

**FRED GANNON ROCKY BAYOU  
STATE PARK**

**UNIT MANAGEMENT PLAN**

**APPROVED**

**STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

**Division of Recreation and Parks**

**APRIL 21, 2006**



Jeb Bush  
Governor

# Department of Environmental Protection

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Colleen Castille  
Secretary

May 31, 2006

Ms. BryAnne White  
Office of Park Planning  
Division of Recreation and Parks  
3900 Commonwealth Blvd.; M.S. 525  
Tallahassee, Florida 32399

Re: Fred Gannon Rocky Bayou State Park

Lease # 4498

Dear Ms. White:

On April 21, 2006, the Acquisition and Restoration Council recommended approval of the Fred Gannon Rocky Bayou State Park management plan. Therefore, the Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, approved the management plan for the Fred Gannon Rocky Bayou State Park. Pursuant to Sections 253.034 and 259.032, Florida Statutes, and Chapter 18-2, Florida Administrative Code this plan's ten-year update will be due on April 21, 2016.

Approval of this land management plan does not waive the authority or jurisdiction of any governmental entity that may have an interest in this project. Implementation of any upland activities proposed by this management plan may require a permit or other authorization from federal and state agencies having regulatory jurisdiction over those particular activities. Pursuant to the conditions of your lease, please forward copies of all permits to this office upon issuance.

Sincerely,

Paula L. Allen  
Office of Environmental Services  
Division of State Lands  
Department of Environmental Protection

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## INTRODUCTION

Fred Gannon Rocky Bayou State Park is located just east of the City of Niceville, in Okaloosa County (see Vicinity Map). Access to the park is from State Highway 20. The vicinity map also reflects significant land and water resources existing near the park.

The park, while relatively small at 346.42 acres, has a diversity of natural communities and one of the highest densities of rare species per unit area among the Florida State Parks. The park is surrounded by urban development, and is separated from the 463,448-acre Eglin Air Force Base (ninety percent of which is natural area) by a ¼-mile wide residential subdivision (see Reference Map). The degree to which the park is biologically isolated from Eglin is unknown.

Within the park, longleaf pines that predate the American Revolution stand in contrast to adjacent highways and contemporary golf course communities. Deep, shaded steephead ravines harbor clear, cool seepage streams that provide water for a profusion of evergreen shrubs and trees that form a thick baygall forest and rare bog communities. These areas along with the rest of the park's communities provide a refuge for rare plants, deer, raccoon, opossum, a variety of bird life, and a place for people to escape the fast pace of urban life.

In April 2005, the State assumed ownership of the property which until that time was managed as a state park under a special use permit from the federal government. At Rocky Bayou State Park, public outdoor recreation and conservation is the designated single use of the property (see Addendum 1).

## PURPOSE AND SCOPE OF THE PLAN

This plan serves as the basic statement of policy and direction for the management of Rocky Bayou 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. 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, 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

## **Vicinity Map**

## **Reference Map**

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 no secondary purposes could be accommodated in a manner that would not interfere with the primary purpose of resource-based outdoor recreation and conservation. 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 or the management purposes of the park.

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 multiple-use management activities would not be appropriate as a means of generating revenues for land management. Instead, techniques such as entrance fees, concessions, and similar measures will be employed on a case-by-case basis as a means of supplementing park management funding.

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 Operations Manual (OM) and cover 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 Rocky Bayou State Park, emphasis is placed on maximizing the recreational potential of the recreation area; however, preservation of resources remains important. Depletion of a resource by any recreational activity is not permitted. In order to realize the unit's recreational potential, development in the park is aimed at providing facilities that are accessible, convenient and safe, as needed to support recreational use or the unit's natural, aesthetic and educational attributes.

### **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 process to update this management plan, the Division reviewed the goals and objectives of the previous plan to determine if they remain meaningful and practical and should be included in the updated plan. This 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.

### **Natural and Cultural Resources**

- 1.** Protect, restore and maintain natural communities.
  - A.** Map all areas to be restored or maintained as sandhill and scrub and to distinguish wet flatwoods and seepage slope from areas currently mapped as baygall.
  - B.** As a cooperative effort between park staff and district and BNCR biological staff, develop and implement a restoration/maintenance plan for sandhill (stands of old-growth longleaf pine) and old-growth sand pine scrub.
  - C.** Continue ongoing Division research, as a cooperative effort between park, district, and BNCR biological staff, to characterize the old-growth longleaf pine, sandhill, and old-growth scrub.
  - D.** Develop and implement a plan that effectively restores and maintains, intact, a significant majority of the natural shoreline vegetation on Rocky Bayou, protects the nearby and adjoining aboriginal middens (see 5.B below), and controls/directs public access.
  - E.** Coordinate with Aquatic Preserve staff to establish a no wake zone adjacent to the park and study the water quality of Rocky Bayou.
  - F.** Establish baseline data for the steephead streams through DEP Division of Resource Assessment and Management water quality and streamside biota sampling.
  - G.** Coordinate with Aquatic Preserve staff to monitor and record significant impacts to seagrass beds.

2. Protect, restore and maintain native plant diversity and listed species, especially pitcherplants.
  - A. Establish a protocol for periodically monitoring rare plant species on a regular basis, especially red pitcherplant, large-leaved jointweed, Gulf Coast lupine, pond spicebush, and pink catchfly.
  - B. Survey the park for pink catchfly and insure that adequate measures are taken to protect it.
  - C. As part of an effort to save associated rare plant occurrences, efforts should be undertaken to maintain and expand openings in the scrub to support occurrences of large-leaved jointweed and enhance the potential for discovery of Gulf Coast lupine (not seen since 1995). Continue to work within the division to finalize our management techniques for Choctawhatchee sand pine scrub. Following this, these efforts should be integrated into a scrub restoration plan.
  - D. Develop a restoration and maintenance plan for the bog communities through the combined efforts of park and district and BNCR biological staff. This plan will primarily focus on restoration and maintenance of the herbaceous groundcover, increasing the numbers of red pitcherplant and reintroducing white pitcherplants. A combination of hand removal and prescribed burning will likely be required.
  - E. Determine what actions should be taken concerning the breached earthen dam that maintains Puddin Head Lake. If the decision is made to remove the dam or let it decline such that the lake drains away, a plan will be developed to restore the steephead vegetation.
3. Establish and maintain prescribed fire program.
  - A. Establish the precise locations and boundaries of burn zones and firebreaks through a cooperative effort of BNCR and district biological staff and park staff
  - B. Identify and take the necessary precautions when burning to protect the old-growth longleaf pine (sandhill community) and representative samples of the old-growth sand pine scrub.
  - C. As part of efforts to reintroduce fire into White Cedar Bog, efforts should be taken as soon as feasible to reintroduce fires into the adjacent flatwoods. (See objective 2.C.).
  - D. Continue close monitoring of the viability of the old-growth longleaf pines to gauge impacts of prescribed fire and adapt restoration strategies accordingly.
4. Control exotic and nuisance species.
  - A. Survey for beavers and take active measures to remove any that are posing a threat to sensitive species.
  - B. If removed, make regular inspections and remove any beavers that attempt to reestablish in these areas, especially in the White Cedar Bog.
  - C. Remove any dams, partial dams, or other structures built by beavers that are posing a threat to sensitive species.
5. Protect and maintain cultural resources.
  - A. Establish and maintain a cultural resource management program to protect and interpret park archaeological resources.
  - B. (See 1.D above.)

### **Recreational Goals**

6. Continue to provide quality resource based outdoor recreational and interpretive programs and facilities.
  - A. Maintain campground for tent and RV use.
  - B. Maintain opportunities for picnicking, hiking, fishing and boat launching.
  - C. Continue to work with neighbors to address resource needs and prescribed burning concerns.

7. 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. Upgrade overnight facilities.
    - 1) Increase vegetative buffer between campsites.
    - 2) Provide two additional volunteer campsites.
    - 3) Develop group camp area.
    - 4) Provide overnight boating facilities.
    - 5) Monitor bathhouse capacity.
  - B. Increase capacity of day use area.
    - 1) Facilitate water access from the picnic area with dock construction.
    - 2) Provide bike lane along paved park roads.
    - 3) Delineate and increase parking in picnic area.
    - 4) Replace restroom when need for larger facility arises.
    - 5) Investigate potential of additional spaces in boat trailer parking lot.
  - C. Increase interpretation through self-guided and guided tours and inclusion of different times important in park history.
    - 1) Develop a Statement of Interpretation.

### **Park Administration/Operations**

8. Continue to provide quality administrative and operational services.
  - A. Continue to ensure that essential maintenance measures are implemented in order to provide attractive, clean and serviceable facilities for park visitors.
  - B. Provide staff with appropriate training opportunities in visitor services, resource management, park operations and interpretation.
  - C. Continue to recruit and train volunteers to assist park staff with the maintenance of park facilities, protection of park resources, implementation of park programs, and operation of main entrance station.
  - D. Establish community based special events.
  - E. Replace shop building in shop compound area.
  - F. Replace ranger residences with permanent structures.

### **Management Coordination**

The park is managed in accordance with all applicable Florida Statutes and administrative rules. Agencies having a major or direct role in the management of the park 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 park 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. Division and CAMA staff will work closely on the planning, design and permitting processes for new structures on Rocky Bayou that are proposed by this management plan.

### **Public Participation**

The Division provided an opportunity for public input by conducting a public workshop on

October 27, 2003. The purpose of this meeting was to present this draft management plan to the public. A DEP Advisory Group meeting was held on August 23, 2005. The purpose of this meeting was to provide the Advisory Group members the opportunity to discuss this draft management plan.

### **Other Designations**

Rocky Bayou State Park is not within an Area of Critical State Concern as defined in section 380.05, Florida Statutes. Currently it is not under study for such designation. The park 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 III waters by DEP. This unit is adjacent to the Rocky Bayou Aquatic preserve as designated under the Florida Aquatic Preserve Act of 1975 (section 258.35, Florida Statutes).

## **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**

Fred Gannon Rocky Bayou State Park falls within the Gulf Coastal Lowlands province, a physiographic region close to the Gulf of Mexico. This province is separated from the Western Highlands by the Cody Scarp. Topography at the park is generally at elevations of 25 feet but drops sharply at the steephead formations, where the collapse of underlying soils and rock by seepage has formed deep-cut valleys. One of the two steepheads at the park, Puddin Head Lake, has been substantially altered through impoundment, however, the park's other steephead is more pristine. Just to the east of the park, elevations range from 100 feet in high dry pinelands, to less than 25 feet in the numerous steepheads.

##### **Geology**

Geologists have described geologic units as proceeding from the deepest unit of Chickasawhay Limestone, to Bruce Creek Limestone, Intracoastal Formation, to the Citronelle formation, to undifferentiated surficial sediments on the soils surface (U.S.D.A. 1995).

##### **Soils**

Four soil series are found at this park (U.S.D.A. 1995). High pineland areas are occupied by sandy, excessively drained Lakeland soils, found on broad ridgetops in the uplands. The stream

bases of steepheads are incipient sandy soils at seepage stream origin, and become mucky soils as the streams proceed toward the bayou. A small pond area is found at the site of Rutlege sand, depressional soils (see Soils Map). Detailed descriptions of each soil type are included in Addendum 3.

### **Minerals**

No minerals are commercially mined in Okaloosa County.

### **Hydrology**

There are two aquifer systems in Okaloosa County. The first is the sand and gravel aquifer and is filled by local rainfall (U.S.D.A. 1995). The Floridan aquifer system in Okaloosa County is found in the deep limestone formations.

Two seepage streams occur at the park. The Puddin Head Lake seepage stream was dammed in the early 1960s by the USFS in order to create Puddin Head Lake. This plan addresses restoration planning for this heavily impacted stream. The second seepage stream is located near the park's eastern boundary, and meanders on and off the park along its upper portion. The steephead for this stream is located just inside of the park near the adjacent elementary school. The stream curves northeast, off park property and into the residential development of Blue Water Bay, then curves northwest back onto the park for the remainder of its course. The lower portion of this stream meanders through dense, evergreen baygall and shrub bog communities before draining into Rocky Bayou.

The waters of Rocky Bayou border the park to the north and west. Seagrass within the bayou is limited to widgeon grass. This northern extension of the Choctawhatchee Bay is a relatively low salinity/brackish bayou due largely to the input of freshwater from Rocky Creek. This sandy bottom creek begins as a trickle on the Egin Reservation, near Bob Sikes Road (Hwy 280). The creek meanders to the south for approximately 20 miles, passing through sand hill and flood plain swamp, before draining into the far eastern end of Rocky Bayou. The clarity of the creek water varies. At times the water can be quite clear, however it is generally tannic particularly following periods of significant rainfall.

### **Natural Communities**

The system of classifying natural communities employed in this plan was developed by the Florida Natural Areas Inventory (FNAI) Descriptions. 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 park contains ten distinct natural communities (see Natural Communities Map) in addition to ruderal and developed areas. Park 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.** Coastal flatwoods of slash pine rims the shoreline of Rocky Bayou. This is generally a thin linear strip of mesic flatwoods that quickly grades into either scrub or hammocks associated with shell mounds. The understory of this shoreline rim of flatwoods is dominated by

## **Soils Map**

## **Natural Communities Map**

saw palmetto, wax myrtle, and gallberry. Other species found here include pignut hickory, yaupon holly and red bay.

Slash pine-dominated flatwoods also occur in the northeast corner of the park. This area of flatwoods occurs near baygall, and partially around the rim of this wetland community. Some very large diameter slash pines occur here. Some of these trees are in excess of 25 inches dbh, and are apparently remnants of the park's original old growth. Additionally, there is a dense area of mesic flatwoods around the depression marsh adjacent to Highway 20. This area of flatwoods consists of a dense, partially closed, canopy of slash pine and longleaf pine, with a thick understory of gallberry and saw palmetto. This southern pocket of flatwoods quickly grades into the surrounding old growth longleaf pine sandhill, and is especially noteworthy for an associated population of a state endangered shrub, pond spice.

**Sandhill.** Relatively high, dry longleaf pine communities at Rocky Bayou are presently classified as sandhills, although some areas might have originally been scrubby flatwoods. The overall vegetative assemblage does not fit well within the FNAI natural communities' classification, but it is unknown how much of this is due to decades of fire exclusion and how much can be attributed to actual floristic characteristics of the original fire maintained community. The largest area of sandhill is located in the general area between the main park drive and Puddin Head Lake. This area encompasses one of the few remaining stands of truly old growth longleaf pine (first identified in 1995, see Johnson et al. 1996), although the number of original trees has been significantly reduced by past logging activities and regeneration has been almost nonexistent for several decades (pers. comm., Erik Johnson, Biological Scientist, BNCR). Preliminary work conducted as part of ongoing Division research indicates that many of the widely scattered overstory longleaf pines are 150-300 years of age (some individuals perhaps older). Many of the longleaf are 20-25 inches dbh, and exhibit classic signs of great age such as large diameter twisted limbs comprising a flat-topped crown, twisted trunks, presence of red-heart disease conchs, and thickly layered bark plates that are curled outward from the base of the trunk. Other tree species found here include turkey oak, post oak, sand-live oak, Arkansas oak, chinquapin, fringe tree, hawthorn, sparkleberry, southern magnolia and pignut hickory.

The sandhill areas of the park have been severely degraded from the invasion of off-site sand pine and hardwoods from adjacent communities. The oldest sand pines found within the sandhill community are just over 70 years, with the majority being much younger. Lack of fire has allowed this aggressive colonizer (sand pine) to become established and become abundant in the sandhill, contributing greatly to formation of a closed canopy. Consequently, the original herbaceous groundcover has been severely degraded. Additionally, Hurricane Opal (October, 1995) and other tropical storms in the 1990s felled many of the larger, well established sand pines – opening light gaps that were quickly filled by thickets of young sand pines. Presently, typical sandhill herbaceous groundcover species (e.g., wiregrass, pineywoods dropseed, butterfly milkweed, bush goldenrod and bracken fern) are widely scattered, and are most apparent in small openings where the sand pines have yet to colonize. Management measures that include selective removal of off-site species and reintroduction of prescribed fire are essential to restoring and maintaining one of the last remaining old growth stands of longleaf pine in the southeast.

**Scrub.** Sand pine scrub community covers a large portion of the park's uplands. Typically, in the Panhandle this natural community is largely confined to coastal areas where the occurrence of natural fires was less frequent. Bayous of Choctawhatchee Bay might have served to restrict the spread of naturally occurring lightning fires. Nonetheless, fire appears to have been a significant factor in shaping the mosaic of natural communities that occurs in and around Rocky Bayou

State Park. The park's scrub community consists of uneven aged stands of Choctawhatchee sand pine. It has been suggested that major tropical weather events, as well as fire, play a major role in the natural management of this species in the Panhandle (Huck et al 1996). Hurricane Opal felled a large number of sand pines throughout the park's scrub. Many portions of the sand pine forest have since been littered with sand pine logs that were blown down in Opal's strong winds. In the years that followed, dense thickets of young sand pines grew up in most of the openings created by the storm.

