YELLOW RIVER MARSH PRESERVE

STATE PARK

UNIT MANAGEMENT PLAN

APPROVED

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Recreation and Parks

JUNE 13, 2008

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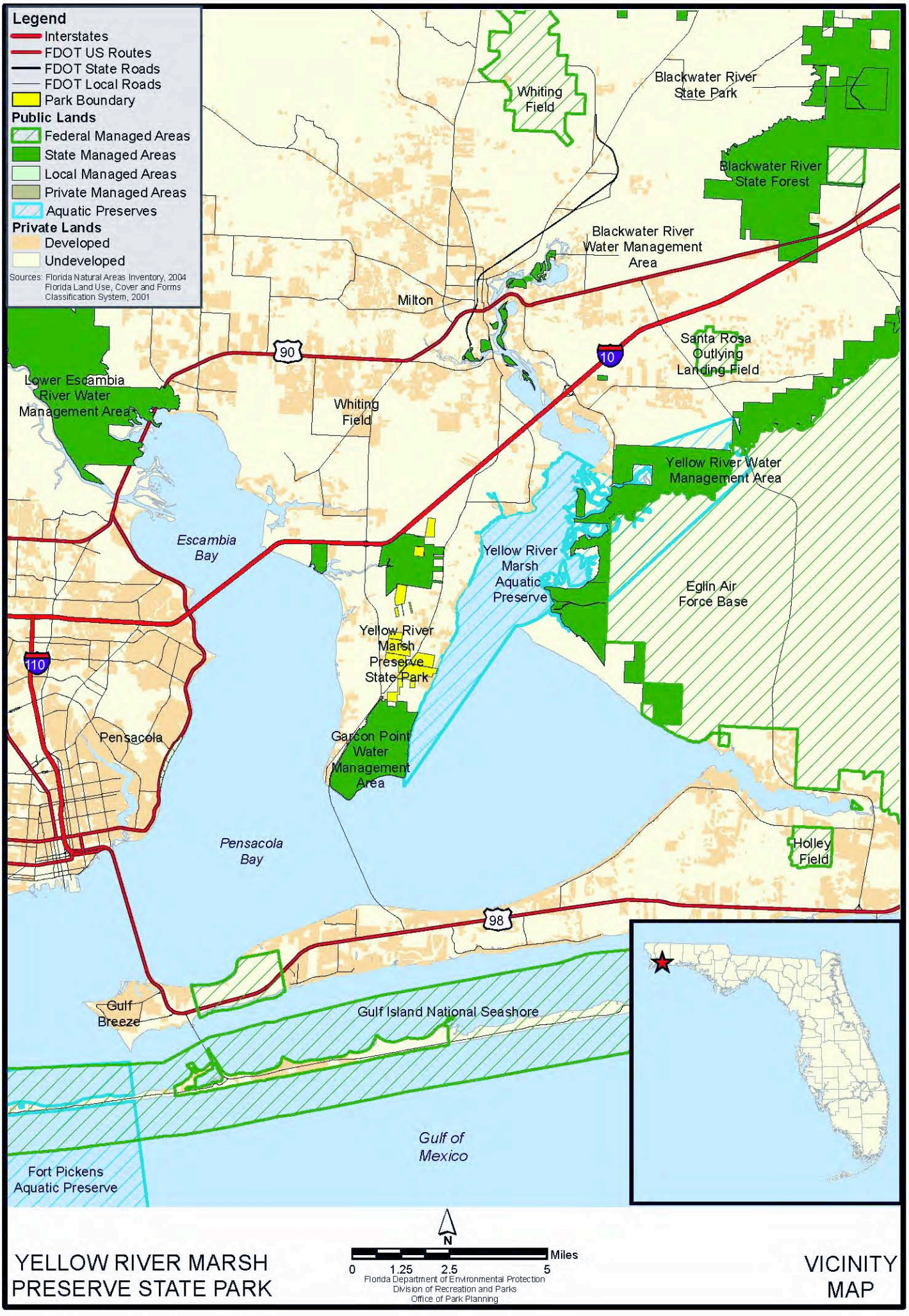
INTRODUCTION

Yellow River Marsh Preserve State Park (815.47 acres) is located in southern Santa Rosa County; approximately 10 miles south of Milton (see Vicinity Map). Access to the preserve is from Garcon Point Road (State Road 191) along Dickerson City Road (see Reference Map). Pensacola is the nearest metropolitan area and lies about 10 miles west of the preserve. The preserve is south of Interstate 10 situated on a peninsula known as the Garcon Peninsula, which extends into the Pensacola Bay system. When all acquisitions are completed, I-10 will border the preserve on the north and Escambia Bay on the west. Two major north-south roads originating in Milton traverse the preserve. Garcon Point Road (State Road 191) runs along the eastern portion of the peninsula and Avalon Boulevard (County Road 281) runs along the western portion. Mary Kitchens Road is a paved two-lane road running east-west and bordering several parcels of the preserve. The vicinity map also reflects significant land and water resources existing near the preserve.

At Yellow River Marsh Preserve State Park, public outdoor recreation and conservation is the designated single use of the property (see Addendum 1). There are no legislative or executive directives that constrain the use of this property. The preserve was acquired by the Board of Trustees of the Internal Improvement Trust Fund (Trustees) beginning in 2000 as part of the Florida Forever Garcon Ecosystem project using funds from the Conservation and Recreational Lands Program (CARL). The purpose of acquisition is to protect and conserve environmentally sensitive lands, rare and listed plant and animal species, maintain water quality in Pensacola Bay, and allow the public to learn about and enjoy this unique natural environment. The property was previously managed by the Department of Environmental Protection's Office of Coastal and Aquatic Managed Areas as the Yellow River Marsh State Buffer Preserve.

PURPOSE AND SCOPE OF THE PLAN

This plan serves as the basic statement of policy and direction for the management of Yellow River Marsh Preserve State Park as a unit of Florida's state park system. It identifies the objectives, criteria and standards that guide each aspect of park administration, and sets forth the specific measures that will be implemented to meet management objectives. The plan is intended to meet the requirements of Sections 253.034 and 259.032, Florida Statutes, Chapter 18-2, Florida Administrative Code, and intended to be consistent with the State Lands Management Plan. This is the initial management plan for this park. All development and resource alteration encompassed in this plan is subject to the granting of appropriate permits; easements, licenses, and other required legal instruments. Approval of the management plan does not constitute an exemption from complying with the appropriate local, state or federal agencies. This plan is also intended to meet the requirements for beach and shore preservation, as defined in Chapter 161, Florida Statutes and Chapters 62B-33, 62B-36 and 62R-49,


Legend
Interstates
FDOT US Routes
FDOT State Roads
FDOT Local Roads
Park Boundary
Public Lands
Federal Managed Areas
State Managed Areas
Local Managed Areas
Private Managed Areas
Aquatic Preserves
Private Lands
Developed
Undeveloped
Sources: Florida Natural Areas Inventory, 2004
Florida Land Use, Cover and Forms Classification System, 2001
Whiting Field
Blackwater River State Park
Blackwater River State Forest
Blackwater River Water Management Area
Milton
90
10
Santa Rosa Outlying Landing Field
Lower Escambia River Water Management Area
Whiting Field
Yellow River Water Management Area
Escambia Bay
Yellow River Marsh Aquatic Preserve
Eglin Air Force Base
Yellow River Marsh Preserve State Park
110
Pensacola
Garcon Point Water Management Area
Pensacola Bay
Holley Field
98
Gulf Breeze
Gulf Island National Seashore
Gulf of Mexico
Fort Pickens Aquatic Preserve
N
Miles
0 1.25 2.5 5
Florida Department of Environmental Protection
Division of Recreation and Parks
Office of Park Planning
YELLOW RIVER MARSH PRESERVE STATE PARK
VICINITY MAP

10

281

ESCAMBIA BAY

MARY KITCHENS RD.

GARCON POINT RD.

AVALON BLVD.

CAMA OFFICE

TRAILHEAD

NWFWMD TRAILHEADS

EAST BAY

GARCON POINT TOLL BRIDGE

LEGEND

ROAD

INTERSTATE

PARK BOUNDARY

GARCON POINT WATER MANAGEMENT AREA

YELLOW RIVER MARSH AQUATIC PRESERVE

N

0 1,500 3,000 6,000 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF RECREATION AND PARKS
OFFICE OF PARK PLANNING

YELLOW RIVER MARSH PRESERVE STATE PARK

REFERENCE MAP

Florida Administrative Code.

The plan consists of two interrelated components. Each component corresponds to a particular aspect of the administration of the park. The resource management component provides a detailed inventory and assessment of the natural and cultural resources of the park. Resource management problems and needs are identified, and specific management objectives are established for each resource type. This component provides guidance on the application of such measures as prescribed burning, exotic species removal and restoration of natural conditions.

The land use component is the recreational resource allocation plan for the unit. Based on considerations such as access, population and adjacent land uses, an optimum allocation of the physical space of the park is made, locating use areas and proposing types of facilities and volume of use to be provided.

In the development of this plan, the potential of the park to accommodate secondary management purposes ("multiple uses") was analyzed. These secondary purposes were considered within the context of the Division's statutory responsibilities and an analysis of the resource needs and values of the park. This analysis considered the park natural and cultural resources, management needs, aesthetic values, visitation and visitor experiences. For this park, it was determined that timber management could be accommodated in a manner that would not interfere with the primary purpose of resource-based outdoor recreation and conservation. This compatible secondary management purpose is addressed in the Resource Management Component of the plan. Uses such as water resource development projects, water supply projects, stormwater management projects, linear facilities and sustainable agriculture and forestry (other than those forest management activities specifically identified in this plan) are not consistent with this plan.

The potential for generating revenue to enhance management was also analyzed. Visitor fees and charges are the principal source of revenue generated by the park. It was determined that timber management would be appropriate at this park as an additional source of revenue for land management since it is compatible with the park's primary purpose of resource-based outdoor recreation and conservation.

The use of private land managers to facilitate restoration and management of this unit was also analyzed. Decisions regarding this type of management (such as outsourcing, contracting with the private sector, use of volunteers, etc.) will be made on a case-by-case basis as necessity dictates.

MANAGEMENT PROGRAM OVERVIEW

Management Authority and Responsibility

In accordance with Chapter 258, Florida Statutes and Chapter 62D-2, Florida Administrative Code, the Division of Recreation and Parks (Division) is charged with the responsibility of developing and operating Florida's recreation and parks system. These are administered in accordance with the following policy:

> **It shall be the policy of the Division of Recreation and Parks to promote the state park system for the use, enjoyment, and benefit of the people of Florida and visitors; to acquire typical portions of the original domain of the state which will be accessible to all of the people, and of such character as to emblemize the state's natural values; conserve these natural values for all time; administer the development, use and maintenance of these lands and render such public service in so doing, in such a manner as to enable the people of Florida and visitors to enjoy these values without depleting them; to contribute materially to the development of a strong mental, moral, and physical fiber in the people; to provide for perpetual preservation of historic sites and memorials of statewide significance and interpretation of their history to the people; to contribute to the tourist appeal of Florida.**

The Trustees have also granted management authority of certain sovereign submerged lands to the Division under Management Agreement MA 68-086 (as amended January 19, 1988). The management area includes a 400-foot zone from the edge of mean high water where a park boundary borders sovereign submerged lands fronting beaches, bays, estuarine areas, rivers or streams. Where emergent wetland vegetation exists, the zone extends waterward 400 feet beyond the vegetation. The agreement is intended to provide additional protection to resources of the park and nearshore areas and to provide authority to manage activities that could adversely impact public recreational uses.

Many operating procedures are standard system wide and are set by policy. These procedures are outlined in the Division's Operations Manual (OM) that covers such areas as personnel management, uniforms and personal appearance, training, signs, communications, fiscal procedures, interpretation, concessions, camping regulations, resource management, law enforcement, protection, safety and maintenance.

In the management of Yellow River Marsh Preserve State Park preservation and enhancement of natural conditions is all important. Resource considerations are given priority over user considerations and development is restricted to the minimum necessary for ensuring its protection and maintenance, limited access, user safety and convenience, and appropriate interpretation. Permitted uses are primarily of a passive nature, related to the aesthetic, educational and recreational enjoyment of the preserve, although other compatible uses are permitted in limited amounts. Program emphasis is placed on interpretation of the natural and cultural attributes of the preserve.

Park Goals and Objectives

The following park goals and objectives express the Division's long-term intent in managing the state park. At the beginning of the planning process for this management plan, the Division developed goals and objectives that are both meaningful and practical. The process ensures that the goals and objectives for the park remain relevant over time.

Estimates are developed for the funding and staff resources needed to implement the management plan based on these goals, objectives and priority management activities. Funding priorities for all state park management and development activities are reviewed each year as part of the Division's legislative budget process. The Division prepares an annual legislative budget request based on the priorities established for the entire state park system. The Division also aggressively pursues a wide range of other funds and staffing resources, such as grants, volunteers and partnerships with agencies, local governments and the private sector, for supplementing normal legislative appropriations to address unmet needs. The ability of the Division to implement the specific goals, objectives and priority actions identified in this plan will be determined by the availability of funding resources for these purposes, and largely the inevitable impacts to adjacent and surrounding lands that are and will continue to occur.

A fundamental purpose of acquisition of lands in the park was to preserve and protect the environmentally sensitive lands of Garcon Peninsula and the rare plants and animals they support. The current patchwork of public lands and private (gradually developing) lands on the peninsula is the result of an incomplete state acquisition project. Full and effective implementation of the resource management goals and objectives in the plan will be problematic given the current preserve boundary. If large-scale drainage and development continues on private lands adjacent to wet prairies, no amount of prescribed burning will conserve them and the rare species they support, and the purpose of acquisition will be inevitably compromised. This is especially the case with the disjunct parcels.

Natural and Cultural Resources

1. Protect, restore and maintain natural communities.

- **A.** Evaluate the recommendations of the DOF 2003 timber assessment for restoration of planted pine areas that will reduce mesic flatwoods species encroachment into wet prairie areas. The Division should then implement those actions deemed appropriate.
- **B.** Consult 2001 *Pitcher plants and Their Habitats in the Florida Park System* Resource Management Evaluation (RME) for information on evaluating habitat conditions in wet prairie and mesic flatwoods of the preserve and for guidelines on restoration methodologies.

2. Design and implement restoration of highly altered communities or areas.
   A. Consult with DOF, Northwest Florida Water Management District (NWFWMD) and DEP Northwest district to evaluate and restore the two borrow pits, areas altered by ditching, plugging and old firelines.

3. Protect, restore and maintain native plant and animal diversity, and natural relative abundance.
   A. Work with other conservation agencies and entities to survey the preserve for the presence and status of flatwoods salamanders *(Ambystoma cingulatum)* and to implement 2005 *Management Recommendations for the Flatwoods Salamanders on Garcon Point Water Management Area and Yellow River Marsh Preserve State Park* within wet prairie.
   B. Continue to improve species lists for the preserve. Seek outside expertise in botanical inventory, including non-vascular plants using outsourcing, volunteers and conservation organizations.
   C. Use GPS/GIS technology to track populations of listed species and report to FNAI.
   D. Work with the county to prevent damage to preserve resources by local arthropod control programs.

4. Establish and maintain prescribed fire program.
   A. Establish and maintain an active prescribed burn program aimed at returning areas to original natural communities, then maintaining from that point forward. Coordinate with DOF and NWFWMD in conducting prescribed burns on park property. Where appropriate, increase the frequency and intensity of prescribed burns to enhance the probability of restoring pitcher plant habitat in areas where they are now suppressed.
   B. Seek funding to ensure fireline preparation is available annually and to permit the establishment of additional firelines where needed within the parcels of this disjunct unit.
   C. Follow prescribed burn recommendations concerning flatwoods salamander wetlands as per 2005 research.
   D. Evaluate conclusions reached in the 2003 DOF timber assessment for the property when planning for and implementing prescribed burns.
   E. Evaluate use of mechanical treatments in areas where urban interfaces may reduce successful use of prescribed fire to restore and maintain natural communities and around possible turpentine camp cultural site.

5. Establish and maintain invasive exotic plant and destructive animal species removal program.
   A. Continue to inventory invasive non-native species on the preserve and continue invasive species removal program
   B. Coordinate with district staff and the Bureau of Invasive Plant Management if necessary to establish an operational plan and establish grants for removal projects.
   C. Monitor for the presence of problem animal species on the preserve.

6. Protect, restore and maintain natural hydrological regimes and water quality conditions.
   A. Continue to work with CAMA and NWFWMD on water quality conditions; shoreline erosion zones and restoration of borrow pits.
   B. Consult with DEP Northwest District office to obtain permitting low water crossings in order to actively maintain firelines and conduct patrols of unit.
   C. Inventory hydrological changes to the preserve (ditching, plugging, past firebreaks, etc.) and their impacts and formulate restoration actions.

7. Protect preserve boundaries to improve resource management and avoid encroachment.
   A. Establish signage and posts along preserve boundaries. Continue to address encroachment where identified, especially around southern borrow pit area.
   B. Seek funding to establish fencing as larger parcels are acquired or as acquisition reaches an optimum size for fencing.

8. Protect natural resources from impacts caused by preserve visitors and outside influences.
   A. Review and address proposals affecting land use and development outside of preserve boundaries and support efforts to establish or maintain zoning, land use, water use policies, etc. that facilitate appropriate protection of preserve resources.
   B. Monitor and restore areas subject to dumping within mesic flatwoods. Coordinate with law enforcement to enhance patrols and resolve possible violations.
   C. Utilize kiosk to promote species conservation and limit the use of invasive non-natives by area residents and visitors.

Recreational Goals

1. Continue to provide quality resource based outdoor recreational and interpretive programs and facilities at the preserve.
   A. Seek agreement with the Florida Trail Association or other local groups in order to create and maintain nature trails within the preserve, including interpretive signage.
   B. Continue to improve interpretive programs for preserve visitors.
   C. Continue to provide and seek means to improve the variety of high quality recreational experiences including hiking, photography, nature observation and environmental education.

2. Seek funding to expand recreational and interpretive opportunities through the improvement of programs and the development of new use areas and facilities, as outlined in this management plan.
   A. Seek funding for signage in order to advise visitors of the preserve's location and recreational opportunities.
   B. Enhance and expand the trailhead area located off Dickerson City Road.
   C. Establish a hiking trail network by working with NWFWMD and local

tourism officials.

D. Pursue funding for static signage to interpret the bay, plant communities and the use of prescribed fire within the preserve.

E. Coordinate with NWFWMD and other land management agencies in the event that trails within adjacent state lands may be connected to trails proposed for this unit.

F. As new facilities are developed, provide universal access 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).

Park Administration/Operations

1. Strive to increase park staff and funding to conduct resource management objectives and to meet the needs for visitor services and interpretation.

A. Pursue funding for a Park Services Specialist position to assist with park operations, protection, interpretation and natural and cultural resource management.

B. Coordinate with local government to promote recreational opportunities at the preserve.

C. Collaborate with other land managers and the Gulf Coastal Plain Ecosystem Partnership to share information, enhance recreational opportunities and to enhance resource management programs.

D. Seek funding for a Level I archaeological survey of the possible Garcon turpentine camp for confirmation of naval stores operation and turpentine camp activities.

Management Coordination

The preserve is managed in accordance with all applicable Florida Statutes and administrative rules. Agencies having a major or direct role in the management of the preserve are discussed in this plan.

The Department of Agriculture and Consumer Services, Division of Forestry (DOF), assists Division staff in the development of wildfire emergency plans and provides the authorization required for prescribed burning. The Florida Fish and Wildlife Conservation Commission (FFWCC), assists staff in the enforcement of state laws pertaining to wildlife, freshwater fish and other aquatic life existing within preserve boundaries. In addition, the FFWCC aids the Division with wildlife management programs, including the development and management of Watchable Wildlife programs. The Department of State, Division of Historical Resources (DHR) assists staff to assure protection of archaeological and historical sites. The Department of Environmental Protection (DEP), Office of Coastal and Aquatic Managed Areas (CAMA) aids staff in aquatic preserves management programs. The DEP, Bureau of Beaches and Wetland Resources aids staff in planning and construction activities

seaward of the Coastal Construction Line. In addition, the Bureau of Beaches and Wetland Resources aid the staff in the development of erosion control projects. The Northwest Florida Water Management District (NWFWMD) advises park staff on prescribed burn issues and works to maintain firelines along conjoining parcels. Emphasis is placed on protection of existing resources as well as the promotion of compatible outdoor recreational uses.

Public Participation

The Division provided an opportunity for public input by conducting a public workshop and an advisory group meeting. A public workshop was conducted on Tuesday, October 23, 2007. The purpose of this meeting was to present the draft management plan to the public. An Advisory Group meeting was held on Wednesday, October 24, 2007. The purpose of this meeting was to provide the Advisory Group members the opportunity to discuss the draft management plan.

Other Designations

Yellow River Marsh Preserve State Park is not within an Area of Critical State Concern as defined in section 380.05, Florida Statutes and it is not under study for such designation. The preserve is a component of the Florida Greenways and Trails System.

All waters within the unit have been designated as Outstanding Florida Waters, pursuant to Chapter 62-302 Florida Administrative Code. Surface waters in this unit are also classified as Class II waters by DEP. This unit is adjacent to the Yellow River Marsh Aquatic Preserve aquatic preserve as designated under the Florida Aquatic Preserve Act of 1975 (section 258.35, Florida Statutes). The Yellow River Marsh Aquatic Preserve borders the preserve on the east as part of East Bay.

RESOURCE MANAGEMENT COMPONENT

INTRODUCTION

The Division of Recreation and Parks has implemented resource management programs for preserving for all time the representative examples of natural and cultural resources of statewide significance under its administration. This component of the unit plan describes the natural and cultural resources of the park and identifies the methods that will be used to manage them. The stated management measures in this plan are consistent with the Department's overall mission in ecosystem management. Cited references are contained in Addendum 2.

The Division's philosophy of resource management is natural systems management. Primary emphasis is on restoring and maintaining, to the degree practicable, the natural processes that shape the structure, function and species composition of Florida's diverse natural communities as they occurred in the original domain. Single species management may be implemented when the recovery or persistence of a species is problematic provided it is compatible with natural systems management.

The management goal of cultural resources is to preserve sites and objects that represent all of Florida's cultural periods as well as significant historic events or persons. This goal may entail active measures to stabilize, reconstruct or restore resources, or to rehabilitate them for appropriate public use.

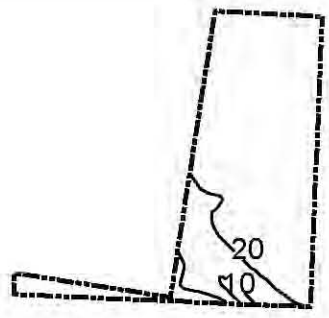
Because park units are often components of larger ecosystems, their proper management is often affected by conditions and occurrences beyond park boundaries. Ecosystem management is implemented through a resource management evaluation program (to assess resource conditions, evaluate management activities and refine management actions), review of local comprehensive plans and review of permit applications for park/ecosystem impacts.

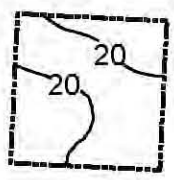
RESOURCE DESCRIPTION AND ASSESSMENT

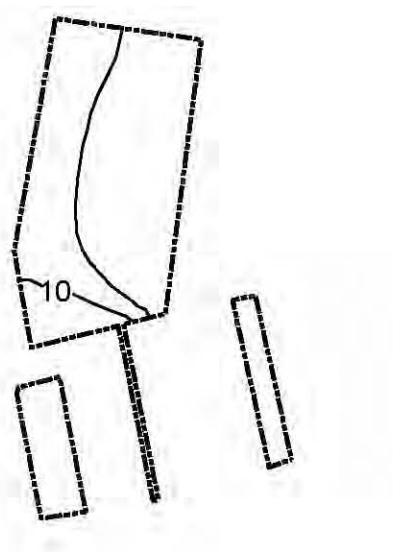
Natural Resources

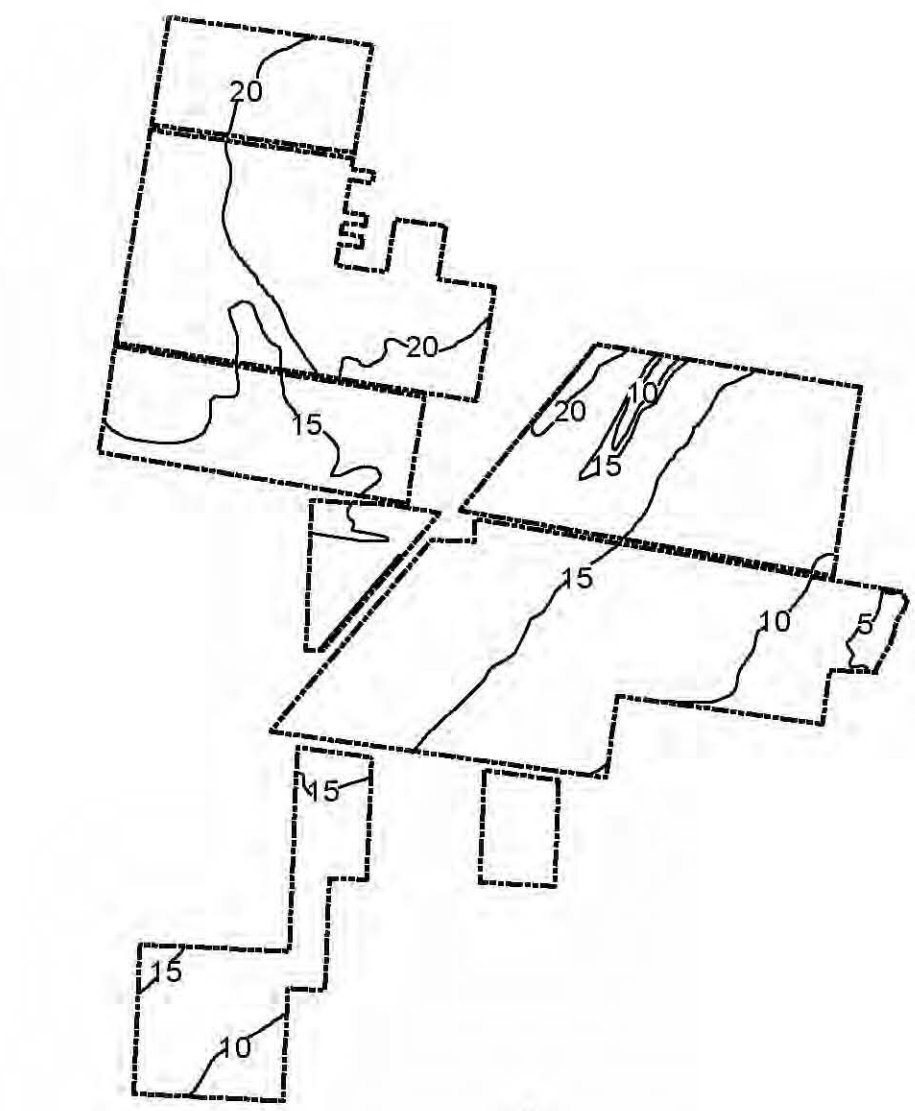
Topography

The Yellow River Marsh Preserve State Park is in Florida's Coastal Lowlands within the Northern Zone of the state. More specifically, it is in the Gulf Coastal Lowlands, adjacent to Northern Highlands. Coast parallel features characterize the Gulf Coastal Lowlands, indicating a close control of their shape and form by marine forces. Some of the landforms include ancient coastal features and includes beach ridge plains, ancient shorelines and marine terraces. The terrain is generally flat to very gently sloping and featureless (see Topographic Map).









