species
- Relationship to the seafood industry
- Tourism industry

Weaknesses

- Traditional users may object to expanded use
- Control over access
- Public likely to be resistant to any change in use
- Lack of houseboat/long term-camping regulations
- Lack of adequate law enforcement staff
- No management stamp required
- Lack of facilities; equipment storage, visitor center and field office

Opportunities

- Rising interest in Eco-tourism, proximity to St. George and Apalachicola audience
- Wonderful fishing, boating and kayaking opportunities
- Town of Apalachicola has unique cultural heritage
- Provide wilderness experiences

Threats

- Water Quality and quantity, issues from Georgia and Alabama
- Not enough personnel (man power) to expand widely with project/options
- Conflicts with other user groups

POSSIBLE ACTIVITIES

Possible Activities	1	2	3	4	5	6	7	TOTAL
Hunting	3	3	3	3	3	3	3	21
Recreational boating	3	3	3	3	3	3	3	21
Scenic Viewing (towers)	3	3	3	3	3	3	3	21
Fishing	3	3	3	3	3	3	3	21
Kayaking	3	3	3	3	3	3	3	21
Photography	3	3	3	3	3	3	3	21
Canoeing	3	3	2	3	3	3	3	20
Hiking	3	3	3	3	3	3	2	20
Back Country Primitive Camping	3	3	3	1	3	3	3	19
Self-guided Wildlife Viewing Trails	2	3	3	3	3	3	2	19
Wildlife Watching – Walks	2	3	2	3	3	3	3	19
Automobile Touring	2	3	3	3	2	3	2	18
Relaxation/Reflection	2	3	3	3	3	2	2	18
Archery	3	3	3	3	2	2	2	18
Interpretive Driving Tours	2	3	3	3	2	3	2	18
Wildlife Watching – Blinds	2	3	2	3	2	3	2	17
Picnicking	3	3	3	3	2	2	1	17
Regional/State Trail Connections	3	3	2	3	2	2	1	16
Developed Area Camping	3	3	2	1	3	2	2	16
Frog gigging	3	3	2	2	2	1	3	16
Crabbing	3	3	2	N	3	2	2	15
Wildlife Watching-guided	1	2	2	2	3	3	2	15
Dog Walking	3	3	2	2	2	1	2	15
Bicycling Off-road	1	3	2	3	2	2	1	14
Exercise (walking/running)	3	2	2	3	2	1	1	14
Movie (commercial filming)	1	2	2	2	3	1	2	13
Trapping	3	2	3	N	N	2	3	13
Swimming	3	1	2	2	2	1	2	13
Wildlife watching – festivals	1	2	2	2	2	2	2	13
Mule and Cart Rides	1	3	1	3	1	1	2	12
Wildlife Watching – Training	1	2	1	2	2	2	2	12
Tree Canopy Trail	1	1	2	1	2	3	2	12
Bicycling on-road	1	N	2	3	3	1	1	11
Horseback Riding	2	3	1	1	2	1	1	11
Tram Tours	1	2	1	3	2	1	1	11
Airplane Tours	1	3	2	X	X	2	2	10
Sailing	1	2	1	N	2	1	2	9
Sun Bathing	3	X	1	1	1	1	1	8
Tubing	2	1	2	1	1	N	1	8
Sailboarding	1	2	1	1	1	1	1	8

CONSENSUS OF APPROPRIATE VISITOR EXPERIENCES

Recreational Activities:

Most Appropriate	Least Appropriate
Hunting	Swamp Buggy Tours
Recreational Boating	Airboat Tours
Scenic Viewing Tours	Snorkeling/SCUBA
Fishing	ATV Tours
Kayaking	Water Skiing
Photography	Shooting Range
Hiking	ATV Riding
Back-country primitive camping	Jet Skiing
Self-guided wildlife viewing trails	
Wildlife watching walks	

Facilities:

Most Appropriate	Least Appropriate
Canoe/kayak launch sites	Skeet Range
Wildlife Observation towers	Skeet range and Sporting Clay Concession
Build or improve roads	Horse Stalls
Install silent approach trails with directional and interpretive signs to blinds located at viewing sites	Tram and tram road for concession-guided tours
Primitive camp platforms on paddle trails	Pier and docking for pontoon and/or airboat tour concession
Plant, maintain and identify wildlife food plots and openings for hunters and wildlife viewing	Establish carrion feeding pits and install snags to attract and view eagles and vultures

Environmental Education/Interpretation:

Most Appropriate	Least Appropriate
Plant ID	Youth Camp
Explore habitats	Activities and games
Wildlife investigation	
Environmental Restoration activities	
Explore Culture and Anthropology	

Nature Based Recreation Concept Development Mapping

Main Concepts Team 2

Provide handicapped access boat launch facilities

Longleaf pine restoration with interpretation

Potential for pull-offs and wayside exhibit along 65 to interpret natural history

Outdoor classroom, encourage ecotourism and passive recreation

Use Dept. of Environmental Protection staff to distribute literature and potential for concession
Rentals at site near DEP office
Bass fishing boat launch

Main Concepts Team 1

Create linkage with town of Howard Creek by locating a fishing platform and interpretative kiosk on the river

Enhance existing dove fields and picnic area with bike trail and bank fishing opportunities

Provide scenic drive pull-offs along SR 65, D.O.T. may assist with financing for pull-offs

Have local paddling association designate and help maintain canoe/kayak trails

Appendix 4 – Regional Context

The Apalachicola River WEA is part of a complex of more than one million acres of conservation lands. These adjacent public lands provide an opportunity for cooperative planning to maximum the nature-based recreation opportunities in the region (e.g. providing trail connectivity).