The scrub community at Rocky Bayou State Park is unique when compared to the classic FNAI description for this natural community. Some portions of the scrub appear to be taking on characteristics of xeric hammock, and the aspect of this community has been differentiated as "xeric forest" (Platt in Huck et al. 1996) with the presence of southern magnolia, fringe tree, hickories, sourwood, chinquapin, devilwood, American holly, and shrubs of blueberries, saw palmetto, sebastian bush, and red sage. A rare panhandle species, large-leaved jointweed also occurs in openings within the park's scrub and portions of the sandhill. This may be the most inland occurrence for this endangered plant which otherwise has only been identified in low, salt pruned scrub adjacent to beach dunes. Gulf Coast Lupine (a seed-banking species) is found here as well, although it has not been seen in the park since 1995 – an indication that fire is greatly needed to maintain openings in the scrub (pers. comm., Erik Johnson, Biological Scientist, BNCR).

**Shell mound.** The more mesic vegetation expression on these sites mapped within the park is a result of changed soil chemistry (increased nutrients and high calcium) resulting from aboriginal occupation and deposition of shell, found along most of the park shoreline with Rocky Bayou. The associated calcareous substrate has allowed a more mesic type of community to develop that is characteristic of a maritime hammock. Southern magnolias, southern red cedar, hickories, live oaks, devilwood and red bay are species found here. Lithic scatter has been found throughout the park, along trails, in various spots throughout the woods, and even in the picnic ground – all indicating widespread use of the area by prehistoric man. Further research investigating these sites and protecting shell mounds, middens, and artifacts through interpretation to visitors is essential.

**Baygall.** Baygall wetlands are assemblages of evergreen shrub/tree thickets that border the park's eastern seepage streambed. Baygalls are absent from the Puddin Head Lake, as they were flooded out by the impoundment. The origin of the easternmost steephead, where Florida anise occurs, has been altered considerably by the natural impact of Hurricane Opal. Many of the large trees were damaged or blown down around the head of the ravine. The seepage streams follow their courses and, as they proceed, peat builds in the baygall. Swamp azaleas, sweetbay magnolias, redbays and sweet gallberries form a dense subcanopy below the scattered slash pines and Atlantic white cedars. Portions of the baygall grade into bog and what is probably restorable seepage slope.

**Depression marsh.** The park's only depression marsh is isolated near State Road 20. The site has been impacted by road widening. It is rimmed by pond spice, a woody shrub that is state listed. This depression marsh has had either very little water, or has been completely dry since the onset of drought in 1998. The marsh is bordered by thick mesic flatwoods immediately to the north.

**Seepage stream.** Cool, shaded, clear water streams are found at the base of the steephead ravines. The source of these streams is rainwater that has percolates through the deep sands and

eventually emerges at the bottom of the steephead ravines. Three seepage streams are found on the park, and the only one that is entirely on park property is the stream that was dammed to form Puddin Head Lake. The entire stream within the eastern most steephead is not within park property. About half way down its course, the stream bows out into the adjacent housing development of Bluewater Bay. The lower section of this seepage stream, as well as its outfall into Rocky Bayou, is again on park property. It is here in this lower section where an intact bog natural community has recently been identified and described (see Bog, below). The very rare red pitcher plant *Sarracenia rubra* has been found growing in these areas, where sun light trickles through the overstory of Atlantic white cedar and bay trees.

The seepage stream that has been impounded to form Puddin Head Lake is allowed to resume its natural course below the earthen berm, weaving through a large marshy area before flowing into Rocky Bayou. Both of the park's seepage streams provide excellent habitat for a variety of amphibians and small fish.

**Bog.** During a recent statewide Resource Management Evaluation (Johnson 2001), Division staff discovered and described two "Seepage Stream" Bogs within the park, both near the mouths of steephead stream and extremely difficult to access. One, named *White Cedar Bog* for ease of discussion, is characterized by nearly impenetrable thickets of various shrubs, saplings, trees (including black titi, titi, fetterbush, wax myrtle, odorless bayberry, Atlantic white cedar, and slash pine) and smilax interspersed with more open patches of sphagnum supporting three species of pitcherplant (two previously not recorded from park) - all supported by deep, water-logged and quaking sphagnum peat. A second, named *Puddin Head Bog* has been highly degraded by placement through it of the earthen dam to form Puddin Head Lake, and inundation of the remaining intact portion by beavers. This bog once supported white-top pitcherplant (based on information in FNAI database), but the species has apparently been extirpated from the site.

**Estuarine seagrass beds.** Seagrass beds, fringe the shoreline of the bayou, and occur within the park's 400-foot management authority. Sea grass beds are important nursery beds for fish and other aquatic invertebrates. The grass beds are dominated by widgeon-grass here. This is a low wave energy community and the popularity of near shore skiing and boating is endangering the health of this community. A plan should be written to protect the grassbeds here as well as other shoreline features.

**Ruderal and developed.** Developed areas at the park include the campground, picnic areas, boat ramp area, shop, residencies and paved roads. The linear strip of park land impacted by Highway 20 is considered ruderal.

**Ruderal—lake impoundment.** A seepage stream was impounded by construction of an earthen dam in the 1960s (prior to state management) to form Puddin Head Lake, inundating species-rich baygall and bog communities (see Johnson 2001). The earth berm and impounded area are considered ruderal.

### **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 park. Management measures will be addressed later in this plan.

Rocky Bayou State Park is one of the most diverse botanical sites in the western Florida Panhandle. Several designated species of plants add to the unique character of this bay shore park. Hairy wild indigo, large-leaved jointweed and Gulf Coast lupine are found in the park's sandhill and portions of the scrub community. Baltzell's sedge and Florida star anise are found in the eastern steephead, while red pitcherplant, parrot pitcherplant, purple pitcherplant and spoon-leaved sundew are found in the extensive baygall bog that occurs in the lower section of the associated seepage stream. Additionally, pond spice grows around the northern rim of the park's depression marsh located adjacent to State Road 20.

The park also provides a sanctuary for a variety of animals including listed species such as the American alligator, gopher tortoise, little blue heron, snowy egret and tricolored heron. The park's baygall/pitcherplant bog may likely harbor the rare Florida bog frog, which is endemic to the western panhandle. The majority of known sites for this species are located on Eglin Air Force Base.

### **Special Natural Features**

A pristine steephead occurs on park property just one-quarter mile east of the impounded Puddin Head Lake. The sandy plateau of sand pine, Arkansas oak, magnolia, sparkleberry, woody goldenrod and red sage association drops off abruptly into a cool, moist steephead dominated by Florida anise, an aromatic-leaved small tree. Near the middle of its run, the central seepage stream meanders off and then returns to state property. Steephead ravines are found throughout inland Walton and Okaloosa Counties. Some of these steepheads harbor a Pleistocene flora, disjunct and isolated from Appalachian affinities. This eastern steephead at Rocky Bayou has remnants of such a flora.

### **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.

The Florida Master Site File (FMSF) lists ten recorded sites at the park. This section of Okaloosa County around the bayous and seepage streams is extraordinarily rich in cultural resources, particularly prehistoric resources. With the exception of one historic World War II concrete bombing site, all of the park's recorded sites are archaeological. The prehistoric sites consist of various shell middens and lithic scatters. Those occurring along the bayou are at least partially grown over by hammock.

## **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.

During the development of this plan, an analysis was made regarding the feasibility of timber management activities for this park. It was then determined that the primary management objectives of the unit could be met without conducting timber management activities for this management plan cycle. Timber management will be reevaluated during the next revision of this management plan.

### **Additional Considerations**

Rocky Bayou State Park has one of the few old growth stands of longleaf pine found in the Florida State Parks system. Many of the park's longleaf are two feet in diameter and 70 feet tall. Many of the trees are 150-300 years old (based on ongoing Division research). When the oldest of these trees were saplings, the United States did not yet exist and the King of Spain owned Florida. However, years of fire exclusion have severely degraded the stand, leaving the park's sandhill community heavily overgrown with off-site hardwoods and sand pines that have seeded in from adjacent scrub areas. The oldest sand pines within the longleaf stand have been aged at just over 70 years, far younger than the longleaf pines. Low herbaceous herbs and grasses have largely disappeared from much of the sandhill areas, particularly those areas where sand pines have formed dense thickets. Because longleaf pine regeneration has been almost nonexistent, younger age classes are essentially missing from the stand.

In June 2002, initial steps were taken, in coordination with District and BNCR biological staff, to begin the restoration of this unique and special natural resource. Off-site species such as sand pines, laurel oaks and water oaks were removed via a fuel wooder operation. This entailed the whole tree chipping and removal of off-site species, with special care given to minimize impacts of heavy equipment to longleaf pines and scattered on-site oak species (e.g., post oak, live oak, and Arkansas oak). Plant species proportions have shifted heavily towards low shrubby hardwoods such as sand live oak, laurel oak and yaupon holly. Efforts to re-establish more natural proportions of these hardwoods should include selective removal via basal bark herbicide application, and bush hog mowing prior to applying fire.

With the removal of off-site species, and the reduction of hazardous fuel loads, plans to prescribe burn the park's sandhill should be coordinated through the District 1 office. Prescriptions should address impacts of burning into the deep duff layers that have accumulated around the old trees, and consider measures to resolve/avoid these impacts. Additional site preparation may be necessary in portions of the sandhill prior to the reintroduction of low intensity prescribed fire.

Rocky Bayou is one of only two Florida State Parks that has a verified extant population of the rare red pitcherplant *Sarracenia rubra*. Several clumps of suppressed red pitcherplants have been recently discovered growing in the filtered sunlight, within relative breaks in the thick baygall canopy in the northeast portion of the park. Where overhanging evergreen shrubs and trees have been removed, the pitcherplants have responded remarkably well, rebounding with robust new growth and blooms. Additional hand removal of overhanging vegetation that shades out these rare plants should be considered, along with careful application of prescribed fire. An additional concern regarding pitcherplant habitats is beaver activity. Beaver dams have inundated similar

pitcherplant habitat associated with the north end of the Puddin Head Lake seepage stream. This same scenario could happen slightly further to the east in the White Cedar Bog seepage stream, with disastrous results for the red, purple and parrot pitcherplants. Periodic monitoring of this botanically significant area should be a regular resource management activity at this park. If beaver activity is beginning to flood rare plants, then measures should be taken to remove the animals from that location. As a courtesy, the FWC will be notified of any removal of native animals for the intent of overall habitat management.

The management of the 400-Foot Sovereign Submerged Areas applies to seagrass beds located in the shallows of Rocky Bayou just off the park's shoreline. Sea grass beds are important nursery beds for fish and other aquatic invertebrates. The grass beds are dominated by widgeon-grass here. This is a low wave energy community and the popularity of near shore skiing and boating is endangering the health of this community. A plan should be written, in coordination with the adjacent aquatic preserve to protect the grassbeds here as well as other shoreline features.

### **Management Needs and Problems**

1. Impacts to the park's seepage stream natural communities, from adjacent development, are a concern. The streams should be monitored through the implementation of baseline water quality data collection and streamside condition index (SCI) monitoring.
2. There is a need to continue restoration of the park's sandhill in order to preserve old growth longleaf pines.
3. A prescribed fire program is needed in this park as an effective management tool for preserving/promoting longleaf pine and pitcherplant habitats.
4. A basic monitoring protocol needs to be established in order to monitor populations of rare plant species at the park.
5. Restoration of the former seepage stream and steephead ravine, impounded to form Puddin Head Lake, is a consideration that needs to be formally addressed by Park, District and BNCR staff, in order to establish consensus that will guide future management measures.
6. Erosion along the bayou shoreline, as well as impacts from boaters on seagrass beds, needs to be monitored.
7. A cultural resource management program, including an interpretation program for the protection of the cultural resources needs to be established. Efforts should be coordinated through the Bureau of Natural and Cultural Resources.

### **Management Objectives**

The resources administered by the Division are divided into two principal categories: natural resources and cultural resources. The Division's 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. Conduct water quality and streamside biota sampling in order to establish baseline data for the park's steephead streams.
2. Continue efforts to restore the park's old growth sandhill natural community.
3. Develop and implement a prescribed fire program that focuses on high quality restoration and maintenance of old growth longleaf pine forests and pitcherplant habitats.
4. Establish the precise locations and boundaries of burn zones and firebreaks through a cooperative effort of BNCR and district biological staff and park staff.
5. Identify and take the necessary precautions when burning to protect the old-growth

- Longleaf pine (sand hill community) and representative samples of the old growth sand pine scrub.
6. As part of efforts to reintroduce fire into White Cedar Bog, efforts should be taken as soon as feasible to reintroduce fires into the adjacent flatwoods.
  7. Continue close monitoring of the viability of the old-growth longleaf pines to gauge impacts of prescribed fire and adapt restoration strategies accordingly.
  8. Continue ongoing Division research, as a cooperative effort between park, district and BNCR biological staff, to characterize the old-growth longleaf pine, sandhill and old growth scrub.
  9. Establish a basic protocol for periodically monitoring populations of rare plants at the park.
  10. Coordinate with district and BNCR environmental staff to consider the possibility of restoring the former steephead and associated seepage stream that was impounded to form Puddin Head Lake. If the decision is made to remove the dam or let it decline such that the lake drains away, a plan will be developed to restore the steephead vegetation.
  11. Develop and implement a plan that effectively restores and maintains, intact, a significant majority of the natural shoreline vegetation on Rocky Bayou, protects the nearby and adjoining aboriginal middens, and controls/directs public access.
  12. Establish a cultural resource management program, with emphasis on interpretation, in order to protect the park's significant archaeological resources.
  13. Coordinate with Aquatic Preserve staff to monitor and record significant impacts to seagrass beds and shoreline erosion.
  14. Coordinate with Aquatic Preserve staff to consider the possibility of establishing a no wake zone adjacent to the park.
  15. Survey the park for pink catchfly and, if found, insure that adequate measures are taken to protect it.
  16. Maintain and expand openings in the scrub to support occurrences of large-leaved jointweed and enhance the potential for discovery of Gulf Coast lupine (not seen since 1995).
  17. Develop a restoration and maintenance plan for the bog communities through the combined efforts of park and district and BNCR biological staff with primary focus on restoration and maintenance of the herbaceous groundcover, increasing the numbers of red pitcherplant and reintroducing white pitcherplants. A combination of hand removal and prescribed burning will likely be required.

### **Management Measures for Natural Resources**

#### **Hydrology**

Protection of the clear steephead streams is a critical concern at this park. Basic water quality parameters such as nitrate-nitrite, total phosphorus, hydrocarbon and dissolved oxygen levels should be requested/coordinated through the DEP Northwest District Office (850) 595-8300. Streamside Condition Index (SCI) should be requested from the DEP, Environmental Assessment Section (850) 921-9730. These assessments are necessary in order to establish baseline data that will enable land managers to accurately monitor and assess impacts to the park's water resources.

Management of Puddin Head Lake is one of the major concerns at this park. This natural steephead feature was impounded during the 1960s, creating a 10-acre lake. A subsequent storm washed away a portion of the earthen berm holding the impoundment, but, just as quickly, beavers moved in to repair it. Beavers have built several dams here. Breakage of the dam is a concern to aquatic preserve managers, as substantial amount of silt could be introduced into the Preserve. In 1993, a plume of gasoline contaminants was discharging into the pond at the state

park. However, after treatment, levels of contaminants are no longer significant. All specialized clean up equipment has long since been removed.

Restoration of the former Puddin Head Lake seepage stream and steephead ravine is compatible with a natural systems approach to land management with emphasis on the restoration and management of examples of natural domain. Park staff should address this restoration issue with District and BNCR staff in order to establish consensus that will guide future management measures.

### **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 park is partitioned into burn zones, and burn prescriptions are implemented for each zone. The park 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.

Longleaf pinelands, mesic flatwoods and pitcherplant habitats at the park require frequent, low intensity fires in order to maintain a relatively open understory. Low herbaceous vegetation found in longleaf pinelands and pitcherplant bogs are dependent on fire regimes that mimic natural process. Three burn zones have been established at the park. These burn zones encompass slash pine dominated flatwoods, pitcherplant bog, and longleaf pine areas.

Evaluation of the existing fire type communities is a continual process updated annually in the district burn plan. Specific burn zone information regarding species composition, current fuel loads, management objectives, management recommendations, burn zone history, burn prescriptions and GIS generated maps can be referenced in the district plan. As prescribed burning continues at the park, natural community proportions may be adjusted.

### **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.

A regular burn program is probably the most effective measure for promoting suitable wildlife habitat and overall species diversity. Although gopher tortoises are no longer common in this urban interface park, routine burning will provide suitable habitat for possible recruitment from Eglin AFB, if a wildlife corridor still exists. In recent years, only one active tortoise burrow has been recorded on the park.

The majority of the state listed pond spice that once occurred around the park's depression marsh was eliminated when stormwater infrastructure was built in conjunction with the State Highway 20 road-widening project. The handful of hydrophytic shrubs that remain along the north side of the marsh should be periodically monitored.