LEGEND

----Park Boundary

——Contour Lines

N

0 650 1,300 2,600 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Office of Park Planning

YELLOW RIVER MARSH PRESERVE STATE PARK

TOPOGRAPHIC MAP

The major drainage system in the area are the Yellow, Blackwater and Escambia Rivers, which flow south through the Pensacola Bay before emptying into the Gulf of Mexico near Pensacola. The entire state park is on the Garcon Peninsula: a relatively sandy, poorly drained landmass separating Escambia and East Bays. Land surface elevations vary from mean sea level (msl) along East Bay to approximately 20 feet above msl further inland on the northern portions of the preserve. Limited relief and very little slope characterize topography within the preserve. Alterations to the topography of the preserve include fire plow scars, unimproved roads and ditching.

Geology

Santa Rosa County lies within the East Gulf Coastal Plain, a broad belt consisting of unconsolidated sands, silts and clay. The Yellow River Marsh Preserve State Park is found in the Coastal Lowlands, a low-lying area consisting of flat, weakly dissected alluvial plains and active coastlines.

The largest unbroken terrace area in westernmost Florida is the Garcon Peninsula, covering 27 square miles. This low-lying area consists of wet prairies, flatwoods and mixed hardwood swamps. The floodplain wetlands are seasonally flooded habitats with alluvial sand or peat substrates. Quaternary geology and sediments of the Citronelle Formation that blanket the Gulf Coastal Lowlands are typically Pliocene-Pleistocene sandy clay residuum that is moderately well drained to very poorly drained.

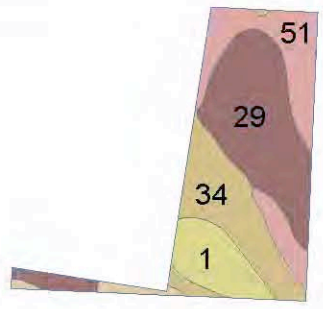
Soils

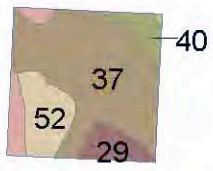
Generally, the preserve consists of a variety of soils that are moderately to poorly drained, sandy and loamy throughout. Detailed soil descriptions are contained in Addendum 3. These include: Albany loamy sand, Garcon loamy fine sand, Lynchburg fine sandy loam, Mulat loamy fine sand, Pactolus loamy sand, Rains fine loamy sand and Rutledge loamy sand (see Soils Map). Descriptions of soil types were taken from "Soil Survey of Santa Rosa County, Florida," U.S. Department of Agriculture, Natural Resources Conservation Service, May 1980.

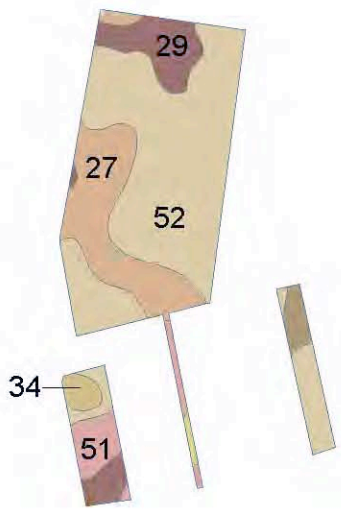
The majority of soil types which are found on the park exhibit wetland characteristics. The scant historical records indicate that most of the preserve has experienced some ground disturbing activity including agriculture and silviculture, fire suppression and ditching. However, these activities have been absent for many years and re-vegetation of the area has minimized the effects of erosion. Hydrologic restoration will address many of the soil-related conservation issues. Natural community restoration techniques such as prescribed fire will help provide for the conservation of soil resources. Protection of estuarine tidal marsh using best management practices will help prevent shoreline erosion.

Minerals

No commercially valuable minerals are known to occur on the property.







LEGEND

- 1- Albany loamy sand, 0 to 5 percent slopes
- 16- Garcon loamy fine sand
- 24- Leon sand, 0 to 2 percent slopes
- 27- Lynchburg fine sandy loam
- 29- Mulat loamy fine sand
- 32- Orangeburg sandy loam, 5 to 8 percent slopes
- 34- Pactolus loamy sand, 0 to 5 percent slopes
- 37- Rains fine sandy loam
- 40- Rutlege loamy sand
- 51- Meadowbrook fine sand
- 52- Goldhead fine sand
- Water

N

0 650 1,300 2,600 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Office of Park Planning

YELLOW RIVER MARSH PRESERVE STATE PARK

SOILS MAP

Hydrology

Northwest Florida has larger drainage basins and a greater stream density than any other region of Florida (Fernald and Purdum, 1998). The rivers in this area have few man-made structures to modify their channels or control their rates of flow. Variations in local flow are determined by rainfall and its resultant runoff or by groundwater discharge into the stream channel. Several of the largest and most productive estuaries in the state are in northwest Florida including Pensacola Bay. The Yellow River Marsh Preserve State Park is situated entirely on a low, flat peninsula: the Garcon Peninsula, a prominent land mass that divides the Pensacola Bay system into Escambia Bay to the west and Blackwater Bay and East Bay to the east. Three major watersheds influence these bays. The Escambia River flows into Escambia Bay and the Blackwater and Yellow Rivers flow into East Bay. Both the Escambia and Yellow Rivers originate in Alabama.

The Pensacola Bay system functions as an important nursery for significant estuarine and marine fisheries. The alarming decrease in water quality, however, threatens many commercial and recreational important species. Escambia Bay is the most highly stressed bay of the system. It receives the highest level of point and non-point discharges, as well as pollutant loading from the Escambia-Conecuh River system. The upper portion of the bay is noted as undergoing eutrophication. Conversely, the Blackwater and East Bays remain the most unaffected from anthropogenic degradation, and parts of these bays may still be considered near pristine. However, growth in Santa Rosa County is beginning to threaten these bays with increased storm water runoff, gray water and septic tank effluent, and increases from wastewater treatment plant discharges. The Blackwater and East Bays are lower energy systems than the Escambia and Pensacola Bays because of lower river input and lesser tidal influence. This increases the potential of water and sediment quality degradation from the negative impacts associated with increased growth and development in the area.

There are numerous bayous of varying size along the shoreline of the Pensacola Bay system. Although all the bayous in the system have been impacted to some extent by human activities, many are still biologically productive. Since bayous have a smaller surface area and are narrower than the open bays, there is a reduction in the tidal exchange and mixing of the upper and lower layers of water caused by thermal and density gradients. This decreased wave energy and physical movement of water is conducive to the growth of extensive marsh vegetation, providing estuarine habitat. This lack of significant circulation, however, causes many bayous to act as sinks for large amounts of surface runoff. This indicates that the future impacts of storm water runoff will have its greatest effect at these points. The bayous of the Garcon Peninsula, due to their important role in the biological health of the bay system, warrant special protection from current and future impacts of pollution.

The preserve also plays a minor role in recharging of the underlying Coastal Lowlands aquifer system, sand and gravel aquifer consisting of semi-consolidated soils bedded with silt, clay and minor carbonate rocks. However, most of the surface water drains directly into the surrounding bays due to the poorly drained soils.

Given the flat to very gently sloping nature of the topography, runoff is slow. Due to the relatively low permeable surficial soils found over much of the state park and the lack of relief, internal drainage is also slow. The flatness and the existing land cover allow for the storage of excess rainfall on the land surface. The principal routes of water removal from the preserver are evaporation, transpiration and runoff. Internal drainage is probably less significant. This combination of soils and hydrologic factors result in a condition where the water table is at or near the surface for much of the time. Frequently, water ponds above ground surface in shallow depressions and ditches.

This condition of a high water table occurs in both the wet prairies and the estuarine tidal marsh. It provides one of the necessary conditions for these biological communities to exist. Many of the plants found here are adapted to and require a wet environment. The occurrence of the high water table and the associated plant communities constitutes an increasingly rare, natural hydrologic environment. Throughout the state, these types of environments have been degraded through dredge and fill activities.

In times of high rainfall, water stands at land surface and slowly moves by sheet flow and through the existing ditches and bayous to the surrounding waters. Given the undisturbed land cover, this storm water runoff is of relatively high quality.

The Garcon Peninsula has not experienced the dramatic population growth that other coastal areas of Florida have seen. However, some past attempts have been made to alter surficial flow for either agriculture or development. In addition, several wildfires have occurred within the past 30 years that required firebreaks. Silviculture, development and fire suppression all contribute to the hydrological alteration of the preserve. Surveys are being conducted to locate all of the ditches for future management restoration.

Natural Communities

The system of classifying natural communities employed in this plan was developed by the Florida Natural Areas Inventory (FNAI). The premise of this system is that physical factors, such as climate, geology, soil, hydrology and fire frequency generally determine the species composition of an area, and that areas which are similar with respect to these factors will tend to have natural communities with similar species compositions. Obvious differences in species composition can occur, despite similar physical conditions. In other instances, physical factors are substantially different, yet the species compositions are quite similar. For example, coastal strand and scrub--two

communities with similar species compositions--generally have quite different climatic environments, and these necessitate different management programs.

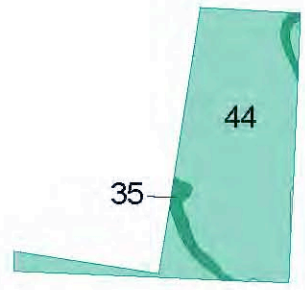
The preserve contains eight distinct natural communities (see Natural Communities Map) in addition to ruderal areas. The Natural Communities Map is a graphic representation of the existing vegetative conditions in the preserve at the time this management plan was developed. Preserve specific assessments of the existing natural communities are provided in the narrative below. A list of plants and animals occurring in the unit is contained in Addendum 4.

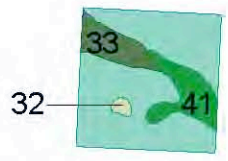
Mesic flatwoods. Fire, an important feature in mesic flatwoods habitat, has been suppressed on the Garcon Peninsula. The lack of fire in these habitats has resulted in excessive fuel loading with hardwood and mid-story encroachment. Fire will be reintroduced in these habitats on a 3 – 10 year rotation. Reintroduction of fire will reduce excessive fuel loading, reduce hardwood encroachment, open the canopy and promote species diversity. A shoreline restoration project consisting of planting emergent vegetation will be coordinated with CAMA within the first year of adoption of the unit management plan. This project is needed to maintain the shoreline along East Bay where wave action from boats and storms is eroding a known archaeological site. Two small pine plantations will be studied to determine appropriate restoration projects needed to increase habitat diversity. Recently acquired lands have been historically used for dumping; law enforcement will be encouraged to monitor areas that have been impacted. Debris will be removed and the boundaries posted.

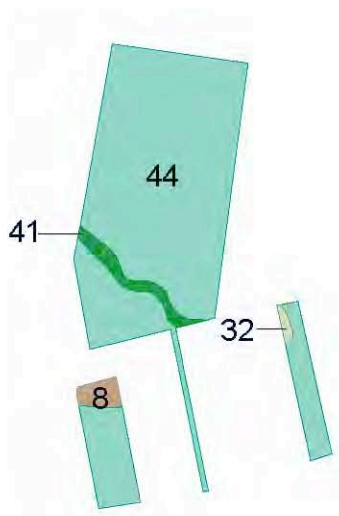
Baygall. Baygalls are dependent upon seepage flow and a high water table that makes this natural community very sensitive to alterations in the hydrology. A study will be conducted to locate, map and categorize all disruptions to the hydrology and formulate a project design to restore historical sheet flow and drainage patterns. The hydrology of the area must be maintained in order to maintain the species community structure.

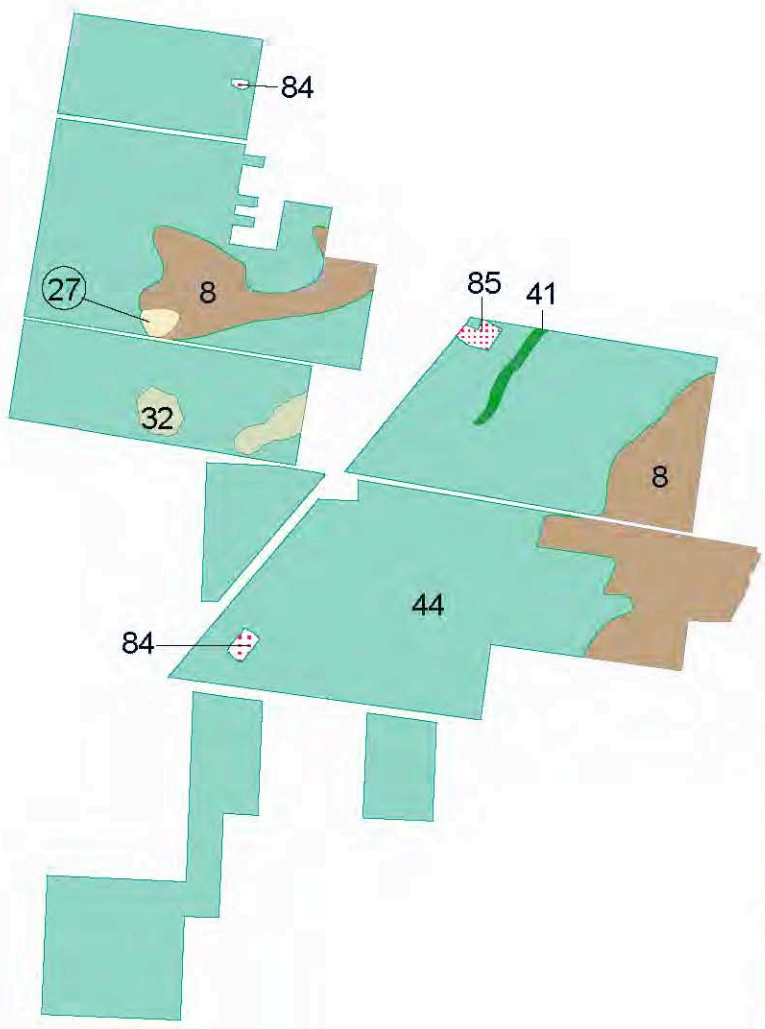
Dome swamps. The landscape in and around many of the cypress domes have been scarred with the trenching of fire plows during wildfire suppression. This in turn may have altered the hydrology and sheet flow into these depression areas. Further investigation is warranted to determine the extent of damage. Fire is another significant physical factor for the health of cypress dome ecosystems. Fire will be allowed to approach the outer edge of the cypress domes for a light surface fire. Fire will be excluded from the cypress domes when there is a threat of a muck fire. Muck fires burning into the peat can kill cypress and transform a cypress dome into a pond.

Floodplain forest. The Floodplain Forest community is completely isolated from developmental pressure and is bordered on all sides by lands managed by the NWFWMD. This community receives periodic burning through a prescribed burn plan implemented by the NWFWMD under an MOU between DEP and the NWFWMD.









LEGEND

- 8 - Mesic Flatwoods-87.44 ac.
- 27 - Baygall-1.84 ac.
- 32 - Dome-9.16 ac.
- 33 - Floodplain Forest-4.43 ac.
- 35 - Floodplain Swamp-3.87 ac.
- 41 - Strand Swamp-11.32 ac.
- 44 - Wet Prairie-694.10 ac.
- 84 - Ruderal-1.53 ac.
- 85 - Developed-1.72 ac.

N

0 650 1,300 2,600 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Office of Park Planning

YELLOW RIVER MARSH PRESERVE STATE PARK

NATURAL COMMUNITIES MAP

Preserve staff will continue to monitor the condition of this natural community for species diversity.

Floodplain swamp. Alterations of the hydroperiod by impoundments or river diversions and the disruption of floodplain communities by forestry and agriculture have devastating consequences to the complete river and bay systems. The Floodplain Swamp is found in the upper reaches of the White Oak Bayou and does not appear to be in jeopardy of hydrological impacts. However, increased development warrants continue monitoring of this area and attention to any land use changes proposed by the county.

Strand swamp. Of the three occurrences of this natural community, two have large drainage ditches connected to them. These ditches retain water for the majority of the year and were probably excavated to drain the surrounding Wet Prairie and support storm water runoff from roads. Ditches not only disrupt the hydrological flow patterns but also exacerbate erosion and lead to habitat fragmentation. A survey of the entire preserve is necessary to identify all ditching and determine an appropriate response to restoration.

Wet prairie. The predominant physical factors influencing this habitat are hydrology and fire. Human impacts such as fire suppression, ditching and habitat fragmentation has allowed the encroachment of woody shrubs (wax myrtle) and trees (slash pines) into the wet prairie community. Reintroduction of fire on a 2-4 year interval will reduce fuel loading, promote species diversity and benefit the populations of endangered pitcher plants. Ditches and abandoned firelines occur on the preserve interfering with the hydrology by disrupting flow patterns and altering sheet flow. A study will be conducted to locate, map and categorize all disruptions to the hydrology and formulate a project designed to restore historical sheet flow and drainage patterns.

Ruderal. Ruderal areas consist of two borrow pits totaling 1.9 acres in the southern portion and the developed area of the office compound. A headquarters and visitors' center is currently situated on the preserve. This building serves as offices for CAMA staff and offers visitors information on the Yellow River Marsh Preserve State Park, adjacent aquatic preserves as well as other public lands in the vicinity. A pole barn used for parking equipment was placed behind the building in an enclosed equipment storage area. This equipment storage area was enclosed with a chain link fence for security purposes in 2005. The larger of the two borrow pits is located on an unimproved road and was part of a recent acquisition, dumping is a problem here. The smaller pit is located on Dickerson City Road and is bordered by pitcherplants and a healthy stand of bald cypress. This shallow pit is usually dry during the winter months. However, during the wet summer season waterfowl, amphibians and insects frequent the shallow waters.

Developed. These areas consist of gravel drives, unpaved parking lots and an office building with an adjoining maintenance area.

Designated Species

Designated species are those that are listed by the Florida Natural Areas Inventory (FNAI), U.S. Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FFWCC), and the Florida Department of Agriculture and Consumer Services (FDA) as endangered, threatened or of special concern. Addendum 5 contains a list of the designated species and their designated status for this preserve. Management measures will be addressed later in this plan.

The preserve contains over 200 species of vascular plants. Among these are 11 state-listed species, including one of the largest populations of the white-topped pitcher plant (*Sarracenia leucophylla)* in Florida. Once found throughout its range in the Southeast, now the white-topped pitcher plant may be totally extirpated from Georgia, or represented by only one small population. There are only a few populations in Mississippi, and it occurs only in two or three counties on the Alabama border. It has been estimated that the Florida panhandle now accounts for 80 percent or more of the known number of populations and individuals of white-topped pitcher plants range wide. The greatest concentration of white-topped pitcher plants on the lower coastal terraces anywhere in its range is the Garcon Peninsula. On private lands, it continues to be threatened by conversion of its open wet savanna habitat to slash pine plantations, and by fire suppression, ditching, draining, and land clearing associated with near-coastal suburban and commercial development. In general, pitcherplants are very susceptible to ditching and draining of their poorly drained wet savanna habitat, and have very poor transplant or relocation success due to their exacting hydrological and soil requirements.

Another carnivorous plant, Chapman's butterwort (*Pinguicula planifolia*), has an even more restricted range than that of the white-top pitcher plant. Outside of the Florida panhandle, it is known only from four Alabama counties and one Mississippi County. It is restricted to the wetter areas of open of open wet savannahs, shallow cypress domes and the boggy ecotones between these two communities. The habitat requirements of this species are very exacting, and any disturbance of the soil surface or alteration to the hydrology would impact the populations. Its presence in the preserve has not yet been documented.

FNAI reports that Curtiss' sandgrass (*Calamovilfa curtissii)* occurs primarily in the Wet Prairies/Cypress Swales landscape around the outer edges of herbaceous ecotones just above the pond cypress domes and swales where it is often the dominant groundcover grass forming large clumps. This perennial grass is endemic to Florida and has never been found outside of the state. It is only known to occur in two disjunct regions of the state, the western Florida panhandle and the northeast Florida coast. Developmental

pressures and associated impacts along Florida's east coast have almost extirpated Curtiss' sandgrass from this range. The Garcon Peninsula has the largest population of this species anywhere within its limited range. Being a long-lived, presumably slow growing perennial of relatively specialized habitats, it would likely reestablish slowly or not at all after land clearing, and would probably respond poorly to transplanting.

Pond rush (*Cladium mariscoides*) is a perennial rhizomatous sedge commonly found in the northeastern states and Great Lakes region, but is rare in unglaciated areas. Although Florida is cited in its range, no specific specimen citations were documented to support these reports. FNAI and DEP located abundant populations of pond rush at three different sites on the Yellow River Marsh Preserve State Park. Specimens were collected from the hydric herbaceous ecotone around the small Cypress Dome in the southern portion of the preserve and from the Dome's shallow waters. The nearest region to Florida where pond rush is known from several adjacent counties (i.e., is regionally frequent to the extent of being documented for most counties by general floristic collecting) is the northern part of Indiana, a distance of at least 727 miles. Within a 600-mile radius of the western Florida panhandle sites, pond rush is known to occur in only 10 counties, three of these in Texas and at least two others represented by a single collection over 80 years old. The discovery of "new" long disjunctions in the flora of the United States has great significance in the fields of taxonomy, phytogeography and conservation. Long disjunctions must be interpreted with caution to discern whether they represent recent adventures due primarily to man's influence on the flora, chance introductions by natural processes (i.e., bird or wind dispersal of seeds) which might not produce long-persistent populations, or long-term stable populations which may represent significant genetic variation and have speciation potential as isolated populations, or even relics of a once more continuous range now isolated by climatic changes. Based on its abundance and relative dominance in little disturbed communities pond rush is probably relictual in the southeastern United States. This interpretation is strengthened by the uniqueness of its habitat.

The flatwoods salamander (*Ambystoma cingulatum*) is a federally threatened species with only 38 known populations in Florida. Due to its dependence on isolated wetlands in a landscape that has already been fragmented, it is apparent that the flatwoods salamander's population range-wide is highly discontinuous and could be defined as "severely fragmented." There is also increasing pressure from the loss and degradation of pine flatwoods and wet prairies due to development for silviculture and agriculture practices. Since salamanders use these habitats to reproduce, they have been regarded as indicator species for the health of the wetlands. The lowland pine areas, domes, and prairies may be extremely important to the long-term protection of the flatwoods salamander, since a breeding population of this species has been documented within the project's boundaries by FNAI. Portions of the preserve are designated as Critical Habitat for the Flatwoods Salamander.

Preserve staff should follow the Management Recommendation For The Flatwoods Salamander On Garcon Point Water Management Area And Yellow River Marsh Preserve State Park (FFWCC, 2005) when accessing and directing resource management projects in their habitat.

Designated animal species include other reptiles, several mammals, birds of prey, neotropical migrants, and waterfowl. This list will be amended, as efforts to complete a more accurate and complete inventory of biota progress.

Special Natural Features

The Yellow River Marsh Preserve State Park provides visitors with one of the most abundant and diverse assemblage of carnivorous plants found anywhere in Florida. The most notable are the pitcher plants. Management focus will be to provide an aesthetically pleasing natural experience for visitors through passive recreation and to promote the importance of the wet prairies.

Cultural Resources

Evaluating the condition of cultural resources is accomplished using a three part evaluative scale, expressed as good, fair, and poor. These terms describe the present state of affairs, rather than comparing what exists against the ideal, a newly constructed component. Good describes a condition of structural stability and physical wholeness, where no obvious deterioration other than normal occurs. Fair describes a condition in which there is a discernible decline in condition between inspections, and the wholeness or physical integrity is and continues to be threatened by factors other than normal wear. A fair judgment is cause for concern. Poor describes an unstable condition where there is palpable, accelerating decline, and physical integrity is being compromised quickly. A resource in poor condition suffers obvious declines in physical integrity from year to year. A poor condition suggests immediate action to reestablish physical stability.

According to the Florida Master Site File (FMSF), the present boundaries of the Yellow River Marsh Preserve State Park encompass one known cultural resource, a scatter site that will require further testing to determine its significance. The area under Division management contains portions or elements of site SR853, an unspecified prehistoric and historic scatter site.

Due to the wet conditions and the lack of roads, much of the Garcon Peninsula was largely spared from significant human impact, including silviculture and suburban/urban development, throughout much of the history of Santa Rosa County. Most of the recorded history revolved around the timber industry located in the northern portions of the county. The natural setting of Santa Rosa County provided plenty of lumber in the northern region from the pine and hardwood forests with deep rivers and streams to transport the logs to the mills in the south: primarily in Bagdad.

The American settlers in the mill towns of northern Santa Rosa County minimally influenced the Garcon Peninsula. Spanish influence on the peninsula was much stronger.

The earliest recorded history of European explorers on the Garcon Peninsula is the settlement of Mulatto Bayou by Diego de Maldonado. Maldonado was the navigator for Hernando De Soto and remained at Mulatto Bayou with the Creek Indians while De Soto rampaged across the Southeastern Territory. Maldonado stayed on the Garcon Peninsula for three years establishing a cattle/horse ranch and homes with gardens. Some claim that this was the first colony in the new world. This site is not located in or adjacent to the preserve boundaries.

Prior to the southern tip of the peninsula being referred to by its current name, it was known as Yamasee Point and was the site of an Indian population for centuries. The Yamasee Indians had lived at Yamasee Point prior to 1763, leaving with the Spanish that year to settle in Mexico. The name of the peninsula was later changed and named after the early settlers Antonio and Maria Garzon. Garzon's wife was a Creek Indian and Garzon served as an Indian interpreter for the Spanish in Pensacola. For his services, Antonio Garzon was given a land concession incorporating the entire southern tip of the Garcon Peninsula. For over thirty-five years, the Garzon family lived on this site, raising cattle and cultivating produce that they sold in Pensacola. After Antonio's death, his widow Maria conveyed the large tract of land to Joseph Bonifay in 1817. For over thirty years, Bonifay's cattle ranch thrived on the grassy savannahs of Garcon Peninsula until his death in 1840. This site is not located in or adjacent to the preserve boundaries.

