FORT GEORGE ISLAND CULTURAL

STATE PARK

UNIT MANAGEMENT PLAN

APPROVED

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Division of Recreation and Parks

DECEMBER 12, 2008

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INTRODUCTION

Fort George Island Cultural State Park is located in Duval County (see Vicinity and Reference Maps). Currently the park contains 659.13 acres. Access to the park is from downtown Jacksonville via Interstate 95 and State Road 105. It is also accessible from Fernandina Beach and Amelia Island via Highway A1A. The Mayport Ferry provides access to the area from the south side of the St. Johns River. The vicinity map also reflects significant land and water resources existing near the park.

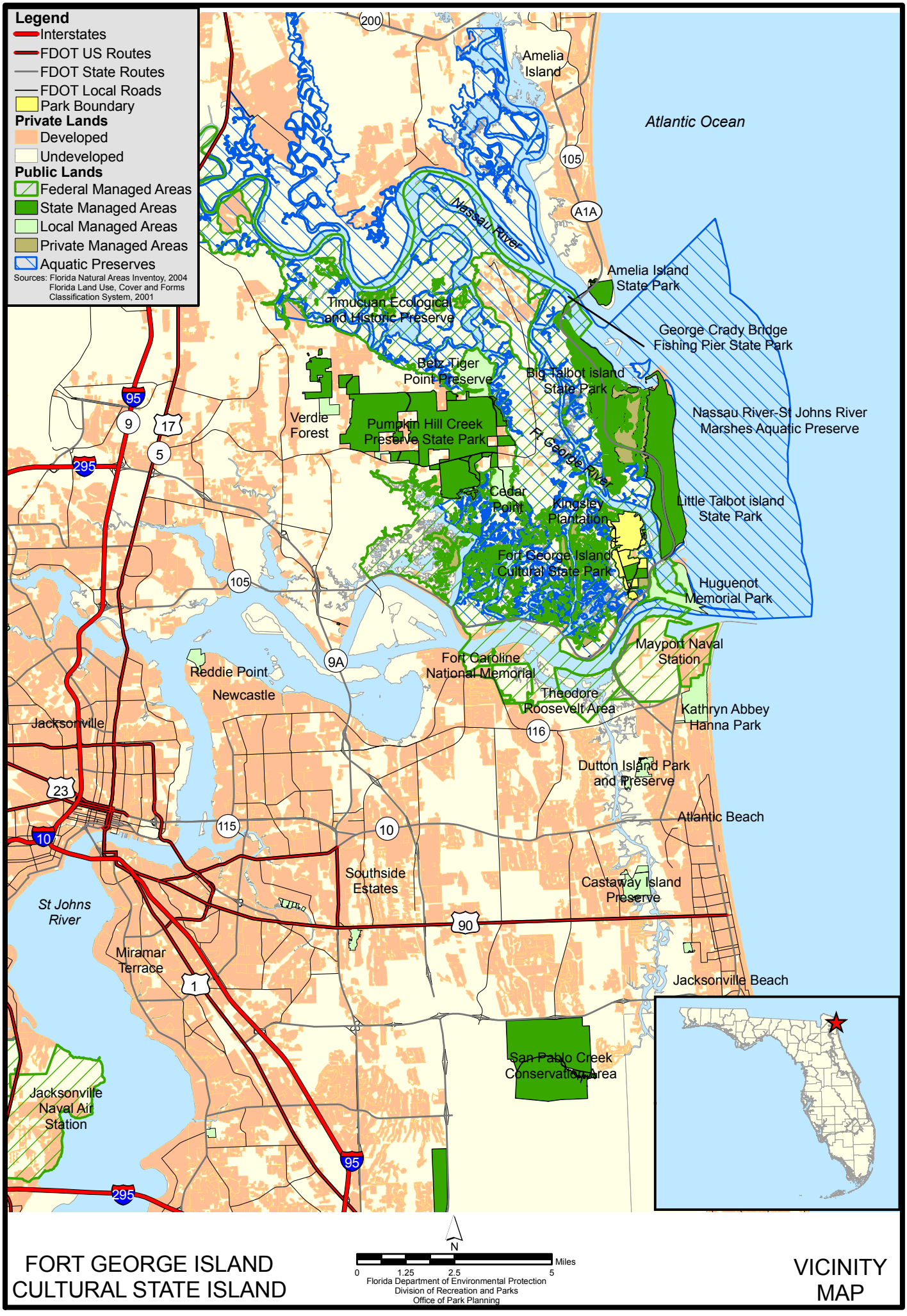
At Fort George Island Cultural State Park, public outdoor recreation and conservation is the designated single use of the property. There are no legislative or executive directives that constrain the use of this property. The park was acquired on June 29, 1989 using CARL funds (see Addendum 1).

PURPOSE AND SCOPE OF THE PLAN

This plan serves as the basic statement of policy and direction for the management of Fort George Island Cultural 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. With approval, this management plan will replace the 2003 approved 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.