Pitcherplants occurring in the extensive and highly variable habitat of the park's baygall community require management measures. Particularly, the state listed red pitcherplant is in danger of being extirpated from the park, unless removal of overhanging titi and bay trees is

accomplished. In the few places where the overstory hardwoods have been hand removed, the red pitcherplants have responded to the increased sunlight with new growth, and blooms. Additionally, prescribed fire should be applied to these open herbaceous portions of the overall wetland, as a tool to keep the pitcherplant sites clear of woody vegetation. Ideally, fire should be applied under weather and drought index conditions that will allow fire to carry within the open, sunlit pitcherplant sites, and creep into the surrounding hardwoods only to burn out under the moist shady canopy. The majority of the baygall is comprised of a dense canopy of titi and sweetbay, with numerous Atlantic white cedars. There is very little understory vegetation beneath this canopy, aside from thick mats of Sphagnum moss and a few scattered parrot and purple pitcherplants that appear to be hanging on despite shading. It appears that these heavily wooded areas have conditions that resist the spread of naturally occurring fires, and would only burn under extreme drought conditions, that would most probably result in a catastrophic, stand replacement burn.

### **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. Therefore, the policy of the Division is to remove exotic species from native natural communities.

Exotic plant species do not appear to be a major problem at this park. The most likely exotic species that may begin to colonize the park is Chinese tallow, since these trees occur in adjacent communities as ornamentals.

Obvious signs of feral hog damage have been noted within wetland areas at the park. The rooting feeding behavior of these non-indigenous omnivores threatens listed plants, and efforts should be taken to remove them from the park.

Feral cats have a significant impact on native songbirds, small mammals and herpetofauna. Park staff should watch for signs/indicators of feral cats on park land. If detected, they should be trapped and removed to the nearest county or city animal control facility. District 1 environmental staff is available to assist with humane trapping / removal efforts.

### **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 is the potential for problem encounters with alligators, but signs are posted within the park that interprets the potential hazards associated with this species.

### **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. Approval from Department of State, Division of Historical Resources (DHR) must be obtained before taking any actions, such as development or site improvements that could affect or disturb the cultural resources on state lands (see DHR Cultural Management Statement).

Actions that require permits or approval from DHR include development, site excavations or surveys, disturbances of sites or structures, disturbances of the substrate, and any other actions that may affect the integrity of the cultural resources. These actions could damage evidence that would someday be useful to researchers attempting to interpret the past.

This section of Okaloosa County around the bayous and seepage streams is extraordinarily rich in cultural resources, particularly prehistoric resources. Ten master site file numbers are recorded for this area, and except for one historic World War II bombing concrete bombing site, all are archaeological. Indeed the protection of these sites is very much a priority at Rocky Bayou State Park. Brush cutting is expanding further into new areas of the picnic area, exposing valuable artifacts. Often the shell piles of the sites are encountered throughout the visitor areas, especially in the campgrounds and picnic areas. Visitor support is needed to protect these sites, and cultural resources program, with interpretive signs should be explored.

Erosion along the shores of this park is also a key issue because artifacts can be washed away. A written maintenance plan to conserve the cultural resources, including an interpretive program, will be initiated. Record keeping systems for the park, with emphasis on periodic site condition assessments should be kept and updated annually.

### **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.

1. On going restoration and management of the park's longleaf pine community will continue to provide opportunities to study the effects of various restoration measures on an old growth stand.
2. A restoration plan for the former steephead of Puddin Head Lake should be developed in coordination with District and BNCR staff.
3. A restoration/management plan for disturbance dependent scrub plants such as large-leaved jointweed and Gulf Coast lupine should be developed. This plan should include mapping of populations.

#### **Cultural Resources**

Research is needed to develop a perspective on the rich prehistoric and historic background of this area. The goal will be to establish an interpretive program for visitors that will result in more protection for cultural resources.

### **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 6. Cost estimates for conducting priority management activities are based on the most cost effective methods and recommendations currently available (see Addendum 6).

### **Land Management Review**

Section 259.036, Florida Statutes, established land management review teams to determine whether conservation, preservation, and recreation lands titled in the name of the Board of

Trustees of the Internal Improvement Trust Fund (board) 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 board of trustees, acting through the Department of Environmental Protection (department). The managing agency shall consider the findings and recommendations of the land management review team in finalizing the required update of its management plan. This park has not been subjected to a land management review.



## **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 the park's interaction with other facilities.

Fred Gannon Rocky Bayou State Park is located in Okaloosa County just east of Niceville in the northwestern part of the state. The populations of Okaloosa County and the adjacent Walton and Santa Rosa Counties have grown 41 percent since 1990, and are projected to grow an additional 39 percent by 2020 (BEBR, University of Florida, 2004). As of 2004, 24.4 percent of residents in these counties were in the 0-17 age group, 21.5 percent in the 18-34 age group, 30.8 percent in the 35-54 age group, 10.7 in the 55-64 age group, and 12.6 percent were aged 65 and over. This distribution reflects the state average (BEBR, University of Florida, 2004). Approximately 565,600 people reside within 50 miles of the park, which includes the cities of Ft. Walton Beach, Pensacola, and Panama City. (Census, 2000).

Fred Gannon Rocky Bayou State Park recorded 125,729 visitors in 2003-2004 FY. This represents a net 62 percent increase over the last five years. By Division estimates, these visitors contributed \$3,731,508 in direct economic impact and the equivalent of 74.6 jobs to the local economy (Florida Department of Environmental Protection, 2004).

### **Existing Use of Adjacent Lands**

Fred Gannon Rocky Bayou State Park lies on a peninsula of land separating Choctawhatchee Bay from Rocky Bayou. The park is bordered to the north by the open water of Rocky Bayou, which is an aquatic preserve, and to the west by State Road 20, that crosses Rocky Bayou to Niceville. State Road 20 has recently been widened to four lanes with an on-road bike lane on

the park side.

The adjacent lands to the south and east have undergone rapid conversion in the last five years to residential, commercial and institutional uses. The outlying lands to the north and east are Federal lands administered by Eglin Air Force Base.

Additional recreational opportunities are offered at Eglin Air Force Base, Henderson Beach State Park, Topsail Hill Preserve State Park, and the Gulf Islands National Seashore.

### **Planned Use of Adjacent Lands**

The Future Land Use designations adjacent to the park are institutional, Mixed Use 1 DRI (20 units/ acre), and Urban Mixed Use (30 Units/acre) (Okaloosa County Comprehensive Plan 2001). This density if built out will make Fred Gannon Rocky Bayou State Park an urban park with greatly increased day use visitation.

### **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 park's 363 acres contain ten different natural communities excluding the ruderal and developed areas. The developed areas are in flatwoods and scrub community along Rocky Bayou. Seepage streams and baygall communities finger through the scrub and down into the bayou. These communities are considerably less capable of supporting active recreational pursuits.

#### **Water Area**

Rocky Bayou, a very scenic, protected arm of Choctawhatchee Bay, is the primary recreational feature of the park. Puddin' Head Lake, located in the eastern half of the property, is a manmade water feature which provides opportunities for nature study and limited boating and fishing activities. This water body, created in the 1960s by impounding the waters of a seepage stream, affords many views along the nature path on the eastern side of the lake.

#### **Shoreline**

Access to the shorelines of both Rocky Bayou and Puddin' Head Lake is limited by dense vegetation. Areas that have been cleared of vegetation are subject to erosion.

#### **Natural Features**

Rocky Bayou State Park, one of the most diverse botanical sites in the western Florida Panhandle, has some of the oldest longleaf pines found in the Florida State parks, a pristine steephead and seepage stream, and the rare red pitcherplant. The challenge is to provide

recreational opportunities with a growing public demand yet protect the diversity of the natural communities.

### **Archaeological and Historical Features**

There are ten recorded sites at the park, one of which is a World War II historical site. The rest are prehistoric sites consisting of shell middens and lithic scatters. Although they are not the main feature of the park, their protection adds to the park interpretive content

### **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**

The United States Air Force managed the site as a recreation area for personnel from nearby Eglin Air Force Base until 1966. At that time, the Florida Park Service assumed management of the site under a special use permit while the U.S. Department of Agriculture held fee simple title to the property. The State assumed ownership of the property in April 2005 through a State-federal land exchange.

### **Recreational Uses**

Picnicking, boating, fishing, camping, hiking, and nature study are the recreational activities available at Rocky Bayou State Recreation Area. The boat launch provides access into the bay for saltwater fishing, or freshwater fishing in nearby Rocky Creek.

### **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.

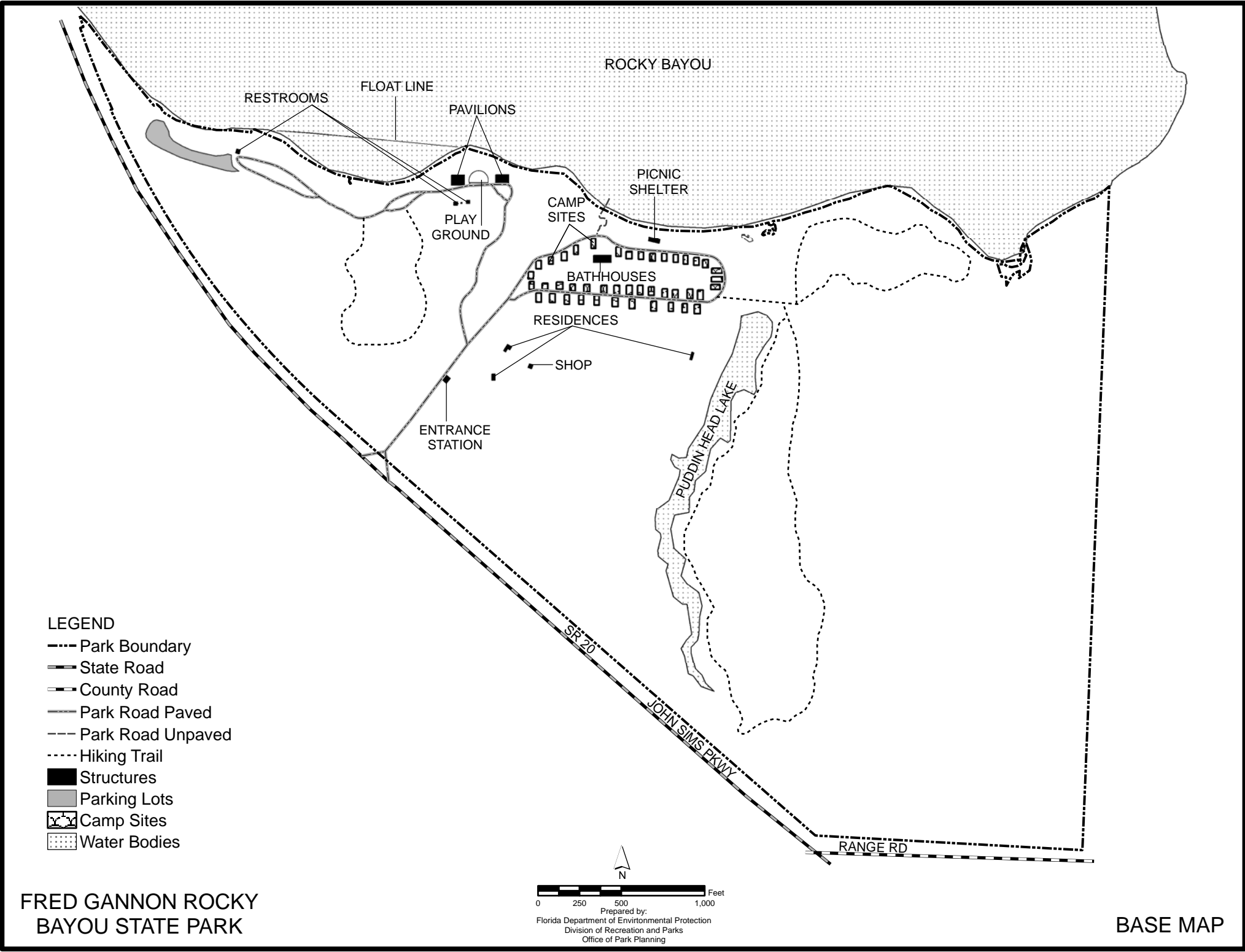
At Fred Gannon Rocky Bayou State Park sandhill, scrub, shell mound, and the wetlands, lake and stream communities have been designated as protected zones as delineated on the Conceptual Land Use Plan.

### **Existing Facilities**

The recreational facilities at Fred Gannon Rocky Bayou State Park are focused on three areas, the campground, the day use picnic area and the boat launch area. Nature trails cover a larger part of the park originating from these areas. The park entrance station was constructed in 2004.

The standard campground has 42 sites and a campground host site, a picnic pavilion and ADA accessible bathhouse. A trail originating in the campground and crossing the dam on Puddin' Head Lake is the beginning point for two of the trails.

The day use picnic area has two picnic pavilions, playground, and two small restrooms. Parking is provided along the side of the road. A third nature trail originates from the picnic area. The boat launch ramp is further down the road from the picnic area and has a small restroom facility. There is a parking lot adjacent to the boat ramp area. Boats arrive at the park by water and often



ROCKY BAYOU

RESTROOMS

FLOAT LINE

PAVILIONS

PICNIC SHELTER

PLAY GROUND

CAMP SITES

BATHHOUSES

RESIDENCES

SHOP

ENTRANCE STATION

PUDDIN HEAD LAKE

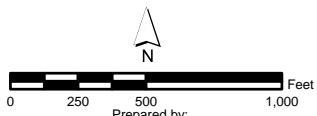
SR 20

JOHN SIMS PKWY

RANGE RD

LEGEND

- Park Boundary
- == State Road
- - - County Road
- Park Road Paved
- - - Park Road Unpaved
- ..... Hiking Trail
- Structures
- Parking Lots
- Camp Sites
- Water Bodies



FRED GANNON ROCKY  
BAYOU STATE PARK

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

BASE MAP

pull up onto the shore, denuding the seagrass and shoreline vegetation.

### **Recreation Facilities**

#### **Camping Area**

Standard Campground (42 sites)  
Picnic Pavilion (1)  
Bathhouse

#### **Day Use Area**

Playground  
Picnic Pavilion (3)

Boat Ramp

Small Restroom (3)  
Parking (picnic area–undefined)  
Parking (boat ramp–30)  
Nature Trails (1)

#### **Puddin Head Lake Area**

Nature Trails (2)

### **Support Facilities**

Shop Building  
Mobile Home Ranger Residence (2)  
Entrance Station/Office

## **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**

**Day Use Area.** Visitation to the park increased consistently in the last five years and based on the rapid development in this area, visitation will continue the upward trend. Many facility improvements are recommended to accommodate this increased use. The recent widening of State Road 20 includes a bike lane so to encourage bike access to the park, paving on the park roads should be widened to include a bike lane.

Day use facilities should expand in two phases. To accommodate present use, a more defined parking area is needed. By creating pull in spaces on the south side of the road across from the picnic facilities, 25-30 more car spaces could be created. In a second phase, a separate parking lot should be constructed on the south side of the road and the restrooms replaced with a larger ADA accessible restroom. The boat launching facility needs additional parking for boat trailers. This

**Conceptual Land Use Plan (Map)**

should be done, if possible, by reconfiguring the existing lot to accommodate the need extra spaces. Stormwater impacts and minimizing impacts to adjacent natural communities will be the limiting factors. Preliminary design studies will be conducted to determine how best the provision of needed additional parking facilities can be balanced with the protection of the sand pine scrub natural community and surface water quality in the park.

A fishing pier/overlook structure should be built in the day use area. It will provide fishing and excellent water views for park visitors. This structure should be located at the lowest point on the bank on the east side of the picnic area. The location will require ramping for ADA access from the picnic area above. Upland access and permitting in the aquatic preserve will determine precise locations.

**Camping.** With the increase in population adjacent to the park, there are more requests for group camping. Groups are presently accommodated within the existing campground in adjoining sites but vegetation disturbance is evident and noise becomes an issue with other campers. A group camp would be preferable. It should be located on the site of the existing ranger residence just south of the campground along Puddin Head Lake. The ranger residence would be moved to a clearing in the power line easement south of the boat ramp. This provides increased surveillance of the day use area and additional nighttime security of the boat ramp.

The waterfront in the camping area could accommodate a dock with tie-up spaces for up to 25 boats. This would allow visitors the opportunity to arrive by water, staying for a day at the park or overnight on their boats. Upland access, viewsheds and permitting in the aquatic preserve will determine precise location and size of the boater access facility. An additional campground bathhouse facility may have to be added if capacity is exceeded with the increase in overnight boaters. Again, preliminary design and permitting studies will determine the scale of this development. Protection of seagrass beds and shoreline vegetation will be important factors in achieving balance between provision of new recreational opportunities and the protection of park and aquatic preserve resources. Division staff will work closely with staff of the

**Trails.** The Nature Trail originating in the picnic area should be upgraded to accommodate the aging population. Stabilizing the surface and adding resting areas along the trail would make it more accessible to the mobility and vision impaired visitors.

Visitor education is an important part of protecting sensitive natural resources. Rocky Bayou State Park can play an important role in educating the public because of the large number of people living in the area and the highly significant natural and cultural resources within its boundaries. The high density of rare species, the ancient longleaf pines, ten different natural communities all in close proximity, and the sensitivity of the waters in Rocky Bayou could all be interpreted along trails and in kiosks in the highly used area. The highly visible sandhill restoration project, occurring just south of the main entrance, should be interpreted at the park entrance.