On the northern portion of the Garcon Peninsula where conditions are moderately drier, several small cattle operations are still operating on lands immediately south of Interstate 10. Several small pine plantations approximately 25 years old totaling about 20 acres can also be found in the drier areas. On the western side of the peninsula, a larger pine plantation is still in production. One area of the preserve along the shore of East Bay exhibits old growth slash pine. Many of the trees in this area have the "catface" from past turpentine harvesting practices. The V-scars were used to collect turpentine and resin that were placed in barrels and loaded onto boats for distant markets.

RESOURCE MANAGEMENT PROGRAM

Special Management Considerations

Timber Management Analysis

Chapters 253 and 259, Florida Statutes, require an assessment of the feasibility of managing timber in land management plans for parcels greater than 1,000 acres if the lead agency determines that timber management is not in conflict with the primary

management objectives of the land. The feasibility of harvesting timber at this park during the period covered by this plan was considered in context of the Division's statutory responsibilities, and an analysis of the park's resource needs and values. The long-term management goal for forest communities in the state park system is to maintain or re-establish old-growth characteristics to the degree practicable, with the exception of early successional communities such as sand pine scrub and coastal strand.

A timber assessment of the formerly designated Yellow River Marsh State Buffer Preserve was prepared by DOF in February 2003. Most of the preserve is comprised of sensitive wetland habitats with limited available forest resources according to the Timber Management Assessment (see Addendum 6). The upland areas are small, fragmented and overgrown from decades of fire suppression, making timber management disadvantageous. These uplands are targeted for prescribed fire as a management tool for fuel reduction and native species promotion. In some areas, roller chopping or the use of a Gyrotrac or a similar brush cutter may be necessary to prepare burn zones for the introduction of fire. According to the timber assessment, there are two small pine plantations of less than 25 acres. These will be restored through natural regeneration. Biologists and preserve staff will monitor the restoration to assure the areas revert to their natural state.

Additional Considerations

Management authority at the preserve does not extend, waterward, of the mean high water mark. This requires preserve management to work with CAMA to regulate boating, offshore reef placement and other recreational or research related activities within this near shore zone.

The Garcon Ecosystem Florida Forever project contains the largest intact pitcher-plant prairie in northwest Florida covering approximately 64 percent of the entire project area. This wet prairie is exceptionally diverse containing over 200 species of vascular plants including a rich assemblage of grasses, sedges and wetland herbs. This large area remains in a relatively natural state: only 6 percent of the project area is disturbed. These Wet Prairies are noteworthy from a plant community and rare plant perspective, on both a regional and national level, due to their exceedingly species-rich groundcover and endemic species components. Recent ecological research has indicated that the southeastern pitcher plant prairies are among the most plant-species diverse communities in North America (Johnson, Erik D. 2001). Although pitcher plant rich Wet Prairies were once rather continuous along the Gulf coast from Mississippi east into the Florida panhandle, they have been fragmented by natural alteration, drainage and human induced changes in the natural fire regime. Estimates are that 97 percent of the former southeastern bogs (including Wet Prairies) have been destroyed or seriously altered by various human practices (Johnson, Erik D. 2001). The Wet Prairies of the Garcon Peninsula represent the largest intact, contiguous area of unbroken pitcher plant prairie remaining between the Apalachicola National Forest in Florida and the

Mississippi Sandhill Crane National Wildlife Refuge in southern Mississippi. The Wet Prairies in the preserve also harbor the largest known contiguous block of habitat for the white-top pitcherplant (*Sarracenia leucophylla*) remaining on the lower Gulf coastal terraces.

Management on the Yellow River Marsh Preserve State Park will be directed toward the maintenance of biological diversity and species composition consistent with existing natural community types. Such communities will be restored and maintained through habitat management. Changing frequencies in violent storm events may foreshadow the extirpation of wet prairie species in some areas of the preserve near mean sea level. The increased threat of salinization of groundwater and soil water that occurs as sea level rises may be followed by replacement of wet prairie habitat with salt marsh at slightly high elevations. If sea level rises or storm events affect a change in terrestrial vegetation then management efforts may have to include translocation or reintroduction of some obligate or facultative wet plants to maintain sufficient levels of biodiversity within the preserve. Preserve staff will work with DEP to solicit water monitoring for the protection of water resources.

The Yellow River Marsh Preserve State Park plays an important role in helping to prevent the further degradation of water quality within the Yellow River Marsh Aquatic Preserve as well as the entire Pensacola Bay system. The preserve shares common boundaries with public lands managed by the Northwest Florida Water Management District (NWFWMD). When additional parcels are purchased, opportunities will exist for the Division, CAMA and the NWFWMD to implement an ecosystem management approach for cooperative resource management including prescribed burns, restoration projects, and connecting natural communities through a network of nature trails and educational kiosks.

The majority of the preserve is found within a natural flood plain containing a variety of wetland communities that serve as a buffer protecting or enhancing the water quality in the adjacent Yellow River Marsh Aquatic Preserve and surrounding Class II waters.

Management Needs and Problems

A comprehensive species inventory of the preserve still needs to be performed. Furthermore, the existing list of plant and animal species will likely be expanded as additional survey methods are employed for the first time and additional parcels are acquired. Small mammal trapping using Sherman traps will be conducted within two community types: Mesic Flatwoods and Wet Prairie. This will be done during spring (two areas per community type at three trap nights each). Regular bird surveys will be conducted in addition to the Audubon Christmas Bird Count. Bird counts will also be conducted in spring along transects established within the areas used for small mammal trapping. Herpetofauna arrays will be established to survey reptiles and amphibians in dry communities after they become accessible using fire. Surveys of

organisms will be easier to conduct after prescribed fire has decreased fuel load and complexity. Restoration areas will be replanted with native species known to occur in close proximity.

1. A detailed prescribed fire plan outlining burn zone prescriptions, smoke screening, recommended firing plans, mop-up and contingency planning, and fire line construction/maintenance, needs to be developed and implemented at this preserve.
2. The construction and maintenance of various wetland crossings, suitable for service vehicles and fire suppression vehicles/equipment, is needed in order to carry out land management activities such as prescribed burning and routine monitoring and patrolling.
3. Encroachment onto the preserve has damaged wet prairie habitat. Effective boundary fencing is needed in order to halt damaging trespassing, illegal dumping and regulate safe and appropriate visitor access. Establish security measures sufficient to protect the preserve's integrity and to restrict unauthorized access and use.
4. Preserve, District and Division staff needs to develop access agreements with adjacent landowners to ensure that preserve staff will have necessary access points into remote and isolated tracts of the preserve for land management purposes. Access agreements along the county designated rights-of-way should be a priority. Rights of way within undeveloped subdivision lots will be vacated, where possible, in order to facilitate the prescribed burn plan implementation.
5. Inventory hydrological changes to the preserve (ditching, plugging, past firebreaks, etc.) and their impacts and formulate restoration actions in coordination with USDA Soil and Water Conservation Service and the DEP.
6. Additional fire suppression equipment and hand tools are needed if any significant land management activities are to be achieved. Full time staff, trained and assigned to perform resource management on the property is needed.
7. A detailed designated species-monitoring plan that outlines the timing and methodology for specific surveys needs to be developed and implemented by park staff. Pitcherplant surveys should be integral to the development of burn prescriptions in zones where these fire dependent plants occur.
8. The current condition of cultural resources in the Yellow River Marsh Preserve State Park is not known. A detailed written and photographic condition assessment is desirable, particularly of those sites that are suffering from severe erosion or other major threats.
9. The locations of known archaeological sites need to be determined and accurately recorded via GPS/GIS.
10. Once site locations and assessments are determined, a regular monitoring program to track conditions and identify threats needs to be established.

Management Objectives

The resources administered by the Division are divided into two principal categories: natural resources and cultural resources. The Division primary objective in natural resource management is to maintain and restore, to the extent possible, to the conditions that existed before the ecological disruptions caused by man. The objective for managing cultural resources is to protect these resources from human-related and natural threats. This will arrest deterioration and help preserve the cultural resources for future generations to enjoy.

1. Develop a detailed prescribed fire plan outlining burn zone prescriptions, smoke screening, recommended firing plans, fire return intervals, mop-up and contingency planning, and fire line construction/maintenance.

2. An effective prescribed fire program at this 800+ acre preserve, (with no permanent assigned staff and limited management infrastructure), will require inter-agency support from the Division of Forestry, particularly with fire line preparation, and holding support during large acreage burns. Preserve staff should communicate these needs to the local DOF Forest Area Supervisor, and continue efforts to maintain an active partnership.

3. Maintain accurate and complete rain gage data necessary for effective burn planning. Rainfall monitoring equipment can be maintained at Blackwater River; however, a rain gage on-site is preferable.

4. Request funding for purchase or rental of low ground loading, all terrain/all condition, specialized land management heavy equipment suitable for conducting fire line prep, mechanical fuel reduction via mowing or roller chopping, holding and suppression operations in wet prairie/wet flatwoods/baygall type natural communities. The preserve staff should research various types of existing equipment in use by other land management entities in similar habitats.

5. Develop and/or refine resource restoration projects based on the needs identified in this plan, and request funding necessary for implementation.

6. Formally request a Park Services Specialist position for the preserve.

7. Coordinate with the USDA Soil and Water Conservation Service and the DEP northwest regulatory office to develop a detailed plan for the restoration of major ditches for hydrologic restoration and the infrequent passage of resource management vehicles/equipment.

8. Coordinate with the DEP northwest regulatory office to permit the construction of low water stream crossings and other appropriate wetland crossings and/or roadbed stabilization projects necessary for effective resource management on the park. Plans for any hydrological improvement projects should be developed in anticipation of mitigation associated with the Florida Transportation and Planning Organization long-range plans for State Road 191 and other local highways.

9. Request funding for additional boundary fencing, where necessary to protect the preserve's resources. Priority should be given to fencing the boundary lines

where major encroachments have occurred.

10. Conduct surveys to identify and GPS map the locations of listed species.
11. GPS map any large-scale colonies of white-top pitcherplant. Map any large colonies of parrot pitcherplants and sweet pitcherplants as well. Monitor all mapped populations at least yearly. Monitoring should include a running archive of digital photos to help track habitat conditions over time.
12. Advise the staff of the Bureau of Entomology, Nematology and Plant Pathology (DACS) of the need to compile a list of macro invertebrates for the preserve. Note that a collecting permit is required.
13. Conduct gopher tortoise burrow surveys and mapping in coordination with prescribed burning.
14. Conduct yearly surveys to locate and GPS map invasive exotic plants.
15. Coordinate with district biological staff to remove exotic plants via in-house or contractual services.
16. Coordinate with the Bureau of Natural and Cultural Resources to request funding for Level I archaeological survey.
17. Encourage local research projects that investigate the historical land uses associated with the preserve.
18. Contact the appropriate department of the various State Universities in Florida to convey the need for an inventory of the preserve's flora. Pursue funding to assist with population surveys.
19. Continue to request and encourage study of the effects of prescribed fire on pitcherplants. Establish permanent study plots to record the response of pitcherplants to the various removal methods for competing woody species, in addition to the effects of any other changes that result from resource management.
20. Develop a Statement of Interpretation with assistance from BNCR and BOS staff.
21. Preserve and protect recorded cultural sites through routine monitoring to track site conditions and identify threats.
22. The Division/DHR Compliance Review Matrix shall be applied to all ground-disturbing activities. Major and moderate disturbances requiring DHR Review shall be coordinated through the Division of Historical Resources, Compliance Review Section.
23. Monitor and address impacts associated with planned or existing development adjacent to or within the boundaries of the preserve. Work with Santa Rosa County to develop alternatives to clay used on unpaved roads, to address nutrient loading, clay runoff and siltation of wetland streams.

Management Measures for Natural Resources

Hydrology

As with all wetland habitats, hydrology is an important component in determining the health and biological diversity of the natural communities of the Yellow River Marsh Preserve State Park. Many of the natural communities and endangered species found

on the preserve are dependent on the historical hydrological sheet flow and drainage patterns once prevalent on the Garcon Peninsula. However, past practices of ditching and fire suppression have altered the hydrology and threatened the species composition of the natural communities. The preserve is criss-crossed with abandoned fire lines that were plowed to suppress wildfires. Many of these plowed lines are narrow in width (approximately 3-4 feet) and the majority of them have partially filled-in with sediment and vegetation. However, water is still diverted from its original course. In addition to the abandoned fire lines, several large ditches have been found on the preserve. These ditches not only drain the preserve, but also funnel storm water runoff into neighboring wetlands found on the preserve. A study will be conducted to locate, map using GIS, categorize all disruptions to the hydrology and formulate a project design to restore historical sheet flow and drainage patterns.

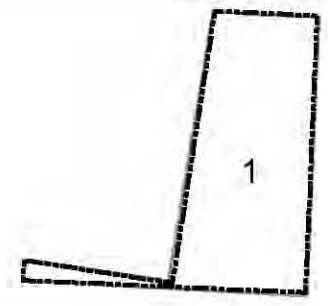
Water resources protection will be accomplished through avoidance of watershed perturbations, establishment of closed activity zones around sensitive wetlands, and adequate storm water management. These strategies will be coordinated with the other federal, state, local and private land managing agencies.

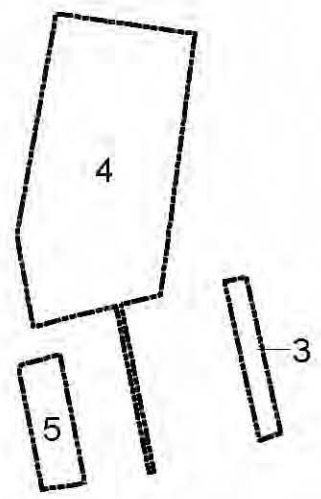
Prescribed Burning

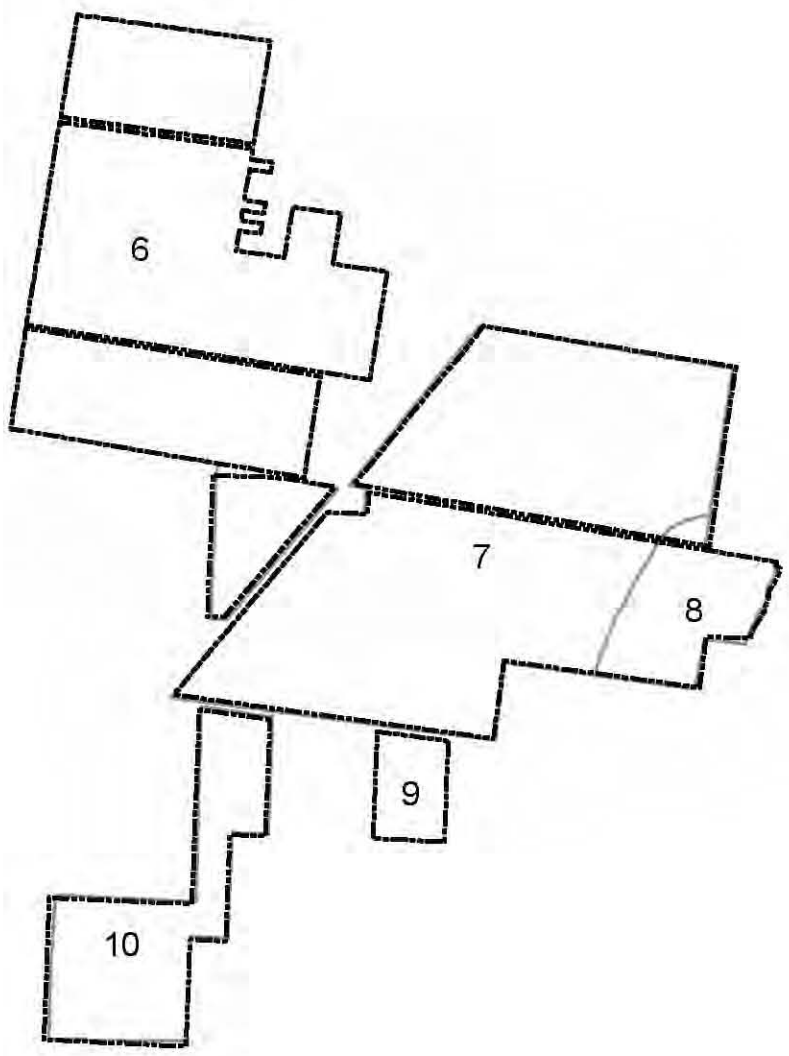
The objectives of prescribed burning are to create those conditions that are most natural for a particular community, and to maintain ecological diversity within the unit's natural communities. To meet these objectives, the preserve is partitioned into burn zones, and burn prescriptions are implemented for each zone. The preserve burn plan is updated annually to meet current conditions. All prescribed burns are conducted with authorization from the Department of Agriculture and Consumer Services, Division of Forestry (DOF). Wildfire suppression activities will be coordinated between the Division and the DOF.

Burn zone objectives, descriptions, GIS generated maps, burn prescriptions, management recommendations, contingencies, smoke screening, wildfire abatement measures, and burn zone histories shall be updated in the preserve's burn plan. This preserve specific prescribed fire planning, developed by preserve and district staff in conjunction with contractual services, will be maintained at Blackwater River State Park for use by preserve staff. Accurate and complete rain gage data must be maintained at the preserve, by preserve staff in order to plan prescribed fire activities. The preserve specific burn plan will be available for review upon request.

A general burn zone map has been created for this plan (see Burn Zones Map). Zones where fire can be applied under current conditions, with standard line prep, are labeled BZ (burn zone). Zones that require further evaluation/preparation regarding access, fuel load mitigation, holding and contingencies, are labeled MZ (management zone).







LEGEND

Park Boundary

Burn Zones

YELLOW RIVER MARSH
PRESERVE STATE PARK

Feet
0 650 1,300 2,600

Florida Department of Environmental Protection
Division of Recreation and Parks
Office of Park Planning

BURN ZONE
MAP

Designated Species Protection

The welfare of designated species is an important concern of the Division. In many cases, these species will benefit most from proper management of their natural communities. At times, however, additional management measures are needed because of the poor condition of some communities, or because of unusual circumstances that aggravate the particular problems of a species. To avoid duplication of efforts and conserve staff resources, the Division will consult and coordinate with appropriate federal, state and local agencies for management of designated species.

Yellow River Marsh Preserve State Park is a recent addition to the State Park System, as such; several of the species in Addendum 5 have not yet been confirmed as resident on the preserve. Given the range and distribution of these plants and/or animals in the area of the preserve and the plant communities found in this unit we believe there is a reasonable expectation that these species have been or may be documented on preserve lands as research is undertaken to identify the flora and fauna of these discontinuous parcels. The species listed in this section have been verified by researchers as present on preserve lands.

Data collected by the FFWCC and USFWS as part of their ongoing research and monitoring programs will be reviewed periodically to inform management of decisions that may have an impact on designated species at the preserve. Recovery plans published by the U.S. Fish and Wildlife Service will be utilized for the recovery and propagation of all species needing special attention. Specialized wildlife and forest management techniques will be used as necessary to protect or increase endangered, threatened, special concern and sensitive plants and animal species. Species-specific management plans will be developed when necessary to include the following:

At least ten FNAI-listed plants have been verified during field surveys conducted by the FNAI staff from lands within the Garcon Ecosystem Project. Four of these plants are currently under federal review for possible listing as either federally threatened or endangered, four are listed as state endangered, and five are listed as state threatened (some species have federal and state status). The unique collection of rare species is not known to occur together anywhere else but on the upper Garcon Peninsula. The majority of the listed plants are inhabitants of the Wet Prairie with the exception of the panhandle lily, *Lilium iridollae*, Florida anise, *Illicium floridana*, and pond rush, *Cladium mariscoides*. The panhandle lily occurs along a small seepage stream within the Upland Mixed Forest, the Florida anise is restricted to the Baygall community, and the pond rush inhabits the shallow water of some Dome Swamps. The populations of pond rush found on the Garcon Peninsula represent isolated populations disjunct hundreds of miles from the main distribution, which is in the Great Lakes region and in the northeastern United States.

The most noticeable and predominant listed species of the park is the white-top pitcherplant, *Sarracenia leucophylla*. The Garcon Peninsula supports the greatest concentration of white-top pitcherplants on the lower coastal terraces anywhere within its range. Composed of this, other carnivorous plants, and an assemblage of grasses, the wet pitcher plant prairie is the primary habitat type represented on the preserve. Fire suppression has allowed encroachment of woody shrubs and trees creating undesirable conditions for many vascular plants. Although pitcherplants can persist for considerable periods in a suppressed condition under shade, their populations will eventually deteriorate. Reintroduction of fire will help to control this encroachment and provide suitable habitat for the pitcher plant community.

Preserve staff will utilize recommendations in the RME entitled *Pitcherplants and Their Habitats in the Florida Park System* (Johnson, Erik D. 2001) in evaluating populations of pitcherplants within the state park and in developing resource management projects and priorities.

Known populations of the flatwoods salamander, *Ambystoma cigulatum*, have been found within the project boundaries. CAMA biologists collaborated with the FFWCC to conduct larvae sampling in the Dome Swamps and other favorable habitat during the winter of 2004. Even though current populations were not located on the preserve, management will adhere to the guidelines set forth in the Management Recommendations for the Flatwoods Salamander on Garcon Point Water Management Area and Yellow River Marsh Preserve State Park (FFWCC, 2005).

Although management authority is restricted to the Mean High Water Line at Yellow River Marsh Preserve State Park, preserve staff will work closely with CAMA and other agencies and entities to ensure best management practices are used in adjacent waters. The Manatee, as well as other near shore species, needs the cooperation of multiple agencies to affect their recovery.

Exotic Species Control

Exotic species are those plants or animals that are not native to Florida, but were introduced because of human-related activities. Exotics have fewer natural enemies and may have a higher survival rate than do native species, as well. They may also harbor diseases or parasites that significantly affect non-resistant native species. Consequently, it is the strategy of the Division to remove exotic species from native natural communities.

Surveys conducted by biologists with CAMA and the NWFWMD have revealed a minimal infestation of invasive non-native species. No exotic animals were recorded while only one invasive plant species was found. The Chinese tallow tree (*Sapium sebiferum*) has been recorded in insignificant numbers (five trees) that were treated with appropriate herbicide application. These areas will be monitored for future growth and

treatment will be implemented as needed. Category I invasive plants alter native plant communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives. This definition does not rely on the economic severity or geographic range of the problem, but on the documented ecological damage caused.

Further surveys of the preserve may be needed due to recent tropical systems that may have spread invasive plant species onto preserve properties. Garcon Peninsula was over washed during the 2004-2005 tropical storm seasons and many adjacent lands have seen recent influxes of invasive exotics. If additional invasive non-native species are located or current ones persist, then preserve staff will coordinate with DEP Bureau of Invasive Plant Management to establish an exotic species operational plan for the preserve.

Special care will be taken when bringing in any foreign material such as fill for restoration projects that may contain contaminants. The use of pesticides in the control of invasive non-indigenous plants will be in accordance with division guidelines.

Problem Species

Problem species are defined as native species whose habits create specific management problems or concerns. Occasionally, problem species are also a designated species, such as alligators. The Division will consult and coordinate with appropriate federal, state and local agencies for management of designated species that are considered a threat or problem.

There are no known problem species within the boundaries of the Yellow River Marsh Preserve State Park. Preserve and district staff will remain alert to the possibility of impacts from pine beetle infestations in storm-impacted pine stands and blow downs.

Fire ants are a widely spread exotic species that have become naturalized throughout the southeast. They can pose problems around park facilities and day use areas, and should be removed using approved pesticides identified in the Division's Resource Management Policies and Procedures manual.

Due to development pressure and encroachment, preserve staff and biologists will continue to monitor the preserve for any indications of problem species. Should any species deemed detrimental to the resources of the park be found, management strategies will be implemented to alleviate the problem.

Management Measures for Cultural Resources

The management of cultural resources is often complicated because these resources are irreplaceable and extremely vulnerable to disturbances. The advice of historical and archaeological experts is required in this effort. Managers of state lands must

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

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

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

It is recommended that the following measures be taken to manage cultural resources.

1. Seek funding for contractual services or elicit graduate level research in order to obtain a comprehensive cultural resources survey by professional archaeologists and historians in cooperation with the University of West Florida.
2. In cooperation with the Florida Bureau of Archaeological Research, develop and adopt a procedure for accepting artifacts and other probable cultural materials recovered and turned over by visitors and for forwarding them to the Bureau.
3. Monitor the condition of all recorded sites and file reports of changes with the Florida Bureau of Archaeological Research.
4. Coordinate with the Bureau of Natural and Cultural Resources to review the Florida Master Site File in order to identify additional recorded sites on recently acquired lands.
5. Review all potential ground disturbance activities according to the DHR matrix of disturbance. Coordinate major ground disturbance events through the DHR.
6. Research and document the preserve's history including its history as a local recreation resource.

Research Needs

Natural Resources

Any research or other activity that involves the collection of plant or animal species on park property requires a collecting permit from the Department of Environmental Protection. Additional permits from the Florida Fish and Wildlife Conservation Commission, the Department of Agriculture and Consumer Services, or the U.S. Fish

and Wildlife Service may also be required.

Monitoring programs will be initiated. Vegetation transects will be established within each of the different natural areas to monitor changes in the native plant communities. Information on different water quality parameters can also be obtained from a number of different databases maintained by the United States Environmental Protection Agency (USEPA) and the NWFWMD. This information will be used to determine possible effects in areas that are regularly inundated by water for 30 percent to 75 percent of the year.

An in-depth resource inventory will be conducted to identify and map all sensitive areas that warrant special consideration and management. Field surveys will be continued by preserve and district staff to identify and compile a comprehensive list of the flora and fauna inhabiting the preserve. Techniques to be utilized in this project include but are not limited to small mammal traps, fish traps, dip nets, field observations, and photography.

Special attention will be given for locating unknown resources, especially threatened or endangered species where evidence of their presence does not exist, but where habitats are sufficient to support them. Upon discovery of these resources actions will follow to protect them as necessary.

Preserve staff in partnership with the FFWCC has initiated dialogue to prepare and implement a monitoring program for the federally threatened flatwoods salamander. Staff played a role in information gathering and original research and the role will be expanded in the future. Monitoring efforts regarding various taxa groups (birds, fishes, mammals, reptiles, amphibians) will be expanded. The wetland restoration pilot study site has been and will continue to be monitored for changes in vegetation and fish community structures. Additional research and monitoring efforts will be needed as a part of hydrologic and fire-dependent community restoration. Staff will employ standard sampling and surveying techniques as time allows including photopoints, drift arrays, visual surveys, netting, and trapping.