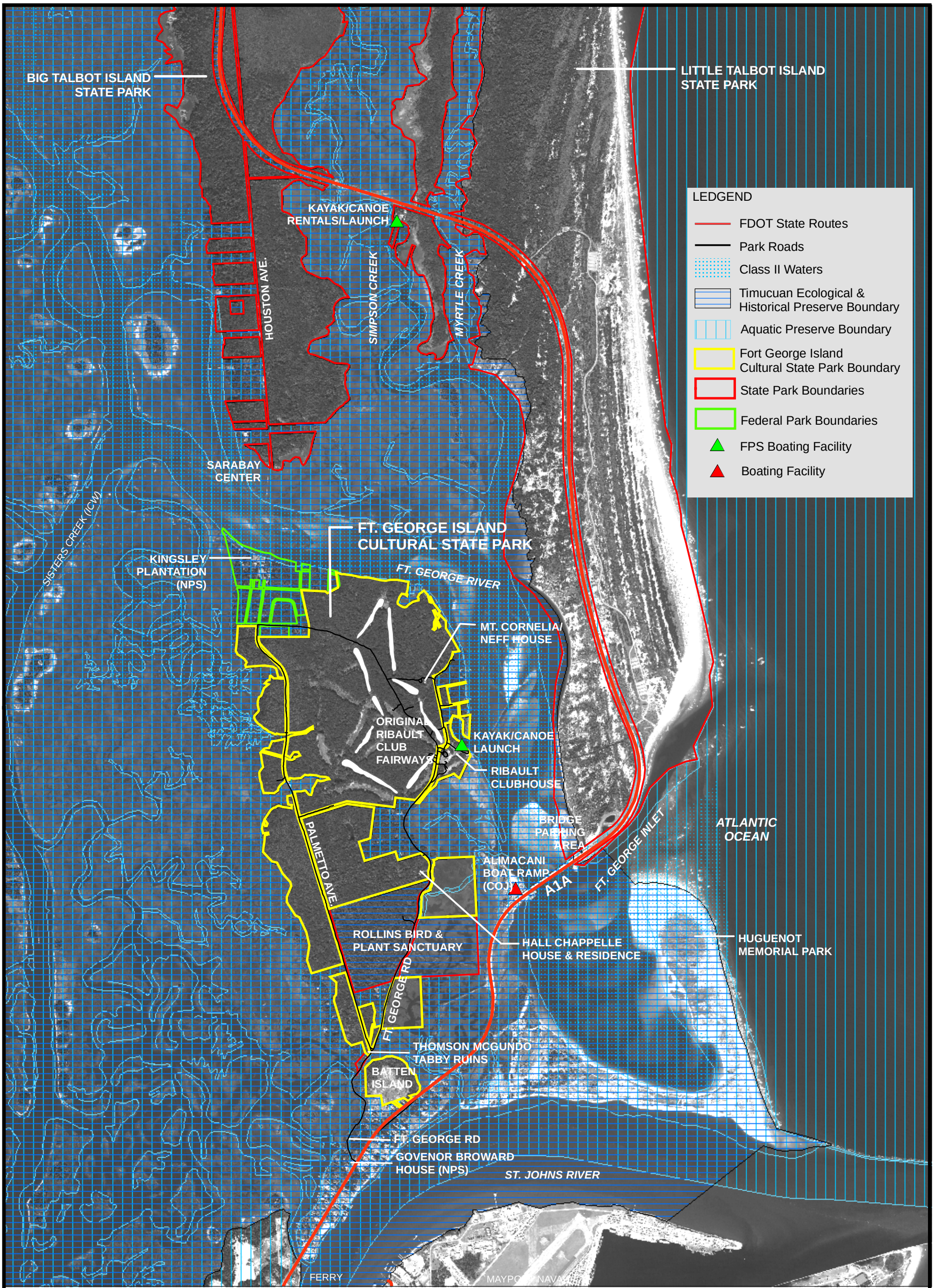
The plan consists of two interrelated components. Each component corresponds to a particular aspect of the administration of the park. The resource management component provides a detailed inventory and assessment of the natural and cultural resources of the park. Resource management problems and needs 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.



FORT GEORGE ISLAND CULTURAL STATE ISLAND

VICINITY MAP



FORT GEORGE ISLAND
CULTURAL STATE PARK

N

0 600 1,200 2,400 Feet

Department of Environmental Protection
Division of Recreation and Parks
Office of Park Planning
DEP Draft

REFERENCE MAP

In the development of this plan, the potential of the park to accommodate secondary management purposes ("multiple uses") was analyzed. These secondary purposes were considered within the context of the Division's statutory responsibilities and an analysis of the resource needs and values of the park. This analysis considered the park natural and cultural resources, management needs, aesthetic values, visitation and visitor experiences. For this park, it was determined that 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) that covers such areas as personnel management, uniforms and personal appearance, training, signs, communications, fiscal procedures, interpretation, concessions, camping regulations, resource management, law enforcement, protection, safety and maintenance.

In the management of Fort George Island Cultural State Park, a balance is sought between the goals of maintaining and enhancing natural conditions and providing various recreational opportunities. Natural resource management activities are aimed at management of natural systems. Development in the park is directed toward providing public access to and within the park, and to providing recreational facilities, in a reasonable balance, that are both convenient and safe. Program emphasis is on interpretation on the park'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. In coordination with the National Park Service and the City of Jacksonville, conduct a formal study of cultural landscapes on Fort George Island and develop a comprehensive management plan for the diverse landscapes represented.

2. Document concerns about the decline of historic structures, and take appropriate corrective actions.

- **A.** Continue to use the Cultural Site Visitation protocol for ongoing inspection, assessment and maintenance of historic resources.
- **B.** Continue to develop restoration and/or rehabilitation plans for all historic structures in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties. Seek funding to implement the plans.
- **C.** Take the necessary steps to record the Caddy structure in the Florida Master Site File, as well as other resources associated with the Ribault Clubhouse (driveways, tennis courts, and a pump house). Conduct stabilization work as needed.
- **D.** Reassess the condition of site DU149 and determine what steps are needed to stabilize the structures and protect them from vandalism.
- **E.** Determine the historic status of the Garage and Lodge in the Rollins Sanctuary, and take steps to record them in the Florida Master Site File if warranted. Conduct stabilization work as needed.
- **F.** Determine the stabilization needs of both the Chappelle houses. Conduct condition assessments for the Hall Chappelle House, prepare a Historic Structures Report for the house and develop a rehabilitation plan for adaptive reuse. Take steps to record the house in the Florida Master Site File.
- **G.** Upgrade the stabilization treatment for the Neff House to Secretary of Interior standards and seek the funds necessary to minimize its decline for the short term. Actively pursue a partnership for the adaptive reuse of the building for its long-term preservation.

3. When developing facilities in or near known archaeological or historical sites such as the Ribault Clubhouse and the Ribault Club Midden, use the results of prior archaeological investigations to guide the planning process. Proper planning should result in fewer incidents of cultural resource disturbance requiring mitigation for damages to archaeological sites.

- **A.** Prepare a report synthesizing all archaeological work done at the Ribault Club House Midden to date.

4. Continue the program of cultural site protection through regular inspection, assessment and maintenance.

- **A.** Develop and implement a schedule of cultural site visits based on individual site needs to provide for the maintenance and protection of cultural resources. Continue to photo-document resources that are in poor condition. Continue the program of educating park staff via the cultural resource management workdays organized by staff from the Bureau of Natural and Cultural

Resources (BNCR) and the district.

B. Seek funding for an archaeologist to assess the Sugar Mill Site in conjunction with a review of the results of the recent hydrologic restoration study to determine which features are intact and which features may have been destroyed during construction of mosquito ditches.

C. Coordinate with the City of Jacksonville, the Jacksonville Electric Authority and the National Park Service (NPS) to reduce or eliminate impacts to palms along Palmetto Avenue caused by road and power line maintenance activities.

D. Seek funding for a small-scale archaeological project to determine if Palmetto Avenue, its associated parking turnout and an adjacent mosquito control ditch have had negative impacts on the San Juan del Puerto Site. The same study should provide recommendations for remedial actions, if necessary.

5. Pursue the listing of park resources on the National Register of Historic Places.

A. Determine if the Fort George Shell Ring is eligible for listing on the National Register of Historic Places. If so, prepare a proposal for listing. Additionally, determine if the entire island is eligible for listing on the National Register as a historic district with multiple periods represented.

6. Actively manage park collections.

A. Finalize a scope of collection statement for the park.

B. Assess the condition of all collections items and determine conservation needs.

C. Improve collection storage conditions.

D. Develop a protocol for accepting and integrating donated items into the collection.

E. Implement the scope of collection recommendations on cataloguing.

F. Interpret the collection to the public.

7. Take appropriate steps to restore natural communities.

A. Continue studies of the altered hydrology of the island, including the network of ditches, culverts and created ponds, and determine possible effects on park resources. Pursue additional funds to complete the hydrological studies necessary to guide and facilitate restoration of freshwater wetlands on the island. Develop plans for restoring natural hydrology as needed.