The ten recorded cultural sites are mostly prehistoric and indicate a long history of habitation along the bayous and seepage streams. Even though many of these sites are overgrown or not accessible, this history should be interpreted to visitors.

A Statement for Interpretation should be developed to guide interpretation at Rocky Bayou State Park. Interpretive themes could be expanded and illustrated on static signage and explained through volunteer and ranger led programs.

**Support Facilities.** Volunteers accomplish much of the park maintenance. There is one volunteer campsite for the campground host. Two additional volunteer campsites are recommended. They should be located along the jeep road connecting the ranger residence and the shop.

Additional support facilities need to be updated. A new shop building should replace the existing facility that is frequently in need of repair. Permanent ranger residences should replace the existing mobile homes.

### **Facilities Development**

Preliminary cost estimates for the following list of proposed facilities are provided in Addendum 6. 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.

#### **Recreation Facilities**

##### **Camping Area**

Group Campground  
Dock with boat tie-ups

##### **Day Use Area**

Dock with fishing platform  
Boardwalk

Restroom

Stabilized Boat Trailer Parking

##### **Trails**

Interpretive Signage

Stabilize surface (Nature Trail)

On Road Bike Lane

#### **Support Facilities**

Volunteer Campsites (2)

Ranger Residences (2)

Shop Building

### **Existing Use and Optimum 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 optimum 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.

### **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.

At this time, no lands are identified for an optimum boundary and no lands are considered

surplus to the needs of the park.

**Table 1--Existing Use And Optimum Carrying Capacity**

<b>Activity/Facility</b>	<b>Existing Capacity</b>		<b>Proposed Additional Capacity</b>		<b>Estimated Optimum Capacity</b>	
	<b>One Time</b>	<b>Daily</b>	<b>One Time</b>	<b>Daily</b>	<b>One Time</b>	<b>Daily</b>
<b>Trails</b>	64	256			64	256
<b>Picnicking</b>	120	240	32	64	152	304
<b>Camping</b>	168	168	20	20	188	188
<b>Fishing</b>						
Shoreline	20	40			20	40
<b>Boating</b>						
Power	60	120	16	32	60	120
Non-power	40	80	4	8	40	80
<b>TOTAL</b>	<b>472</b>	<b>904</b>	<b>72</b>	<b>124</b>	<b>524</b>	<b>988</b>



## **Addendum 1—Acquisition History**



# **Fred Gannon Rocky Bayou State Park**

## **Acquisition History**

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### **Purpose of Acquisition**

The State of Florida Department of Natural Resources, predecessor in interest to the Florida Department of Environmental Protection (DEP), Division of Recreation and Parks (Division), acquired Fred Gannon Rock Bayou State Park to maintain and operate the property as a state park.

### **Sequence of Acquisition**

On July 1, 1966, DNR leased a 363.07-acre real estate, which later became Fred Gannon Rocky Bayou State Park, from the United States Air Force. When the Air Force transferred the property to the U. S. Department of Agriculture (USDOA) in 1980, the DNR obtained a five-year Special Use Permit from the USDOA to continue managing the property. The DEP renewed the permit several times and continued managing the property until April 5, 2005, when the United States of America patented the property to the State of Florida's Board of Trustees of the Internal Improvement Trust Fund (Trustees).

On June 1, 2005, the Trustees leased Fred Gannon Rocky Bayou State Park to the Division under Lease No. 4498. This lease is for a period fifty (50) years, commencing on June 1, 2005, and ending on May 31, 2055, unless terminated pursuant to the provisions of the lease.

According to Lease No. 4498, the Division manages Fred Gannon Rocky Bayou State Park to develop, conserve and protect the natural and cultural resources and to use the property for resource-based public outdoor recreation that is compatible with conservation and protection of the property.

### **Title Interest**

The Trustees hold fee simple title to Fred Gannon Rocky Bayou State Park.

### **Special Conditions on Use**

Fred Gannon Rocky Bayou State Park is designated single-use to provide resource-based public outdoor recreation and other related uses. 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 or the management purposes of the park.

### **Outstanding Reservations**

There are no outstanding reservations or encumbrances that apply to Fred Gannon Rocky Bayou State Park.

**Fred Gannon Rocky Bayou State Park  
Advisory Group List**

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Bill Roberts, Chair  
Okaloosa County Board of County  
Commissioners  
1804 Lewis Turner Boulevard  
Fort Walton Beach, FL 32547

Randall Wise, Mayor  
City of Niceville  
414 31<sup>st</sup> Street  
Niceville, FL 32578

Gary Brooker, Chair  
Yellow River Soil and Water  
Conservation District  
938 North Ferdon Boulevard,  
Crestview, Florida 32536

Ben Faure, Manager  
Fred Gannon Rocky Bayou State Park  
4281 Hwy. 20  
Niceville, Florida 32578

Dr. John Himes, Non-Game Biologist  
Florida Fish and Wildlife  
Conservation Commission  
3911 Highway 2321  
Panama City, Florida 32409-1658

Maria Wilson  
Florida Division of Forestry  
11650 Munson Highway  
Milton, FL 32570

Sharon Maxwell, Group Chair  
Sierra Club, Northwest Florida Group  
74 Birch Street  
Freeport, Florida 32439

Nonie Maines, President  
Choctawhatchee Audubon Society  
511 Lang Road  
Fort Walton Beach, FL 32547

Steve Kuhar, Chair  
Florida Trail Association  
Western Gate Chapter  
5824 Curtis Road  
Pace, FL 32571

Marlice Brown  
Emerald Coast Paddlers  
600 Highway 98 E  
Destin, Fl. 32541

Mrs. Susan Kneller, President  
Friends of Emerald Coast State Parks Inc.  
208 Calhoun Avenue  
Destin, FL 32541

Ms. Helen M. Lowder  
157 Raintree Blvd.  
Niceville, FL 32578

**Fred Gannon Rocky Bayou State Park  
Advisory Group Meeting Staff Report**

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The Advisory Group appointed to review the proposed unit management plan for Fred Gannon Rocky Bayou State Park met at the North Bay Fire Department in Niceville, Florida on August 23, 2005. Mr. Brad Smith represented Dr. John Himes. Chairman Bill Roberts, Mr. Gary Brooker, Ms. Sharon Maxwell, and Ms. Marlice Brown did not attend. The Honorable Randall Wise sent comments in advance of the meeting. All other appointed Advisory Group members were present. Attending park staff were Mr. Daniel Jones, Mr. Eric Kiefer, Mr. Ben Faure, Mr. John McKenzie, Ms. Sonya Scalf and Ms. Carol Perfit. Mr. Pete Blome and Mr. Travis Anderson attended as observers.

Ms. Perfit began the meeting by explaining the purpose of the advisory group, reviewing the meeting procedures and providing a brief overview of the Division's planning process. Replacement pages for Addendum 1 were distributed. She then asked the Advisory Group members to comment on the plan.

**Summary of Advisory Group Comments**

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Ms. Helen Lowder, representing adjacent landowners, said she has been visiting the park for 25 years and agrees with the improvements suggested in the plan. She questioned if any of it will happen in the span of the 10-year plan. Ms. Perfit generally explained the funding issues and the impact of hurricane damage to the parks. Mr. Jones further clarified the funds he receives in the district and the ways it is distributed. He said \$75,000 is available this year for renovating facilities to meet ADA guidelines. Barring the need for emergency repairs, the money will be used at Henderson Beach State Park and Rocky Bayou State Park.

Ms. Lowder noted the aging population of this area and requested more facilities be accessible for mobility and vision impaired visitors. In particular, the trails at the park need improvements. A firm surface and benches would make the trails friendlier. She likes the idea of an accessible dock, as that would allow fishing and views to those unable to get down the existing steps. She noted that Turkey Creek, a city park, as a good example of how this can be accomplished.

Mr. Steve Kuhar, representing Florida Trail Association and hikers, noted that trails get people interested in a park. He agrees with the need for accessible trails but suggested a blend of trail types to offer a variety of experiences and to preserve the natural environment. He spoke of the need to maintain trails and the value of volunteers for this work. Overall, he is pleased with the plan.

Ms. Sue Kneller, representing the Friends of Emerald Coast State Parks, the Citizen Support Organization (CSO), is concerned with water pollution in the bayou and was disappointed that there was not more information on this in the plan. She is aware that the cause is unknown and has not been targeted to a single source but would like to know what the park is doing to combat the problem. She requested addition of stronger language to the plan. Ben Faure said the Healthy Beaches Program is using parks as testing points. This misleads the user to think pollution is only at the park. Potential sources from the park have been examined and are monitored. The sewer system has been improved to eliminate any pollution sources. John McKenzie agreed there is a water pollution problem. It is on a scale larger than the park and many sources could be contributing. Agency collaboration and a citizen's grass roots effort would help.

Mr. Ben Faure, Park Manager, agreed water quality is a big issue and there is a need to look at

**Fred Gannon Rocky Bayou State Park  
Advisory Group Meeting Staff Report**

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recreation in the aquatic preserve. Wave action is causing banks to erode, exposing cultural resources. The park needs to work with aquatic staff to limit wake activities close to shore. The dock proposed in the plan would help keep boating farther from shore. Boaters need to be educated on the problem as well. Management is concerned about the crossing at the southern end of Puddin Head Lake, funding, and staffing. Emphasis in the last five years has been on updating and constructing new recreation facilities and the entrance station. In order to maintain the park, support facilities need updating.

Mr. Brad Smith, representing Florida Fish and Wildlife Conservation Commission, said the plan is good overall. He strongly supports restoration of the long leaf pine and encourages more interpretation of the natural resources. Mr. Smith also supports the long-term restoration of the seepage stream and encourages cooperation with CAMA in maintaining the sea grass beds. The prescribed burning section of the plan needs improvement and he would like to see a burn compartment (zone) map in the plan. He noted the presence of exotics around the boat ramp and supports the park's exotic removal program but thinks we need to target their removal more. New development should take place in already disturbed areas. Mr. Smith was troubled with the term "nuisance species" saying that the whole species is not a nuisance but rather individuals of the species causing problems. He noted that the botanical section of the plan is strong but offered corrections to the Addendum 4 and 5 species lists. Mr. Faure asked Mr. Smith for suggestions on including recreation in restoration area. He replied that the area is park-like and views can be enjoyed and interpreted without entering the area. Trails should be planned along burn compartment edges.

Ms. Maria Wilson, representing Florida Division of Forestry, would like to see more information on a burn program. She mentioned the cooperation between managing agencies in prescribed burning. Education is particularly important when burning is used as a management method. Ms. Wilson said she agreed with the comments of Mr. Smith.

Ms. Nonnie Maines, representing Choctawhatchee Audubon Society, agrees with most of the plan. She offered a list of changes to the bird list in Addendum 4 and 5 compiled by Mr. Charlie Parkel, who frequents the park, and suggested adding river otters to the mammal list. Ms. Maines was disturbed by the wording on removal of beavers in Goal 4. Mr. McKenzie explained the rarity of the pitcher plant area and the need to prevent beavers from damming and flooding the seepage stream. He said the beavers could stay in the area south of Puddin Head Lake but if they moved to the white cedar bog, they would have to be removed. Ms. Maines requested the plan specify this. She also requested the addition of an invertebrate list (contact Mary Ann Freedman) and recognition and signs on the increase of deer ticks at the park. Ms. Maines would also like the park to increase education on natural systems, birds and animals. She agrees with removal of feral hogs and the establishment of a no wake zone.

Mr. Pete Blome, an observer from the Bay Beacon, questioned if the park has any control of the ditch in front of the park. Mr. Faure explained that this is on DOT property and they are cooperating with the park to change the area for better drainage. He questioned if fees would rise. In addition, he expressed concern for the natural species in the park in view of the rapid development of surrounding property. He wondered if park staff works with local development boards. Mr. Faure explained that local land is almost built out but we do cooperate with Eglin Air Force Base who has a large tract of land to the east.

Ms. Perfit thanked everyone for participating and adjourned the meeting.

**Fred Gannon Rocky Bayou State Park  
Advisory Group Meeting Staff Report**

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**Summary of Submitted Comments**

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The Honorable Randall Wise, representing the City of Niceville, submitted comments in advance of the meeting. He said the plan is well prepared and finds the park enjoyable and educational whenever he visits. He expressed hope that the needed improvements can and will be made.

Ms. Kathy Cantwell of the Sierra Club submitted comments after the meeting. To support shoreline protection, she suggested maintaining the shoreline vegetation, not allowing swimming, and establishing a no-wake zone. She does not support the addition of a dock and ramp as it may put the shoreline protection at risk. Ms. Cantwell questioned if any other nuisance animals exist and suggested educating park neighbors on the problem with exotic animals and plants. On connectivity and natural resource protection, she suggested looking for a physical connection to Eglin Air Force Base and working with Okaloosa County in its revision of the Comprehensive Plan. She also submitted corrections to the carrying capacity table.

**Staff Recommendation**

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The Advisory Group approves the proposed Fred Gannon Rocky Bayou State Park Unit Management Plan as presented with the following recommendations:

Overall corrections and updates will be made.

**Introduction**

Goal 1E – add language to include cooperative work on Rocky Bayou water quality issues  
Goal 4 – reword to only allow removal of beavers “if posing a threat to sensitive species”

**Resource Management Component**

Review text in prescribed burn section.

**Land Use Component**

Trails – Upgrade day use area nature trail to be accessible by those with mobility and vision impairments.

Recreation Facilities – Remove any references to swimming at the park  
Increase interpretation of natural and cultural resources

Addendum 4 and 5 – Revise species list as recommended and add an invertebrate listing. A butterfly list has been submitted and will be included in the addendum.

**Fred Gannon Rocky Bayou State Park  
Advisory Group Meeting Staff Report**

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## **Addendum 2—References Cited**



## Fred Gannon Rocky Bayou State Park

### References Cited

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**Fred Gannon Rocky Bayou State Park**

**References Cited**

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### **Addendum 3—Soils Descriptions**



## Fred Gannon Rocky Bayou State Park

### Soils Descriptions

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**6 - Dorovan muck, frequently flooded** - This nearly level, very poorly drained soil is in large hardwood swamps and on flood plains along drainageways in the southern part of the survey areas. Slopes are less than 2 percent. Permeability is moderate in the Dorovan soil. The available water capacity is high. The water table is near or above the surface for most of the year. The soil is flooded more than once every two years for periods of more than 1 month. Natural fertility is medium. The content of organic matter is high. The internal drainage rate is slow because of the high water table.

**12 - Lakeland sand, 0 to 5% slopes** - This nearly level or gently sloping; excessively drained soil is on broad ridgetops in the uplands. Slopes are dominantly less than 5 percent. Permeability is rapid in the Lakeland soil. The available water capacity is very low. Runoff is slow. The seasonal high water table is at a depth of more than 80 inches. The soil dries quickly after rains.

**14 - Lakeland sand, 12 to 30 percent slopes** - This moderately steep or excessively drained soil is on upland side slopes leading to drainageways and depressional areas. Individual areas range from about 20 to 80 acres in size. Permeability is rapid in Lakeland soil. The available water capacity is very low. Runoff is slow. The seasonal high water table is at a depth of more than 80 inches. The soil dries quickly after rains. Natural fertility is low.

**22 - Rutlege sand depressional** - This very poorly drained, nearly level soil is in shallow depressional areas, such as ponds, bays, or sinks; on flood plains along streams and creeks; or on upland flats. Individual areas range from 5 to 80 acres in size. Slopes are smooth or concave and are less than 1 percent. The Rutlege soil has a water table at or near the surface for long periods during the year. Ponding is common. Flooding is common on the floodplains. The available water capacity is high in the surface layer and low in the substratum. Permeability is rapid throughout, but internal drainage is slow because of the high water table. Natural fertility is medium and the content of organic matter is moderate.