Conservation Areas Adjacent to Apalachicola River WEA		
Name	Acres	Major Habitat/Recreation
Apalachicola National Forest	564,000	Pine Flatwoods/trails of various types, hunting, fishing, boating, paddling, off-road cycling, horseback riding, picnicking, primitive and developed camping, historic sites
Tate’s Hell State Forest	144,508	Pine Flatwoods/hunting, fishing, canoeing, boating, primitive camping, 1 hiking and 1 nature trail
Apalachicola National Estuarine Research Reserve	246,766*	Estuary/boating, fishing, trails
Apalachicola River Water Management Area	35,506	Bottomland Hardwoods/wildlife viewing, fishing, hiking, canoeing, boating, hunting, primitive camping
Ed Ball WMA	59,326	Pine Flatwoods/Hunting
St. George Island State Park		Beach/Dune/Developed and primitive camping, cabins, hiking, boating, fishing, wildlife viewing
*includes St. Vincent’s Island, WMD lands and the WEA		

The regional economy is dependent on natural resources and/or tourism. Apalachicola and Port St. Joe have numerous small ecotourism businesses and Port St. Joe has recently established a wildlife festival. A significant amount of commercial timberland near ARWEA is being proposed for residential development.

Community	Population	Economic Base
Port St. Joe	3664	Tourism, Recreational Fishing
Wewahitchka	1722	Timber, Honey
Howard Creek	Less than 10,000	Residential
Apalachicola	2334	Fisheries, Tourism
Eastpoint	1303	Fisheries, Tourism
St. George Island		Tourism
Source: US Census Bureau 1990 and 2000		

Appendix 5 - WEA Resources

Staff:

2 Wildlife Biologists
1 Wildlife Officer
2 Technicians

FWC Facilities and Equipment

An equipment storage compound is located at Howard Creek on the west side of the Apalachicola River. Four vehicles, two boats, two tractors and a bulldozer, dump truck and backhoe are available for use in managing the area.

Entrances, Boundary Markers and Gates

The WEA has an extensive network of dirt roads. Bloody Bluff and Sand Beach roads are maintained by Franklin County. The Commission is improving a network of roads within the area, installing low water crossing and posting road signs. Access to the area is largely unlimited. Motor vehicles are limited to named and numbered roads and vehicles are prohibited from Catfish Creek levee road and, seasonally, in posted dove fields. The primary entrance on the east side of the area is designated as Sand Beach Road. There is a large entrance sign erected at its intersection with Highway 65 and smaller signs are posted at the designated secondary entrances. Landmark signs are located at the northern and southern boundary along 65 as are signs designating boat ramps. There are no entrance signs on the west side of the river.

Food Plots

On the west side of the Apalachicola River, the WEA staff maintain 160 acres of planted dove fields.

Cultural Resources

There are 27 designated cultural sites on the area. Many are Native American camps and burial sites. Historic sites include Bloody Bluff, Creels Town, a turpentine plant, an African American cemetery and Creels Side Camp.

Natural Resources

The WEA comprises more than 60,000 acres of uplands, floodplain forests, and estuarine communities. Up to 75 percent of the WEA regularly inundates. A comprehensive description of the WEA's plant communities and associated wildlife can be found in the CMP. Sensitive areas include 15 acres of seepage bog, wading bird rookeries along the St. Marks and Apalachicola and north of Sand Beach, eagle nests (north of Sand Beach and near Cash Creek) and RCW cavity trees along Highway 65.

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COST ESTIMATES

Per site:

Cash Creek Wildlife Observation Site

Stabilized Parking.....	\$ 2,500
Observation Platform.....	\$ 15,000
Permit.....	\$ 350
Rail-mounted interpretive panel.....	\$ 375

Bloody Bluff Campsite (anticipate approx. 4 sites)

Stabilized Tent Sites (primitive/4 people ea).....	\$ 500/ea
Picnic Tables.....	\$ 500/ea
Interpretive Trails (Approximately 4 days to clear and blaze)	
Trailhead panel and frame.....	\$ 800
Bloody Bluff cemetery panel and frame.....	\$ 800
Trail Brochure.....	\$ 750

Graham Creek Picnic Site

Tables.....	\$ 500/ea
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Additional elements:

Footbridge	\$ 15,000
30' span	

Boardwalk	\$ 165/LF
6' elevated with handrails	

Toilet Facilities	\$ 13,000
CXT Concrete Toilet Building (single vault)	
Price includes freight [to Tallahassee area]	
and installation	

Visitor Center	\$200,000
Not including exhibits or classrooms	

Cost estimates (with exception of toilet facilities) are based on Items List generated by Division of Recreation and Park, Office of Park Planning