B. Continue the photographic monitoring of fairway succession, and conduct quantitative monitoring as time permits. Encourage university faculty and staff to continue studies of succession on abandoned fairways. Future monitoring may indicate the need for more active management, including the addition or removal of particular species from the system.

C. Pursue mitigation funds or other sources to accomplish restoration of the salt marsh at Point Isabel.

8. Continue to monitor listed and regionally rare species.

A. Continue to monitor populations of listed plants, as well as the several plant species found at the northern limits of their range.

B. Search the island for previously documented U.S. Champion trees to

determine their status.

C. Continue to document areas utilized by wading birds and shore birds, and map the locations to facilitate protection as significant habitat.

D. Continue to maintain and protect appropriate gopher tortoise habitat (i.e. the two fairways maintained as part of the island's cultural landscape and the dune system around Mount Cornelia).

E. Continue the periodic monitoring of the island's painted bunting population. Evaluate possible effects on bunting habitat when planning new park facilities and trails. Educate visitors about local and global threats to neotropical migrants such as the painted bunting.

9. Continue to protect water quality and wetland function within the park.

A. Continue to encourage and facilitate water quality monitoring of groundwater and surface water within the park.

B. Continue to cap unused wells within the park.

C. Continue to coordinate with appropriate agencies to assess the adequacy and function of various culverts under roadways.

10. Remove exotic plants and animals from the park.

A. Continue to remove feral hogs from the park to prevent damage to natural communities, rare plants and cultural resources like the shell rings.

B. Continue to remove invasive, naturalized and ornamental exotic plants from the park, particularly those in the Chappelle addition where confederate jasmine is engulfing low peperomia.

C. Continue to track the spread of the Asian ambrosia beetle, monitor the red bay mortality on the island and cooperate with exotic pest experts in researching possible ways to reduce the spread of the laurel wilt disease.

Recreational Goals

1. Continue to provide quality, resource-based, outdoor recreational and interpretive programs and facilities at the state park.

A. Design facilities that allow appropriate management of visitor use in areas of the park where uncontrolled boundaries exist.

B. In partnership with the NPS, continue to use the Ribault Clubhouse as a quality visitor center and conference facility complete with interpretive space, meeting rooms and areas to support community functions and special events.

C. Continue to develop a series of interpretive trails accessible by driving, hiking or biking, which highlight the distinct cultural contexts and significant natural resources of the park.

D. Provide facilities that enhance public access to the waters surrounding Fort George Island. Explore the feasibility of establishing a canoe/kayak trail in near shore waters of the park, in conjunction with the park's concessionaire.

E. Improve the landscape around the Ribault Clubhouse to encourage public enjoyment of the grounds.

F. Develop a master resource document and produce tour guide manuals to

guide interpretive programming at the park.

G. Provide static interpretive displays at various locations in the park, particularly along trails to interpret cultural resources, natural systems, designated species and special features.

H. Schedule and conduct special interpretive programs, both within the park and off site, that meet state education curriculum standards and are consistent with the intent and mandate of the Americans with Disabilities Act.

I. Promote the use of the park, with its abundant historic, archaeological and natural resources, as an outdoor classroom and laboratory.

J. Use educational opportunities in the park as a means of fostering appreciation for the Mission of the Florida Park Service and of developing support for parks and other resources of regional and national significance.

2. Seek funding to expand recreational and interpretive opportunities through the improvement of programs and the development of new use areas and facilities, as outlined in this management plan.

A. Continue to develop an interpretive plan for the park.

B. Present the park's interpretive theme to the public using a series of interpretive displays (i.e. historical land use on Fort George is tightly linked to the natural and cultural resources present today).

C. Provide a fuller interpretation of park resources such as the shell mounds and associated vegetation, the Fort George Shell Ring, San Juan del Puerto, the forests that have evolved from the plantation era, the golf course fairways, and the Hall-Chappelle House

Park Administration/Operations

1. Seek funding and staffing to meet park operational needs such as corrective maintenance, visitor protection, resource management and visitor services.

A. Seek staffing or funding to perform cultural resource management and interpretation duties. Seek staffing or funding for biological support to conduct resource management activities at Fort George Island Cultural State Park.

B. Monitor traffic circulation patterns to study the impacts of increased recreational development at the park and at Kingsley Plantation. In consultation with island residents, the NPS, and the City of Jacksonville, consider alternatives for improving circulation.

C. Solicit the opinions of local homeowners, the NPS and City of Jacksonville on the feasibility of installing a security gate to control nighttime access to the island through the City's Fort George Island Road Study.

D. Develop partnerships and seek other funding alternatives to the legislative appropriation process.

E. Promote the use of volunteers to assist in park operations, resource management and interpretive activities.

F. Conduct routine safety and maintenance inspections of facilities and public

areas, and correct deficiencies as needed. Assure compliance with state and federal safety guidelines.

G. Provide staff with appropriate training opportunities in visitor services, resource management, park operations and interpretation.

H. Coordinate management activities with the NPS, City of Jacksonville, Bureau of Coastal and Aquatic Managed Areas, Division of Historic Resources and relevant permitting agencies, when appropriate.

I. Continue to build on the formal partnership agreement with the University of North Florida and Jacksonville University to develop educational and research opportunities at Fort George Island Cultural State Park.

J. Promote the park as a destination for nature and heritage based tourism groups.

K. Develop and implement user education programs to promote responsible use of the park's land and water resources.

L. Pursue acquisition of remaining inholding properties to protect the integrity of the ecosystems of the park.

M. Monitor land use activities outside the park that may impact park resources or the visitor experience, and increase public awareness of resource management needs in the park.

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. In addition, the Bureau of Beaches and Wetland Resources aid the staff in the development of erosion control projects. Emphasis is placed on protection of existing resources as well as the promotion of compatible outdoor recreational uses.