**Fred Gannon Rocky Bayou State Park**

**Soils Descriptions**

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**Addendum 4—Plant And Animal List**



## Fred Gannon Rocky Bayou State Park

### Plants

Common Name	Scientific Name	Primary Habitat Codes (for designated species)
Southern club moss	<i>Lycopodiella adpressa</i>	
Feather-stem club moss	<i>Lycopodium prostrata</i>	
Cinnamon fern	<i>Osmunda cinnamomea</i>	
Royal fern	<i>Osmunda regalis</i>	
Bracken fern	<i>Pteridium aquilinum</i>	
Resurrection fern	<i>Polypodium polypodioides</i>	
Hairy Maiden fern	<i>Thelypteris hispidula</i>	
Marsh fern	<i>Thelypteris palustris</i>	
Netted chain fern	<i>Woodwardia areolata</i>	
Virginia chain fern	<i>Woodwardia virginica</i>	
Atlantic white cedar	<i>Chamaecyparis thyoides</i>	
Southern red cedar	<i>Juniperus silicicola</i>	
Slash pine	<i>Pinus elliotii</i>	
Longleaf pine	<i>Pinus palustris</i>	
Sand pine	<i>Pinus clausa</i>	
Bald cypress	<i>Taxodium distichum</i>	
Three-seeded mercury	<i>Acalypha graciliens</i>	
Box elder	<i>Acer negundo</i>	
Red maple	<i>Acer rubrum</i>	
Red buckeye	<i>Aesculus pavia</i>	
Wild hoarhound	<i>Ageratina aromatica</i>	
Hazel alder	<i>Alnus serrulata</i>	
Ragweed	<i>Ambrosia artemisiifolia</i>	
Service berry	<i>Amelanchier arborea</i>	
Pigweed	<i>Amaranthus viridis</i>	
False-indigo	<i>Amorpha fruticosa</i>	
Blue dogbane	<i>Amsonia ciliata</i>	
Glaucous bushy bluestem	<i>Andropogon glomeratus var glaucopsis</i>	
Silver bluestem	<i>Andropogon tenarius</i>	
Broomsedge	<i>Andropogon virginicus</i>	
Green silk-scale	<i>Anthaenantia villosa</i>	
Crowded three-awn grass	<i>Aristida condensata</i>	
Wiregrass	<i>Aristida lanosa</i>	
Arrow feather	<i>Aristida purpurescens var. purpurescens</i>	
Slender-spike arrowfeather	<i>Aristida purpurescens var. tenuispica</i>	
Wiregrass	<i>Aristida stricta</i>	
Cane	<i>Arundinaria gigantea</i>	
Butterfly weed	<i>Asclepias tuberosus</i>	
Pawpaw	<i>Asimina triloba</i>	
Small-fruited Pawpaw	<i>Asimina parviflora</i>	
Aster	<i>Aster dumosus</i>	
Yellow foxglove	<i>Aureolaria flava</i>	
Carpetgrass	<i>Axonopus affinis</i>	
Saltbush	<i>Baccharis halimifolia</i>	
Yellow buttons	<i>Balduina angustifolia</i>	
False Indigo	<i>Baptisia lanceolata</i>	

\*Non-native Species

Fred Gannon Rocky Bayou State Park

Plants

Common Name	Scientific Name	Primary Habitat Codes (for designated species)
Panhandle indigo	<i>Baptisia calycosa</i> var. <i>villosa</i>	14
Greeneyes	<i>Berlandiera pumila</i>	
Cross vine	<i>Bignonia capreolata</i>	
Small fruit beggar ticks	<i>Bidens mitis</i>	
Boghemp	<i>Boehmeria cylindrica</i>	
Hairsedge	<i>Bulbostylis ciliatifolia</i>	
Northern burmannia	<i>Burmannia biflora</i>	
Browntop millet	<i>Brachiaria ramosa</i>	
Watershield	<i>Brasenia schreberi</i>	
Hairsedge	<i>Bulbostylis ciliatifolia</i>	
Wild sage	<i>Calamintha coccinea</i>	
Beauty berry	<i>Callicarpa americana</i>	
Steephead sedge	<i>Carex baltzellii</i>	14
Thick-hairy sedge	<i>Carex dasycarpa</i>	
Elliott's sedge	<i>Carex elliotii</i>	
Southern waxy sedge	<i>Carex glaucescens</i>	
Howe's sedge	<i>Carex howei</i>	
Carex	<i>Carex muhlenbergii</i>	
Chinquapin	<i>Castanea pumila</i>	
Hackberry	<i>Celtis laevigata</i>	
Field sandspur	<i>Cenchrus incertus</i>	
Coinleaf	<i>Centella erecta</i>	
Butterfly Pea	<i>Centrosema virginianum</i>	
Buttonbush	<i>Cephalanthus occidentalis</i>	
Deer's tongue	<i>Carphephorus odoratissimus</i>	
Pignut hickory	<i>Carya glabra</i>	
Mockernut	<i>Carya tomentosa</i>	
Centella	<i>Centella asiatica</i>	
Rosemary	<i>Ceratiola ericoides</i>	
Partridge Pea	<i>Chamaecrista fasciculata</i>	
Wild sensitive plant	<i>Chamaecrista nictans</i>	
Eyebane	<i>Chaemaesyce hyssopifolia</i>	
Spotted broomspurge	<i>Chaemaesyce maculata</i>	
Sunbonnets	<i>Chaptalia tomentosa</i>	
Slender spikegrass	<i>Chasmanthium laxum</i>	
Long-leaf spikegrass	<i>Chasmanthium sessiliflorum</i>	
Fringetree	<i>Chionanthus virginicus</i>	
Bush goldenrod	<i>Chrysoma pauciflosculosa</i>	
Golden aster	<i>Chrysopsis gossypina</i> ssp. <i>hyssopifolia</i>	
Sawgrass	<i>Cladium jamaicense</i>	
Sweet Pepperbush	<i>Clethra alnifolia</i>	
Black titi	<i>Cliftonia monophylla</i>	
Butterfly pea	<i>Clitoria mariana</i>	
Tread Softly	<i>Cnidioscolus stimulosus</i>	
Dayflower	<i>Commelina erecta</i>	
Mist flower	<i>Conoclinium coelestinum</i>	

\*Non-native Species

Fred Gannon Rocky Bayou State Park

Plants

Common Name	Scientific Name	Primary Habitat Codes (for designated species)
Conradina	<i>Conradina canescens</i>	
Horseweed	<i>Conyza canadensis</i>	
Coreopsis	<i>Coreopsis falcata</i>	
Dogwood	<i>Cornus florida</i>	
Summer haw	<i>Crataegus flava</i>	
Swamp lily	<i>Crinum americanum</i>	
Rabbit bells	<i>Crotalaria rotundifolia</i>	
Rattlesnake plant	<i>Crotalaria spectabilis</i>	
Silver croton	<i>Croton argyranthemus</i>	
Scratch daisy	<i>Croptilon divaricatum</i>	
Toothache grass	<i>Ctenium aromaticum</i>	
Flatsedge	<i>Cyperus retrorsus</i>	
White titi	<i>Cyrilla racemiflora</i>	
Sawgrass	<i>Cladium jamaicense</i>	
Day flower	<i>Commelina erecta</i>	
Saffron-colored flatsedge	<i>Cyperus croceus</i>	
Slender flatsedge	<i>Cyperus filiculmis</i>	
Soft-stem flat sedge	<i>Cyperus haspan</i>	
Turned back flatsedge	<i>Cyperus hystricinus</i>	
Leconte's flatsedge	<i>Cyperus lecontei</i>	
Nash's flatsedge	<i>Cyperus nashii</i>	
Rusty flatsedge	<i>Cyperus odoratus</i>	
Silky oatgrass	<i>Danthonia sericea</i>	
Southern crabgrass	<i>Digitaria ciliaris</i>	
Saltgrass	<i>Distichlis spicata</i>	
Danthonia	<i>Danthonia sericea</i>	
Water loosestrife	<i>Decodon verticillatus</i>	
Hairy beggar's lice	<i>Desmodium incanum</i>	
Velvet leaved tick trefoil	<i>Desmodium viridiflorum</i>	
Polished leaved Tick-Trefoil	<i>Desmodium laevigatum</i>	
Narrow leaved Tick trefoil	<i>Desmodium paniculatum</i>	
Buttonweed	<i>Diodia virginiana</i>	
Persimmon	<i>Diospyros virginiana</i>	
White top sedge	<i>Dichromena latifolia</i>	
Drosera	<i>Drosera capillaris</i>	
Water sundew	<i>Drosera intermedia</i>	26,54
West indian chickweed	<i>Drymaria cordata</i>	
Three-way sedge	<i>Dulichium arundinaceum</i>	
Baldwin's spikerush	<i>Eleocharis baldwinii</i>	
Gulf coast spikerush	<i>Eleocharis cellulosa</i>	
Horse-tail spikerush	<i>Eleocharis equisetoides</i>	
Pale spikerush	<i>Eleocharis flavescens</i>	
Bright-Green spikerush	<i>Eleocharis olivacea</i>	
Eleocharis	<i>Eleocharis robbinsii</i>	
Elephant's foot	<i>Elephantopus tomentosus</i>	
Virginia wild-rye	<i>Elymus virginicus</i>	

\*Non-native Species

Fred Gannon Rocky Bayou State Park

Plants

Common Name	Scientific Name	Primary Habitat Codes (for designated species)
Finger grass	<i>Eustachys petraea</i>	
Dog fennel	<i>Eupatorium capillifolium</i>	
Filiform-leaved dog fennel	<i>Eupatorium compositifolia</i>	
Narrow leaved goldenrod	<i>Euthamia tenuifolia</i>	
Flat-topped goldenrod	<i>Euthamia graminifolia</i>	
Cupshaped spurge	<i>Euphorbia cyathophora</i>	
Round-disc spurge	<i>Euphorbia discoidalis</i>	
Panhandle spurge	<i>Euphorbia floridana</i>	
Fingergrass	<i>Eustachys petraea</i>	
Red lovegrass	<i>Eragrostis secundiflora ssp. oxylepis</i>	
Fireweed	<i>Erechtites hieracifolia</i>	
Centipede grass	<i>Eremochloa ophiuroides</i>	
Silver plume grass	<i>Erianthus alopecuroides</i>	
Daisy fleabane	<i>Erigeron strigosus</i>	
Coral bean	<i>Erythrina herbacea</i>	
Rattlesnake master	<i>Eryngium yuccifolium</i>	
Hat pins	<i>Eriocaulon compressum</i>	
Dog tongue	<i>Eriogonum tomentosum</i>	
Coral bean	<i>Erythrina herbacea</i>	
Apiculate facelis	<i>Facelis retusa</i>	
American beech	<i>Fagus grandifolia</i>	
Marsh fimbry	<i>Fimbristylis castanea</i>	
Cottonweed	<i>Froelichia floridana</i>	
Umbrella grass	<i>Fuirena scirpoidea</i>	
Milk-pea	<i>Galactia microphylla</i>	
Downy milkpea	<i>Galactia macreei</i>	
Galium	<i>Galium sempervirens</i>	
Stiff haired bedsraw	<i>Galium hispidulum</i>	
Smooth bedstraw	<i>Galium pilosum</i>	
Spach's gaura	<i>Gaura filipes</i>	
Dwarf Huckleberry	<i>Gaylussacia dumosa</i>	
Huckleberry	<i>Gaylussacia mosieri</i>	
Dangleberry	<i>Gaylussacia nana</i>	
Southern Huckleberry	<i>Gaylussacia tomentosa</i>	
Yellow jasmine	<i>Gelsemium sempervirens</i>	
Cranesbill	<i>Geranium carolinianum</i>	
Moss vervain	<i>Glandularia pulchella</i>	
Sweet everlasting	<i>Gnaphalium obtusifolium</i>	
Pennsylvania cudweed	<i>Gnaphalium pensilvanicum</i>	
Cudweed	<i>Gnaphalium purpureum</i>	
Water spider orchid	<i>Habenaria repens</i>	
Silverbells	<i>Halesia diptera</i>	
Spider orchid	<i>Habenaria repens</i>	
Witch Hazel	<i>Hamamelis virginiana</i>	
Sweet ear	<i>Hedyotis corymbosa</i>	
Innocence	<i>Hedyotis procumbens</i>	

\*Non-native Species

Fred Gannon Rocky Bayou State Park

Plants

Common Name	Scientific Name	Primary Habitat Codes (for designated species)
One-flowered sweet ear	<i>Hedyotis uniflora</i>	
Rayless sunflower	<i>Helianthus radula</i>	
Georgia rockrose	<i>Helianthemum georgianum</i>	
Camphor weed	<i>Heterotheca subaxillaris</i>	
Hawkweed	<i>Hieracium gronovii</i>	
Pineland rosemallow	<i>Hibiscus aculeatus</i>	
Beach umbrellas	<i>Hydrocotyle bonariensis</i>	
Marsh pennywort	<i>Hydrocotyle umbellata</i>	
Hyptis	<i>Hyptis mutabilis</i>	
Little barley	<i>Hordeum pusillum</i>	
Hypericum	<i>Hypericum cistifolium</i>	
Sandweed	<i>Hypericum fasciculatum</i>	
St. Johnswort	<i>Hypericum nitidum</i>	
Pineweed	<i>Hypericum gentianoides</i>	
Hypericum	<i>Hypericum reductum</i>	
Dahoon	<i>Ilex cassine</i>	
Large Gallberry	<i>Ilex coriacea</i>	
Possum haw	<i>Ilex decidua</i>	
Gallberry	<i>Ilex glabra</i>	
Myrtle leaf Holly	<i>Ilex myrtifolia</i>	
American holly	<i>Ilex opaca</i>	
Yaupon	<i>Ilex vomitoria</i>	
Florida anise	<i>Illicium floridanum</i>	26
Carolina indigo	<i>Indigofera caroliniana</i>	
Manroot,wild potato root	<i>Ipomoea pandurata</i>	
Salt marsh morning-glory	<i>Ipomoea sagittata</i>	
Marsh elder	<i>Iva frutescens</i>	
Virginia willow	<i>Itea virginica</i>	
Leathery rush	<i>Juncus coriaceus</i>	
Forked rush	<i>Juncus dichotomus</i>	
Soft rush	<i>Juncus effusus</i>	
Shore rush	<i>Juncus marginatus</i>	
Creeping rush	<i>Juncus repens</i>	
Needlerush	<i>Juncus roemerianus</i>	
Globe rush	<i>Juncus scirpoides</i>	
Round-head rush	<i>Juncus validus</i>	
Annual koeleria	<i>Koeleria gerardii</i>	
Saltmarsh mallow	<i>Kosteletzkya virginica</i>	
Sandbur	<i>Krameria lanceolata</i>	
Bog buttons	<i>Lachnocaulon anceps</i>	
Wood lettuce	<i>Lactuca canadensis</i>	
Blue lettuce	<i>Lactuca graminifolia</i>	
Lantana	<i>Lantana camara</i>	
Long-leaved pinweed	<i>Lechea mucronata</i>	
Peppergrass	<i>Lepidium virginianum</i>	
Fetterbush	<i>Leucothoe racemosa</i>	

\*Non-native Species

Fred Gannon Rocky Bayou State Park

Plants

Common Name	Scientific Name	Primary Habitat Codes (for designated species)
Hairy bushclover	<i>Lespedeza hirta</i>	
Creeping bushclover	<i>Lespedez repens</i>	
Hairy bush clover	<i>Lespedea hirta</i>	
Fine leaf Blazing star	<i>Liatris tenuifolia</i>	
Gopher Apple	<i>Licania michauxii</i>	
Blazing star	<i>Liatris earlei</i>	
Common Blazing star	<i>Liatris gracilis</i>	
Liatris secunda	<i>Liatris secunda</i>	
Gopher apple	<i>Licania michauxii</i>	
Toadflax	<i>Linaria canadensis</i>	
Yellow flax	<i>Linum floridanum</i>	
Pond spice	<i>Litsea aestivalis</i>	29
Sweetgum	<i>Liquidambar styraciflua</i>	
Lobelia	<i>Lobelia floridana</i>	
Red honeysuckle	<i>Lonicera sempervirens</i>	
Seedbox	<i>Ludwigia alterniflora</i>	
Ludwigia	<i>Ludwigia leptocarpa</i>	
Seaside seedbox	<i>Ludwigia maritima</i>	
Mexican seedbox	<i>Ludwigia octovalvis</i>	
Marsh purslane	<i>Ludwigia palustris</i>	
Hairy seedbox	<i>Ludwigia pilosa</i>	
Lupine	<i>Lupinus westianus</i>	13,14
Watergrass	<i>Luziola fluitans</i>	
Water hoarhound	<i>Lycopus rubellus</i>	
Staggerbush	<i>Lyonia ferruginea</i>	
Shiny lyonia	<i>Lyonia lucida</i>	
Saltmarsh loosestrife	<i>Lythrum lineare</i>	
Southern magnolia	<i>Magnolia grandiflora</i>	
Sweetbay	<i>Magnolia virginiana</i>	
Bog Moss	<i>Mayaca fluviatilis</i>	
Two-flower melic	<i>Melica mutica</i>	
Climbing cucumber	<i>Melothria pendula</i>	
Shade mudflower	<i>Micranthmum umbrosum</i>	
Climbing hempweed	<i>Mikania scandens</i>	
Sensitive brier	<i>Mimosa quadrivalis</i>	
Pine-barrens sandwort	<i>Minuartia caroliniana</i>	
Partridge berry	<i>Mitchella repens</i>	
Indian pipe	<i>Monotropa uniflora</i>	
Red mulberry	<i>Morus rubra</i>	
Wax myrtle	<i>Myrica cerifera</i>	
Odorless wax myrtle	<i>Myrica inodora</i>	
Water milfoil	<i>Myriophyllum laxum</i>	
Spatterdock	<i>Nuphar luteum</i>	
Waterlily	<i>Nymphaea odorata</i>	
Floating hearts	<i>Nymphoides aquatica</i>	
Blackgum	<i>Nyssa biflora</i>	