Grants from federal and state agencies will be pursued in order to help fund these activities. Members of educational institutions, non-profit citizen organizations, and other state and federal agencies will be invited and encouraged to assist in all phases of this and future research and monitoring projects.

Resource Management Schedule

A priority schedule for conducting all management activities that is based on the purposes for which these lands were acquired, and to enhance the resource values, is contained in Addendum 7. Cost estimates for conducting priority management activities are based on the most cost effective methods and recommendations currently

available.

Land Management Review

Section 259.036, Florida Statutes, established land management review teams to determine whether conservation, preservation and recreation lands are being managed for the purposes for which they were acquired and in accordance with a land management plan adopted pursuant to s. 259.032. The managing agency shall consider the findings and recommendations of the land management review team in finalizing the required update of its management plan.

A land management review for this park was done on August 23, 2007. The draft report has not been received.

LAND USE COMPONENT

INTRODUCTION

Land use planning and park development decisions for the state park system are based on the dual responsibilities of the Division of Recreation and Parks. These responsibilities are to preserve representative examples of original natural Florida and its cultural resources, and to provide outdoor recreation opportunities for Florida's citizens and visitors.

The general planning and design process begins with an analysis of the natural and cultural resources of the unit, and then proceeds through the creation of a conceptual land use plan that culminates in the actual design and construction of park facilities. Input to the plan is provided by experts in environmental sciences, cultural resources, park operation and management, through public workshops, and environmental groups. With this approach, the Division objective is to provide quality development for resource-based recreation throughout the state with a high level of sensitivity to the natural and cultural resources at each park.

This component of the unit plan includes a brief inventory of the external conditions and the recreational potential of the unit. Existing uses, facilities, special conditions on use, and specific areas within the park that will be given special protection, are identified. The land use component then summarizes the current conceptual land use plan for the park, identifying the existing or proposed activities suited to the resource base of the park. Any new facilities needed to support the proposed activities are described and located in general terms.

EXTERNAL CONDITIONS

An assessment of the conditions that exist beyond the boundaries of the unit can identify any special development problems or opportunities that exist because of the unit's unique setting or environment. This also provides an opportunity to deal systematically with various planning issues such as location, regional demographics, adjacent land uses and park interaction with other facilities.

Yellow River Marsh Preserve State Park is located within southern Santa Rosa County; about ten miles east of Pensacola in the western panhandle of the state. The populations of Santa Rosa and the adjacent Escambia and Okaloosa Counties have grown 28 percent since 1990, and are projected to grow an additional 25 percent by 2020 (BEBR, University of Florida, 2005). The median age for Santa Rosa County is 37.7 years, which is slightly younger than the state average of 39.6 years (BEBR, University of Florida, 2005). Nearly 600,000 Floridians reside within 50 miles of the preserve, which includes the cities of Pensacola, Milton, Ft. Walton Beach and Crestview (Census, 2000). The preserve is also in close proximity to residents of Gulf Shores and Mobile, Alabama. This area of Florida has a large military and retired

military population due to the presence of the Pensacola Naval Air Station, Eglin Air Force Base and other regional military bases.

Visitation was not recorded during fiscal year 2006/2007. Currently, the only public facility at the preserve is a small parking area located off Dickerson City Road. Once park amenities and trails are developed, visitation is expected to increase but remain modest.

Existing Use of Adjacent Lands

The existing land uses surrounding the preserve are rural residential, conservation, single family residential, agricultural, and highway commercial development. The majority of the surrounding land is zoned rural residential, generally comprised of houses and trailers on tracts ranging in size up to several acres. Other portions of the Garcon Peninsula have been subdivided and ditched to allow their utilization as home construction sites. Most of this activity has taken place on the northern part of the peninsula near Interstate 10 as well as along both shorelines of the peninsula. In some cases, these new residential subdivisions are being built along the preserve boundary. The highway commercial development zoning is restricted to the interchange of Interstate 10 and Avalon Blvd. (County Road 281) and the intersection of Avalon Blvd. and Garcon Point Road (County Road 191).

The Garcon Point Water Management Area accounts for more than 3200 acres of the peninsula and is managed by the Northwest Florida Water Management District (NWFWMD) for water quality protection, natural habitat restoration and public use. This property offers a hiking trail from which visitors are exposed to the rare and fragile wet prairie natural community. This property is also a stop along The Great Florida Birding Trail.

Other resource-based recreational opportunities can be found nearby at Blackwater River State Park, Blackwater River State Forest, Big Lagoon State Park, Tarkiln Bayou Preserve State Park, Gulf Islands National Seashore and Navarre Beach State Park. Collectively, these public lands offer picnicking, hiking, biking, horseback riding, canoe/kayaking, camping, equestrian camping, boating, fishing, and beach activities. In addition, there is a county boat ramp adjacent to the preserve located off Grey Heron Drive.

Planned Use of Adjacent Lands

According to the Future Land Use Map for Santa Rosa County, lands south of Interstate 10 on Garcon Peninsula are designated rural residential, conservation/recreation, single-family residential, and agriculture with some small pockets of commercial land use (Santa Rosa County, 2005). The *Santa Rosa County Comprehensive Plan: 2000-2020* has also established the Garcon Point Protection Area for the entire peninsula where low-density residential development is desirable due to environmental sensitivity and lack of sanitary sewer infrastructure. This

designation limits the housing density to four units/acre. Additionally, if more than two units/acre are proposed, centralized sewer is required.

The recent construction of a toll bridge on the southern tip of the Garcon Peninsula linking this area with the community of Gulf Breeze has increased the threat of development on the peninsula. The majority of the shoreline has already experienced intensive housing construction. The interior of the peninsula is beginning to experience planned urban developments and is poised for increased growth. The potential impacts to the preserve from this increased development include adding constraints to the prescribed burning program, altering natural hydrologic regimes, reducing water quality, increasing the threat of invasive exotic plants, and noise and light pollution.

PROPERTY ANALYSIS

Effective planning requires a thorough understanding of the unit's natural and cultural resources. This section describes the resource characteristics and existing uses of the property. The unit's recreation resource elements are examined to identify the opportunities and constraints they present for recreational development. Past and present uses are assessed for their effects on the property, compatibility with the site, and relation to the unit's classification.

Recreation Resource Elements

This section assesses the unit's recreation resource elements those physical qualities that, either singly or in certain combinations, supports the various resource-based recreation activities. Breaking down the property into such elements provides a means for measuring the property's capability to support individual recreation activities. This process also analyzes the existing spatial factors that either favor or limit the provision of each activity.

Land Area

The preserve consists of 815 acres in several parcels situated between larger tracts of contiguous property owned and managed by the NWFWMD on the Garcon Peninsula. Collectively, the wet prairies of the Garcon Peninsula represent the largest intact area of unbroken pitcher plant prairie remaining between the Apalachicola National Forest in Florida and the Mississippi Sandhill Crane National Wildlife Refuge in southern Mississippi. The wet prairies in the preserve also harbor the largest known contiguous block of habitat for the white-top pitcherplant (*Sarracenia leucophylla*) remaining on the lower Gulf coastal terraces. Numerous other rare and endangered species, many of which are either near-Florida endemics and/or federal candidates for listing, are found within the boundaries. Due to the wet nature of the preserve's natural communities and the sensitivity of its inhabitants, access must be carefully planned and controlled in order to minimize impacts to resources. Appropriate passive recreational pursuits include hiking, wildlife observation, photography and environmental education.

Water Area

The majority of the preserve is found within a natural flood plain containing a variety of wetland communities that serve as a buffer protecting or enhancing the water quality in the adjacent Yellow River Marsh Aquatic Preserve and surrounding Class II waters. Aquatic preserves are bodies of water that were set aside by state legislation for the purpose of being preserved in an essentially natural or existing condition so that their aesthetic, biological and scientific values may endure for the enjoyment of future generations. The Yellow River Marsh Aquatic Preserve was designated in April 9, 1970 and is comprised of 16,435 acres of submerged and wetland areas within the Pensacola Bay system.

Shoreline

The preserve contains 800 feet of shoreline along East Bay. This shoreline is being eroded by wave action from boats and storms. As discussed in the Resource Management Component, the Division will work with CAMA to stabilize the shoreline. Once stabilized, the shoreline could serve as a scenic terminus for the trail system.

Natural Scenery

The open vista of the rare, wet prairie community provides park visitors with a scenic resource. In addition, the variety of carnivorous plants within the prairie offers great opportunities for photography and nature appreciation.

Significant Wildlife Habitat

The preserve has significant resources and an array of habitats to support a wide variety of wildlife species, including salamanders, frogs, wet prairie sparrows, loggerhead shrikes, red-shouldered hawks, Cooper's hawks, great blue herons, cottonmouths, Eastern diamond back rattlesnakes and gray foxes. The preserve provides a unique opportunity to view the wildlife of a wet prairie community.

Natural Features

The preserve provides visitors with one the most abundant and diverse assemblages of carnivorous plants found anywhere in Florida which includes pitcher plants, sundews, dew threads, bladderworts and butterworts.

Archaeological and Historical Features

The preserve has never been subjected to a systematic, comprehensive survey to locate and evaluate all historic properties. A review of the information in the Florida Master Site File indicates that approximately 25 sites of archaeological or cultural significance are recorded on the Garcon Peninsula. However, only one site, which corresponds to a turpentine camp, is found within the boundaries of the preserve. It is anticipated that other archaeological and historic sites are likely to occur on the property.

Assessment of Use

All legal boundaries, significant natural features, structures, facilities, roads and trails existing in the unit are delineated on the base map (see Base Map). Specific uses made of the unit are briefly described in the following sections.

Past Uses

Portions of the preserve have been used in the past for cattle grazing and turpentine harvesting practices. It is also believed that the Garcon Peninsula also served as home for Native American populations as well as the site of an early Spanish settlement.

Recreational Uses

A small parking area and public access point is located on Dickerson City Road.

Other Uses

An office building is located in a corner of the preserve that is used by the CAMA staff that manages Yellow River Marsh Aquatic Preserve and Ft. Pickens Aquatic Preserve.

Protected Zones

A protected zone is an area of high sensitivity or outstanding character from which most types of development are excluded as a protective measure. Generally, facilities requiring extensive land alteration or resulting in intensive resource use, such as parking lots, camping areas, shops or maintenance areas, are not permitted in protected zones. Facilities with minimal resource impacts, such as trails, interpretive signs and boardwalks are generally allowed. All decisions involving the use of protected zones are made on a case-by-case basis after careful site planning and analysis.

At Yellow River Marsh Preserve State Park the wet prairie, strand swamp, floodplain swamp, floodplain forest, dome swamp, and baygall natural communities have been designated as protected zones as delineated on the Conceptual Land Use Plan.

Existing Facilities

Recreation Facilities

A small parking area and public access point is located on Dickerson City Road.

Support Facilities

An office building and shop area are located on the east side of Garcon Point Road in a corner of the preserve. The office building is owned and utilized by the CAMA staff that manages Yellow River Marsh Aquatic Preserve and Ft. Pickens Aquatic Preserve. Facilities in the adjacent shop compound include two metal storage

I 10

INDIAN BAYOU

SR 281

CR 191

BLACKWATER BAY

Mary Kitchens Rd

Saragon Ln

Malibu Ave

OFFICE

PARKING

Dickerson City Rd

LEGEND

- Park Boundary
- Hiking Trails
- Interstate
- State Road
- County Road
- Structures
- Parking Lot

N

0 750 1,500 3,000 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Office of Park Planning

YELLOW RIVER MARSH PRESERVE STATE PARK

BASE MAP

buildings and a large pole barn. The Division constructed the surrounding chain link fence so that a tractor and implements can also be stored there.

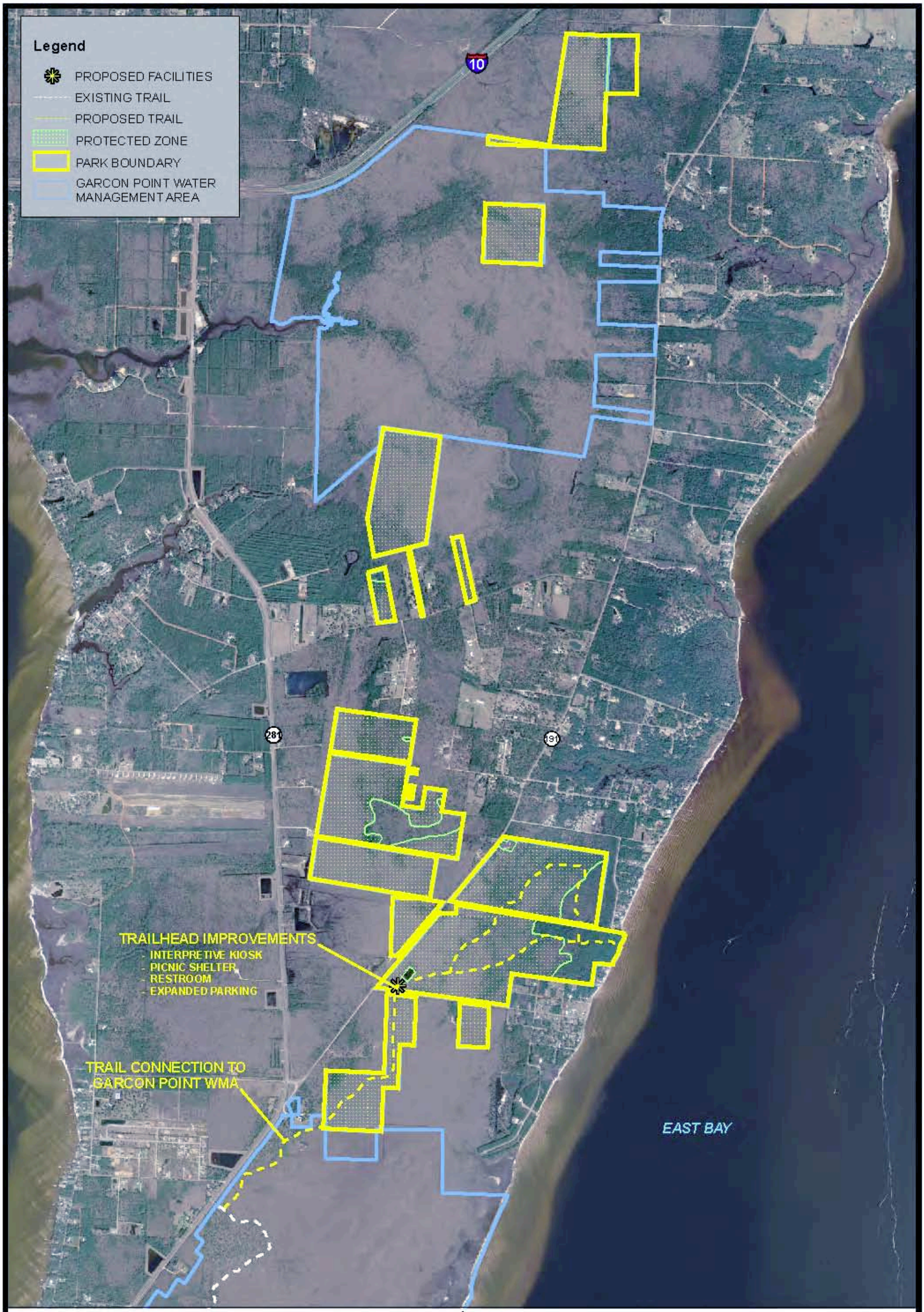
CONCEPTUAL LAND USE PLAN

The following narrative represents the current conceptual land use proposal for this park. As new information is provided regarding the environment of the park, cultural resources, recreational use, and as new land is acquired, the conceptual land use plan may be amended to address the new conditions (see Conceptual Land Use Plan). A detailed development plan for the park and a site plan for specific facilities will be developed based on this conceptual land use plan, as funding becomes available.

During the development of the unit management plan, the Division assesses potential impacts of proposed uses on the resources of the property. Uses that could result in unacceptable impacts are not included in the conceptual land use plan. Potential impacts are more thoroughly identified and assessed through the site planning process once funding is available for the development project. At that stage, design elements, such as sewage disposal and stormwater management, and design constraints, such as designated species or cultural site locations, are more thoroughly investigated. Advanced wastewater treatment or best available technology systems are applied for on-site sewage disposal. Stormwater management systems are designed to minimize impervious surfaces to the greatest extent feasible, and all facilities are designed and constructed using best management practices to avoid impacts and to mitigate those that cannot be avoided. Federal, state and local permit and regulatory requirements are met by the final design of the projects. This includes the design of all new park facilities consistent with the universal access requirements of the Americans with Disabilities Act (ADA). After new facilities are constructed, the park staff monitors conditions to ensure that impacts remain within acceptable levels.

Potential Uses and Proposed Facilities

Because the preserve is comprised of sensitive habitats and associated organisms, access must be carefully planned and controlled in order to minimize impacts to resources. These communities play a critical role in the water quality of the aquatic preserve and downstream receiving water bodies. Therefore, access to the natural and cultural resources for public recreation, education and research will be limited to activities that are compatible with the intended purpose of the preserve. The recreational opportunities at the preserve will be passive resource-based, particularly those that do not require intensive development. At this time, current parcels on the preserve can only support foot traffic in certain non-sensitive areas. Future land acquisitions that are managed by the Division might allow for additional access opportunities.



YELLOW RIVER MARSH PRESERVE STATE PARK

N

0 1,000 2,000 4,000 Feet

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF RECREATION AND PARKS
OFFICE OF PARK PLANNING
APPROVED

CONCEPTUAL LAND USE PLAN

Recreation Facilities

Trailhead Improvements. The existing public access located off Dickerson City Road currently consists of a stabilized parking area that is only capable of holding five or six vehicles. It is recommended that this access area be expanded and improved to serve as the main trailhead for the preserve's future trail system. Recommended enhancements include adding an interpretive kiosk, picnic shelter, composting restroom, and stabilized parking for ten to twelve cars.

Trail System. A nature trail is proposed that will give visitors access to the wet prairie community and the vast array of carnivorous plants, the mesic flatwoods and the shoreline of East Bay. Interpretive signage is recommended along the proposed trail that contains information about preserve resources and the use of prescribed fire as a management tool. In addition, a small observation platform is recommended at an appropriate location along the trail that would provide an impressive vista of the surrounding open, wet prairie. Due to the wet conditions and the sensitivity of the natural communities on the preserve, portions of the trail may need to be closed during certain times of the year.

The NWFWMD currently offers a hiking trail on the Garcon Point Management Area immediately south of the preserve. The Division will cooperate with the NWFWMD and the Florida Trail Association to connect these trail systems. The total length of trail proposed on the Conceptual Land Use Plan is approximately three miles. As other lands are obtained that provide better connectivity between parcels, the Division will consider extending the trail system onto these new properties.

Support Facilities

None.

Facilities Development

Preliminary cost estimates for the following list of proposed facilities are provided in Addendum 7. These cost estimates are based on the most cost-effective construction standards available at this time. The preliminary estimates are provided to assist the Division in budgeting future park improvements, and may be revised as more information is collected through the planning and design processes.

Trailhead Improvements

Interpretive kiosk
Small picnic shelter
Composting restroom
Stabilized parking (10-12 vehicles)

Trail System

Nature trail (3-4 miles)
Interpretive signage (5-10)
Observation platform

Existing Use and Recreational Carrying Capacity

Carrying capacity is an estimate of the number of users a recreation resource or facility can accommodate and still provide a high quality recreational experience and preserve the natural values of the site. The carrying capacity of a unit is determined by identifying the land and water requirements for each recreation activity at the unit, and then applying these requirements to the unit's land and water base. Next, guidelines are applied which estimate the physical capacity of the unit's natural communities to withstand recreational uses without significant degradation. This analysis identifies a range within which the carrying capacity most appropriate to the specific activity, the activity site and the unit's classification is selected (see Table 1).

The recreational carrying capacity for this park is a preliminary estimate of the number of users the unit could accommodate after the current conceptual development program has been implemented. When developed, the proposed new facilities would approximately increase the unit's carrying capacity as shown in Table 1.

Table 1--Existing Use And Recreational Carrying Capacity

	Existing Capacity		Proposed Additional Capacity		Estimated Optimum Capacity	
Activity/Facility	One Time	Daily	One Time	Daily	One Time	Daily
Trails						
Hiking	18	36	18	36	36	72
TOTAL	**18**	**36**	**18**	**36**	**36**	**72**

Optimum Boundary

As additional needs are identified through park use, development, research, and as adjacent land uses change on private properties, modification of the unit's optimum boundary may occur for the enhancement of natural and cultural resources, recreational values and management efficiency.

Identification of lands on the optimum boundary map is solely for planning purposes and not for regulatory purposes. A property's identification on the optimum boundary map is not for use by any party or other government body to reduce or restrict the lawful right of private landowners. Identification on the map does not empower or require any government entity to impose additional or more restrictive environmental land use or zoning regulations. Identification is not to be used as the basis for permit denial or the imposition of permit conditions.

YELLOW RIVER MARSH PRESERVE STATE PARK

Florida Department of Environmental Protection
Division of Recreation and Parks
Office of Park Planning

0 1,250 2,500 5,000 Feet

LEGEND

Park Boundary

Optimum Boundary

OPTIMUM BOUNDARY MAP

The optimum boundary map reflects lands identified for direct management by the Division as part of the park. These parcels may include public as well as privately owned lands that improve the continuity of existing park lands, provide additional natural and cultural resource protection, and/or allow for future expansion of recreational activities. At this time, no lands are considered surplus to the needs of the park.

The Yellow River Marsh Preserve State Park is within the Garcon Ecosystem Florida Forever project. The Optimum Boundary Map identifies the properties within the project area that have not been developed and are not yet protected. This wet prairie is exceptionally diverse containing over 200 species of vascular plants including a rich assemblage of grasses, sedges and wetland herbs. These wet prairies are noteworthy from a plant community and rare plant perspective, on both a regional and national level, due to their exceedingly species-rich groundcover and endemic species components. The preserve also plays an important role in helping to prevent the further degradation of water quality within the Yellow River Marsh Aquatic Preserve as well as the entire Pensacola Bay system. The preserve shares common boundaries with public lands managed by the Northwest Florida Water Management District (NWFWMD). When additional parcels are purchased, opportunities will exist for the Division and the NWFWMD to implement an ecosystem management approach for cooperative resource management including prescribed burns, restoration projects, and connecting natural communities through a network of nature trails and educational kiosks.

Addendum 1 – Acquisition History and Advisory Group Staff Report

Purpose of Acquisition

The Board of Trustees of the Internal Improvement Trust Fund of the State of Florida (Trustees) acquired Yellow River Marsh Preserve State Park, originally known as "Yellow River Marsh State Buffer Preserve," on June 12, 2000. The property was acquired to primarily protect and conserve environmentally sensitive lands, rare and listed plant and animal species, maintain water quality in Pensacola Bay, while providing resource-base public recreation such as nature study, hiking and fishing.

Nature and Sequence of Acquisition

The Trustees acquired fee simple title interest in a 150.39-acre property that was part of "Garcon Ecosystem," which constituted the initial area of Yellow River Marsh State Buffer Preserve. The Trustees purchased the property from Pea Ridge L. L. C., an Alabama limited liability company, for $239,000. This purchase was funded under the Preservation 2000 program. Since this initial acquisition, the Trustees have acquired several parcels through Preservation 2000 program, Florida Forever program and donation.

Management Leases

Trustees leased Yellow River Marsh State Buffer Preserve to the State of Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas (CAMA), under a fifty-year lease, Lease No. 4306, on February 20, 2002. On December 15, 2003, CAMA transferred its leasehold interest in the buffer preserve to the State of Florida Department of Environmental Protection, Division of Recreation and Parks (Division). Upon assuming the management responsibility of Yellow River Marsh State Buffer Preserve, the Division changed the name of the preserve to "Yellow River Marsh Preserve State Park."

The Division manages Yellow River Marsh Preserve State Park under the fifty–year lease agreement CAMA entered into with the Trustees on February 20, 2002, which will expire on February 19, 2052. According to this lease agreement, the Division manages the preserve for the conservation and protection of natural and historical resources and resource based public outdoor recreation that is compatible with the conservation and protection of this preserve.

Title Interest

The Trustees hold fee simple title interest in Yellow River Marsh Preserve State Park.

Special Conditions on Use

Yellow River Marsh Preserve State is designated single-use to provide resource-based public outdoor recreation and other park related uses. Uses such as water resource development projects, water supply projects, storm-water management projects, and linear facilities and sustainable agriculture and forestry, unless specifically stated

otherwise in this management plan, are not consistent with the management purposes of the park.

Outstanding Reservations

Records on file do not indicate that there are any outstanding reservations or encumbrances that apply to Yellow River Marsh Preserve State Park.

MANAGEMENT PROSPECTUS

Qualifications for state designation. The project has the size, location and quality of resources to qualify as a "State Buffer Preserve" to the Yellow River Marsh Aquatic Preserve and adjacent Class II shell fishing waters.

Manager. The Division of Recreation and Parks (Division) of the Florida Department of Environmental Protection (DEP) as lead Manager for the northern portion. The Northwest Florida Water Management District is the Manager for the southern portion. This prospectus applies to the northern portion.

Conditions affecting intensity of management. The Garcon Ecosystem Project includes lands that require prescribed fire management.

Timetable for implementing management and provisions for security and protection of infrastructure. Within the first year after acquisition, initial or intermediate activities will concentrate on site security, fire management planning, resource inventory and a completed management plan.

Long-range plans for this property will generally be directed toward the restoration of disturbed areas and the perpetuation and maintenance of natural communities. Management activities will also stress the protection of threatened and endangered species. An all-season burning program will be established using conventional practices. Whenever possible, existing roads, black lines, foam lines and natural breaks will be used to contain and control prescribed and natural fires. An educational program for all age groups will be used in conjunction with a carefully designed hiking trail, to keep the public away from sensitive areas. Efforts to prohibit vehicle activity except in designated areas will be a major concern.

The resource inventory will be used to identify sensitive areas that need special attention, protection or management and to locate areas that are appropriate for any recreational or administrative facilities. Infrastructure development will be confined to already disturbed areas and will be the absolute minimum required to allow public access, provide facilities for the public, and to manage the property.

Revenue-generating potential. No revenue is expected to be generated for some years.

Cooperators in management activities. The Department of Agriculture and Consumer Services, Division of Forestry, or the Department of Environmental Protection, Division of Recreation and Parks, may help with fire management.