The Talbot Islands State Parks (including Fort George Island Cultural State Park), the Timucuan National Ecological and Historical Preserve, and the City of Jacksonville (COJ) have parallel management concerns on their respective management areas in

northern Jacksonville. Together they manage an astonishing array of recreational, interpretive and educational resources. The three government agencies have executed a Memorandum of Agreement to reinforce and support mutual goals for natural and cultural resource management and the provision of public education and recreational enjoyment in this region of the state. This unique effort on the part of federal, state and local governments to link their land management responsibilities promises to provide broad and far-reaching benefits to the citizens of Florida and visitors to the Duval-Nassau County area. The following objectives are included in the Memorandum of Agreement:

1. **Promotion.** The parties will agree upon a name for the area identified as the Cooperative Zone and develop a marketing plan, which will maintain each agency's identity while promoting the combined properties to the public as one larger entity.
2. **Planning.** To the extent practicable, Cooperative Zone planning will be jointly produced and reviewed. Ongoing planning efforts will accommodate the participation of Division, COJ and NPS, together. Existing plans will serve as current direction, pending their revision or replacement. The agencies shall cooperatively review non-Cooperative Zone plans that affect Cooperative Zone interests.
3. **Coordination: Staff Liaison**. Division, COJ and NPS shall each designate a staff liaison for purposes of discussing and resolving coordination matters. Agency heads or their designees will resolve substantive issues, including issues not resolved at the liaison level.
4. **Operating Procedures**. Division, COJ and NPS, to ensure accomplishments of Cooperative Zone activities, may jointly develop operating procedures and standards.
5. **Resource Sharing**. To the extent practicable, Division, COJ and NPS, mutually agree to commit staff, equipment and facilities assigned to the Cooperative Zone for the common protection of all resources contained within the Cooperative Zone, as well as for the appropriate enjoyment and appreciation of the same by the public.
6. **Management Approach**. Division, COJ and NPS shall explore cooperative operations and efficiencies to promote the effective implementation of Cooperative Zone management.
7. **Work Plan**. Division, COJ and NPS will work cooperatively to prepare an annual work plan that identifies common projects. The work plan will contain specific goals, actions and target completion dates, to be incorporated into the goals and objectives of the responsible Division, COJ and NPS managers.

National Park Service: Timucuan Ecological and Historic Preserve. The administrative boundary of the Timucuan Ecological and Historic Preserve includes Fort George Island Cultural State Park. The Timucuan Preserve was established by

Public Law 100-249 on February 16, 1988. The preserve encompasses 46,000 acres in the valley between the lower St. Johns and Nassau Rivers, 75 percent of which are waterways and wetlands that form a complex salt marsh/estuarine ecosystem. The preserve also includes over 200 known prehistoric and historic archaeological sites. Approximately 30 percent of the land within the preserve boundaries is managed by the National Park Service.

The mission of the preserve is to protect and enhance the estuarine ecosystem, preserve the integrity of the historic and prehistoric sites, and provide public access to these resources. The Timucuan Preserve was designated a national preserve rather than a national park because it was envisioned to be a place that could accommodate public and private uses not traditionally found in national parks.

The Timucuan Preserve and the Talbot Islands state parks have parallel management concerns, providing a valuable opportunity to reinforce and support mutual management goals to preserve natural and cultural resources while providing public education and recreational enjoyment. The Division of Recreation and Parks participated in the development of the Timucuan Preserve General Management Plan (March 1996), and coordinated the preparation of the state parks' unit management plans with Timucuan Preserve staff.

Timucuan Ecological and Historic Preserve Management Objectives
The following management goals of the Timucuan Preserve are related to the land and water areas managed by the Division of Recreation and Parks at and adjacent to Fort George Island Cultural State Park.

1. **Natural Resources**
   - **A.** To achieve and maintain Florida Class II (edible shellfish) water quality standards within the preserve in order to promote biodiversity and to protect the salt marsh/estuarine system.
   - **B.** To ensure that current and future uses of uplands within and adjacent to the preserve do not impair significant natural habitats, water quality, or a healthy salt marsh/estuarine system.
   - **C.** To foster strenuously no net loss of wetlands in the preserve.
   - **D.** To preserve the natural dynamics of the surface water and tidal hydrologic regimes that is critical to the biological systems of the preserve.
2. **Recreation**
   - **A.** To manage, in cooperation with other agencies, boating, boating-related activities, fishing and hunting, allowing the public to experience the various water-based resources and values of the preserve in a manner that will not damage cultural resources nor impair the integrity of this relatively undeveloped and undisturbed salt marsh/estuarine system.
3. **Interpretation**

A. To educate the general population and visitors about the following interpretive topics in order to instill appreciation and build support for the values of the preserve:

(1) The impacts and relationships between human use and natural resources in the preserve.

(2) The interaction of cultures within the region, especially Colonial French, Spanish, British, American, American Indian, and African, that have had a profound impact on American history.

(3) The wetland and upland dynamics of a salt marsh/estuarine system.

(4) The military and economic strategic importance of the lower St. Johns River.

(5) The resources of the lower St. Johns River that provide and have provided basic subsistence to a variety of people.

4. Access

A. To ensure the provision of land- and water-based accesses allowing visitors to have a visual and sensory understanding of the wetland ecology.

5. Vistas

A. To protect the natural views within the preserve that is now unimpaired by permanent manmade elements in order to allow the public to experience the pristine, natural character of these portions of the preserve.

B. To encourage enhancement or rehabilitation of predominantly natural vistas where manmade intrusions currently exist.

Public Participation

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

Other Designations

Fort George Island Cultural State Park is not within an Area of Critical State Concern as defined in section 380.05, Florida Statutes and it is not under study for such designation. The 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 II or III waters by DEP. This unit is adjacent to the Nassau River - St. Johns River Marshes 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

Fort George Island is a partially undeveloped barrier island located on the northeast coast of Florida in the City of Jacksonville, Duval County. Fort George Island, and Little Talbot Island to the east, is the southernmost islands in the Lagoons and Barrier Islands Chain, also known as the "Sea Islands Chain". This chain of islands extends from the Santee River in South Carolina south to the St. Johns River in Florida. Puri and Vernon (1959) classified this area as the Atlantic Coastal Ridge and Atlantic Coastal Lowlands physiographic zone.

Fort George Island has elevations ranging from sea level to about 54 feet m.s.l. on the ridges of Mount Cornelia. Beginning with the first aboriginal shell middens, Fort George Island has a long history of human activity altering the topography. These modifications were most intense during the past three centuries when most, if not all, of the island was cleared for agriculture. Although forestlands now cover the old fields, many of the ditches dug for irrigation or drainage remain in these areas. Examples are found in the northwest corner of the island where a series of shallow ditches associated with the Kingsley Plantation in the 1800s persist. Alterations that are more recent include an elaborate drainage system along the western edge of the island for mosquito control, and ditching in the center of the island for drainage of the Fort George golf course. One of the most intrusive ditches is 1,050 feet long, 10 feet deep and eight feet wide, with an adjacent, seven-foot tall spoil berm. Another notable and intrusive ditch system is that which drains the Mount Cornelia complex. This system of ditches is at least 1,800 feet long and penetrates into the dune complex. To date, at least four miles of ditches and an extensive array of excavated ponds and borrows have been identified on Fort George Island.

The large knolls of the Mount Cornelia complex were also altered during construction of the Neff House and during development of the former golf course, when several roads and golf cart paths were cut through the old dunes. The only cut currently in use by motorized vehicles is the one leading to the Neff House. Construction of the golf course significantly changed the landscape of Fort George Island. Knolls were re-contoured to accommodate fairways, and ditches and ponds were excavated to facilitate drainage. Other influences on the topography of the park include erosion at the northeast tip of the island, as well as at Point Isabel (Blue's Point), and at scattered locations along the eastern shoreline of the island. Tidal action and storm surges are causing mild erosion along some of the numerous ditches on the island.