\*Non-native Species

Fred Gannon Rocky Bayou State Park

Plants

Common Name	Scientific Name	Primary Habitat Codes (for designated species)
False gromwell	<i>Onosmodium virginianum</i>	
Prickly Pear	<i>Opuntia compressa</i>	
Golden Club	<i>Orontium aquaticum</i>	
Sea-side evening primrose	<i>Oenothera humifusa</i>	
Wild Olive	<i>Osmanthus megacarpa</i>	
Hop hornbean	<i>Ostrya virginiana</i>	
Wood sorrell	<i>Oxalis priceae</i>	
Common water dropwort	<i>Oxypolis filiformis</i>	
Sourwood	<i>Oxydendron arboreum</i>	
Pointed tip panic grass	<i>Panicum acuminatum</i>	
Beaked panicum	<i>Panicum anceps</i>	
Narrow leaf panic grass	<i>Panicum angustifolium</i>	
Variable panic grass	<i>Panicum commutatum</i>	
Blooded panic grass	<i>Panicum consangineum</i>	
Panic grass	<i>Panicum dichotomum</i>	
Neat panic grass	<i>Panicum dichotomum</i> var. <i>nitidum</i>	
Maidencane	<i>Panicum hemitomon</i>	
Egg-leaf panic grass	<i>Panicum ovale</i>	
Torpedo grass	<i>Panicum repens</i>	
Switchgrass	<i>Panicum virgatum</i>	
Panic grass	<i>Panicum</i> sp.	
Spreading whitflow-wort	<i>Paronychia patula</i>	
Thin paspalum	<i>Paspalum setaceum</i>	
Hurrahgrass	<i>Paspalum setaceum</i> var. <i>muhlenbergii</i>	
Thin paspalum	<i>Paspalum sectaceum</i> var. <i>stramineum</i>	
Vasey grass	<i>Paspalum urvellei</i>	
Virginia creeper	<i>Parthenocissus quinquefolia</i>	
Spoonflower	<i>Peltandra sagittifolia</i>	
Red bay	<i>Persea borbonia</i>	
Red bay	<i>Persea palustris</i>	
Frog fruit	<i>Phyla nodiflora</i>	
Yellow fringed orchid	<i>Platanthera ciliaris</i>	
Camphor weed	<i>Pluchea rosea</i>	
Common reed	<i>Phragmites australis</i>	
Tender leaf flower	<i>Phyllanthus tenellus</i>	
Peewater Leaf-flower	<i>Phyllanthus urinaria</i>	
Chokeberry	<i>Photinia pyrifolia</i>	
Pokeweed	<i>Phytolacca americana</i>	
Florida phlox	<i>Phlox floridana</i>	
Downy phlox	<i>Phlox pilosa</i>	
Ground cherry	<i>Physalis angustifolia</i>	
Leaf silkgrass	<i>Pityopsis graminifolia</i>	
Black needlegrass	<i>Piptochaetium avenaceum</i>	
Hoary plantain	<i>Plantago virginica</i>	
Stinking camphor-weed	<i>Pluchea foetida</i>	
Rosy camphor weed	<i>Pluchea rosea</i>	

\*Non-native Species

Fred Gannon Rocky Bayou State Park

Plants

Common Name	Scientific Name	Primary Habitat Codes (for designated species)
Littleleaf milkwort	<i>Polygala brevifolia</i>	
Bog bachelor's button	<i>Polygala lutea</i>	
Racemed milkwort	<i>Polygala polygama</i>	
Wireweed	<i>Polygonella gracilis</i>	
Large-leaved jointweed	<i>Polygonella macrophylla</i>	13,14
October flower	<i>Polygonella polygama</i>	
Wild water-pepper	<i>Polygonum hydropiperoides</i>	
Dotted smartweed	<i>Polygonum punctatum</i>	
Polypremum	<i>Polypremum procumbens</i>	
Pickereel Weed	<i>Pontederia cordata</i>	
Marsh mermaid weed	<i>Proserpina palustris</i>	
Comb-leaf mermaid	<i>Proserpina pectinata</i>	
Wild cherry	<i>Prunus alabamensis</i>	
Hog plum	<i>Prunus umbellatus</i>	
Short-beak baldrush	<i>Psilocarya nitens</i>	
Common reed	<i>Phragmites australis</i>	
False dandelion	<i>Pyrrhopappus carolinianus</i>	
Arkansas oak	<i>Quercus arkansana</i>	
White oak	<i>Quercus alba</i>	
Chapman's oak	<i>Quercus chapmanii</i>	
Southern red oak	<i>Quercus falcata</i>	
Sand live oak	<i>Quercus geminata</i>	
Laurel oak	<i>Quercus hemisphaerica</i>	
Blue-jack oak	<i>Quercus incana</i>	
Turkey oak	<i>Quercus laevis</i>	
Black jack oak	<i>Quercus marilandica</i>	
Sand post oak	<i>Quercus margaretta</i>	
Myrtle oak	<i>Quercus myrtifolia</i>	
Water oak	<i>Quercus nigra</i>	
Live oak	<i>Quercus virginiana</i>	
Post oak	<i>Quercus stellata</i>	
Running oak	<i>Quercus pumila</i>	
Post oak	<i>Quercus stellata</i>	
Live oak	<i>Quercus virginiana</i>	
Water oak	<i>Quercus nigra</i>	
Swamp azaela	<i>Rhododendron viscosum</i>	
Pine barren pea	<i>Rhynchosia cytisoides</i>	
Dollar weed	<i>Rhynchosia reniformis</i>	
Clustered beakrush	<i>Rhynchospora cephalantha</i>	
Loose-head beakrush	<i>Rhynchospora chalarocephala</i>	
Horned rush	<i>Rhynchospora corniculata</i>	
Fasciculate beakrush	<i>Rhynchospora fascicularis</i>	
Thread leaf beakrush	<i>Rhynchospora filifolia</i>	
Globe beakrush	<i>Rhynchospora globularis</i>	
Slender beakrush	<i>Rhynchospora gracilentia</i>	
Brownish beakrush	<i>Rhynchospora leptocarpa</i>	

\*Non-native Species

Fred Gannon Rocky Bayou State Park

Plants

Common Name	Scientific Name	Primary Habitat Codes (for designated species)
Big-seeded beakrush	<i>Rhynchospora megalocarpa</i>	
Small-headed beakrush	<i>Rhynchospora microcephala</i>	
Winged sumac	<i>Rhus copallina</i>	
Black-eyed susan	<i>Rudbeckia hirta</i>	
Highbush blackberry	<i>Rubus betulifolius</i>	
Sand blackberry	<i>Rubus cuneifolius</i>	
Dewberry	<i>Rubus trivialis</i>	
Widgeon grass	<i>Ruppia maritima</i>	
Meadowbeauty	<i>Rhexia alifanus</i>	
Yellow meadowbeauty	<i>Rhexia lutea</i>	
Sand Blackberry	<i>Rubus cuneifolius</i>	
Wild petunia	<i>Ruellia carolinensis</i>	
American cupscale	<i>Sacciolepis striata</i>	
Slender arrowhead	<i>Sagittaria isoetiformis</i>	
Bull-tongue arrowhead	<i>Sagittaria lancifolia</i>	
Black willow	<i>Salix nigra</i>	
Chinese tallow tree	<i>Sapium sebiferum</i>	
Parrott Pitcherplant	<i>Sarracenia psittacina</i>	
Purple Pitcherplant	<i>Sarracenia purpurea</i>	
Red Pitcherplant	<i>Sarracenia rubra</i>	
Blue sage	<i>Salvia azurea</i>	
Lyre-leaved sedge	<i>Salvia lyrata</i>	
Black snakeroot	<i>Sanicula canadensis</i>	
Parrot pitcherplant	<i>Sarracenia psittacina</i>	26
Purple pitcherplant	<i>Sarracenia purpurea</i>	26
Red or Sweet pitcherplant	<i>Sarracenia rubra</i>	26
Lizard's tail	<i>Sarurus cernuus</i>	
Gulf Bluestem grass	<i>Schizachyrium maritima</i>	
Sensitive briar	<i>Schrankia microphylla</i>	
Wool grass	<i>Scirpus cyperinus</i>	
Three square	<i>Scirpus pungens</i>	
Tall nut-rush	<i>Scleria triglomerata</i>	
Black snakeroot	<i>Sanicula canadensis</i>	
Sebastian Bush	<i>Sebastiania fruticosa</i>	
Saw palmetto	<i>Serenoa repens</i>	
Creeping bluestem	<i>Schizachyrium scoparium</i>	
Indian Hemp	<i>Sida rhombifolia</i>	
Black haw	<i>Sideroxylon lanuginosum</i>	
Sleepy catchfly	<i>Silene antirrhina</i>	
Pink catchfly	<i>Silene caroliniana</i>	
Rosin-weed	<i>Silphium asteriscus</i>	
Basal-leaved Rosin-weed	<i>Silphium compositum</i>	
Horse nettle	<i>Solanum carolinense</i>	
Sharp-tooth goldenrod	<i>Solidago arguta</i>	
Short-leaf goldenrod	<i>Solidago brachyphylla</i>	
Canada goldenrod	<i>Solidago canadensis</i>	

\*Non-native Species

## Fred Gannon Rocky Bayou State Park

### Plants

Common Name	Scientific Name	Primary Habitat Codes (for designated species)
Pinebarren goldenrod	<i>Solidago fistulosa</i>	
Virginia goldenrod	<i>Solidago gracillima</i>	
Sweet goldenrod	<i>Solidago odora</i>	
Petiole-leaved goldenrod	<i>Solidago petiolaris</i>	
Downy goldenrod	<i>Solidago puberula</i> var. <i>pulverulenta</i>	
Seaside goldenrod	<i>Solidago sempervirens</i>	
Late-flowering goldenrod	<i>Solidago tarda</i>	
Spiny-leaved sow thistle	<i>Sonchus asper</i>	
Elliott's Indian Grass	<i>Sorghastrum elliottii</i>	
Saltmeadow cordgrass	<i>Spartina patens</i>	
Scale-seed	<i>Spermolepis echinata</i>	
Prairie wedgescale	<i>Sphenopholis obtusata</i>	
Hidden dropseed	<i>Sporobolus clandestinus</i>	
Smutgrass	<i>Sporobolus indicus</i>	
Piney woods dropseed	<i>Sporobolus junceus</i>	
Saw palmetto	<i>Serenoa repens</i>	
Greenbrier	<i>Smilax auriculata</i>	
Catbrier	<i>Smilax bona-nox</i>	
Bamboo vine	<i>Smilax laurifolia</i>	
Cat greenbrier	<i>Smilax glauca</i>	
Wild sarsaparilla	<i>Smilax pumila</i>	
Lance-leaf greenbrier	<i>Smilax smallii</i>	
Greenbrier	<i>Smilax pumila</i>	
Grass-leaved ladies tresses	<i>Spiranthes praecox</i>	
Coastal dropseed	<i>Sporobolus virginicus</i>	
Trailing morning glory	<i>Stylisma patens</i>	
Queen's root	<i>Stillingia sylvatica</i>	
Sand pea	<i>Strophostyles helvola</i>	
Shoe buttons	<i>Synogonanthus flavidulus</i>	
Golden hoary pea	<i>Tephrosea chrysophylla</i>	
Panhandle goat's rue	<i>Tephrosia mohrii</i>	
Basswood	<i>Tilia americana</i>	
Poison ivy	<i>Toxicodendron radicans</i>	
Poison sumac	<i>Toxicodendron radicans</i>	
Noseburn	<i>Tragia smallii</i>	
Stinging spurge	<i>Tragia urens</i>	
Blue Curls	<i>Trichostema dichotomum</i>	
Tall redtop	<i>Tridens flavus</i>	
Purple sandgrass	<i>Triplasis purpurea</i>	
Turkey foot	<i>Tripsacum dactyloides</i>	
Arrowgrass	<i>Triglochin striata</i>	
Common cattail	<i>Typha latifolia</i>	
Two-flower bladderwort	<i>Utricularia biflora</i>	
Zig-zag bladderwort	<i>Utricularia subulata</i>	
Sparkleberry	<i>Vaccinium arboreum</i>	
Highbush blueberry	<i>Vaccinium corymbosum</i>	

\*Non-native Species

## Fred Gannon Rocky Bayou State Park

### Plants

<b>Common Name</b>	<b>Scientific Name</b>	<b>Primary Habitat Codes (for designated species)</b>
Glaucous blueberry	<i>Vaccinium darrowii</i>	
Shiny blueberry	<i>Vaccinium myrsinites</i>	
European vervain	<i>Verbena halei</i>	
Speedwell	<i>Vernonia arvensis</i>	
Ironweed	<i>Vernonia gigantea</i>	
Possum haw	<i>Viburnum nudum</i>	
Rusty blackhaw	<i>Viburnum rufidulum</i>	
Summer grape	<i>Vitis aestivalis</i>	
Scuppernong	<i>Vitis rotundifolia</i>	
Bog white violet	<i>Viola lanceolata</i>	
Wahlenbergia	<i>Wahlenbergia marginata</i>	
American wisteria	<i>Wisteria frutescens</i>	
Chinese wisteria	<i>Wisteria sinensis</i>	
Coastal yellow-eyed grass	<i>Xyris ambigua</i>	
Carolina yellow-eyed grass	<i>Xyris caroliniana</i>	
Fringed yellow-eyed grass	<i>Xyris fimbriata</i>	
Common yellow-eyed grass	<i>Xyris jupicai</i>	
Acid-swamp yellow-eyed grass	<i>Xyris serotina</i>	
Japanese Hawk's beard	<i>Youngia japonica</i>	
Weak leaf yucca	<i>Yucca flaccida</i>	

Fred Gannon Rocky Bayou State Park

Animals

Primary Habitat Codes  
(for all species)

Common Name

Scientific Name

LEPIDOPTERONS

Pipevine swallowtail	<i>Battus philenor</i>
Zebra swallowtail	<i>Eurytides Marcellus</i>
Black swallowtail	<i>Papilio polyxenes</i>
Eastern tiger swallowtail	<i>Papilio glaucus</i>
Spicebush swallowtail	<i>Papilio troilus</i>
Palamedes swallowtail	<i>Papilio palamedes</i>
Checkered white	<i>Pontia protodice</i>
Cloudless sulphur	<i>Phoebis sennae</i>
Barred yellow	<i>Eurema daira</i>
Little yellow	<i>Eurema lisa</i>
Sleepy orange	<i>Eurema nicippe</i>
Banded hairstreak	<i>Satyrium calanus</i>
Striped hairstreak	<i>Satyrium liparops</i>
Southern oak hairstreak	<i>Satyrium favonius favonius</i>
White M hairstreak	<i>Parrhasius m-album</i>
Gray hairstreak	<i>Strymon melinus</i>
Red-banded hairstreak	<i>Calycopis cecrops</i>
Spring azure	<i>Celastrina ladon neglecta</i>
Gulf fritillary	<i>Agraulis vanillae</i>
Variegated fritillary	<i>Euptoieta Claudia</i>
Pearl crescent	<i>Phyciodes tharos</i>
American Lady	<i>Vanessa virginiensis</i>
Painted Lady	<i>Vanessa cardui</i>
Red admiral	<i>Vanessa atalanta</i>
Common buckeye	<i>Junonia coenia</i>
Red-spotted purple	<i>Limenitis arthemis astyanax</i>
Carolina satyr	<i>Hermeuptychia sosybius</i>
Little wood-satyr	<i>Megisto cymela</i>
Monarch	<i>Danaus plexippus</i>
Silver-spotted skipper	<i>Epargyreus clarus</i>
Long-tailed skipper	<i>Urbanus proteus</i>
Southern cloudywing	<i>Thorybes bathyllus</i>
Juvenal's duskywing	<i>Erynnis juvenalis</i>
Horace's duskywing	<i>Erynnis horatius</i>
Zarucco duskywing	<i>Erynnis zarucco</i>
Common checkered skipper	<i>Pyrgus communis</i>
Tropical checkered skipper	<i>Pyrgus oileus</i>
Swarthy skipper	<i>Nastra lherminier</i>
Clouded skipper	<i>Lerema accius</i>
Fiery skipper	<i>Hylephila phyleus</i>
Tawny-edged skipper	<i>Polites themistocles</i>
Whirlabout	<i>Polites vibex</i>
Southern broken-dash	<i>Wallengrenia otho</i>
Palmetto skipper	<i>Euphyes arpa</i>

\*Non-native Species

Fred Gannon Rocky Bayou State Park

Animals

Common Name	Scientific Name	Primary Habitat Codes (for all species)
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Common roadside skipper	<i>Amblyscirtes vialis</i>	
Eufala skipper	<i>Lerodea eufala</i>	
Ocola skipper	<i>Panoquina ocola</i>	