The Honorable Tom Stewart, Chairman
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Blackwater Forestry Center
Florida Division of Forestry
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Dr. John Himes, Non-Game Biologist
Northwest Region
Florida Fish and Wildlife Conservation Commission
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Yellow River Marsh Aquatic Preserve
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Milton, Florida 32583

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Blackwater Soil and Water Conservation District
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Garcon Point Water Management Area
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George Brinkman, Chapter Chair
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Gulf Breeze, Florida 32561
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Mary Ann Friedman, President
Choctaw Chapter
North American Butterfly Association
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Niceville, Florida 32578

Annelise Reunert, President
Francis M. Weston Audubon Society
15751 Bowlegs Reef
Perdido Key, Florida 32507

Vernon Compton
Gulf Coastal Plain Ecosystem Partnership
8831 Whiting Field Circle
Milton, Florida 32570

Paula Rogers
6437 Dickerson City Road
Milton, Florida 32583

The Advisory Group meeting to review the proposed land management plan for Yellow River Marsh Preserve State Park was held at the Pensacola Junior College in Milton, Florida on October 24, 2007 at 9am. Tom LeDew (Florida Division of Forestry) was represented by Ricky Jones. Dr. John Himes (Florida Fish and Wildlife Conservation Commission) was represented by Barbara Schmeling. John Salter (Blackwater Soil and Water Conservation District) was represented by George Finch and Clint Rowland. Chairman Tom Stewart (Santa Rosa County Board of County Commissioners) and Shelley Alexander (Yellow River Marsh Aquatic Preserve) did not attend. All other appointed Advisory Group members were present. Attending staff from the Division of Recreation and Parks included Eric Kiefer, Bob Barlow, Anne Harvey and Brian Burket.

Mr. Burket began the meeting by explaining the purpose of the Advisory Group and reviewing the meeting agenda. He provided a brief overview of the Division's planning process and summarized public comments received during the previous evening's public workshop. He then asked each member of the advisory group to express his or her comments on the plan.

Summary of Advisory Group Comments

Mary Ann Friedman (North American Butterfly Association) expressed concern over the mowing of pitcher plants and other wildflowers along the road shoulders bordering the preserve that support habitat for butterflies and other animals. She voiced her support for the proposed prescribed burning program. She thanked the Division staff and NWFWMD staff for their management efforts on Garcon Peninsula. She offered to continue to help with butterfly surveys at the preserve. She mentioned that controlling invasive plants is important to butterflies. She suggested that interpretive signage should be developed to discourage the collection of plants at the preserve.

Ricky Jones (Florida Division of Forestry) recommended thinning the slash pine within the two small pine plantations as soon as possible to improve the habitat. He also recommended burning the properties every 2 to 3 years.

Annelise Reunert (Francis M. Weston Audubon Society) asked about the progress to acquire more land on the Garcon Peninsula. Mr. Barlow replied that 20 acres have recently been donated at the north end of the preserve. Ms. Reunert questioned whether management efforts to address shoreline erosion might impact nesting shorebirds. Ms. Harvey responded that there is not much of a sandy shore and no shorebirds are nesting there. Ms. Reunert asked if visitation is recorded. Mr. Barlow answered no, but that a traffic counter will probably be included in the proposed trailhead improvements.

Barbara Schmeling (Florida Fish & Wildlife Conservation Commission) stated her

support for the trail concept. She recommended conducting species surveys following burns. She asked who would develop these species lists. Mr. Barlow replied that it could be done either by park staff, contractors or volunteers. Ms. Schmeling asked about the timeline for the proposed trailhead development. Mr. Kiefer responded that it is dependent upon funding but that some components of the project could be completed sooner than the others, such as expanding the parking area and providing an interpretive kiosk. Mr. Barlow suggested that the Eagle Scouts might also be able to help. Ms. Schmeling asked if any gopher tortoises have been seen in the preserve. Ms. Harvey answered that there is possible habitat at the north end of the preserve.

Paula Rogers (adjacent landowner) expressed concern that attracting more visitors to the preserve could lead to litter and vandalism at the trailhead area. She suggested asking local law enforcement to increase their patrol of the area. She suggested that interpretive signage should indicate what plants have been seen at the preserve as well as list additional plants that are suspected to be present that park staff is trying to locate. She asked if the proposed composting toilet would be able to withstand strong storms. Mr. Barlow replied that they are very sturdy and have survived hurricanes in other parks. Ms. Rogers volunteered to help inform other neighbors about the prescribed burning program.

George Finch (Blackwater Soil and Water Conservation District) offered technical assistance in dealing with any erosion problems or sediment control issues at the preserve.

Steve Brown (Northwest Florida Water Management District) commented that the unit management plan lacked specifics regarding the burn program. Ms. Harvey responded that information that is more specific is contained in the preserve's burn plan that is a separate document that can be revised more readily over time. Mr. Brown recommended initial winter burns to reduce the high fuel loads before switching to growing season burns. He offered the use of a new tractor owned by NWFWMD to help cut fire lines. He also encouraged Division staff to take all safety precautions and to notify neighbors and the local fire department before proceeding with a burn. He suggested eliminating the three ROW's that bisect preserve properties. He also commented that NWFWMD would be glad to cooperate with a trail connection between properties.

Vernon Compton (Gulf Coastal Plain Ecosystem Partnership) commended the plan's emphasis on resource management and passive recreational use. He cautioned the hiring of contractors using heavy equipment that are unfamiliar with the unique sensitivity of the area. He voiced support for the resource management recommendations for the timber stands, hydrologic restoration and flatwoods salamander habitat. He suggested that staff take advantage of dry periods to deal with fire lines and timber removal. He offered the assistance of GCPEP to help with

prescribed burns. He expressed support for the proposed trail network, observation platform, interpretation of the natural and cultural resources, and collaborating with Santa Rosa County to enhance nature based tourism in the area.

George Brinkman (Florida Trail Association) remarked that the preserve boundary is very fragmented which will be problematic when attempting to burn. He commented that as the surrounding area becomes more populated, vandalism and illegal dumping would likely become a problem. He recommended closing or gating all dirt roads entering the preserve properties to reduce/eliminate these activities in the future. He stated that FTA supports the trail concept described in the plan, but the organization is already stretched thin trying to maintain the existing trails in the area. Therefore, he suggested also enlisting the help of other groups such as Americorps to help develop the new trail proposed in the plan. He commented that the lack of trees creates a challenge in marking the proposed trail.

Bob Barlow (Yellow River Marsh Preserve State Park) thanked the advisory group for their comments and their support.

Written Comments

Shelley Alexander (Yellow River Marsh Aquatic Preserve) offered the following written comments:

Land Acquisition would be of the top of my list to bring together a corridor that links all of the park land and the water management district land. Currently, the state park lands are disconnected that makes management practices, specifically prescribed burns to bring the land back to its original grass/savanna/pitcher plant habitat. The longer the area goes without an aggressive burn program succession of a pine forest will take over. The whole reason the land is in conservation is this type of habitat. Coordination of shoreline protection to address public lands eroding because of adjacent coastal properties having seawalls and rock hardening. Currently, the Aquatic Preserve office is hoping to establish a "living shoreline" in the state park that is suffering severe erosion. This is in coordination with the Shellfish Division of the Florida Department of Agriculture to place oyster berms as wave attenuators offshore from the shoreline, which in addition to marsh plantings, to stabilize the erosion. Monitoring the success of this project will hopefully be used as an example for private property neighbors of the park.

Coordination with Santa Rosa County Road works personnel to address clay usage to build roads around the park property. During rainfall events clay silt is contributing to water quality problems. In addition to, clay runoff, area residential areas to the state park land, is contributing to nutrient loading of area wetland streams. This is primarily due to county roads being built up and filling in the natural stream

ecology drainage basin of the Garcon Pt. Ecosystem. Sampling of these streams show high levels of filamentous blue green algae indicative of nutrient loading and inadequate drainage filtration. This nutrient loading is running into park land wetland streams.

Staff Recommendations

The staff recommends approval of the proposed management plan for Yellow River Marsh Preserve State Park as presented.

Addendum 2—References Cited

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Florida Fish and Wildlife Conservation Commission. 2001. Management plan: flatwoods salamander, *Ambystoma cingulatum*. Tallahassee, Florida. 60pp.

Management Recommendations for the Flatwoods Salamander on Garcon Point Water Management Area and Yellow River Marsh Preserve State Park, Florida Fish and Wildlife Conservation Commission. 2005.

Santa Rosa County. 2005. Santa Rosa County Comprehensive Plan: 2000-2020. Santa Rosa County, Florida.

U. S. Department of Commerce, Bureau of the Census. 2000. U. S. Census 2000.

Addendum 3—Soils Descriptions

(1) Albany loamy sand, 0 to 5 percent slopes - This somewhat poorly drained, nearly level to gently sloping soil is on low upland ridges, slopes are smooth to concave. Area of this soil range mostly from 10 to 50 acres in size, but some areas are as small as 5 acres.

Typically, the surface layer is very dark gray loamy sand about 5 inches thick. The subsurface layer is loamy sand. The upper 12 inches to the subsurface layer is brown; the next 8 inches is light olive brown with brownish gray, yellowish brown, and pale brown mottles; and the lower 22 inches is yellowish brown with strong brown mottles. The upper 5 inches of the subsoil is yellowish brown sandy loam with strong brown and light brownish gray mottles; the next 15 inches is mottled light gray, yellowish brown, brownish yellow, pale brown, strong brown, light reddish brown, and red sandy loam and the lower 13 inches is mottles yellowish brown, brownish yellow, white, strong brown, red and pale red sandy loam.

Included with this soil in mapping are small areas of Bonifay, Fuquay, Lakeland, Pactolus, and Troup soils. Also included are a very few small areas where slopes are 5 to 8 percent and few small areas of soils that are similar to Albany soils but that have a sand surface layer. Inclusions make up less than 15 percent of any mapped area.

In this Albany soil the water table is at a depth of 12 to 30 inches for 1 to 4 moths during most years. Available water capacity is moderately low to low, and natural fertility is low. Permeability is rapid in the sandy layers and moderate in the subsoil. Runoff is slow, and the erosion hazard is slight.

The natural vegetation consists of longleaf and slash pine and various oaks. The under story is mainly gallberry, wax myrtle, and wiregrass. Most areas of this soil remain in woodland.

(16) Garcon loamy fine sand, less than 2 percent slopes - This somewhat poorly drained, nearly level soil is on broad low positions in the Flatwoods. Slopes are less than 2 percent. Areas of this soil range mostly from 10 to 100 acres in size.

Typically, the surface layer is loamy fine sand about 8 inches thick; the upper 4 inches is very dark gray, and the lower 4 inches is dark grayish brown, The subsurface layer is loamy fine sand; the upper 12 inches is yellowish brown, and the lower 11 inches is brownish yellow with light brownish gray and yellowish brown mottles. The upper 8 inches of the subsoil is yellowish brown fine sandy loam the next 12 inches is gray fine sandy loam with reddish brown and red mottles; and the lower 7 inches is mottled gray, pale brown, strong brown, and yellowish brown loamy fine sand. The underlying sandy material extends to a depth of 80 inches; the upper 11 inches is gray fine sand with yellowish brown, strong brown, and light reddish brown mottles, and the lower 11 inches is yellowish red fine sand with light brownish gray, yellowish brown, red and

strong brown mottles.

Included with this soil in mapping are small areas of Albany, Mulat, and Pactolus soils. Also included within this area are a few small areas of soils that are similar to Garcon soils but have a loamy sand and fine sand surface layer. Inclusions make up less the 15 percent of any mapped area.

In the Garcon soil the water table is at a depth of 20 to 40 inches for 4 to 6 months during most years. Available water capacity is medium above a depth of about 8 inches, low between depth of 8 to 31 inches, medium between depths of 31 and 51 inches, and low below a depth of 51 inches. Natural fertility is low. Permeability is rapid above a depth of about 31 inches, moderate between depths of 31 and 51 inches, and rapid below a depth of 51 inches.

The natural vegetation consists of longleaf and slash pine and various oaks. The under story is mainly gallberry, grassleaf goldenaster, running oak, palmetto, and wiregrass.

(27) Lynchburg fine sandy loam- less than 2 percent slopes - This somewhat poorly drained, nearly level soil is along narrow drainage ways, around depressions, and on low flats between small streams. Slopes are less than 2 percent. Areas of this soil range mostly from 10 to more than 100 acres in size, but a few areas are as small as 5 acres. Typically, the surface layer is very dark gray fine sandy loam about 4 inches thick. The subsurface layer is light yellowish brown loam about 5 inches thick. The upper 8 inches of the subsoil is light yellowish brown loam with yellowish brown and gray mottles; the next 8 inches is light yellowish brown loam with gray, red, and strong brown mottles; the next 35 inches is sandy clay loam mottled in shades of gray, yellow, brown, and red; and the lower 20 inches is clay loam mottled in shades of gray, yellow brown, and red.

Included with this soil in mapping are small areas of Albany, Angie Variant, Dothan Escambia, Kalmia, and Rains soils. Also included are a few areas of soil that are similar to Lynchburg soils but hat have a surface layer more than 20 inches thick, that are sandy clay or clay below a depth of 40 inches, or that have a very dark gray or black surface layer more than 8 inches thick. Also included are small areas of poorly drained soils in and along narrow steam bottomlands and drainage ways and a few small areas where slopes are 2 to 5 percent. Inclusions make up less than 17 percent of any mapped area. In this Lynchburg soil the water table is at a depth of less than 12 inches for 1 to 3 months during spring and winter in most years. Available water capacity is medium. Natural fertility is low. Permeability is moderate above a depth of about 25 inches and moderately slow below a depth of about 25 inches. Internal drainage is moderately slow to slow and response to artificial drainage is moderately slow.

The natural vegetation consists of longleaf and slash pine, sweet gum, blackgum, and various oaks. The under story is mainly native grasses and low growing shrubs such as

gallberry and water-tolerant plants. Wiregrass is the most common native grass. Most areas of this soil remain in woodland.

(29) Mulat loamy fine sand - This poorly drained, nearly level soil is in low-lying areas and in the flatwoods of the lower Coastal Plain. Slopes are less than 1 percent. Areas of this soil range mostly from 10 to more than 100 acres in size.

Typically, the surface layer is black loamy fine sand about 4 inches thick. The upper 6 inches of the subsurface layer is dark gray loamy fine sand with brown and very dark gray mottles, the next 7 inches is grayish brown fine sand with dark yellowish brown and brown mottles, and the lower 10 inches is light brownish gray sand with yellowish brown and brown mottles. The upper 7 inches of the subsoil is gray fine sandy loam with yellowish brown and grayish brown mottles, and the lower 15 inches is gray fine sandy loam with yellowish brown and dark gray mottles. The underlying material extends to a depth of 80 inches; the upper 8 inches is pinkish gray sand with light brownish gray mottles, the next 14 inches is light brownish gray sand with pinkish gray mottles, and the lower 9 inches is gray fine sand with dark gray mottles.

Included with this soil in mapping are small areas of Garcon, Lynchburg, Pactolus, Rains, and Rutledge soils. Also included are a few small areas of soils that are similar to Mulat soils but that have a loamy sand and fine sand surface layer. Inclusions make up less than 15 percent of any mapped area.

In this Mulat soil the water table is above a depth of 10 inches for 6 to 8 months during most of the years and varies between the depths of 10 and 30 inches during drought periods. The soils are pounded or have water above the soil surface for less than 1 month during the wettest season. Surface and internal drainage are slow under natural conditions.

This soil has medium available water capacity above a depth of about 10 inches, low between depths of 10 and 27 inches, medium between depths of 27 and 49 inches, and low below a depth of 49 inches. Permeability is rapid above a depth off about 27 inches, moderately slow between depths of 27 and 49 inches, and rapid below a depth of 49 inches.

The natural vegetation consists of bald cypress, pitcher plant, gallberry, and wiregrass. Most areas of this soil remain in natural vegetation.

(34) Pactolus loamy sand, 0 to 5 percent slopes - This moderately well drained to somewhat poorly drained, nearly level to gently sloping soil is on low positions in the uplands. Slopes are smooth to concave. Areas of this soil range mostly from 10 to more than 200 acres in size, but some areas are as small 5 acres.

Typically, the surface layer is very dark gray loamy sand about 5 inches thick. The subsurface layer is dark grayish brown loamy sand about 3 inches thick with very dark gray streaks along root channels. The underlying material is sand to a depth of more than 80 inches. The upper 9 inches is light yellowish brown with dark grayish brown streaks along root channels; the next 13 inches is brownish yellow with yellowish brown and light gray mottles; the next 22 inches is coarsely mottled in shades of yellow, brown, and gray; and the lower 28 inches is white with yellow and very pale brown mottles.

Included with this soil in mapping are small areas of Albany, Bonifay, Lakeland, Leon, Rutledge, and Troup soils. Also included are a few small area of poorly drained soils that have a light colored surface layer and gray mottles above a depth of 20 inches and a few areas of soils that are similar to Pactolus soils but that are 5 to 10 percent slit plus clay between depths of 10 and 40 inches. Also included are a very few small areas where sloped are 5 to 8 percent. Inclusions make up less than 15 percent of any mapped area.

In this Pactolus soil the high water table is at a depth of 18 to 30 inches for 2 to 4 months during most years. Available water capacity, natural fertility, and organic matter content are low. Permeability is rapid. Runoff is slow, and the erosion hazard is slight.

The natural vegetation consists of longleaf and slash pine, dogwood, and various oaks. The under story is mainly gallberry, wax myrtle, hackberry, and wiregrass. Most areas of this soil remain in woodland.

(37) Rains fine sand - This poorly drained, nearly level soil is in low-lying positions on the Coastal Plain on low flatwoods, low hammocks, and sloughs.

Slopes are less than 2 percent. Areas of this soil range for 5 to 40 acres in size. Typically, the surface layer is very dark gray fine sandy loam 5 inches thick over moderately to slowly permeable loamy and clayey layers. The subsoil is dark gray sandy loam 4 inches thick. The natural vegetation consists of longleaf and slash pine, sweet gum, blackgum, and various oaks. The under story is mainly native grasses and low growing shrubs such as gallberry and water-tolerant plants. Wiregrass is the most common native grass. Most areas of this soil remain in woodland.

Included with these soils in mapping are small areas of Angie Varian, Escambia, and Lynchburg soils. Also included are a few small areas of soils that are similar to Rains soils but that have a thick black surface layer high inorganic matter, have a loamy find sand or sandy loam surface layer, or have a clay loam to clay subsoil. Inclusions make up less then 15 percent of any mapped areas.

In this Rains soil the water table is at a depth of less than 10 inches or is above the

surface for 2 to 6 months in most years. Available water capacity is moderate. Natural fertility is low. Permeability is moderately rapid above a depth of 5 inches and moderate below this depth. Internal drainage is moderately slow to slow and response to artificial drainage is moderately slow. Runoff is slow.

The natural vegetation consists of blackgum and scattered cypress and longleaf pine. The under story consists of gallberry, wiregrass, and water-tolerant grasses and shrubs. Most areas remain in natural vegetation.

The root zone is limited by a seasonal high water table that is at or slightly above the surface in wet seasons. The available water capacity averages moderate in the root zone. Natural fertility is low. Internal drainage is slow but response to artificial drainage is moderate to rapid. The hazard of erosion is slight. A well aerated root zone is limited by a seasonal high water table in wet seasons. The available water capacity is low to moderate in the root zone. The internal drainage is slow and response to artificial drainage is moderately slow.

In normal years these soils have a seasonal high water table at a depth of 6 inches or less for 2 to 6 months. In other months the water table is usually below this depth. During periods of high rainfall the water table may be above the surface for periods of brief duration.

(40) Rutledge loamy sand - This very poorly drained nearly level soil is along small stream bottoms, in pounded areas, and on low upland flats. Slopes are less than 2 percent. Areas of this soil range mostly from 20 to 60 acres in size, but a few areas are larger than 100 acres and some are as small as 5 acres.

Typically, the surface layer is black loamy sand about 12 inches thick. The subsurface layer is very dark gray loamy sand about 9 inches thick. Below this is gray sand that extends to a depth of more than 60 inches.

Included with this soil in mapping are small areas of Pactolus, Pinckney, Leon, Donovan, and Palace soils. Also included are areas of somewhat poorly drained to poorly drained sandy soils that have a thin black or very dark gray surface layer less than 10 inches thick and a few small areas of soils that have a mixed or stratified sandy loam or sandy clay loam subsoil. Also included are a few areas of soils that are similar to Rutledge soils but that have a sand surface layer. Inclusions make up less than 18 percent of any mapped area.

In this Rutledge soil the water table is at or near the surface for long periods. Many areas are pounded in wet seasons. Available water capacity is moderate to high in the root zone. Natural fertility is moderate. Permeability is rapid throughout. Runoff is very slow or pounded. Internal drainage is slow but response to artificial drainage is

rapid.

The natural vegetation consists of titi, blackgum, scattered slash and longleaf pine, and silver leaf bay. The under story is mainly native grasses and low growing shrubs, primarily gallberry, wax myrtle, and pitcher plant. Most areas of this soil remain in natural vegetation.

Addendum 4—Plants And Animals List

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)

LICHENS

Cladina evansii
Cladonia leporina

PTERIDOPHYTES

Foxtail clubmoss.....*Lycopodiella alopecuroides*
Southern clubmoss.....*Lycopodiella appressa*
Lacy bracken.....*Pteridium aquilinum*

GYMNOSPERMS

Slash pine.....*Pinus elliottii*
Longleaf pine.....*Pinus palustris*

ANGIOSPERMS

MONOCOTS

Pine-woods bluestem.....*Andropogon arctatus*
Broomsedge bluestem.....*Andropogon virginicus*
Bushy bluestem.....*Andropogon glomeratus*
Splitbeard bluestem.....*Andropogon gyrans*
Wiregrass.....*Aristida beyrichiana*
Big threeawn.....*Aristida condensata*
Mohr's threeawn.....*Aristida mohrii*
Longleaf threeawn.....*Aristida palustris*
Arrowfeather threeawn.....*Aristida purpurascans*
Chapman threeawn.....*Aristida simpliciflora*
Snake root.....*Aristolochia serpentaria*
Switchcane.....*Arundinaria gigantea*
Common carpetgrass.....*Axonopus fissifolius*
Capillary hairsedge.....*Bulbostylis ciliatifolia*
Curtiss' sandgrass.....*Calamovilfa curtissii*
Pond rush.....*Cladium mariscoides*
Whitemouth dayflower.....*Commelina erecta*

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Toothache grass	*Ctenium aromaticum*	
Greatplains flatsedge	*Cyperus lupulinus*	
Pinebarren flatsedge	*Cyperus retrorsus*	
Needleleaf witchgrass	*Dicanthelium aciculare*	
Cypress witchgrass	*Dicanthelium dichotomum*	
Heller's witchgrass	*Dicanthelium oligosanthes*	
Ravenel's witchgrass	*Dicanthelium ravenelii*	
Roundseed witchgrass	*Dicanthelium sphaerocarpon*	
Tapered wtchgrass	*Dicanthelium villosissimum*	
Elliott's lovegrass	*Eragrostis elliottii*	
Purple lovegrass	*Eragrostis spectabilis*	
Bearded skeleton grass	*Gymnopogon ambiguus*	
Fringed yellow stargrass	*Hypoxis juncea*	
Shore rush	*Juncus marginatus*	
Lesser creeping rush	*Juncus repens*	
Whitehead bogbutton	*Lachnocaulon anceps*	
Small's bogbutton	*Lachnocaulon minus*	
Southern red lily	*Lilium catesbaei*	
Panhandle lily	*Lilium iridoliae*	
Hairyawn muhly	*Muhlenbergia capillaris*	
Beaked panicum	*Panicum anceps*	
Maidencane	*Panicum hemitomon*	
Warty panicgrass	*Panicum verrucosum*	
Switchgrass	*Panicum virgatum*	
Early paspalum	*Paspalum praecox*	
Thin paspalum	*Paspalum setaceum*	
Fetterbush	*Peris phillyreifolia*	
Red bay	*Persea borbonia*	
Swamp bay	*Persea palustris*	
Walter's groundcherry	*Physalis viscose*	
Chapman's butterwort	*Pinquicula planifolia*	
Gray's beaksedge	*Rhynchospora grayi*	
Sandyfield beaksedge	*Rhynchospora megalocarpa*	
Sugarcane plumgrass	*Saccharum giganteum*	
Little bluestem	*Schizachyrium scoparium*	
Slender bluestem	*Schizachyrium tenerum*	
Fringed nutrush	*Scleria ciliata*	
Tall nutgrass	*Scleria triglomerata*	
Saw palmetto	*Serenoa repens*	
Earleaf greenbrier	*Smilax auriculata*	

***** **Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)

Saw greenbrier.....*Smilax bona-nox*
Saw-brier .....*Smilax glauca*
Laurel greenbrier.....*Smilax laurifolia*
Wild sarsaparilla .....*Smilax pumila*
Bullbrier.....*Smilax rotundifolia*
Yellow Indiangrass .....*Sorghastrum nutans*
Lopsided Indiangrass.....*Sorghastrum secundum*
Florida dropseed .....*Sporobolus floridanus*
Pineywoods dropseed .....*Sporobolus juncea*
Carolina yelloweyed grass.....*Xyris caroliniana*
Karl's yelloweyed grass .....*Xyris louisianica*
Adam's needle .....*Yucca filamentosa*

DICOTS

Red maple .....*Acer rubrum*
Beach false foxglove.....*Agalinis fasciculata*
Hammock snakeroot.....*Ageratina jucunda*
Yellow colicroot.....*Aletris lutea*
Pinewoods bluestem.....*Ampelopsis arctatus*
Purple silkyscale.....*Anthaenantia rufa*
Green silkyscale.....*Anthaenantia villosa*
Virginia snakeroot.....*Aristolochia serpantaria*
Whorled milkweed .....*Asclepias verticilata*
Coastalplain honeycombhead.....*Balduina angustifolia*
Oneflower honeycombhead .....*Balduina uniflora*
Gopherweed .....*Baptisia lanceolata*
Soft greeneyes.....*Berlanderia pumila*
Goldenrod .....*Bigelowia nudata*
Cutiss' sandgrass.....*Calamovifa curtissi*
American beautyberry.....*Callicarpa americana*
Vanillaleaf .....*Carphephorus paniculatus*
Hairy chaffhead.....*Carphephorus pseudoliatris*
Chinquapin .....*Castanea pumila*
Redroot .....*Ceanothus americanus*
Partridge pea.....*Chamaecrista fasciculata*
Pineland daisy .....*Chaptalia tomentosa*
Bush goldenrod .....*Chrysoma pauciflosculosa*
Cottony goldenstar .....*Chrysopsis gossypina*