Geology

Fort George Island lies at the southern end of the Sea Island Coastal Region of South Carolina and Georgia. The three barrier islands lying immediately north and east of Fort George Island, namely Big Talbot Island, Little Talbot Island and Amelia Island, are classified as Sea Islands (White 1970). In general, such islands contain both a recent, or Holocene, component on the outer edges, and an older Pleistocene core at the center (Leatherman 1980). The older sections of these islands apparently have soils containing distinct horizons (Leatherman 1980).

Surficial deposits on Fort George Island consist of sands to an approximate depth of 35 feet, atop a thin layer of clay at 35 to 45 feet below the surface. Beneath the clay, at a depth of 45 to 75 feet, is a mixed sand/clay layer with clay deposits interspersed. A layer of limerock and shell follows, extending from 75 to 90 feet below the surface, at which point the Hawthorn formation begins (ESE 1985). The Hawthorn's Miocene-age beds of silty clay, clay and sand extend to a depth of 450 feet and form the confining

layer for the Floridan aquifer (Toth 1990). Below this layer, the Floridan aquifer extends for another 1600 feet through the Ocala, Avon Park, Lake City and Oldsmar limestone formations.

A network of meandering creeks and estuarine marshes separates Fort George Island from the mainland. The Fort George River and Inlet form the northern and eastern boundaries of the island. The inlet, like many natural inlets, is dynamic and subject to continual change. The modern period of shoreline change may be subdivided into the following four periods: before 1881, 1881 to 1934, 1934 to 1978 and 1978 to present. Before 1881, inlets at Fort George River and the St. Johns River had natural ebb-tide shoals. Construction of the St. Johns River jetties in 1881 triggered a southward migration of Fort George Inlet and substantial accretion (2.3 miles) at the south end of Little Talbot Island. In 1934, the north St. Johns River jetty was capped to limit the southerly transport of sand into the inlet. As sand accumulated on the north side of the jetty, Wards Bank formed and Fort George Inlet began to move back northward, eroding the southern end of Little Talbot Island in the process. By 1978, the northward migration of the inlet had reached the rubble revetment along State Road A1A at the extreme southern end of Little Talbot Island. In the 1990s, the severity of erosion on Little Talbot and the imminent construction of a new bridge across the Fort George River prompted the Florida Department of Transportation (FDOT) to consult the U.S. Army Corps of Engineers (ACOE) about installing additional armoring along the shoreline.

The Division of Recreation and Parks (Division), while anxious about the heavy scouring and loss of beach at the south end of Little Talbot Island, was concerned about broader implications for the inlet and the Fort George River. The Division preferred a different approach to mitigating the erosion, one that would address erosion and sediment transport on a more regional scale. Accordingly, the Division contracted with a coastal engineering firm to study the inlet's hydraulics and to evaluate alternative methods of stabilizing the inlet and reducing erosion rates on the island (Olsen 1999). The FDEP funded additional studies of the inlet and the Fort George River in the early 2000s. Now (2005), scouring continues to erode the Little Talbot shoreline along the Fort George Inlet, and tidal sediment deposition in the inlet threatens to eventually block normal flow, which would impact water quality in the Fort George River. Multi-party discussions are underway which address possible measures for controlling the northward movement of the inlet and for removing at least a portion of the extensive shoals that have developed in the Fort George River north of the new bridge. Agencies involved include several divisions of the FDEP, the ACOE, the Florida Fish and Wildlife Conservation Commission (FFWCC), the U.S Fish and Wildlife Service (USFWS), the U.S. Geological Survey (USGS), the National Park Service (NPS), and the City of Jacksonville.

Soils

Ten different soil types have been identified on Fort George Island (Watts 1998). These soils fall into two major groups, Spodosols and Entisols. Identified by a hardpan or red spodic layer, spodosols are mainly found in the northeastern section of the island and can be seen in eroded sections of Blue's Point, also known as Point Isabel. The hardpan is composed of organic matter, iron and sometimes aluminum. Although spodosols constitute the most common soil family in Florida, the particular suborder of the soil series Cornelia that is found on Fort George Island is a haplohumod, one of the rarer soils in the United States. Haplohumod soils are distinguished by the presence of a very thick accumulation of organic carbon in the spodic layer. The soils of Mount Cornelia, a dome-shaped knoll on Fort George Island, belong to this soil series. Probably most of these soils were formed in the late Pleistocene or Holocene.

Entisols occur on the western side and southern tip of the island. These soils are relatively young and sandy, with no hardpan, and were probably the type most used in agriculture over the years. In numerous places, oyster shell middens cover the entisols. Addendum 3 contains a detailed description of these soils (see Soils Map). Management activities will follow generally accepted best management practices to prevent further soil erosion and conserve soil and water resources on site.

Minerals

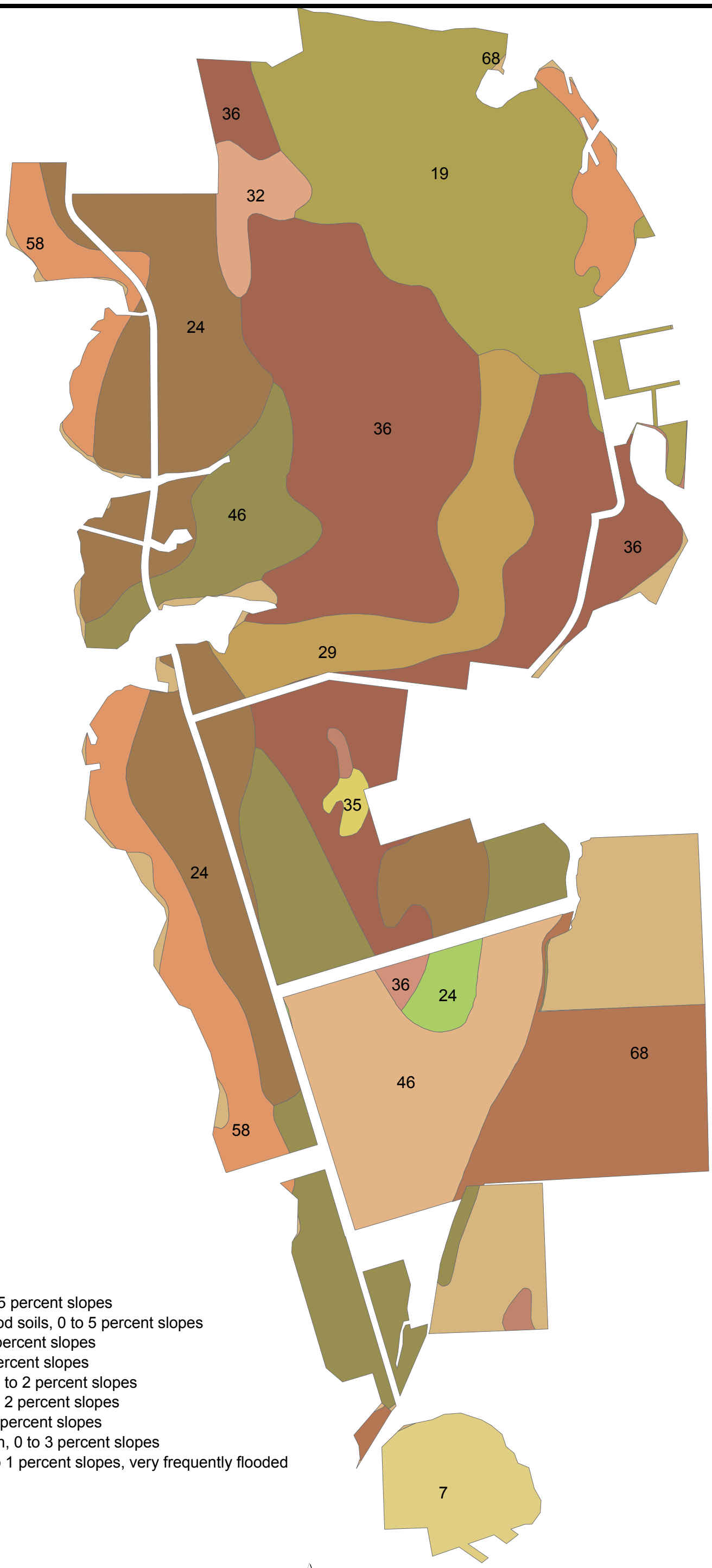
No minerals of commercial value are known from the Fort George Island area.