AMPHIBIANS

Florida cricket frog	<i>Acris gryllus dorsalis</i>	26,29
Tiger salamander	<i>Ambystoma tigrinum</i>	54
Two-toed amphiuma	<i>Amphiuma means</i>	54
Southern toad	<i>Bufo terrestris</i>	8,13,14
Southern dusky salamander	<i>Desmognathus auriculatus</i>	54
Southern two-lined salamander	<i>Eurycea longicauda</i>	54
Green treefrog	<i>Hyla cinerea</i>	8,26
Southern spring peeper	<i>Pseudacris crucifer</i>	26,29
Barking treefrog	<i>Hyla gratiosa</i>	8,26
Squirrel treefrog	<i>Hyla squirella</i>	8,26,13,14
Slimy salamander	<i>Plethodon glutinosus</i>	54
Southern chorus frog	<i>Pseudacris nigrita</i>	8,26
Bullfrog	<i>Rana catesbeiana</i>	26,29,54
Bronze frog	<i>Rana clamitans clamitans</i>	26,29,54
Southern leopard frog	<i>Rana sphenoccephala</i>	26,29,54

REPTILES

Florida Cottonmouth	<i>Agkistrodon piscivorus conanti</i>	26,54
American Alligator	<i>Alligator mississippiensis</i>	26,54
Green Anole	<i>Anolis carolinensis carolinensis</i>	All
Yellow bellied Turtle	<i>Chrysemys scripta</i>	29,54
Common Snapping Turtle	<i>Chelydra serpentina</i>	54
Florida Cooter	<i>Chrysemys floridana floridana</i>	54
Six-lined Racerrunner	<i>Cnemidophorus sexlineatus sexlineatus</i>	8,13,14
Southern Black Racer	<i>Diadophis punctatus punctatus</i>	8,13,14
Eastern Diamondback Rattlesnake	<i>Crotalus adamanteus</i>	8,13,14
Chicken turtle	<i>Deirochelys reticularia</i>	8,13,14
Southern Ringneck Snake	<i>Diadophis punctatus punctatus</i>	8,13,14
Corn Snake	<i>Elaphe guttata guttata</i>	8,13,14
Gray rat snake	<i>Elaphe obsoleta</i>	8,13,14
Five-Lined Skink	<i>Eumeces fasciatus</i>	8,13,14
Southeastern Five-lined Skink	<i>Eumeces inexpectatus</i>	8,13,14
Broad-headed Skink	<i>Eumeces laticeps</i>	8,13,14
Mud Snake	<i>Farancia abacura</i>	26
Rainbow snake	<i>Farancia erytrogramma</i>	8,13,14
Gopher Tortoise	<i>Gopherus polyphemus</i>	8,13,14
Eastern Kingsnake	<i>Lampropeltis getulus getulus</i>	8,13,14
Scarlet Kingsnake	<i>Lampropeltis triangulum elapsoides</i>	8,13,14
Eastern Coachwhip	<i>Masticophis flagellum flagellum</i>	8,13,14

\*Non-native Species

Fred Gannon Rocky Bayou State Park

Animals

Common Name	Scientific Name	Primary Habitat Codes (for all species)
Eastern coral snake	<i>Micrurus fulvius</i>	8,13,14
Green water snake	<i>Nerodia cyclopion</i>	54
Banded water snake	<i>Nerodia taxispilota</i>	54
Rough green snake	<i>Opheodrys aestivus</i>	8,13
Eastern Glass Lizard	<i>Ophisaurus ventralis</i>	8,13,14
Southern Fence Lizard	<i>Sceloporus undulatus undulatus</i>	8,13,14
Loggerhead musk turtle	<i>Sternotherus minor</i>	54
Ground Skink	<i>Scincella lateralis</i>	8,13,14
Dusky Pygmy Rattlesnake	<i>Sistrurus miliarius barbouri</i>	8,13,14
Eastern Ribbon Snake	<i>Thamnophis sauritus sauritus</i>	8,13,14
Eastern Garter Snake	<i>Thamnophis sirtalis sirtalis</i>	8,13,14

BIRDS

Cooper's hawk	<i>Accipiter cooperii</i>	OF
Sharp-shinned hawk	<i>Accipiter striatus</i>	OF
Red-winged blackbird	<i>Agelaius phoeniceus</i>	26
Wood duck	<i>Aix sponsa</i>	54
Northern pintail	<i>Anas acuta</i>	54,bayou
Green-winged teal	<i>Anas crecca</i>	54,bayou
Blue-winged teal	<i>Anas discors</i>	54,bayou
Mallard	<i>Anas platyrhynchos</i>	54,bayou
Anhinga	<i>Anhinga anhinga</i>	29,54,bayou
Northern water pipit	<i>Anthus spinoletta</i>	54
Ruby-throated hummingbird	<i>Archilochus colubris</i>	8,13,14
Great Egret	<i>Ardea alba</i>	59
Great blue heron	<i>Ardea herodias</i>	29,54,bayou
Short-eared owl	<i>Asio flammeus</i>	8,13,14
Redhead	<i>Aythya americana</i>	bayou
Ring-necked duck	<i>Aythya collaris</i>	bayou
Greater scaup	<i>Aythya marila</i>	bayou
Cedar waxwing	<i>Bombycilla cedrorum</i>	MTC
American bittern	<i>Botaurus lentiginosus</i>	26,54
Great horned owl	<i>Bubo virginianus</i>	26
Eastern screech owl	<i>Otus asio</i>	26
Cattle egret	<i>Bubulcus ibis</i>	MTC
Bufflehead	<i>Bucephala albeola</i>	bayou
Red-shouldered hawk	<i>Buteo lineatus</i>	MTC
Red-tailed hawk	<i>Buteo jamaicensis</i>	MTC
Broad-winged hawk	<i>Buteo platypterus</i>	OF
Green-backed heron	<i>Butorides striatus</i>	26,54
Sanderling	<i>Calidris alba</i>	bayou
Dunlin	<i>Calidris alpina</i>	bayou
Semipalmated sandpiper	<i>Calidris pusilla</i>	bayou
Chuck-will's widow	<i>Caprimulgus carolinensis</i>	8
Northern cardinal	<i>Cardinalis cardinalis</i>	8,13

\*Non-native Species

Fred Gannon Rocky Bayou State Park

Animals

Common Name	Scientific Name	Primary Habitat Codes (for all species)
Pine siskin	<i>Carduelis pinus</i>	8,13
American goldfinch	<i>Carduelis tristis</i>	8
House finch	<i>Carpodacus mexicanus</i>	MTC
Purple finch	<i>Carpodacus purpureus</i>	8
Turkey vulture	<i>Cathartes aura</i>	OF
Hermit thrush	<i>Catharus guttatus</i>	8
Gray-cheeked thrush	<i>Catahrus minimus</i>	8
Willet	<i>Catoptrophorus semipalmatus</i>	59
Brown creeper	<i>Certhia Americana</i>	8,13
Belted kingfisher	<i>Ceryle alcyon</i>	59
Chimney swift	<i>Chaetura pelagica</i>	OF
Snowy plover	<i>Charadrius alexandrinus</i>	59
Piping plover	<i>Charadrius melodus</i>	59
Semipalmated plover	<i>Charadrius semipalmatus</i>	59
Killdeer	<i>Charadrius vociferus</i>	59
Wilson's plover	<i>Charadrius wilsonia</i>	59
Black tern	<i>Chlidonias niger</i>	59
Common nighthawk	<i>Chordeiles minor</i>	8
Northern harrier	<i>Circus cyaneus</i>	OF
Sedge wren	<i>Cistothorus platensis</i>	8,29
Black-billed cuckoo	<i>Coccyzus erythrophthalmus</i>	8,26
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	8,26
Northern flicker	<i>Colaptes auratus</i>	8,13
Northern bobwhite	<i>Colinus virginianus</i>	8,13
Rock dove	<i>Columba liva</i>	8
Common ground-dove	<i>Coloumbina passerina</i>	8,82
Eastern wood-pewee	<i>Contopus virens</i>	8,13,14
Black vulture	<i>Coragyps atratus</i>	OF
Fish crow	<i>Corvus ossifragus</i>	59
Blue jay	<i>Cyanocitta cristata</i>	MTC
Yellow-rumped warbler	<i>Dendroica coronata</i>	8,14
Yellow-throated warbler	<i>Dendroica dominica</i>	8
Palm warbler	<i>Dendroica palmarum</i>	8,14
Yellow warbler	<i>Dendroica petechia</i>	8,26
Pine warbler	<i>Dendroica pinus</i>	8
Bobolink	<i>Dolichonyx orizyvorus</i>	8
Pileated woodpecker	<i>Dryocopus pileatus</i>	8,13
Gray catbird	<i>Dumetella carolinensis</i>	82
Little blue heron	<i>Egretta caerulea</i>	29,54,59
Reddish egret	<i>Egretta rufescens</i>	59
Snowy egret	<i>Egretta thula</i>	59
Tricolored heron	<i>Egretta tricolor</i>	59
Swallow-tailed kite	<i>Elanoides forficatus</i>	OF
Acadian flycatcher	<i>Empidonax virescens</i>	8,26
White ibis	<i>Eudocimus albus</i>	54,59
Merlin	<i>Falco columbarius</i>	OF

\*Non-native Species

Fred Gannon Rocky Bayou State Park

Animals

Common Name	Scientific Name	Primary Habitat Codes (for all species)
American kestrel	<i>Falco sparverius</i>	OF
American coot	<i>Fulica americana</i>	59
Common snipe	<i>Gallinago gallinago</i>	59
Common loon	<i>Gavia immer</i>	59
Common yellowthroat	<i>Geothlypis trichas</i>	8
Bald eagle	<i>Haliaeetus leucocephalus</i>	MTC
American oystercatcher	<i>Haematopus palliatus</i>	59
Barn swallow	<i>Hirundo rustica</i>	OF
Wood thrush	<i>Hylocichla mustelina</i>	8
Mississippi kite	<i>Ictinia mississippiensis</i>	MTC
Orchard oriole	<i>Icterus spurius</i>	8
Dark-eyed junco	<i>Junco hyemalis</i>	8,26
Hooded merganser	<i>Lophodytes cucullatus</i>	59
Red-bellied woodpecker	<i>Melanerpes carolinus</i>	8,13
Red-headed woodpecker	<i>Melanerpes erythrocephalus</i>	8,13
Red-breasted merganser	<i>Mergus serrator</i>	59
Wild turkey	<i>Meleagris gallopavo</i>	8,13
Northern mockingbird	<i>Mimus polyglottos</i>	MTC
Black and white warbler	<i>Mniotilta varia</i>	8,14
Brown-headed cowbird	<i>Molothrus ater</i>	82
Great crested flycatcher	<i>Myiarchus crinitus</i>	8,14
Wood stork	<i>Mycteria americana</i>	26,59
Osprey	<i>Pandion haliaetus</i>	MTC
Northern parula	<i>Parula americana</i>	8,14
Tufted titmouse	<i>Parus bicolor</i>	8,14
Carolina chickadee	<i>Parus carolinensis</i>	8,14
Indigo bunting	<i>Passerina cyanea</i>	8,14
American white pelican	<i>Pelecanus erythrorhynchos</i>	59
Brown pelican	<i>Pelecanus occidentalis</i>	59
Double-crested cormorant	<i>Phalacrocorax auritus</i>	59
Rufous-sided towhee	<i>Pipilo erythrophthalmus</i>	8,14
Scarlet tanager	<i>Piranga olivacea</i>	8,14
Summer tanager	<i>Piranga rubra</i>	8,14
Blue-gray gnatcatcher	<i>Polioptila caerulea</i>	8,14
Sora	<i>Porzana carolina</i>	54
Purple martin	<i>Progne subis</i>	OF
Prothonotary warbler	<i>Protonotaria citrea</i>	8,14
Common grackle	<i>Quiscalus quiscalus</i>	82
Ruby-crowned kinglet	<i>Regulus calendula</i>	8,14
Black skimmer	<i>Rynchops niger</i>	59
Eastern phoebe	<i>Sayornis phoebe</i>	8
American redstart	<i>Setophaga ruticilla</i>	8,26
Yellow-bellied sapsucker	<i>Sphyrapicus varius</i>	8,13
Chipping sparrow	<i>Spizella passerina</i>	8,13
Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>	8,13,26
Least tern	<i>Sterna antillarum</i>	59

\*Non-native Species

Fred Gannon Rocky Bayou State Park

Animals

Common Name	Scientific Name	Primary Habitat Codes (for all species)
Royal tern	<i>Sterna maxima</i>	59
Barred owl	<i>Strix varia</i>	8,13,14
Tree swallow	<i>Tachycineta bicolor</i>	MTC
Carolina wren	<i>Thryothorus ludovicianus</i>	8,14
Brown thrasher	<i>Toxostoma rufum</i>	82
Greater yellowlegs	<i>Tringa melanoleuca</i>	59
American robin	<i>Turdus migratorius</i>	MTC
White-eyed vireo	<i>Vireo griseus</i>	8,14
Blue-headed vireo	<i>Vireo solitarius</i>	8,14
Red-eyed vireo	<i>Vireo olivaceus</i>	8,14
Hooded warbler	<i>Wilsonia citrina</i>	8,14
Mourning dove	<i>Zenaida macroura</i>	MTC
White-throated sparrow	<i>Zonotrichia albicollis</i>	8,13,14

MAMMALS

Coyote	<i>Canis latrans</i>	MTC
Beaver	<i>Castor canadensis</i>	54
Nine-banded armadillo	<i>Dasypus novemcinctus</i>	MTC
Opposum	<i>Didelphis marsupialis</i>	8,26,14
Bobcat	<i>Lynx rufus</i>	8,13,14
Striped skunk	<i>Mephitis mephitis</i>	8,13,14
White-tailed deer	<i>Odocoileus virginianus</i>	8,14
Cotton mouse	<i>Peromyscus gossypinus</i>	8
Raccoon	<i>Procyon lotor</i>	MTC
Eastern mole	<i>Scalopus aquaticus</i>	8,13
Eastern gray squirrel	<i>Sciurus carolinensis</i>	8,13,14
Hispid cotton rat	<i>Sigmodon hispidus</i>	8,82
Eastern cottontail	<i>Sylvilagus floridanus</i>	8,82
Marsh rabbit	<i>Sylvilagus palustris</i>	8,26,29
West Indian manatee	<i>Trichechus manatus</i>	59
Gray fox	<i>Urocyon cinereoargenteus</i>	8,13,14
Black bear	<i>Ursus americanus</i>	MTC

**Fred Gannon Rocky Bayou State Park**

**Animals**

<b>Common Name</b>	<b><i>Scientific Name</i></b>	<b>Primary Habitat Codes (for all species)</b>
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## Habitat Codes

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### **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. Coastal Grasslands
10. Pine Rockland
11. Prairie Hammock
12. Rockland Hammock
13. Sandhill
14. Scrub
15. Scrubby Flatwoods
16. Shell Mound
17. Sinkhole
18. Slope Forest
19. Upland Glade
20. Upland Hardwood Forest
21. Upland Mixed Forest
22. Upland Pine Forest
23. Xeric Hammock

### **PALUSTRINE**

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

### **LACUSTRINE**

43. Clastic Upland Lake
44. Coastal Dune Lake
45. Coastal Rockland Lake
46. Flatwood/Prairie Lake
47. Marsh Lake

### **LACUSTRINE—Continued**

48. River Floodplain Lake
49. Sandhill Upland Lake
50. Sinkhole Lake
51. Swamp Lake

### **RIVERINE**

52. Alluvial Stream
53. Blackwater Stream
54. Seepage Stream
55. Spring-Run Stream

### **ESTUARINE**

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

### **MARINE**

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

### **SUBTERRANEAN**

79. Aquatic Cave
80. Terrestrial Cave

### **MISCELLANEOUS**

81. Ruderal
82. Developed
- MTC Many Types Of Communities
- OF Overflying

## Habitat Codes

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

**LEGAL STATUS**

**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.

**Fred Gannon Rocky Bayou State Park**

**Designated Species**

**Plants**

<b>Common Name/ Scientific Name</b>	<b><u>Designated Species Status</u></b>		
	<b>FDA</b>	<b>USFWS</b>	<b>FNAI</b>
Hairy wild indigo <i>Baptisia calycosa var. villosa</i>	LT		G2T3,S3
Steephead sedge <i>Carex baltzellii</i>	LT		G2,S2
Sundew <i>Drosera intermedia</i>	LT		G5,S3
Florida star anise <i>Illicium floridanum</i>	LT		G5,S2
Pond spice <i>Litsea aestivalis</i>	LE		G3,S2
Large-leaved jointweed <i>Polygonella macrophylla</i>	LT		G2,S2
Red or Sweet pitcherplant <i>Sarracenia rubra</i>	LT		G3,S3
Gulf Coast lupine <i>Lupinus westianus</i>	LT		G2,S

**Fred Gannon Rocky Bayou State Park**

**Designated Species**

**Plants**

**Common Name/  
*Scientific Name***

**FDA**

**Designated Species Status**

**USFWS**

**FNAI**

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**Fred Gannon Rocky Bayou State Park**

**Designated Species**

**Animals**

<b>Common Name/ Scientific Name</b>	<b>Designated Species Status</b>		
	<b>FFWCC</b>	<b>USFWS</b>	<b>FNAI</b>

**REPTILES**

American alligator <i>Alligator mississippiensis</i>	LS	T(S/A)	G5,S4
Gopher tortoise <i>Gopherus polyphemus</i>	LS		G3, S3