***** **Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Coastal sweet pepperbush	*Clethra alnifolia*	
Black titi	*Cliftonia monphylla*	
Tread-softly	*Cnidoscolus stimulosus*	
False rosemary	*Conradina canescens*	
Canadian horseweed	*Conyza canadensis*	
Coastal plain tickseed	*Coreopsis linifolia*	
Yellow leaf hawthorn	*Crataegus flava*	
Pursh's rattlebox	*Crotalaria purshii*	
Rabbit bells	*Crotalaria rotundifolia*	
Silver croton	*Croton argyranthemus*	
Titi	*Cyrilla racemiflora*	
Summer farewell	*Dalea pinnata*	
Hairy smalleaf ticktrefoil	*Desmodium ciliare*	
Pinebarren tricktrefoil	*Desmodium strictum*	
Rough buttonwood	*Diodia teres*	
Common persimmon	*Diospyros virginiana*	
Dwarf sundew	*Drosera brevifolia*	
Tracy's sundew	*Drosera tracyi*	
False daisy	*Eclipta prostrata*	
Devil's grandmother	*Elephantopus tomentosus*	
Early whitetop fleabane	*Erigeron vernus*	
Flattened pipewort	*Eriocaulon compressum*	
Ten angle pipewort	*Eriocaulon decangulare*	
Dogtongue wild buckwheat	*Eriogonum tomentosum*	
White thoroughwort	*Eupatorium album*	
Yankeeweed	*Eupatorium compositifolium*	
Justiceweed	*Eupatorium leucolepsis*	
Mohr's thoroughwort	*Eupatorium mohrii*	
Rough boneset	*Eupatorium pilosum*	
Summer spurge	*Euphorbia discoidalis*	
Greater Florida spurge	*Euphorbia floridana*	
Slender goldenrod	*Euthamia tenuifolia*	
White ash	*Fraxinus americana*	
Erect milkpea	*Galactia erecta*	
Eastern milkpea	*Galactia floridana*	
Dwarf huckleberry	*Gaylussacia dumosa*	
Blue huckleberry	*Gaylussacia frondosa*	
Woolly huckleberry	*Gaylussacia mosieri*	
Blue huckleberry	*Gaylussacia nana*	
Yellow jessamine	*Gelsemium sempervirens*	

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Rough hedgehyssop	*Gratiola hispida*	
Shaggy hedgehyssop	*Gratiola pilosa*	
Swamp sunflower	*Helianthus angustifolius*	
Variableleaf sunflower	*Helianthus heterophyllus*	
Stiff sunflower	*Helianthus radula*	
Queen-devil	*Hieracium gronovii*	
Innocence roundleaf blueflower	*Houstonia procombens*	
St. Peter's-wort	*Hypericum crux-andreae*	
Bedstraw St. Johnswort	*Hypericum galioides*	
Pineweeds	*Hypericum gentianoides*	
St. Andrew's cross	*Hypericum hypericoides*	
Flatwoods St. Johnswort	*Hypericum microsepalum*	
Atlantic St. Johnswort	*Hypericum reductum*	
Fourpetal St. Johnswort	*Hypericum tetrapetalum*	
Carolina holly	*Ilex ambigua*	
Dahoon holly	*Ilex cassine*	
Large gallberry	*Ilex coriacea*	
Inkberry	*Ilex glabra*	
Myrtle dahoon	*Ilex myrtifolia*	
Scrub holly	*Ilex opaca*	
Yaupon	*Ilex vomitoria*	
Florida anise	*Illicium floridanum*	
Flatleaf aster	*Ionactis linarifolius*	
Wicky hairy laurel	*Kalmia hirsuta*	
Carolina redroot	*Lachnanthes caroliniana*	
Thymeleaf pinweed	*Lechea minor*	
Leggett’s pinweed	*Lechea pulchella*	
Pineland pinweed	*Lechea sessiliflora*	
Dusty clover	*Lespedeza capitata*	
Trailing lespedeza	*Lespedeza procumbens*	
Creeping lespedeza	*Lespedeza repens*	
Swamp doghobble	*Leucothoe racemosa*	
Pinkscale gayfeather	*Liatris elegans*	
Slender gayfeather	*Liatris gracilis*	
Piedmont gayfeather	*Liatris secunda*	
Dense gayfeather	*Liatris spicata*	
Shortleaf gayfeather	*Liatris tenuifolia*	
Gopher apple	*Licania michauxii*	
Florida yello flat	*Linum floridanum*	
Sweetgum	*Liquidambar styraciflua*	

***** **Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Shortleaf lobelia	*Lobelia brevifolia*	
Golden crest	*Lophiola aurea*	
Savannah primrosewillow	*Ludwigia virgata*	
Skyblue lupine	*Lupinus diffusus*	
Fetterbush	*Lyonia lucida*	
Southern magnolia	*Magnolia grandiflora*	
Sweetbay	*Magnolia virginiana*	
Grassleaf Barbara's buttons	*Marshallia graminifolia*	
Sensitive brier	*Mimosa quadrivalvis*	
Swamp hornpod	*Mitreola sessilifolia*	
Wax myrtle	*Morella cerifera*	
Odorless bayberry	*Morella inodora*	
Red mullberry	*Morus rubra*	
Wax myrtle	*Myrica cerifera*	
Swamp tupelo	*Nyssa biflora*	
Blackgum	*Nyssa sylvatica*	
Pricklypear	*Opuntia humifusa*	
Scrub wild olive	*Osmanthus americanus*	
Pineland nailwort	*Paronychia patula*	
Red bay	*Persea borbonia*	
Swamp bay	*Persea palustris*	
Walter's groundcherry	*Physalis walteri*	
American pokeweed	*Phytolacca americana*	
Fetterbush	*Pieris phillyreifolia*	
Chapman's butterwort	*Pinguicula planifolia*	
Pineland silkgrass	*Pityopsis adenolepsis*	
Narrowleaf silkgrass	*Pityopsis graminifolia*	
Yellow fringeless orchid	*Plantanthera integra*	
Drumheads	*Polygala cruciata*	
Candyroot	*Polygala nana*	
Low pinebarren milkwort	*Polygala ramosa*	
Tall jointweed	*Polygonella gracilis*	
Rustweed	*Polypremum procumbens*	
Rabbit tobacco	*Pseudognaphalium obtusifolium*	
Arkansas oak	*Quercus arkansana*	
Chapman's oak	*Quercus chapmanii*	
Laurel oak	*Quercus hemisphaerica*	
Bluejack oak	*Quercus incana*	
Dwarf live oak	*Quercus minima*	
Myrtle oak	*Quercus myrtifolia*	

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Water oak	*Quercus nigra*	
Willow oak	*Quercus phellos*	
Running oak	*Quercus pumila*	
Virginia live oak	*Quercus virginiana*	
Savannah meadowbeauty	*Rhexia alifans*	
Yellow meadowbeauty	*Rhexia lutea*	
Pale meadowbeauty	*Rhexia mariana*	
Fringed meadowbeauty	*Rhexia petolata*	
Winged sumac	*Rhus copallina*	
Royal snoutbean	*Rhynchosia cytisoides*	
Dollarleaf	*Rhynchosia reniformis*	
Sand blackberry	*Rubus cuneifolius*	
Southern dewberry	*Rubus trivialis*	
Carolina wild petunia	*Ruellia carolinensis*	
Shortleaf rosegentian	*Sabatia brevifolia*	
Trumpet-leaf pitcherplant	*Sarracenia flava*	
White-top pitcherplant	*Sarracenia leucophylla*	
Hooded pitcherplant	*Sarracenia minor*	
Parrot pitcherplant	*Sarracenia psittacina*	
Purple pitcherplant	*Sarracenia purpurea*	
Sweet pitcherplant	*Sarracenia rubra*	
Chinese tallow*	*Sapium sebifera*	
Helmet skullcap	*Scutellaria integrifolia*	
Small's skullcap	*Scutellaria multiglandulosa*	
Dixie aster	*Seriocarpus tortifolius*	
Yaupon blacksenna	*Seymeriacassiodes*	
Kidneyleaf rosinweed	*Silphium compositum*	
Sweet goldenrod	*Solidago odora*	
Wand goldenrod	*Solidago stricta*	
Queens delight	*Stillingia sylvatica*	
Pineland scalypink	*Stipulicida setacea*	
Slickseed fuzzybean	*Strophostyles leiosperma*	
Coastalplain dawnflower	*Stylisma patens*	
Sidebeak pencilflower	*Stylosanthes biflora*	
Scarf hoarypea	*Tephrosia chrysophylla*	
Sprawling hoarypea	*Tephrosia hispidula*	
Gout's rue	*Tephrosia mohrii*	
Spiked hoarypea	*Tephrosia spicata*	
Hairyflower spiderwort	*Tradescantia hirsutifolia*	
Small's noseburn	*Tragia smallii*	

* Non-native Species

Common Name	***Scientific Name***	**Primary Habitat Codes (for designated species)**
Wavyleaf noseburn	*Tragia urens*	
Needleleaf noseburn	*Tragia urticifolia*	
Narrowleaf bluecurls	*Trichostema setaceum*	
Sparkleberry	*Vaccinium arboreum*	
Highbush blueberry	*Vaccinium corymbosum*	
Darrow's blueberry	*Vaccinium darrowi*	
Highbush blueberry	*Vaccinium elliottii*	
Shiny blueberry	*Vaccinium myrsinites*	
Deerberry	*Vaccinium stamineum*	
Tall ironweed	*Vernonia angustifolia*	
Primroseleaf violet	*Viola primuliflolia*	
Early blue violet	*Viola septemloba*	
Muscadine	*Vitis rotundifolia*	
Adam's needle	*Yucca filamentosa*	

***** **Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)

FISH

Saltmarsh topminnow ..... *Fundulus jenkisi* .....

AMPHIBIANS

Salamanders

Eastern tiger salamander ..... *Ambystoma tigrinum tigrinum* 22, 29
Flatwoods salamander ..... *Ambystoma cingulatum* .....
Mole salamander ..... *AmbYstoma talpoideum* .....
Marbled salamander ..... *Ambystoma opacum* .....
Two-toed amphiuma ..... *Amphiuma means means* 25, 29, 53
Spotted dusky salamander ..... *Desmognathus fuscus conanti* .....
Southern dusky salamander ..... *Desmognathus auriculatus* 17
Southern two-line salamander ..... *Eurycea bislineata cirrigea* .....
Three-lined salamander ..... *Eurycea longicauda guttolineata* .....
Dwarf salamander ..... *Eurycea quadridigitata* .....
Striped newt ..... *Notopthalmus perstriatus* .....
Gulf coast mud salamander ..... *Pseudotriton montanus flavissimus* .....
Rusty mud salamander ..... *Pseudotriton montanus floridana* .....
Southern red salamander ..... *Pseudotriton rubber vioscai* .....
Narrow-striped dwarf siren ..... *Pseudobranchus triatus ananthus* .....
Slimy salamander ..... *Plethodon glutinosis* .....
Eastern lesser siren ..... *Siren intermedia* .....

Frogs and Toads

Northern cricket frog ..... *Acris crepitans crepitans* *29, 50*
Oak toad ..... *Bufo quercicus* 13, 29
Southern toad ..... *Bufo terrestris* 21, 22
Eastern narrow-mouthed toad ..... *Gastrophyre carolinensis* .....
Pine barren treefrog ..... *Hyla andersonii* .....
Bird-voiced treefrog ..... *Hyla avivoca* .....
Cope's gray treefrog ..... *Hyla chrysoscelis* .....
Green treefrog ..... *Hyla cinerea* 8, 21, 25
Pine woods treefrog ..... *Hyla femoralis* .....
Barking treefrog ..... *Hyla gratiosa* .....
Squirrel treefrog ..... *Hyla squirella* .....
Northern spring peeper ..... *Pseudacris crucifer* .....

***** **Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Florida chorus frog	*Pseudacris nigrita verrucosa*	8, 25
Ornate chorus frog	*Pseudacris ornate*	8, 25, 31
Dusky gopher frog	*Rana areolata servosa*	
Bronze frog	*Rana clamitans clamitans*	
Bullfrog	*Rana catesbeiana*	25, 50, 53
Pig frog	*Rana grylio*	
River frog	*Rana hecksheri*	
Southern leopard frog	*Rana sphenocephala*	25, 50, 53
Eastern spadefoot toad	*Scaphiopus holbrookii holbrookii*	22, 29

REPTILES

Crocodilians

American alligator	*Alligator mississippiensis*	50, 53

Turtles

Florida snapping turtle	*Chelydra serpentina osceola*	50, 51, 53
Eastern chicken turtle	*Deirochelys reticularia*	
Gopher tortoise	*Gopherus polyphemus*	8, 13, 22
Eastern mud turtle	*Kinosternon subrubrum*	50, 51
Alligator snapping turtle	*Macroclemys temminckii*	53
Mississippi diamondback terrapin	*Malaclemys terrapin*	
Eastern river cooter	*Pseudemys concinna*	50, 51, 53
Florida turtle	*Pseudemys floridana*	50, 51, 53
Common musk turtle	*Sternotherus odoratus*	50, 51
Gulf coast box turtle	*Terrapene carolina major*	20, 21
Three-tore box turtle	*Terrapine carolina triunguis*	
Yellow-bellied slider	*Trachemys scripta scripta*	
Florida softsheel turtle	*Trionyx ferox*	

Lizards

Green anole	*Anolis carolinensis*	8, 21, 22
Southern coal skink	*Eumeces anthracinus pluvialis*	
Northern mole skink	*Eumeces egregious similis*	13, 15
Five-lined skink	*Eumeces fasciatus*	
Southeastern five-lined skink	*Eumeces inexpectatus*	22
Eastern slender glass lizard	*Ophisaurus attenuatus*	8, 22
Eastern glass lizard	*Ophisaurus ventralis*	
Southern fence lizard	*Sceloporus undulatus undulatus*	13, 22

***** **Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Southern fence lizard	*Sceloporus undulatus undulatus*	13, 22
Ground skink	*Scincella leteralis*	
Snakes		
Florida cottonmouth	*Agkistrodon piscivorus conanti*	25, 51
Northern scarlet snake	*Cemophora coccinea copei*	
Southern black racer	*Coluber constrictor priapus*	8, 13, 22
Eastern diamondback rattlesnake	*Crotalus adamanteus*	8, 13, 22
Timber rattlesnake	*Crotalus horridus*	
Southern ring-necked snake	*Diadophis coperi*	
Eastern indigo snake	*Drymarchon corais couperi*	13, 22
Corn snake	*Elaphe guttata guttata*	8, 13, 22
Gray rat snake	*Elaphe obsoleta spiloides*	21, 22
Eastern mud snake	*Farancia abacura*	
Eastern hognose snake	*Heterodon platirhinos*	13, 22
Southern hognose snake	*Heterodon simus*	13, 22
Mole king snake	*Lampropeltis calligastor*	
Eastern kingsnake	*Lampropeltis getula getula*	21, 22, 31
Scarlet kingsnake	*Lampropeltis triangulum elapsiodes*	8, 21, 22
Milk snake	*Lampropeltis getulus*	
Eastern coachwhip	*Masticophis flagellum flagellum*	13, 22
Eastern coral snake	*Micrurus fulvius fulvius*	20, 21, 22
Banded water snake	*Nerodia fasciata fasciata*	50, 51
Yellow-bellied water snake	*Nerodia erythrogaster*	
Gulf salt marsh snake	*Nerodia fasciata clarkii*	
Florida green water snake	*Nerodia floridana*	
Midland water sanke	*Nerodia spidon pleuralis*	
Brown water snake	*Nerodia taxispilota*	53
Rough green snake	*Opheodrys aestivus*	8, 21, 22
Florida pine snake	*Pituophis melanoleucus mugitus*	13, 22
Striped crayfish snake	*Regina alleni*	50, 51, 53
Gulf crayfish snake	*Regina rigida sinicola*	
Pine woods snake	*Rhadinaea flavilata*	
Black swamp snake	*Seminatrix pygaea pygaea*	
Dusky pigmy rattlesnake	*Sistrurus miliarius barbouri*	8, 22
Eastern ribbon snake	*Thamnophis sauritus sauritus*	
Blue-striped garter snake	*Thamnophis sirtalis sirtalis*	8, 28, 31
Rough earth snake	*Virginia striatula*	
Smooth earth sanke	*Virginia valeriae*	

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)

BIRDS

Loons

Common Loon	*Gavia immer*	OF

Grebes

Pied-billed Grebe	*Podilymbus podiceps*	50, 51

Cormorants

Double-crested Cormorant	*Phalocrocorax auritus*	50, 51

Darters

Anhinga	*Anhinga anhinga*	50, 51, 53

Herons and Bitterns

Great Egret	*Casmerodius egretta*	
Great Blue Heron	*Ardea herodias*	50, 51, 53
American Bittern	*Botaurus lentiginosus*	
Cattle Egret	*Bubulcus ibis ibis*	OF
Green-backed Heron	*Butorides striatus*	50, 51
Little Blue Heron	*Egretta caerulea*	50, 51, 53
Snowy Egret	*Egretta thula*	51
Tricolored Heron	*Egretta tricolorruficolis*	50, 51
Black-crowned Night Heron	*Nycticorax nycticorax hoatli*	
Yellow-crowned Night Heron	*Nycticorax vilaceus*	

Ibises and Spoonbills

White Ibis	*Eudocimus albus*	51
Glossy Ibis	*Plegadis falcinellus*	

Storks

Wood Stork	*Mycteria americana*	25, 29, 33

Ducks and Geese

Wood Duck	*Aix sponsa*	25, 50, 51, 53
Northern Pintail	*Anas acuta acuta*	
American Widgeon	*Anas americana*	
Northern Shoveler	*Anas clypeata*	
Green-winged Teal	*Anas crecca*	
Blue-winged Teal	*Anas discors*	
Mallard	*Anas platyrhynchos p.*	

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
American Black Duck	*Anas rubripes*	
Gadwall	*Anas strepera*	
Redhead	*Aythya americana*	
Ring-necked Duck	*Aythya collaris*	
Canvasback	*Aythya valsisineria*	
Ruddy Duck	*Oxyura jamicensis rubida*	
Hawks, Eagles and Kites		
Cooper's Hawk	*Accipiter cooperii*	21, 22, OF
Sharp-shinned Hawk	*Accipiter striatus velox*	MTC, OF
Red-tailed Hawk	*Buteo jamacicensis*	
Red-shouldered Hawk	*Buteo lineatus*	25, 28, 33, OF
Broad-winged Hawk	*Buteo platypterus*	20, 21, 31, OF
Northern Harrier	*Circus cyaneus hudsonius*	OF
Swallow-tailed Kite	*Elanoides forficatus*	28, OF
Merlin	*Falco columbarius*	OF
Pergrine Falcon	*Falco peregrinus tundrius*	
American Kestrel	*Falco sparverius*	13, 22, OF
Southeastern American Kestrel	*Falco sparverius paulus*	
Mississippi Kite	*Ictinia mississippiensis*	21, 28, 31
Osprey	*Pandion haliaetus carolinensis*	50, 51, 53
Vultures		
Turkey Vulture	*Cathartes aura*	8, 15, OF
Black Vulture	*Coragyps atratus*	8, 15, OF
Turkey and Quail		
Northern Bobwhite	*Colinus virginianus*	13, 22, 81
Wild Turkey	*Meleagris gallopavo osceola*	13, 21, 22, 28
Gallinules and Rails		
Yellow Rail	*Coturnicops noveboraceni*	
American Coot	*Fulica americana*	50, 51
Common Moorhen	*Gallinula chloropus cachin nans*	51
Least Bittern	*Ixabrychus exilis*	
Black Rail	*Laterallus jamiacensis*	
Purple Gallinule	*Porphyrula martinica*	
Sora	*Porzana Carolina*	
King Rail	*Rallus elegans*	
Virginia Rail	*Rallus limicola*	

***** **Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Clapper Rail	*Rallus longirostris scottii*	
Shorebirds		
Spotted Sandpiper	*Actitis macularia*	53
Dunlin	*Calidris alpine pacifica*	
Western Sandpiper	*Calidris mauri*	
Least Sandpiper	*Calidris minutilla*	
Willet	*Catoptrophorus semipalmatus*	
Snowy Plover	*Charadrius alexandrinus*	
Semi-palmated Plover	*Charadrius semipalmatus*	
Killdeer	*Charadrius vociferus*	
Piping Plover	*Charadrius melodus*	
Wilson's Plover	*Charadrius wilsonia*	
American Oystercatcher	*Haematopus palliatus*	
Black-necked Stilt	*Himantopus mexicanus*	
Short-billed Dowitcher	*Limnodromus griseus*	
Long-billed Dowitcher	*Limnodromus scolopaceus*	
Marbled Godwit	*Limosa fedoa*	
Whimbrel	*Numeniums americana*	
Black-bellied Plover	*Pluvialis squatarola*	
American Avocet	*Recurvirostra americana*	
American Woodcock	*Scolopax minor*	28, 31, 33
Least Tern	*Sterna antillarum*	
Caspian Tern	*Sterna caspia*	
Forster's Tern	*Sterna forsteri*	
Royal Tern	*Sterna maxima*	
Gull-billed Tern	*Sterna nilotica*	
Sandwich Tern	*Sterna sandvicensis*	
Lesser Yellowlegs	*Tringa flavipes*	51
Greater Yellowlegs	*Tringa melanoleuca*	
Gulls		
Herring Gull	*Larus argentatus*	
Laughing Gull	*Larus atricilla*	
Ring-billed Gull	*Larus delawarensis*	OF
Bonaparte's Gull	*Larus philadelpia*	
Doves		
Common Ground-Dove	*Columbina passerina*	8, 13
Mourning Dove	*Zenaida macroura*	MTC

***** **Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Cuckoos		
Yellow-billed Cuckoo	*Coccyzus americanus*	20, 21, 22, 31
Owls		
Great Horned Owl	*Bubo virginianus*	20, 21, 22
Eastern Screech Owl	*Otus asio floridana*	13, 21, 22
Barred Owl	*Strix varia georgica*	25, 30, 33
Common Barn Owl	*Tyto alba pratincola*	21
Goatsuckers		
Chuck-will's-willow	*Caprimulgus carolinensis*	20, 21, 22
Whip-poor-will	*Caprimulgus vociferus*	
Common Nighthawk	*Chordeiles minor chapmani*	13, 22, OF
Hummingbirds		
Ruby-throated Hummingbird	*Archilochus colubris*	21, 22
Kingfishers		
Belted Kingfisher	*Ceryle alcyon*	50, 51, 53
Woodpeckers		
Northern Flicker	*Colaptes auratus*	13, 22, 81
Pileated Woodpecker	*Dryocopus pileatus p.*	MTC
Red-bellied Woodpecker	*Melanerpes carolinus*	MTC
Red-headed Woodpecker	*Melanerpes erythrocephalus*	8, 13, 22
Red-cockaded Woodpecker	*Picoides borealis*	
Downy Woodpecker	*Picoides pubescens*	MTC
Hairy Woodpecker	*Picoides villosus audubonii*	20, 21
Yellow-bellied Sapsucker	*Sphyrapicus varius*	20, 21, 28
Flycatchers		
Eastern Wood-Pewee	*Contopus virens*	13, 22
Acadian Flycatcher	*Empidonax virescens*	20, 21, 28, 31, 33
Great Crested Flycatcher	*Myiarchus crinitus*	13, 21, 22
Eastern Phoebe	*Sayornis phoebe*	13, 22
Eastern Kingbird	*Tyrannus tyrannus*	13
Eastern Kingbird	*Tyrannus verticalis*	13
Shrikes		

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Loggerhead Shrike	*Lanius ludovicianus*	13
Vireos		
Yellow-throated Vireo	*Vireo flavifrons*	13, 21, 22
White-eyed Vireo	*Vireo griseus*	20, 21, 28, 31
Red-eyed Vireo	*Vireo olivaceus*	21, 22, 28
Blue-headed Vireo	*Vireo solitarius*	
Jays and Crows		
American Crow	*Corvus brachyrhynchos*	8, 13, 22, OF
Fish Crow	*Corvus ossifragus*	OF
Blue Jay	*Cyanocitta cristata*	MTC
Martins		
Purple Martin	*Progne subis*	OF
Swallows and swifts		
Barn Swallow	*Hirundo rustica*	53, OF
Chimney Swift	*Scaetura pelagica*	
Northern rough-winged Sallow	*Stelgidopteryx serripennis*	
Tree Swallow	*Tachycineta bicolor*	
Chickadees and Titmice		
Tufted Titmouse	*Parus bicolor*	
Carolina Chickadee	*Parus carolinensis*	
Creepers		
Brown Creeper	*Certhia americana*	
Nuthatches		
Red-breasted Nuthatch	*Sitta canadensis*	21, 22
Brown-headed Nuthatch	*Sitta pusilla*	
Wrens		
Marsh Wren	*Cistothotus palustris*	
Bewick's Wren	*Thryomanes bewickii*	
Carolina Wren	*Thryothorus ludovicianus*	MTC
House Wren	*Troglodytes aedon*	8, 13
Winter Wren	*Troglodytes troglodytes*	25, 30, 33
Gnatcatchers and Kinglets		

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Blue-gray Gnatcatcher	*Polioptila caerulea*	MTC
Ruby-crowned Kinglet	*Regulus calendula*	MTC
Golden-crowned Kinglet	*Regulus satrapa*	13, 22
Thrushes		
Veery	*Catharus fuscescens*	20, 21
Hermit Thrush	*Catharus guttatus*	
Gray-cheeked Thrush	*Catharus minimus*	
Swainson's Thrush	*Catharus ustulatus*	
Wood Thrush	*Hylocichia mustelina*	
Eastern Bluebird	*Sialia sialis*	13
American Robin	*Turdus migratorius*	MTC
Thrashers		
Gray Catbird	*Dumetella carolinensis*	8, 15
Northern Mockingbird	*Mimus polyglottos*	13, 81, 82
Brown Thrasher	*Toxostoma rufum*	8, 21, 82
Starlings		
European Starling *	*Sturnus vulgaris*	82
Waxwings		
Cedar Waxwing	*Bombycilla cedrorum*	8, 21
Warblers		
Yellow-rumped Warbler	*Dendroica coronata*	MTC
Prairie Warbler	*Dendroica discolor*	8, 13, 22
Yellow-throated Warbler	*Dendroica dominica*	13, 22
Blackburnian Warbler	*Dendroica fusca*	21, 22
Palm Warbler	*Dendroica palmarum*	8, 13, 22
Chestnut-sided Warbler	*Dendroica pensylvanica*	13, 21, 28
Pine Warbler	*Dendroica pinus*	13, 22
Blackpoll Warbler	*Dendroica striata*	13, 22
Black-throated Green Warbler	*Dendroica virens*	13, 21, 22
Common Yellowthroat	*Geothlypis trichas*	25, 30, 35
Worm-eating Warbler	*Helmitheros vermivorus*	20, 21, 28, 31
Yellow-breasted Chat	*Icteria virens*	8, 15
Orchard Oriole	*Icteria spurius*	
Swainson's Warbler	*Limnothlypis swainsonii*	21
Black-and-white Warbler	*Mniotilta varia*	21, 22, 28, 31