Hydrology

Ground waters. The hydrology of Fort George Island has been studied extensively. The USGS has monitored the Ribault clubhouse well (J-228, USGS D-164) since August 19, 1930 (Spechler 1991). In 1977, Fairfield Communities (the previous owner of the property) conducted comprehensive hydrological studies on the island while evaluating potential impacts of the intensive residential development proposed for the property. The reports produced by Fairfield may be useful to the Division for resource management and restoration purposes.

In vicinity of the Fort George Island golf course, the hydrology has changed considerably. Groundwater levels have fallen because of topographical alterations associated with construction of the golf course drainage system, and probably also because of over-pumping at wells such as the clubhouse well (J-228). Groundwater quality has decreased as water levels have declined, principally because of intrusion of saline waters into the upper water-bearing zone of the Floridan aquifer.

The uppermost geologic formations on Fort George Island contain a shallow, undifferentiated hydrologic unit known as the surficial aquifer. Below the surficial aquifer is the Hawthorn formation, which overlies the Floridan aquifer and acts as a confining bed. The Floridan aquifer itself can be divided into three permeable zones,



LEGEND

- 7-Arents, nearly level
- 19-Cornelia fine sand, 0 to 5 percent slopes
- 24-Hurricane and Ridgewood soils, 0 to 5 percent slopes
- 29-Kureb fine sand, 2 to 8 percent slopes
- 32-Leon fine sand, 0 to 2 percent slopes
- 35-Lynn Haven fine sand, 0 to 2 percent slopes
- 36-Mandarin fine sand, 0 to 2 percent slopes
- 46-Ortega fine sand, 0 to 5 percent slopes
- 58-Pottsberg fine sand, high, 0 to 3 percent slopes
- 68-Tisonia mucky peat, 0 to 1 percent slopes, very frequently flooded
- Water

N

0 300 600 1,200 Feet

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

FORT GEORGE ISLAND
CULTURAL STATE PARK

SOILS
MAP

each separated by relatively impermeable geologic material: the upper water-bearing zone, (UWBZ); the middle water-bearing zone, (MWBZ); and the lower water-bearing zone (LWBZ). While the first two zones generally have low chloride levels, the lower water-bearing zone typically has higher chloride content (ESE 1985).

When the golf course was operational, wells J-228 and J-576 in the northeast section of the island withdrew water from the upper aquifer at a rate of approximately 170,000 to 180,000 gallons per day. This withdrawal, to serve the golf course and clubhouse, accounted for approximately 90-95 percent of all water use on Fort George Island in the early 1980s. Residents currently withdraw water solely from the upper aquifer level. Well J-576 is now closed.

Golf course irrigation from well J-228 is strongly suspected of contributing to the decline in groundwater quality in the local area. This well was disconnected from the irrigation system upon termination of the golf course operation. At the request of USGS staff, the well has been left in a condition where sampling can continue. Significant water supplies (2000 gals/minute) exist at the TP2 well, located approximately one mile south of J-228. The TP2 well was installed by Fairfield Properties but never tapped for use. Its Consumptive Use Permit (CUP) has since expired. If anyone ever applies for a new CUP, the well's water quality should be monitored closely.

Monitoring of the Floridan aquifer from wells located on Fort George Island indicates high chloride and sulfate concentrations. Various analyses of these two salts during the period 1930-1982 showed that both increased in concentration over time, with chloride levels expected to exceed potable standards (250 mg/1) by 1990 (Toth 1990). Contamination of fresher waters in the upper water-bearing zone of the aquifer by saline water from lower zones is primarily due to the existence of lower pressure (lower hydraulic head) in these upper zones. At Fort George, an elliptical geologic anomaly allows for vertical movement of mineralized water from lower zones to these upper and middle water-bearing zones, which are used by humans (Toth 1990). According to Toth, higher chloride concentrations in water from the lower zones could be due either to the presence of connate water (water trapped during formation of the different zones) or to the lateral intrusion of saltwater. Over-pumping contributes to lowered pressure in the upper water-bearing zones.

Surface waters. Drainage on the island is predominately from east to west. Garden Creek, in the estuarine tidal marsh to the west of Fort George, receives most of the drainage from the northwestern half of the island. The existing drainage patterns of the golf course, especially the newer front nine holes, channel runoff directly into a series of sloughs, which drain rapidly into the Garden Creek system. Deep Creek also receives drainage from the southwestern portion of the island. Most of the Rollins Bird and Plant Sanctuary and a small area north of the sanctuary drain to marshes southeast of the island. A strip along the northern and eastern shore of the island drains directly to

the Fort George River.

The Fort George River is a tidal river that exits to the Atlantic Ocean through Fort George Inlet at the southeastern corner of Fort George Island. A bridge for State Road A1A spans the river near its mouth. Approximately 3.1 miles west of this bridge, the river connects with Sisters Creek (the Atlantic Intracoastal Waterway). The Fort George River is part of the Nassau River drainage basin (Hand et al. 1996). Mud River, Haulover Creek, Simpson Creek and Myrtle Creek are its significant tributaries. The tidal range is approximately 1.62 meters at spring tide and 1.25 meters at neap tide.