**BIRDS**

Roseate Spoonbill <i>Ajaia Ajaja</i>	LS		G5, S2, S3
Great Egret <i>Ardea alba</i>			G5, S4
Piping Plover <i>Charadrius melodus</i>	LT	LT	G3, S2
Little Blue Heron <i>Egretta caerulea</i>	LS		G5, S4
Reddish Egret <i>Egretta rufescens</i>	LS		G4, S2
Snowy Egret <i>Egretta thula</i>	LS		G5, S4
Tricolored Heron <i>Egretta tricolor</i>	LS		G5, S4
White Ibis <i>Eudocimus albus</i>	LS		G5, S4
Merlin <i>Falco columbarius</i>			G4, SU
Wood Stork <i>Mycteria americana</i>	LE	LE	G4, S2
Brown Pelican <i>Pelecanus occidentalis</i>	LS		G4,S3
Black Skimmer <i>Rynchops niger</i>	LS		G5, S3
American Redstart <i>Setophaga ruticilla</i>			G5, S3
Least Tern <i>Sterna antillarum</i>	LT		G4, S3
Royal Tern <i>Sterna maxima</i>			G5, S3

# Fred Gannon Rocky Bayou State Park

## Designated Species

### Animals

Common Name/ <i>Scientific Name</i>	<u>Designated Species Status</u>		
	FFWCC	USFWS	FNAI

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### MAMMALS

West Indian (=Florida) manatee

*Trichechus manatus*

LE

LE

G2, S2

Florida black bear

*Ursus americanus floridanus*

LT

G5T2,S

**Addendum 6—Priority Schedule And Cost Estimates**



## Fred Gannon Rocky Bayou State Park

### Priority Schedule And Cost Estimates

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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

1. Water quality analysis and streamside biota sampling in the park's seepage streams. (0-3 years) Estimated Cost: \$2,000
2. Removal of off-site sand pines and hardwoods from sandhill community (0-2 years) Estimated Cost: \$20,000
3. Prescribed burning of 20 acres of sandhill community and ~10 acres of coastal flatwoods. This includes burn planning, inter-agency coordination, prescription preparation, fire line maintenance, burn zone prep, pre and post burn monitoring (staff hours/ in-kind services). Estimated Yearly Cost: \$2,500 based on 3 year fire return interval.
4. Burn equipment maintenance and needs, staff PPE purchase/replacement. Estimated Yearly Cost: \$1,500 - \$2,500
5. Develop a plan for interpretive kiosks and regulatory signage for the park's archaeological sites. (0-5 years) Estimated Cost: \$10,000
6. Rare species monitoring efforts (staff hours/ in-kind services). Estimated Yearly Cost: \$1,000 – \$1,500
7. Exotic species monitoring and control efforts (staff hours/ in-kind services, herbicide and equipment costs, staff training). Estimated Yearly Cost: \$1,000 – \$2,500
8. Off-site hardwood control in sandhill restoration area (staff hours/ in-kind services, equipment time/maintenance, herbicide/application equipment). Estimated Yearly Cost: \$1,500 - \$3,000

**\* Categories of the uniform cost accounting system not reflected in this addendum, have no schedule or cost associated with them.**

**Fred Gannon Rocky Bayou State Park  
Priority Schedule And Cost Estimates**

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**Capital Improvements**

<b>Development Area or Facility</b>	<b>Cost</b>
Camping Area	\$375,000.00
Day Use Area	160,500.00
Support Facilities	500,000.00
Trails	91,000.00
<b>Total with contingency</b>	<b>\$1,351,800.00</b>

**NOTE:** These preliminary cost estimates, based on Divisions standards, do not include costs for site-specific elements not evident at the conceptual level of planning. Additional costs should be investigated before finalizing budget estimates. All items fall in the new facility construction category © of the uniform cost accounting system required by ch. 259.037 F.S.

**Additional Information**

**ENAI Descriptions**

**DHR Cultural Management Statement**



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## Descriptions Of Natural Communities Developed By FNAI

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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.

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### 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

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**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.

## Descriptions Of Natural Communities Developed By FNAI

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**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.

## Descriptions Of Natural Communities Developed By FNAI

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**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.

## Descriptions Of Natural Communities Developed By FNAI

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**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

## Descriptions Of Natural Communities Developed By FNAI

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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 troglonec, troglophilic, and troglotic organisms.

**Aquatic Cave** - cavernicolous area permanently or periodically submerged; often characterized by troglotic 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 Of Natural Communities Developed By FNAI

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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., coralgall, 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 sparse, 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 Scleractinia (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

## Descriptions Of Natural Communities Developed By FNAI

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### LATIN NAMES OF PLANTS MENTIONED IN NATURAL COMMUNITY DESCRIPTIONS

anise - *Illicium floridanum*  
bays:  
  swamp bay - *Persea palustris*  
  gordonia - *Gordonia lasianthus*  
  sweetbay - *Magnolia virginiana*  
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 elliotii*  
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 tulipifera*  
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*

## **Management Procedures For Archaeological And Historical Sites And Properties On State-Owned Or Controlled Lands (Revised August, 1995)**

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### **A. GENERAL DISCUSSION**

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

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

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

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

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

### **B. STATUTORY AUTHORITY**

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

Chapter 267, Florida Statutes is the primary historic preservation authority of the state. The importance of protecting and interpreting archaeological and historic sites is recognized in 267.061(1)(a), F.S.: The rich and unique heritage of historic properties in this state, representing more than 10,000 years of human presence, is an important legacy to be valued and conserved for present and future generations. The destruction of these nonrenewable historic resources will engender a significant loss to the state's quality of life, economy, and cultural environment. It is therefore declared to be state policy to:

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

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

1. Cooperate with federal and state agencies, local Governments, and private organizations and individuals to direct and conduct a comprehensive statewide survey of historic resources and to maintain an inventory of such responses.
2. Develop a comprehensive statewide historic preservation plan.
3. Identify and nominate eligible properties to the National Register of Historic Places and otherwise administer applications for listing properties in the National Register of Historic Places.
4. Cooperate with federal and state agencies, local governments, and organizations and individuals to ensure that historic resources are taken into consideration at all levels of planning and development.
5. Advise and assist, as appropriate, federal and state agencies and local governments in carrying out their historic preservation responsibilities and programs.
6. Carry out on behalf of the state the programs of the National Historic Preservation Act of 1966, as amended, and to establish, maintain, and administer a state historic preservation program meeting the requirements of an approved program and fulfilling the responsibilities of state historic preservation programs as provided in subsection 101(b) of that act.
7. Take such other actions necessary or appropriate to locate, acquire, protect, preserve, operate, interpret, and promote the location, acquisition, protection, preservation, operation, and interpretation of historic resources to foster an appreciation of Florida history and culture. Prior to the acquisition, preservation, interpretation, or operation of a historic property by a state agency, the Division shall be provided a reasonable opportunity to review and comment on the proposed undertaking and shall determine that there exists historic authenticity and a feasible means of providing for the preservation, interpretation and operation of such property.
8. Establish professional standards for the preservation, exclusive of acquisition, of historic resources in state ownership or control.
9. Establish guidelines for state agency responsibilities under subsection (2).

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

1. Each state agency of the executive branch having direct or indirect jurisdiction over a proposed state or state-assisted undertaking shall, in accordance with state policy and prior to the approval of expenditure of any state funds on the undertaking, consider the effect of the undertaking on any historic property that is included in, or eligible for inclusion in, the National Register of Historic Places. Each such agency shall afford the division a reasonable opportunity to comment with regard to such an undertaking.
2. Each state agency of the executive branch shall initiate measures in consultation with the division to assure that where, as a result of state action or assistance carried out by such agency, a historic property is to be demolished or substantially altered in a way that adversely affects the character, form, integrity, or other qualities that contribute to [the] historical, architectural, or archaeological value of the property, timely steps are taken to determine that no feasible and prudent alternative to the proposed demolition or alteration exists, and, where no such alternative is determined to exist, to assure that timely steps are taken either to avoid or mitigate the adverse effects, or to undertake an appropriate archaeological salvage excavation or other recovery action to document the property as it existed prior to demolition or alteration.
3. In consultation with the division [of Historical Resources], each state agency of the executive branch shall establish a program to locate, inventory, and evaluate all historic properties under the agency's ownership or control that appear to qualify for the National Register. Each such agency shall exercise caution to assure that any such historic property is not inadvertently transferred, sold, demolished, substantially altered, or allowed to deteriorate significantly.

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

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

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

**C. MANAGEMENT POLICY**

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

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

It should be noted that while many archaeological and historical sites are already recorded within state--owned or controlled--lands, the majority of the uplands areas and nearly all of the inundated areas have

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not been surveyed to locate and assess the significance of such resources. The known sites are, thus, only an incomplete sample of the actual resources - i.e., the number, density, distribution, age, character and condition of archaeological and historic sites - on these tracts. Unfortunately, the lack of specific knowledge of the actual resources prevents formulation of any sort of detailed management or use plan involving decisions about the relative historic value of individual sites. For this reason, a generalized policy of conservation is recommended until the resources have been better addressed.

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

- 1.** State land managers shall coordinate all planned activities involving known archaeological or historic sites or potential site areas closely with the Division of Historical Resources in order to prevent any kind of disturbance to significant archaeological or historic sites that may exist on the tract. Under 267.061(1)(b), F.S., the Division of Historical Resources is vested with title to archaeological and historic resources abandoned on state lands and is responsible for administration and protection of such resources. The Division will cooperate with the land manager in the management of these resources. Furthermore, provisions of 267.061(2) and 267.13, F.S., combined with those in 267.061(3) and 253.034(4), F.S., require that other managing (or permitting) agencies coordinate their plans with the Division of Historical Resources at a sufficiently early stage to preclude inadvertent damage or destruction to known or potentially occurring, presently unknown archaeological and historic sites. The provisions pertaining to human burial sites must also be followed by state land managers when such remains are known or suspected to be present (see 872.02 and 872.05, F.S., and 1A-44, F.A.C.)
- 2.** Since the actual resources are so poorly known, the potential impact of the managing agency's activities on historic archaeological sites may not be immediately apparent. Special field survey for such sites may be required to identify the potential endangerment as a result of particular management or permitting activities. The Division may perform surveys, as its resources permit, to aid the planning of other state agencies in their management activities, but outside archaeological consultants may have to be retained by the managing agency. This would be especially necessary in the cases of activities contemplating ground disturbance over large areas and unexpected occurrences. It should be noted, however, that in most instances Division staff's knowledge of known and expected site distribution is such that actual field surveys may not be necessary, and the project may be reviewed by submitting a project location map (preferably a 7.5 minute U.S.G.S. Quadrangle map or portion thereof) and project descriptive data, including detailed construction plans. To avoid delays, Division staff should be contacted to discuss specific project documentation review needs.
- 3.** In the case of known significant sites, which may be affected by proposed project activities, the managing agency will generally be expected to alter proposed management or development plans, as necessary, or else make special provisions to minimize or mitigate damage to such sites.
- 4.** If in the course of management activities, or as a result of development or the permitting of dredge activities (see 403.918(2)(6)a, F.S.), it is determined that valuable historic or archaeological sites will be damaged or destroyed, the Division reserves the right, pursuant to 267.061(1)(b), F.S., to require salvage measures to mitigate the destructive impact of such activities to such sites. Such salvage measures would be accomplished before the Division would grant permission for destruction of the affected site areas. The funding needed to implement salvage measures would be the responsibility of the managing agency planning the site destructive activity. Mitigation of historic structures at a minimum involves the preparation of measured drawings and documentary photographs. Mitigation of archaeological resources involves the excavation, analysis and reporting of the project findings and must be planned to occur sufficiently in advance to avoid project construction delays. If these services are to be contracted by the state agency, the selected consultant will need to obtain an Archaeological Research Permit from the Division of Historical Resources, Bureau of Archaeological Research (see 267.12, F.S. and Rules 1A-32 and 1A-46 F.A.C.).
- 5.** For the near future, excavation of non-endangered (i.e., sites not being lost to erosion or development) archaeological site is discouraged. There are many endangered sites in Florida (on

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both private and public lands) in need of excavation because of the threat of development or other factors. Those within state-owned or controlled lands should be left undisturbed for the present - with particular attention devoted to preventing site looting by "treasure hunters". On the other hand, the archaeological and historic survey of these tracts is encouraged in order to build an inventory of the resources present, and to assess their scientific research potential and historic or architectural significance.

6. The cooperation of land managers in reporting sites to the Division that their field personnel may discover is encouraged. The Division will help inform field personnel from other resource managing agencies about the characteristics and appearance of sites. The Division has initiated a cultural resource management training program to help accomplish this. Upon request the Division will also provide to other agencies archaeological and historical summaries of the known and potentially occurring resources so that information may be incorporated into management plans and public awareness programs (See Management Implementation).
7. Any discovery of instances of looting or unauthorized destruction of sites must be reported to the agent for the Board of Trustees of the Internal Improvement Trust Fund and the Division so that appropriate action may be initiated. When human burial sites are involved, the provisions of 872.02 and 872.05, F. S. and Rule 1A-44, F.A.C., as applicable, must also be followed. Any state agent with law enforcement authority observing individuals or groups clearly and incontrovertibly vandalizing, looting or destroying archaeological or historic sites within state-owned or controlled lands without demonstrable permission from the Division will make arrests and detain those individuals or groups under the provisions of 267.13, 901.15, and 901.21, F.S., and related statutory authority pertaining to such illegal activities on state-owned or controlled lands. County Sheriffs' officers are urged to assist in efforts to stop and/or prevent site looting and destruction.

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

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

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

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compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

- 10.** New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired. (see Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings [Revised 1990]).

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

### **D. MANAGEMENT IMPLEMENTATION**

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

- 1.** All land managing agencies should contact the Division and send U.S.G.S. 7.5 minute quadrangle maps outlining the boundaries of their various properties.
- 2.** The Division will in turn identify site locations on those maps and provide descriptions for known archaeological and historical sites to the managing agency.
- 3.** Further, the Division may also identify on the maps areas of high archaeological and historic site location probability within the subject tract. These are only probability zones, and sites may be found outside of these areas. Therefore, actual ground inspections of project areas may still be necessary.
- 4.** The Division will send archaeological field recording forms and historic structure field recording forms to representatives of the agency to facilitate the recording of information on such resources.
- 5.** Land managers will update information on recorded sites and properties.
- 6.** Land managers will supply the Division with new information as it becomes available on previously unrecorded sites that their staff locate. The following details the kind of information the Division wishes to obtain for any new sites or structures that the land managers may report:

#### **A. Historic Sites**

- (1)** Type of structure (dwelling, church, factory, etc.).
- (2)** Known or estimated age or construction date for each structure and addition.
- (3)** Location of building (identify location on a map of the property, and building placement, i.e., detached, row, etc.).
- (4)** General Characteristics: (include photographs if possible) overall shape of plan (rectangle, "L" "T" "H" "U", etc.); number of stories; number of vertical divisions of bays; construction materials (brick, frame, stone, etc.); wall finish (kind of bond, coursing, shingle, etc.); roof shape.
- (5)** Specific features including location, number and appearance of:
  - (a)** Important decorative elements;
  - (b)** Interior features contributing to the character of the building;
  - (c)** Number, type, and location of outbuildings, as well as date(s) of construction;
  - (d)** Notation if property has been moved;
  - (e)** Notation of known alterations to building.

#### **B. Archaeological Sites**

- (1)** Site location (written narrative and mapped location).
- (2)** Cultural affiliation and period.
- (3)** Site type (midden, burial mound, artifact scatter, building rubble, etc.).

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- (4) Threats to site (deterioration, vandalism, etc.).
- (5) Site size (acreage, square meters, etc.).
- (6) Artifacts observed on ground surface (pottery, bone, glass, etc.).
- (7) Description of surrounding environment.
- 7. No land disturbing activities should be undertaken in areas of known archaeological or historic sites or areas of high site probability without prior review by the Division early in the project planning.
- 8. Ground disturbing activities may proceed elsewhere but land managers should stop disturbance in the immediate vicinity of artifact finds and notifies the Division if previously unknown archaeological or historic remains are uncovered. The provisions of Chapter 872, F.S., must be followed when human remains are encountered.
- 9. Excavation and collection of archaeological and historic sites on state lands without a permit from the Division are a violation of state law and shall be reported to a law enforcement officer. The use of metal detectors to search for historic artifacts shall be prohibited on state lands except when authorized in a 1A-32, F.A.C., research permit from the Division.
- 10. Interpretation and visitation which will increase public understanding and enjoyment of archaeological and historic sites without site destruction or vandalism is strongly encouraged.
- 11. Development of interpretive programs including trails, signage, kiosks, and exhibits is encouraged and should be coordinated with the Division.
- 12. Artifacts found or collected on state lands are by law the property of the Division. Land managers shall contact the Division whenever such material is found so that arrangements may be made for recording and conservation. This material, if taken to Tallahassee, can be returned for public display on a long term loan.

**E. ADMINISTERING AGENCY**

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

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

**Contact Person**

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**Management Procedures For Archaeological And Historical Sites And Properties  
On State-Owned Or Controlled Lands (Revised August, 1995)**

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