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Kentucky Warbler	*Oporornis formosus*	8, 21
Northern Parula	*Parula americana*	21, 25, 28, 31, 33
Prothonotary Warbler	*Protonotaria citrea*	25, 30, 33
Louisiana Waterthrush	*Seiurus motacilla*	33, 53
American Redstart	*Setophaga ruticilla*	21, 22, 28, 31
Orange-crowned Warbler	*Vermivora celata*	13, 21, 22
Tennessee Warbler	*Vermivora peregrina*	21, 28, 31
Blue-winged Warbler	*Vermivora pinus*	21, 22, 28
Nashville Warbler	*Vermivora ruficapilla*	
Hooded Warbler	*Wilsonia citrina*	20, 21, 28, 31
Tanagers		
Scarlet Tanager	*Piranga olivacea*	21, 22
Summer Tanager	*Piranga rubra*	8, 13, 21
Sparrows		
Bachman's Sparrow	*Aimophila aestivalis*	8, 13
Sharp-shinned sparrow	*Ammodramus caudacutus*	
Louisiana Seaside Sparrow	*Ammodramus maritimus fisheri*	29
Grasshopper Sparrow	*Ammodramus savannarum pratensis*	29
Swamp Sparrow	*Melospiza georgiana*	
Song Sparrow	*Melospiza melodia*	8, 21, 22
Savannah Sparrow	*Passerculus sandwichensis*	13, 81
Eastern Towhee	*Pipilo erythrophthalmus*	8, 15
Vesper Sparrow	*Pooecetes gramineus*	13, 81
Chipping Sparrow	*Spizella passerina*	13, 81
Field Sparrow	*Spizella pusilla*	13, 22
White-throated Sparrow	*Zonotrichia albicollis*	8, 13, 81
Meadowlarks, Blackbirds and Orioles		
Red-winged Blackbird	*Agelaius phoeniceus*	25, 29, 33
Rusty Blackbird	*Beuphagus carolinus*	
Orchard Oriole	*Icterus spurius*	21, 22
Brown-headed Cowbird *	*Molothrus ater*	MTC
Eastern Meadowlark	*Sturnelia magna*	
Boat-tailed Grackle	*Quiscalus major*	
Common Grackle	*Quiscalus quiscula*	13, 81, 82
Cardinals, Grosbeaks, and Buntings		
Northern Cardinal	*Cardinalis cardinalis*	MTC

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Blue Grosbeak	*Guiraca caerulea*	8, 13, 22
Painted Bunting	*Passerina ciris*	
Indigo Bunting	*Passerina cyanea*	8, 15
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	20, 21
Finches		
Pine Siskin	*Carduelis pinus*	
American Goldfinch	*Carduelis tristis*	21, OF
Purple Finch	*Carpodocus purpureus*	21, 22
MAMMALS		
Didelphids		
Virginia opossum	*Didelphis virginiana pigra*	MTC
Insectivores		
Least shrew	*Cryptotis parva floridana*	13, 22
Eastern mole	*Scalopus aquaticus*	
Moles		
Eastern mole	*Scalopus aquaticus*	13, 22
Bats		
Big Brown bat	*Eptesicus fuscus*	
Red bat	*Lasiurus borealis borealias*	20, 21
Hoary bat	*Lasiurus cinereus cinereus*	
Northern yellow bat	*Lasiurus intermedius floridanus*	
Seminole bat	*Lasiurus seminolus*	
Southeastern bat	*Myotis austroripairus*	80
Evening bat	*Nycticeius humeralis*	
Eastern pipestrelle	*Pipistrellus subflavus*	80
Rafinesque's big-eared bat	*Plecotus rafinsquii macrotis*	
Brazilian freetail bat	*Tadarida brasiliensis cunocephala*	
Edentates		
Nine-banded armadillo *	*Dasypus novemcinctus mexicanus*	MTC
Lagomorphs		
Eastern cottontail	*Sylvilagus floridanus*	8, 22
Marsh rabbit	*Sylvilagus palustris*	28, 29
Rodents		

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Beaver	*Castor canadensis*	53
Southeastern pocket gopher	*Geomys pinetis*	13, 22
Southern flying squirrel	*Glaucomys volans*	20, 21, 22
Golden mouse	*Ochrotomys nuttalli*	8
Marsh rice rat	*Oryzomys palustris*	
Cotton mouse	*Peromyscus gossypinus*	8, 20, 21, 22
Eastern harvest mouse	*Reithrodontomys humulis*	
Gray squirrel	*Sciurus carolinensis*	MTC
Fox squirrel	*Sciurus niger*	13, 22
Hispid cotton rat	*Sigmodon hispidus*	13, 22
Eastern chipmunk	*Tamius striatus striatus*	
Carnivores		
Coyote *	*Canis latrans*	MTC
Bobcat	*Felis rufus floridanus*	MTC
River otter	*Lutra canadensis vaga*	50, 51, 53
Striped skunk	*Mephitis mephitis*	MTC
Long-tailed weasel	*Mustela frenata*	8, 21, 22
Florida mink	*Mustela vison lutensis*	
Southern mink	*Mustela vison mink*	
Raccoon	*Procyon lotor*	MTC
Gray fox	*Urocyon cinereoargenteus*	8, 21, 22
Florida black bear	*Ursus americanus floridanus*	MTC
Red fox	*Vulpus vulpus regalis*	
Artiodactyls		
White-tailed deer	*Odocoileus virginianus*	MTC
Manatees		
Manatee	*Trichechus manatus latirostris*	

* Non-native Species

Terrestrial
1. Beach Dune
2. Bluff
3. Coastal Berm
4. Coastal Rock Barren
5. Coastal Strand
6. Dry Prairie
7. Maritime Hammock
8. Mesic Flatwoods
9. Mesic Hammock
10. Coastal Grasslands
11. Pine Rockland
12. Prairie Hammock
13. Rockland Hammock
14. Sandhill
15. Scrub
16. Scrubby Flatwoods
17. Shell Mound
18. Sinkhole
19. Slope Forest
20. Upland Glade
21. Upland Hardwood Forest
22. Upland Mixed Forest
23. Upland Pine Forest
24. Xeric Hammock

Palustrine
25. Basin Marsh
26. Basin Swamp
27. Baygall
28. Bog
29. Bottomland Forest
30. Coastal Interdunal Swale
31. Depression Marsh
32. Dome
33. Floodplain Forest
34. Floodplain Marsh
35. Floodplain Swamp
36. Freshwater Tidal Swamp
37. Hydric Hammock
38. Marl Prairie
39. Seepage Slope
40. Slough
41. Strand Swamp
42. Swale
43. Wet Flatwoods
44. Wet Prairie

Lacustrine
45. Clastic Upland Lake
46. Coastal Dune Lake

Lacustrine—Continued
47. Coastal Rockland Lake
48. Flatwood/Prairie Lake
49. Marsh Lake
50. River Floodplain Lake
51. Sandhill Upland Lake
52. Sinkhole Lake
53. Swamp Lake

Riverine
54. Alluvial Stream
55. Blackwater Stream
56. Seepage Stream
57. Spring-Run Stream

Estuarine
58. Estuarine Algal Bed
59. Estuarine Composite Substrate
60. Estuarine Consolidated Substrate
61. Estuarine Coral Reef
62. Estuarine Grass Bed
63. Estuarine Mollusk Reef
64. Estuarine Octocoral Bed
65. Estuarine Sponge Bed
66. Estuarine Tidal Marsh
67. Estuarine Tidal Swamp
68. Estuarine Unconsolidated Substrate
69. Estuarine Worm Reef

Marine
70. Marine Algal Bed
71. Marine Composite Substrate
72. Marine Consolidated Substrate
73. Marine Coral Reef
74. Marine Grass Bed
75. Marine Mollusk Reef
76. Marine Octocoral Bed
77. Marine Sponge Bed
78. Marine Tidal Marsh
79. Marine Tidal Swamp
80. Marine Unconsolidated Substrate
81. Marine Worm Reef

Subterranean
82. Aquatic Cave
83. Terrestral Cave

Miscellaneous
84. Ruderal
85. Developed
MTC Many Types of Communities
OF Over Flying

Addendum 5--Designated Species List

Rank Explanations For FNAI Global Rank, FNAI State Rank, Federal Status, And State Status

The Nature Conservancy and the Natural Heritage Program Network (of which FNAI is a part) define an element as 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 (EO) is a single extant habitat that sustains or otherwise contributes to the survival of a population or a distinct, self-sustaining example of a particular element.

Using a ranking system developed by The Nature Conservancy and the Natural Heritage Program Network, the Florida Natural Areas Inventory assigns two ranks to each element. The global rank is based on an element's worldwide status; the state rank is based on the status of the element in Florida. Element ranks are based on many factors, the most important ones being estimated number of Element occurrences, estimated abundance (number of individuals for species; area for natural communities), range, estimated adequately protected EOs, relative threat of destruction, and ecological fragility.

Federal and State status information is from the U.S. Fish and Wildlife Service; and the Florida Game and Freshwater Fish Commission (animals), and the Florida Department of Agriculture and Consumer Services (plants), respectively.

FNAI GLOBAL RANK DEFINITIONS

G1	=	Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
G2	=	Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
G3	=	Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.
G4	=	apparently secure globally (may be rare in parts of range)
G5	=	demonstrably secure globally
GH	=	of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker)
GX	=	believed to be extinct throughout range
GXC	=	extirpated from the wild but still known from captivity or cultivation
G#?	=	tentative rank (e.g.,G2?)
G#G#	=	range of rank; insufficient data to assign specific global rank (e.g., G2G3)
G#T#	=	rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1)
G#Q	=	rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q)
G#T#Q	=	same as above, but validity as subspecies or variety is questioned.
GU	=	due to lack of information, no rank or range can be assigned (e.g., GUT2).
G?	=	not yet ranked (temporary)
S1	=	Critically imperiled in Florida because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
S2	=	Imperiled in Florida because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
S3	=	Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.
S4	=	apparently secure in Florida (may be rare in parts of range)
S5	=	demonstrably secure in Florida
SH	=	of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker)
SX	=	believed to be extinct throughout range
SA	=	accidental in Florida, i.e., not part of the established biota
SE	=	an exotic species established in Florida may be native elsewhere in North America
SN	=	regularly occurring, but widely and unreliably distributed; sites for conservation hard to determine
SU	=	due to lack of information, no rank or range can be assigned (e.g., SUT2).
S?	=	not yet ranked (temporary)

LEGAL STATUS

N	=	Not currently listed, nor currently being considered for listing,by state or federal agencies.

FEDERAL (Listed by the U. S. Fish and Wildlife Service - USFWS)

LE	=	Listed as Endangered Species in the List of Endangered and Threatened Wildlife and Plants under the provisions of the Endangered Species Act. Defined as any species that is in danger of

extinction throughout all or a significant portion of its range.

PE = Proposed for addition to the List of Endangered and Threatened Wildlife and Plants as Endangered Species.

LT = Listed as Threatened Species. Defined as any species that is likely to become an endangered species within the near future throughout all or a significant portion of its range.

PT = Proposed for listing as Threatened Species.

C = Candidate Species for addition to the list of Endangered and Threatened Wildlife and Plants. Defined as those species for which the USFWS currently has on file sufficient information on biological vulnerability and threats to support proposing to list the species as endangered or threatened.

E(S/A) = Endangered due to similarity of appearance.

T(S/A) = Threatened due to similarity of appearance.

STATE

Animals **(Listed by the Florida Fish and Wildlife Conservation Commission - FFWCC)**

LE = Listed as Endangered Species by the FFWCC. Defined as a species, subspecies, or isolated population which is so rare or depleted in number or so restricted in range of habitat due to any man-made or natural factors that it is in immediate danger of extinction or extirpation from the state, or which may attain such a status within the immediate future.

LT = Listed as Threatened Species by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future.

LS = Listed as Species of Special Concern by the FFWCC. Defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species.

Plants **(Listed by the Florida Department of Agriculture and Consumer Services - FDACS)**

LE = Listed as Endangered Plants in the Preservation of Native Flora of Florida Act. Defined as species of plants native to the state that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue, and includes all species determined to be endangered or threatened pursuant to the Federal Endangered Species Act of 1973,as amended.

LT = Listed as Threatened Plants in the Preservation of Native Flora of Florida Act. Defined as species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in such number as to cause them to be endangered.

Yellow River Marsh Preserve Designated Species (Plants)

Common Name/ *Scientific Name*	Designated Species Status FDACS	USFWS	FNAI
Pine-woods bluestem *Andropogon arctatus*	LT	N	G3, S3
Curtiss' sandgrass *Calamovilfa curtissii*	LT		G3, S3
Pond rush *Cladium mariscoides*			G5, S1
Florida anise *Illicium floridanum*	LT		G5, S3
Southern red lily *Lilium catesbaei*	LT		G4, S3
Panhandle lily *Lilium iridollae*	MC	LE	G2, S2
Yellow fringeless orchid *Platanthera integra*	LE		G3G4, S3
White-top pitcherplant *Sarracenia leucophylla*	LE		G3,S3
Parrot pitcherplant *Sarracenia psittacina*	T		
Sweet pitcherplant *Sarracenia rubra*	LT		G4, S3
Kral's yellow-eyed grass *Xyris stricta* var *obscura*			G5T3

Yellow River Marsh Preserve Designated Species (Animals)

Common Name/ *Scientific Name*	Designated Species Status FFWCC	USFWS	FNAI
AMPHIBIANS			
Flatwoods salamander *Ambystoma cingulatum*	LS	LT	G2G3, S2S3
REPTILES			
American alligator *Alligator mississippiensis*	LS	T(S/A)	G5, S4
Eastern diamondback rattlesnake *Crotalus adamanteus*			G4, S3
Eastern indigo snake *Drymarchon corais cooperi*	LT	LT	G3, S3
Gopher tortoise *Gopherus polyphemus*	LS		G3, S3
Alligator snapping turtle *Macroclemys temminckii*	LS		G3G4, S3
Gulf salt marsh snake *Nerodia clarkii clarkii*			G4T3, S3
Florida pine snake *Pituophis melanoleucus mugitus*			G4T3,S3
BIRDS			
Cooper's hawk *Accipiter cooperii*			G5, S3
Bachman's sparrow *Aimophila aestivalis*			G3, S3
Louisiana seaside sparrow *Amodramus maritimus*			G4T4, S1
Great egret *Ardea alba*			G5, S4
Little blue heron *Egretta caerulea*	LS		G5, S4
Snowy egret *Egretta thula*	LS		G5, S3
Tricolored heron *Egretta tricolor*	LS		G5, S4
Swallow-tailed kite *Elanoides forficatus*			G5, S2

Yellow River Marsh Preserve Designated Species (Animals)

Common Name/ *Scientific Name*	Designated Species Status FFWCC	USFWS	FNAI
White ibis			
Eudocimus albus	LS		G5, S4Merlin
Falco columbarius			G5, S2
Peregrine falcon			
Falco peregrinus	L		G5T4, S3
Southeastern American kestrel			
Falco sparverius paulus	LT		G5T4, S3
Least bittern			
Ixobrychus exilis			G5, S4
Black Rail			
Laterallus jamaicensis			G4, S2
Wood stork			
Mycteria americana	LE	LE	G4, S2
Yellow-crowned night heron			
Nyctanassa violacea			G5, S3
Black-crowned night heron			
Nycticorax nycticorax			G5, S3
Osprey			
Pandion haliaetus	LS		G5, S3S4
Hairy woodpecker			
Picoides villosus			G5, S3
Florida clapper rail			
Rallus longrostris scottii			G5T3?, S3?
Louisiana waterthrush			
Seiurus motacilla			G5, S2
American redstart			
Setophaga ruticilla			G5, S2
Least tern			
Sterna antillaruma	LT		G4, S3
Caspian tern			
Sterna caspia			G5, S2
Royal tern			
Sterna maxima			G5, S3
Sandwich tern			
Sterna sandvicensis			G5, S2

Yellow River Marsh Preserve Designated Species (Animals)

Common Name/ *Scientific Name*	Designated Species Status FFWCC	USFWS	FNAI
MAMMALS			
Rafinesque's big-eared bat *Corynorhinus rafinesquii*			G3G4, S2
Big brown bat *Eptesicus fuscus*			G5, S3
Southeastern bat *Myotis austroriparius*			G3G4, S3
Eastern chipmunk *Tamias striatus*	LS		G5, S2
Florida black bear *Ursus americanus floridanus*	LT		G5T2, S2

Addendum 6--Timber Management Analysis

INTRODUCTION

The Yellow River Marsh Preserve State Park (YRMPSP), a part of the Garcon Point Ecosystem, is located in south Santa Rosa County, within the low, flat peninsula of Garcon Point that juts into the north end of Pensacola Bay. The YRMPSP is managed by the Florida Department of Environmental Protection (DEP), Division of Recreation and Parks. The property is comprised of ten land tracts (previously privately owned) ranging in size from six (6) to two hundred fifty-two acres (292) for a total of 815 acres.

PURPOSE

This assessment is to fulfill the timber assessment requirement for the YRMPSP as required by Section 253.036, Florida Statutes. The goal of the timber assessment is to provide the managers of the Yellow River Marsh Preserve State Park with silvicultural guidelines to help them in achieving the management objectives of the preserve that are:

> To conserve and protect environmentally unique and irreplaceable land that contain native, relatively unaltered flora and fauna, representing a natural area unique to, or scarce within, a region of this state or a larger geographic area; to conserve and protect significant habitat for native species or endangered and threatened species; and to conserve, protect, manage, or restore important ecosystems, landscapes, and forests, in order to enhance or protect significant surface water, coastal, recreational, timber, fish or wildlife resources which local or state regulatory programs cannot adequately protect.

GENERAL TRACT INFORMATION

The YRMPSP is primarily a poorly drained, essentially level, open savanna landscape with several different plant communities. They include Wet Prairie, Mesic Flatwoods, Dome Swamp, Baygall and upland mixed hardwoods. Prior to human induced alteration, the Garcon Point Ecosystem was a mosaic of these vegetative types. Past human practices (primarily drainage and natural fire regime) has changed the natural mosaic appearance. Altering the natural hydrology and limiting natural occurring fire behavior has allowed the mesic flatwoods species to encroach into areas that were predominantly wet prairies. Water and fire are essential in maintaining and restoring this ecosystem and the native flora and fauna that are unique to this area.

SILVICULTURAL GUIDELINES

The mesic flatwoods encompass approximately 185 acres of the total preserve area. This component is characterized by a slash pine overstory with light to heavy gallberry, wiregrass, pitcher plants and wax myrtle understory. Small portions of the forest have naturally reseeded, generating pockets and strands of slash pine. There is evidence that these areas were logged in the past. There are also two slash pine plantations totaling 20 acres approximately 15-20 years old. Basal areas range from 30-50 square feet per acre.

To understand timber management methods, knowledge of a few silvicultural terms is useful. The cross sectional area (in square feet) of an individual tree measured four and one-half feet above the ground is its Basal Area (BA). BA per acre is the sum of the basal area of every tree within a stand divided by the number of acres in the stand. It is used as a measure of a timber stand's tree stocking and density. The diameter of an individual tree taken at this height is referred to as its diameter breast height (DBH). This measurement is used in calculating the BA, and combined with height can determine volume of each tree.

Thinning of timber should take place when live crowns in the majority of the dominant and co-dominant trees have been reduced to approximately 1/3 of their total height. In other words, these stands should be thinned to 60 – 70 sq. ft. BA per acre each time they reach 100 sq. ft. BA per acre or more. This will help ensure a stand of vigorous healthy trees. An added benefit of opening up the canopy is that more sunlight will reach the forest floor increasing forage production for wildlife. Another advantage of thinning is that the understory vegetation will be knocked down enough to allow managers to reintroduce prescribed fire more safely.

The thinning process is repeated every time the stand approaches 100 sq. ft. BA or ground cover begins to be shaded out. Thinning to as low as 40 sq. ft. BA, with re-treatment at 80-100 sq. ft. BA, is an option in second or subsequent harvests to ensure open, grassy stands.

PRESCRIBED FIRE

There are two types of prescribed fire that can be used to assist restoration of mesic flatwoods and the wet prairies. Initially both vegetative types should be prescribed burned during the dormant season to take advantage of cool weather conditions and possibly wet ground conditions. Once the ground litter and duff is sufficiently reduced to eliminate catastrophic conditions, prescribe burned during mid to late season (late spring/summer months) will emulate natural fire conditions (thunderstorms) and will favor grasses and other wetland species. Prescribed fire should be on a three to five year cycle if possible, but no greater than five years. The use of prescribed fire must be well planned due to the close proximity to private ownerships and residential areas.

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, opened the forest floor for natural ground species to flourish 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 and restoring areas back to natural conditions.

RECOMMENDATIONS

Hulion Tract (7.0 Acres). This is a natural slash pine un-even-aged stand with approximately 35 sq. ft. of basal area per acre. The establishment of a prescribed fire regime will prevent the native shade intolerant groundcover species, such as wiregrass, from being replaced by more shade tolerant species such as palmetto, gallberry and wax myrtle.

Presley Tract (71 Acres). This tract is wet, but contains an adequate amount of natural regeneration in those areas where trees are present. A few parent trees are approximately 19-20 years old. Ground cover is wiregrass with some palmetto, gallberry and wax myrtle. Prescribed fire should be re introduced into this area beginning with a winter burn and followed by burning on a four-year cycle. Once this stand grows to 100 sq. ft. of basal area, it should be thinned back to 60-70 sq. ft. This will create a stocking level between 350 and 500 trees per acre of very large diameter trees.

Perdido Key Tract (9Acres). This tract is primarily a wet prairie. The ground cover is the same as in the proceeding tracts, except for the presence of pitcher plants. Hydrological changes have allowed slash pine to encroach. There are approximately 500 stems per acre in some areas. No recommendations except for establishing firebreaks and prescribe burn as possible.

Goodnow Subdivision Tract (292 Acres). This tract is primarily a wet prairie with some dome swamps except for the presence of a 15-acre slash pine plantation that is about 25 years old. Scattered pine saplings occur in pockets throughout the area. Management of this plantation should consist of beginning thinning and then again, in five and 10-year intervals until the stand is finally removed or becomes naturally regenerated. Prescribed fire can be implemented without much danger to the overstory.

Garcon Turpentine Camp (40 Acres). This tract appears to be converting to hammock. Dominant trees are slash pine with Florida maple, bay and magnolia in the understory. Core samples show the age of the slash pine to be around 60 years. There is evidence of an old naval stores operation and a turpentine camp. This is an archaeological/historical site and the area around the camps should be protected from fire activity. Otherwise, the use of prescribed fire will assist in the restoration of the ecosystem on this tract.

Pea Ridge Donation Tract (206 Acres). This is a wet prairie with slash pine occurring in a ribbon fashion or strand around the tract that is completely open towards the middle. Ground cover consists of wiregrass, gallberry, palmetto and wax myrtle. Management on this site should include the establishment of firebreaks and conducting

a cool winter burn.

Trawick Tract (63 Acres). This is a wet prairie with about 5 acres forested in slash pine. Ground cover is very similar to the other tracts. Basal area for this tract ranges from 80 to100 square feet per acre and the age is approximately 12-15 years. Recommendations include the establishment of firebreaks and conducting the first prescribed burn in the winter months followed by growing season burns on a two to five year cycle.

Hanson Crawford Tracts A (72) and B (41 Acres). These are primarily wet prairies with some flatwoods species encroachment. Prescribe burning with growing season burns is recommended to halt flatwoods encroachment.

Peacock Tract (14 Acres). This wet prairie was burned in July of 2002. It is non-timbered.

SUMMARY

The Yellow River Marsh Preserve State Park has compartmentalized pockets and strands of pine forest inside the wet prairies. Within these pockets, silvicultural treatments may prove beneficial. It is possible to manage this area in such a manner as to retain their natural appearance, meet objectives like habitat restoration and produce revenue through timber harvests. However, the revenue producing potential is poor due to the distance to major wood processing facilities. The most practical application of silviculture on this property is thinning and prescribed fire as tools in achieving restoration objectives and for reducing wildfire hazards.

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Addendum 7—Priority Schedule And Cost Estimates

Estimates are developed for the funding and staff resources needed to implement the management plan based on goals, objectives and priority management activities. Funding priorities for all state park management and development activities are reviewed each year as part of the Division's legislative budget process. The Division prepares an annual legislative budget request based on the priorities established for the entire state park system. The Division also aggressively pursues a wide range of other funds and staffing resources, such as grants, volunteers, and partnerships with agencies, local governments and the private sector for supplementing normal legislative appropriations to address unmet needs. The ability of the Division to implement the specific goals, objectives and priority actions identified in this plan will be determined by the availability of funding resources for these purposes.

Resource Management

Activity	Period Covered (Year)	Estimated Cost Annual	Estimated Cost Nonrecurring
Restoration of borrow pits , ditched areas and old firelines	0-7 years	Filling fire plow lanes @$800/day for 10 days, backhoeing @ $1500/day for borrow pits for 4 days, re-vegetation @ $2200 per pit, restoring ditched areas $162,000 Hydrological survey, $56,000	$236,400
Survey for flatwoods salamanders	10 years	40 hours per year for OPS @ $12.00 /hr or $480.00	$4,800
Listed species tracking, transect & study plots	10 years	128 hours per year for OPS @ $12/hr or $1536.00	$15,360
Conduct prescribed burns on 400 acres per year	10 years	Fireline prep at $125/hr or $1000/day for 4 days 8 ground burns @ $600/day labor and $150/day for operational costs	$89,500
Install firelines	0-5 years	10 hours per year @$475/h, archaeological monitoring $12,960, 6 culverts @ $4,200, resurvey bounds to permit this work $12,000	$73,910
Herbicide treatment & monitoring of upland invasive plants	10 years	OPS @ $12/hr for 200 hours/yr, herbicide and materials costs of $3850	$27,850

Activity	Period Covered (Year)	Estimated Cost Annual	Estimated Cost Nonrecurring
Low water crossing installation and bridging	0-7 years	Installation of 900 ft of crossing @ $150/ft, installation of two metal/timber bridges @ $30,000	$195,000
Perimeter fencing and signing	0-5 years	Metal post fencing @$3,955/ mile for 9.8 miles & signing @ $600/mile	$44,639
Park Services Specialist staffing	10 years	$45,454/yr	$454,540
Level I Archaeological survey	0-5 years	$17,000	$17,000
Evaluate & Implement DOF 2003 Timber Management Assessment	0-7years	$24,000	$24,000
Restore areas subject to dumping	0-2 years	OPS @ $12/hr for 96 hours, equipment & disposal costs of $4500	$5,652
Specialized Fire Suppression and Fire Equipment		Swamp Buggy 4X4 fire engine $108,000 ASVI RC-50 Posi-Track w/ bucket and brush cutter or Terratrac TT270 w/ Rotary mower $105,180 tri-axle trailer $6,900	$220,080

Capital Improvements

Development Area or Facilities	**Estimated Cost**
Trailhead Area	65,000.00
Trail System	82,000.00
Interpretive Signage	5,000.00
Total Cost with Contingency:	**$182,400.00**

Additional Information

FNAI Descriptions

DHR Cultural Management Statement

Descriptions Of Natural Communities Developed By FNAI

This summary presents the hierarchical classification and brief descriptions of 82 Natural Communities developed by Florida Natural Areas Inventory and identified as collectively constituting the original, natural biological associations of Florida.