The open water and salt marsh areas surrounding Fort George Island are part of the Nassau River – St. Johns River Aquatic Preserve. This preserve is managed by the State to maintain essentially natural conditions and to provide recreational opportunities. All the waters within the preserve are designated Outstanding Florida Waters (OFW). The intent of this designation is to preserve the existing water quality. The preserve is also recognized at the federal level as part of the Timucuan Ecological and Historic Preserve (NPS 1995).

If Wards Bank (Huguenot Park) continues to grow northward, Fort George Inlet may eventually close, which would have negative consequences for the salt marshes surrounding Fort George Island. These marshes receive tidal water from three sources: Nassau Sound to the north, the St. Johns River on the south and Fort George Inlet on the east. Of these sources, Fort George Inlet supplies almost 60 percent of the marsh system's water. If the inlet were to close, the marshes of the aquatic preserve would be forced to rely upon the polluted St. Johns River as a primary water source (Erik Olsen, personal communication). The waters of the St. Johns River are currently classified as Class III.

Water Quality. The ambient water quality of the OFW surrounding Fort George Island was determined in 1978 from data collected by the Department of Environmental Regulation. Sampling of metal and phosphorus was not conducted at that time. In 1983, values for metal and phosphorus parameters were established from data collected in the OFW by Bio-Environmental Services Division (BESD), City of Jacksonville. Data indicate the presence of cadmium, chromium, copper, iron and zinc in the waters of Fort George Island, with cadmium, copper and iron exceeding Class II standards for the years tested. Coliform bacteria counts in the waters surrounding Fort George Island have also tested excessively high. Both fecal and total coliform counts have exceeded Class II standards. Currently, county, state and federal agencies, as part of the Florida Ambient Monitoring program, sample surface and ground water on the island and in the surrounding aquatic preserve. Surface and ground water data for Fort George may be accessed at the EPA Storet site **http://www.epa.gov/storet/.**

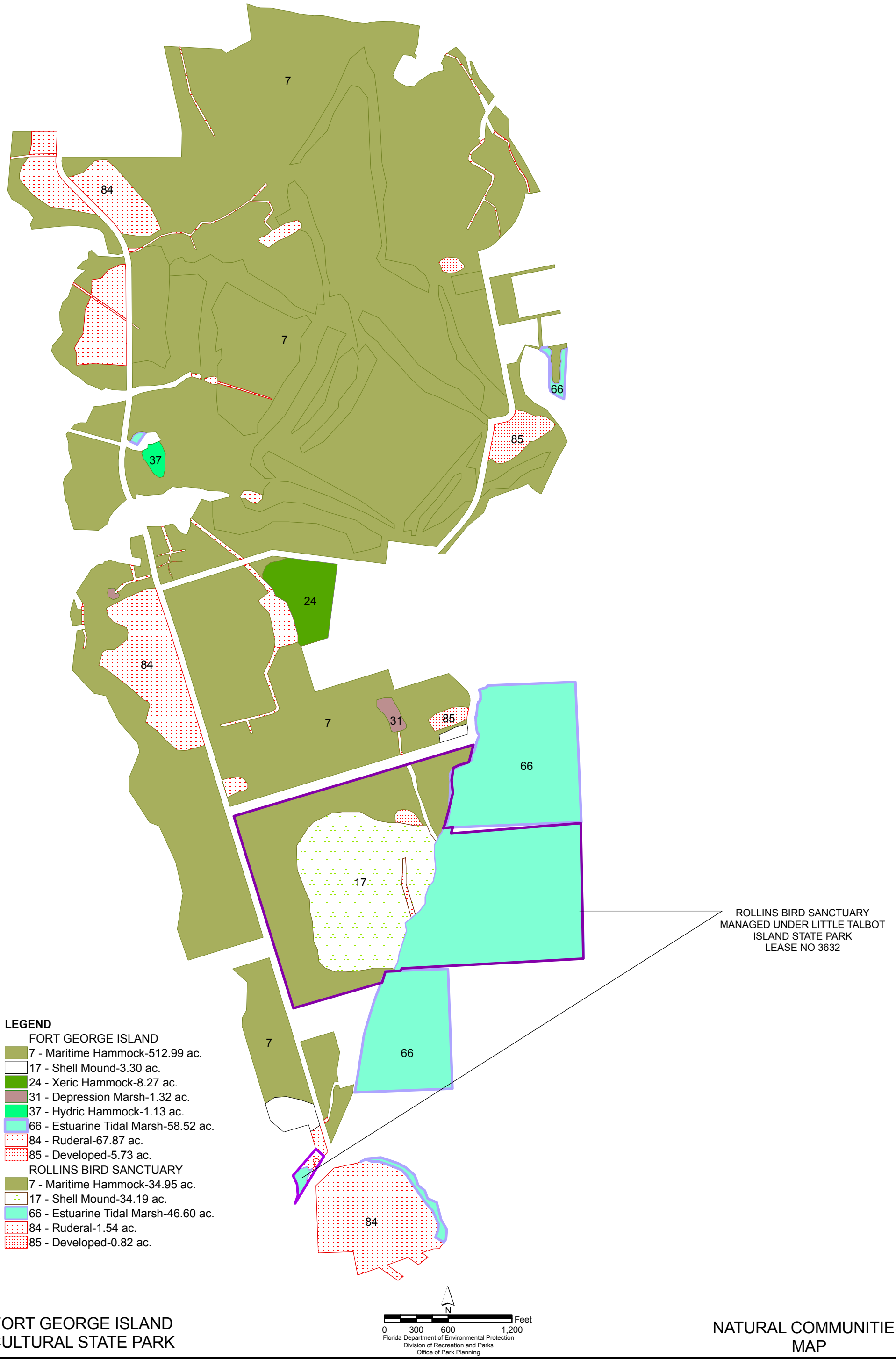
Natural Communities

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

The park contains six 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.

Delineation of natural communities on Fort George Island is complicated by the long history of human use of the island and its surroundings. Dating back to the aboriginal presence, humans have routinely altered natural communities on Fort George Island, profoundly influencing the development of the vegetation we see today. Some present day communities thrive on shell deposits created ages ago by Native Americans. Other communities have developed because of reforestation of old fields, some of which were once cultivated by Native Americans, others of which date back to the plantation period. Even today, succession to secondary forest is occurring on abandoned golf fairways. When discussing the natural communities of Fort George Island, it should be recognized that possibly two thirds or more of the island was once under cultivation, and that some areas have been cultivated since the 17th Century. The extensive ditching of the island has also undoubtedly affected natural community development. Furthermore, the relatively recent southward expansion of Little Talbot Island and the accretion of Wards Bank, resulting from construction of the St. John's River jetties, have undoubtedly moderated the maritime influence of the Atlantic Ocean on Fort George Island.