A Natural Community is defined as a distinct and recurring assemblage of populations of plants, animals, fungi and microorganisms naturally associated with each other and their physical environment. For more complete descriptions, see Guide to the Natural Communities of Florida, available from Florida Department of Natural Resources.

The levels of the hierarchy are:

Natural Community Category - defined by hydrology and vegetation.

Natural Community Groups - defined by landform, substrate, and vegetation.

Natural Community Type - defined by landform and substrate; soil moisture condition; climate; fire; and characteristic vegetation.

TERRESTRIAL COMMUNITIES

XERIC UPLANDS
COASTAL UPLANDS
MESIC UPLANDS
ROCKLANDS
MESIC FLATLANDS

PALUSTRINE COMMUNITIES

WET FLATLANDS
SEEPAGE WETLANDS
FLOODPLAIN WETLANDS
BASIN WETLANDS

LACUSTRINE COMMUNITIES

RIVERINE COMMUNITIES

SUBTERRANEAN COMMUNITIES

MARINE/ESTUARINE COMMUNITIES

Definitions of Terms Used in Natural Community Descriptions

TERRESTRIAL - Upland habitats dominated by plants which are not adapted to anaerobic soil conditions imposed by saturation or inundation for more than 10% of the growing season.

XERIC UPLANDS - very dry, deep, well-drained hills of sand with xeric-adapted vegetation.

Sandhill - upland with deep sand substrate; xeric; temperate; frequent fire (2-5 years); longleaf pine and/or turkey oak with wiregrass understory.

Scrub - old dune with deep fine sand substrate; xeric; temperate or subtropical; occasional or rare fire (20 - 80 years); sand pine and/or scrub oaks and/or rosemary and lichens.

Xeric Hammock - upland with deep sand substrate; xeric-mesic; temperate or subtropical; rare or no fire; live oak and/or sand live oak and/or laurel oak and/or other oaks, sparkleberry, saw palmetto.

COASTAL UPLANDS - substrate and vegetation influenced primarily by such coastal (maritime) processes as erosion, deposition, salt spray, and storms.

Beach Dune - active coastal dune with sand substrate; xeric; temperate or subtropical; occasional or rare fire; sea oats and/or mixed salt-spray tolerant grasses and herbs.

Coastal Berm - old bar or storm debris with sand/shell substrate; xeric-mesic; subtropical or temperate; rare or no fire; buttonwood, mangroves, and/or mixed halophytic herbs and/or shrubs and trees.

Coastal Grassland - coastal flatland with sand substrate; xeric-mesic; subtropical or temperate; occasional fire; grasses, herbs, and shrubs with or without slash pine and/or cabbage palm.

Coastal Rock Barren - flatland with exposed limestone substrate; xeric; subtropical; no fire; algae, mixed halophytic herbs and grasses, and/or cacti and stunted shrubs and trees.

Coastal Strand - stabilized coastal dune with sand substrate; xeric; subtropical or temperate; occasional or rare fire; dense saw palmetto and/or seagrape and/or mixed stunted shrubs, yucca, and cacti.

Maritime Hammock - stabilized coastal dune with sand substrate; xeric-mesic; subtropical or temperate; rare or no fire; mixed hardwoods and/or live oak.

Shell Mound - Indian midden with shell substrate; xeric-mesic; subtropical or temperate; rare or no fire; mixed hardwoods.

MESIC UPLANDS - dry to moist hills of sand with varying amounts of clay, silt or organic material; diverse mixture of broadleaved and needleleaved temperate woody species.

Bluff - steep slope with rock, sand, and/or clay substrate; hydric-xeric; temperate; sparse grasses, herbs and shrubs.

Slope Forest - steep slope on bluff or in sheltered ravine; sand/clay substrate; mesic-hydric; temperate; rare or no fire; magnolia, beech, spruce pine, Shumard oak, Florida maple, mixed hardwoods.

Upland Glade - upland with calcareous rock and/or clay substrate; hydric-xeric; temperate; sparse mixed grasses and herbs with occasional stunted trees and shrubs, e.g., eastern red cedar.

Upland Hardwood Forest - upland with sand/clay and/or calcareous substrate; mesic; temperate; rare or no fire; spruce pine, magnolia, beech, pignut hickory, white oak, and mixed hardwoods.

Upland Mixed Forest - upland with sand/clay substrate; mesic; temperate; rare or no fire; loblolly pine and/or shortleaf pine and/or laurel oak and/or magnolia and spruce pine and/or mixed hardwoods.

Upland Pine Forest - upland with sand/clay substrate; mesic-xeric; temperate; frequent or occasional fire; longleaf pine and/or loblolly pine and/or shortleaf pine, southern red oak, wiregrass.

ROCKLANDS - low, generally flat limestone outcrops with tropical vegetation; or limestone exposed through karst activities with tropical or temperate vegetation.

Pine Rockland - flatland with exposed limestone substrate; mesic-xeric; subtropical; frequent fire; south Florida slash pine, palms and/or hardwoods, and mixed grasses and herbs.

Rockland Hammock - flatland with limestone substrate; mesic; subtropical; rare or no fire; mixed tropical hardwoods, often with live oak.

Sinkhole - karst feature with steep limestone walls; mesic-hydric; subtropical or temperate; no fire; ferns, herbs, shrubs, and hardwoods.

MESIC FLATLANDS - flat, moderately well-drained sandy substrates with admixture of organic material, often with a hard pan.

Dry Prairie - flatland with sand substrate; mesic-xeric; subtropical or temperate; annual or frequent fire; wiregrass, saw palmetto, and mixed grasses and herbs.

Mesic Flatwoods - flatland with sand substrate; mesic; subtropical or temperate; frequent fire; slash pine and/or longleaf pine with saw palmetto, gallberry and/or wiregrass or cutthroat grass understory.

Prairie Hammock - flatland with sand/organic soil over marl or limestone substrate; mesic; subtropical; occasional or rare fire; live oak and/or cabbage palm.

Scrubby Flatwoods - flatland with sand substrate; xeric-mesic; subtropical or temperate; occasional fire; longleaf pine or slash pine with scrub oaks and wiregrass understory.

PALUSTRINE - Wetlands dominated by plants adapted to anaerobic substrate conditions imposed by substrate saturation or inundation during 10% or more of the growing season. Includes non-tidal wetlands; tidal wetlands with ocean derived salinities less than 0.5 ppt and dominance by salt-intolerant species; small (less than 8 ha), shallow (less than 2 m deep at low water) water bodies without wave-formed or bedrock shoreline; and inland brackish or saline wetlands.

WET FLATLANDS - flat, poorly drained sand, marl or limestone substrates.

Hydric Hammock - lowland with sand/clay/organic soil, often over limestone; mesic-hydric; subtropical or temperate; rare or no fire; water oak, cabbage palm, red cedar, red maple, bays, hackberry, hornbeam, blackgum, needle palm, and mixed hardwoods.

Marl Prairie - flatland with marl over limestone substrate; seasonally inundated; tropical; frequent to no fire; sawgrass, spikerush, and/or mixed grasses, sometimes with dwarf cypress.

Wet Flatwoods - flatland with sand substrate; seasonally inundated; subtropical or temperate; frequent fire; vegetation characterized by slash pine or pond pine and/or cabbage palm with mixed grasses and herbs.

Wet Prairie - flatland with sand substrate; seasonally inundated; subtropical or temperate; annual or frequent fire; maidencane, beakrush, spikerush, wiregrass, pitcher plants, St. John's wort, mixed herbs.

SEEPAGE WETLANDS - sloped or flat sands or peat with high moisture levels maintained by downslope seepage; wetland and mesic woody and/or herbaceous vegetation.

Baygall - wetland with peat substrate at base of slope; maintained by downslope seepage, usually saturated and occasionally inundated; subtropical or temperate; rare or no fire; bays and/or dahoon holly and/or red maple and/or mixed hardwoods.

Seepage Slope - wetland on or at base of slope with organic/sand substrate; maintained by downslope seepage, usually saturated but rarely inundated; subtropical or temperate; frequent or occasional fire; sphagnum moss, mixed grasses and herbs or mixed hydrophytic shrubs.

FLOODPLAIN WETLANDS - flat, alluvial sand or peat substrates associated with flowing water courses and subjected to flooding but not permanent inundation; wetland or mesic woody and herbaceous vegetation.

Bottomland Forest - flatland with sand/clay/organic substrate; occasionally inundated; temperate; rare or no fire; water oak, red maple, beech, magnolia, tuliptree, sweetgum, bays, cabbage palm, and mixed hardwoods.

Floodplain Forest - floodplain with alluvial substrate of sand, silt, clay or organic soil; seasonally inundated; temperate; rare or no fire; diamondleaf oak, overcup oak, water oak, swamp chestnut oak, blue palmetto, cane, and mixed hardwoods.

Floodplain Marsh - floodplain with organic/sand/alluvial substrate; seasonally inundated; subtropical; frequent or occasional fire; maidencane, pickerelweed, sagittaria spp., buttonbush, and mixed emergents.

Floodplain Swamp - floodplain with organic/alluvial substrate; usually inundated; subtropical or temperate; rare or no fire; vegetation characterized by cypress, tupelo, black gum, and/or pop ash.

Freshwater Tidal Swamp - river mouth wetland, organic soil with extensive root mat; inundated with freshwater in response to tidal cycles; rare or no fire; cypress, bays, cabbage palm, gums and/or cedars.

Slough - broad, shallow channel with peat over mineral substrate; seasonally inundated, flowing water; subtropical; occasional or rare fire; pop ash and/or pond apple or water lily.

Strand Swamp - broad, shallow channel with peat over mineral substrate; seasonally inundated, flowing water; subtropical; occasional or rare fire; cypress and/or willow.

Swale - broad, shallow channel with sand/peat substrate; seasonally inundated, flowing water; subtropical or temperate; frequent or occasional fire; sawgrass, maidencane, pickerelweed, and/or mixed emergents.

BASIN WETLANDS - shallow, closed basin with outlet usually only in time of high water; peat or sand substrate, usually inundated; wetland woody and/or herbaceous vegetation.

Basin Marsh - large basin with peat substrate; seasonally inundated; temperate or subtropical; frequent fire; sawgrass and/or cattail and/or buttonbush and/or mixed emergents.

Basin Swamp - large basin with peat substrate; seasonally inundated, still water; subtropical or temperate; occasional or rare fire; vegetation characterized by cypress, blackgum, bays and/or mixed hardwoods.

Bog - wetland on deep peat substrate; moisture held by sphagnum mosses, soil usually saturated, occasionally inundated; subtropical or temperate; rare fire; sphagnum moss and titi and/or bays and/or dahoon holly, and/or mixed hydrophytic shrubs.

Coastal Interdunal Swale - long narrow depression wetlands in sand/peat-sand substrate; seasonally inundated, fresh to brackish, still water; temperate; rare fire; graminoids and mixed wetland forbs.

Depression Marsh - small rounded depression in sand substrate with peat accumulating toward center; seasonally inundated, still water; subtropical or temperate; frequent or occasional fire; maidencane, fire flag, pickerelweed, and mixed emergents, may be in concentric bands.

Dome Swamp - rounded depression in sand/limestone substrate with peat accumulating toward center; seasonally inundated, still water; subtropical or temperate; occasional or rare fire; cypress, blackgum, or bays, often tallest in center.

LACUSTRINE - Non-flowing wetlands of natural depressions lacking persistent emergent vegetation except around the perimeter.

Clastic Upland Lake - generally irregular basin in clay uplands; predominantly with inflows, frequently without surface outflow; clay or organic substrate; colored, acidic, soft water with low mineral content (sodium, chloride, sulfate); oligo-mesotrophic to eutrophic.

Coastal Dune Lake - basin or lagoon influenced by recent coastal processes; predominantly sand substrate with some organic matter; salinity variable among and within lakes, and subject to saltwater intrusion and storm surges; slightly acidic, hard water with high mineral content (sodium, chloride).

Coastal Rockland Lake - shallow basin influence by recent coastal processes; predominantly barren oolitic or Miami limestone substrate; salinity variable among and within lakes, and subject to saltwater intrusion, storm surges and evaporation (because of shallowness); slightly alkaline, hard water with high mineral content (sodium, chloride).

Flatwoods/Prairie Lake - generally shallow basin in flatlands with high water table; frequently with a

broad littoral zone; still water or flow-through; sand or peat substrate; variable water chemistry, but characteristically colored to clear, acidic to slightly alkaline, soft to moderately hard water with moderate mineral content (sodium, chloride, sulfate); oligo-mesotrophic to eutrophic.

Marsh lake - generally shallow, open water area within wide expanses of freshwater marsh; still water or flow-through; peat, sand or clay substrate; occurs in most physiographic regions; variable water chemistry, but characteristically highly colored, acidic, soft water with moderate mineral content (sodium, chloride, sulfate); oligo-mesotrophic to eutrophic.

River Floodplain Lake - meander scar, backwater, or larger flow-through body within major river floodplains; sand, alluvial or organic substrate; colored, alkaline or slightly acidic, hard or moderately hard water with high mineral content (sulfate, sodium, chloride, calcium, magnesium); mesotrophic to eutrophic.

Sandhill Upland Lake - generally rounded solution depression in deep sandy uplands or sandy uplands shallowly underlain by limestone; predominantly without surface inflows/outflows; typically sand substrate with organic accumulations toward middle; clear, acidic moderately soft water with varying mineral content; ultra-oligotrophic to mesotrophic.

Sinkhole Lake - typically deep, funnel-shaped depression in limestone base; occurs in most physiographic regions; predominantly without surface inflows/outflows, but frequently with connection to the aquifer; clear, alkaline, hard water with high mineral content (calcium, bicarbonate, magnesium).

Swamp Lake - generally shallow, open water area within basin swamps; still water or flow-through; peat, sand or clay substrate; occurs in most physiographic regions; variable water chemistry, but characteristically highly colored, acidic, soft water with moderate mineral content (sodium, chloride, sulfate); oligo-mesotrophic to eutrophic.

RIVERINE - Natural, flowing waters from their source to the downstream limits of tidal influence and bounded by channel banks.

Alluvial Stream - lower perennial or intermittent/seasonal watercourse characterized by turbid water with suspended silt, clay, sand and small gravel; generally with a distinct, sediment-derived (alluvial) floodplain and a sandy, elevated natural levee just inland from the bank.

Blackwater Stream - perennial or intermittent/seasonal watercourse characterized by tea-colored water with a high content of particulate and dissolved organic matter derived from drainage through swamps and marshes; generally lacking an alluvial floodplain.

Seepage Stream - upper perennial or intermittent/seasonal watercourse characterized by clear to lightly colored water derived from shallow groundwater seepage.

Spring-run Stream - perennial watercourse with deep aquifer headwaters and characterized by clear water, circumneutral pH and, frequently, a solid limestone bottom.

SUBTERRANEAN - Twilight, middle and deep zones of natural chambers overlain by the earth's crust and characterized by climatic stability and assemblages of trogloxenic, troglophilic, and troglobitic organisms.

Aquatic Cave - cavernicolous area permanently or periodically submerged; often characterized by troglobitic crustaceans and salamanders; includes high energy systems which receive large quantities of organic detritus and low energy systems.

Terrestrial Cave - cavernicolous area lacking standing water; often characterized by bats, such as Myotis spp., and other terrestrial vertebrates and invertebrates; includes interstitial areas above standing

water such as fissures in the ceiling of caves.

MARINE/ESTUARINE (The distinction between the Marine and Estuarine Natural Communities is often subtle, and the natural communities types found under these two community categories have the same descriptions. For these reasons they have been grouped together.) - Subtidal, intertidal and supratidal zones of the sea, landward to the point at which seawater becomes significantly diluted with freshwater inflow from the land.

Consolidated Substrate - expansive subtidal, intertidal and supratidal area composed primarily of nonliving compacted or coherent and relatively hard, naturally formed mass of mineral matter (e.g., coquina limerock and relic reefs); octocorals, sponges, stony corals, nondrift macrophytic algae, blue-green mat-forming algae and seagrasses sparse, if present.

Unconsolidated Substrate - expansive subtidal, intertidal and supratidal area composed primarily of loose mineral matter (e.g., coralgal, gravel, marl, mud, sand and shell); octocorals, sponges, stony corals, nondrift macrophytic algae, blue-green mat-forming algae and seagrasses sparse, if present.

Octocoral Bed - expansive subtidal area occupied primarily by living sessile organisms of the Class Anthozoa, Subclass Octocorallia (e.g., soft corals, horny corals, sea fans, sea whips, and sea pens); sponges, stony corals, nondrift macrophytic algae and seagrasses spares, if present.

Sponge Bed - expansive subtidal area occupied primarily by living sessile organisms of the Phylum Porifera (e.g., sheepswool sponge, Florida loggerhead sponge and branching candle sponge); octocorals, stony corals, nondrift macrophytic algae and seagrasses sparse, if present.

Coral Reef - expansive subtidal area with elevational gradient or relief and occupied primarily by living sessile organisms of the Class Hydrozoa (e.g., fire corals and hydrocorals) and Class Anthozoa, Subclass Zoantharia (e.g., stony corals and black corals); includes deepwater bank reefs, fringing barrier reefs, outer bank reefs and patch reefs, some of which may contain distinct zones of assorted macrophytes, octocorals, & sponges.

Mollusk Reef - substantial subtidal or intertidal area with relief from concentrations of sessile organisms of the Phylum Mollusca, Class Bivalvia (e.g., molluscs, oysters, & worm shells); octocorals, sponges, stony corals, macrophytic algae and seagrasses sparse, if present.

Worm Reef - substantial subtidal or intertidal area with relief from concentrations of sessile, tubicolous organisms of the Phylum Annelida, Class Polychaeta (e.g., chaetopterids and sabellarids); octocorals, sponges, stony corals, macrophytic algae and seagrasses sparse, if present.

Algal Bed - expansive subtidal, intertidal or supratidal area, occupied primarily by attached thallophytic or mat-forming prokaryotic algae (e.g, halimeda, blue-green algae); octocorals, sponges, stony corals and seagrasses sparse, if present.

Grass Bed - expansive subtidal or intertidal area, occupied primarily by rooted vascular macrophytes, (e.g., shoal grass, halophila, widgeon grass, manatee grass and turtle grass); may include various epiphytes and epifauna; octocorals, sponges, stony corals, and attached macrophytic algae sparse, if present.

Composite Substrate - expansive subtidal, intertidal, or supratidal area, occupied primarily by Natural Community elements from more than one Natural Community category (e.g., Grass Bed and Algal Bed species; Octocoral and Algal Bed species); includes both patchy and evenly distributed occurrences.

Tidal Marsh - expansive intertidal or supratidal area occupied primarily by rooted, emergent vascular macrophytes (e.g., cord grass, needlerush, saw grass, saltwort, saltgrass and glasswort); may include various epiphytes and epifauna.

Tidal Swamp - expansive intertidal and supratidal area occupied primarily by woody vascular macrophytes (e.g., black mangrove, buttonwood, red mangrove, and white mangrove); may include various epiphytes and epifauna.

DEFINITIONS OF TERMS Terrestrial and Palustrine Natural Communities

Physiography

Upland - high area in region with significant topographic relief; generally undulating
Lowland - low area in region with or without significant topographic relief; generally flat to gently sloping
Flatland - generally level area in region without significant topographic relief; flat to gently sloping
Basin - large, relatively level lowland with slopes confined to the perimeter or isolated interior locations
Depression - small depression with sloping sides, deepest in center and progressively shallower towards the perimeter
Floodplain - lowland adjacent to a stream; topography influenced by recent fluvial processes
Bottomland - lowland not on active floodplain; sand/clay/organic substrate

Hydrology

occasionally inundated - surface water present only after heavy rains and/or during flood stages
seasonally inundated - surface water present during wet season and flood periods
usually inundated - surface water present except during droughts

Climatic Affinity of the Flora

tropical - community generally occurs in practically frost-free areas
subtropical - community generally occurs in areas that experience occasional frost, but where freezing temperatures are not frequent enough to cause true winter dormancy
temperate - community generally occurs in areas that freeze often enough that vegetation goes into winter dormancy

Fire

annual fire - burns about every 1-2 years
frequent fire - burns about every 3-7 years
occasional fire - burns about every 8-25 years
rare fire - burns about every 26-100 years
no fire - community develops only when site goes more than 100 years without burning

LATIN NAMES OF PLANTS MENTIONED IN NATURAL COMMUNITY DESCRIPTIONS

anise - *Illicium floridanum*
bays:
  swamp bay -*Persea palustris*
  gordonia -*Gordonia lasianthus*
  sweetbay -*Magnolia virgiana*
beakrush - *Rhynchospora* spp.
beech - *Fagus grandifolia*
blackgum - *Nyssa biflora*
blue palmetto - *Sabal minor*
bluestem - *Andropogon* spp.
buttonbush - *Cephalanthus occidentalis*
cabbage palm - *Sabal palmetto*
cacti - *Opuntia* and *Harrisia* spp.,
  predominantly *stricta* and *pentagonus*
cane - *Arundinaria gigantea* or *A. tecta*
cattail - *Typha* spp.
cedars:
  red cedar - *Juniperus silicicola*
  white cedar - *Chamaecyparis thyoides* or *C. henryi*
cladonia - *Cladonia* spp.
cypress - *Taxodium distichum*
dahoon holly - *Ilex cassine*
diamondleaf oak - *Quercus laurifolia*
fire flag - *Thalia geniculata*
Florida maple - *Acer barbatum*
gallberry - *Ilex glabra*
gums:
  tupelo - *Nyssa aquatica*
  blackgum - *Nyssa biflora*
  Ogeechee gum - *Nyssa ogeche*
hackberry - *Celtis laevigata*
hornbeam - *Carpinus caroliniana*
laurel oak - *Quercus hemisphaerica*
live oak - *Quercus virginiana*
loblolly pine - *Pinus taeda*
longleaf pine - *Pinus palustris*
magnolia - *Magnolia grandiflora*
maidencane - *Panicum hemitomon*
needle palm - *Rhapidophyllum hystrix*
overcup oak - *Quercus lyrata*
pickerel weed - *Pontederia cordata* or *P. lanceolata*
pignut hickory - *Carya glabra*
pop ash - *Fraxinus caroliniana*
pond apple - *Annona glabra*
pond pine - *Pinus serotina*
pyramid magnolia - *Magnolia pyramidata*
railroad vine - *Ipomoea pes-caprae*
red cedar - *Juniperus silicicola*
red maple - *Acer rubrum*
red oak - *Quercus falcata*
rosemary - *Ceratiola ericoides*
sagittaria - *Sagittaria lancifolia*
sand pine - *Pinus clausa*
saw palmetto - *Serenoa repens*
sawgrass - *Cladium jamaicensis*
scrub oaks - *Quercus geminata, Q. chapmanii, Q. myrtifolia,Q. inopina*
sea oats - *Uniola paniculata*
seagrape - *Coccoloba uvifera*
shortleaf pine - *Pinus echinata*
Shumard oak - *Quercus shumardii*
slash pine - *Pinus elliottii*
sphagnum moss - *Sphagnum* spp.
spikerush - *Eleocharis* spp.
spruce pine - *Pinus glabra*
St. John's wort - *Hypericum* spp.
swamp chestnut oak - *Quercus prinus*
sweetgum - *Liquidambar styraciflua*
titi - *Cyrilla racemiflora*, and *Cliftonia monophylla*
tuliptree - *Liriodendron tulipfera*
tupelo - *Nyssa aquatica*
turkey oak - *Quercus laevis*
water oak - *Quercus nigra*
waterlily - *Nymphaea odorata*
white cedar - *Chamaecyparis thyoides*
white oak - *Quercus alba*
willow - *Salix caroliniana*
yucca - *Yucca aloifolia*

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

A. General Discussion

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

B. Agency Responsibilities

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

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

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

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

C. Statutory Authority

Statutory Authority and more in depth information can be found in the following:

Chapter 253, F.S. – State Lands

Chapter 267, F.S. – Historical Resources

Chapter 872, F.S. – Offenses Concerning Dead Bodies and Graves

Other helpful citations and references:

Chapter 1A-32, F.A.C. – Archaeological Research

Other helpful citations and references:

Chapter 1A-44, F.A.C. – Procedures for Reporting and Determining Jurisdiction Over Unmarked Human Burials

Chapter 1A-46, F.A C. – Archaeological and Historical Report Standards and Guidelines

The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings

D. Management Implementation

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

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

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

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

E. Minimum Review Documentation Requirements

In order to have a proposed project reviewed by the Division, the following information, at a minimum, must be submitted for comments and recommendations.

Project Description – A detailed description of the proposed project including all related activities. For land clearing or ground disturbing activities, the depth and extent of the disturbance, use of heavy equipment, location of lay down yard, etc. For historic structures, specific details regarding rehabilitation, demolition, etc.

Project Location – The exact location of the project indicated on a USGS Quadrangle map, is preferable. A management base map may be acceptable. Aerial photos indicating the exact project area as supplemental information are helpful.

Photographs – Photographs of the project area are always useful. Photographs of structures are required.

Description of Project Area – Note the acreage of the project, describe the present condition of project area, and any past land uses or disturbances.

Description of Structures – Describe the condition and setting of each building within project area if approximately fifty years of age or older.

Recorded Archaeological Sites or Historic Structures – Provide Florida Master Site File numbers for all recorded historic resources within or adjacent to the project area. This information should be in the current management plan; however, it can be obtained by contacting the Florida Master Site File at (850) 245-6440 or Suncom 205-6440.

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

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