Maritime hammock. Maritime hammock of highly varied condition is widespread on Fort George Island. Mature examples of this natural community occur in the northeast portion and on the southern end of the island. In these areas, a canopy of live oak (*Quercus virginiana*), southern red cedar (*Juniperus silicicola*)and southern magnolia (*Magnolia grandiflora*) shades a midstory composed mainly of devil's- walking stick (*Aralia spinosa*), yaupon holly (*Ilex vomitoria*), and young cabbage palm (*Sabal palmetto*). In other scattered locations, where vegetation is recovering from relatively recent clearing, laurel oaks (*Quercus hemisphaerica*) dominate the maritime hammock overstory.



FORT GEORGE ISLAND
CULTURAL STATE PARK

NATURAL COMMUNITIES
MAP

Saplings of other canopy trees and shrubs are found as understory species in these areas. Limited areas of maritime hammock in the midsection of the island are dominated by a laurel oak overstory, but numerous pine stumps up to 30 inches in diameter are scattered throughout. Advanced regeneration of other hardwood species has occurred in these areas. The red bay (*Persea borbonia*), an important component of the maritime hammock in northeast Florida, has been subject to extreme mortality since about 2005 due to the rapid proliferation of an invasive exotic insect, the Asian ambrosia beetle (*Xyleborus glabratus*). The ambrosia beetle bores into mature red bay trees, introducing a wilt fungus that causes laurel wilt disease and almost certain death.

A fringe of maritime hammock extends along the western portion of the island, sandwiched between estuarine tidal marsh and planted pine. Along the inland part of this fringe, the canopy is relatively diverse, but in areas adjacent to the marsh, it is dominated by only the most salt-tolerant species. Marsh vegetation is currently invading the understory of the maritime hammock fringe closest to the marsh. Spoil piles from a ditch that runs through the estuarine tidal marsh for nearly the entire length of the island, usually within 30 feet of the forest, occur in the maritime hammock along the edge of the marsh.

Abandoned golf fairways represent an early successional stage of maritime hammock on Fort George Island. The Ribault Club constructed the original nine-hole golf course in the late 1920s. It was later expanded to an 18-hole course in 1968 (Stowell 1996). During construction of the golf course, fairways were cut through the maritime hammock, altering the natural topography and drainage of the area. The State of Florida acquired the course in 1989 and leased it to the City of Jacksonville until 1991. In that year, active management as a golf course was discontinued because of environmental concerns and the associated costs of modernizing facilities and adopting management practices to minimize environmental damage. Restoration of the fairways to maritime hammock via natural succession has been occurring since then. Species richness on fairways has roughly doubled (from 21 species to 46) and species evenness has increased since the abandonment of the golf course in 1991 (Randall 1997). Fairways are being colonized by woody vegetation such as pines, oaks, and bird-dispersed trees and shrubs, some of which reach upwards of 30 feet in height.

Maritime hammock on Fort George Island appears on a variety of soils, including those that typically support flatwoods or drier, fire-maintained community types. Before intensive use of the land by humans, mesic flatwoods or other community types could have occurred on the island. Now, only widely scattered individuals of typical flatwoods species other than saw palmetto are present. Soil profiles have changed due to shell deposition and likely also to cultivation. Extensive drainage systems have probably further altered the potential of the island to support flatwoods vegetation. At present, due to uncertainties about the types of vegetation that existed before extensive use of the island by humans, neither the flatwoods community nor any of the

essentially xeric community types remain distinguishable.

Shell mound. The shell mound community is largely restricted to the southern portion of the island where shell deposits are most extensive. This community is host to many of the listed plant species that occur on Fort George Island. The best example of shell mound can be found in the Rollins Bird and Plant Sanctuary (technically part of Little Talbot Island State Park). It appears that shell deposits here are among the deepest and least disturbed on the island. These factors are probably the main reason the community is still in good condition. The Rollins shell mound community, although similar to maritime hammock, includes several calcium-loving species such as smallflower mock buckthorn (*Sageritia minutiflora*), Godfrey's swampprivet (*Forestiera godfreyi*), red cedar, cabbage palm and two plants that are at their northernmost limits, low peperomia (*Peperomia humilis*) and wild coffee (*Psychotria nervosa*). Shell mound vegetation is also present on the recently acquired Chappelle parcel and near the McGundo Midden, despite the extensive shell mining that has taken place at the latter site. Feral hogs are potential threats to listed plant species found in this natural community. Rooting by hogs has been observed in at least one of the park's shell mounds.

Shell deposits of lesser extent are found over many other parts of the island, but these deposits generally support maritime hammock vegetation. Some of these shell deposits may have once been cultivated or otherwise disturbed and they currently do not support shell mound species. Small areas of actual shell mound community may exist hidden within areas mapped as maritime hammock, but recent field surveys did not locate any such occurrences.

Xeric hammock. Fort George Island's example of this community type may actually have evolved from an area of scrubby flatwoods that was subjected to long-term fire exclusion. Representative species include blue huckleberry (*Gaylussacia frondosa* var. *tomentosa*), coastal plain staggerbush (*Lyonia fruticosa*), saw palmetto (*Serenoa repens*) and sand live oak (*Quercus geminata*).

Estuarine tidal marsh. The largest section of tidal marsh managed by the Division on Fort George Island is located east of the Rollins Bird and Plant Sanctuary. This marsh is a low marsh dominated by saltmarsh cordgrass (*Spartina alterniflora*) with small clumps of black needle rush (*Juncus roemerianus*) interspersed. Elsewhere within the park, small amounts of tidal marsh occur along the fringe of a small peninsula located just north of the Ribault Clubhouse, along the edge of Batten Island, and in an interior wetland. A large ditch approximately 200 yards long connects the interior salt marsh to extensive tidal marshes to the west. Historic maps (USGS 1856 in Wayne and Dickenson 1986) indicate that this interior marsh once had hydrologic connections to a salt marsh area to the south. Before construction of the ditch that drained it westward, this system may have actually been a freshwater wetland that naturally drained southward.

Depression marsh. The two depression marshes in the park are drained by ditches and consequently are in poor condition. At present, shrubs and vines dominate these marshes. There is little or no herbaceous component, although ferns are occasional.

Hydric hammock. One small fragment of hydric hammock occupies the northern end of the corridor that previously served as a natural drainage-way from the small, inland salt marsh (discussed above) to the salt marsh at the south end of the island. The area is now dominated by cabbage palms, with live oaks at the edges. The sparse understory contains royal fern (*Osmunda regalis*) and Virginia chain fern (*Woodwardia virginica*).

Ruderal. Several types of ruderal area occur within the park, including a dredge spoil site, many ditches, altered wetlands, and planted pines. Batten Island contains a large area of dredge spoil. The center of this island is dominated by hairgrass (*Muhlenbergia capillaris*). Vegetation such as wax myrtle (*Myrica cerifera*), sabal palm, sea myrtle (*Baccharis halimifolia*), and smilax species have partly colonized edges of Batten Island.

Numerous ditches, totaling over four miles in length if the ditches in estuarine tidal marsh are excluded, are located on the island. These ditches date from various timeperiods. Aerial photographs indicate extensive ditching took place in the mid-1960s, presumably as part of mosquito control efforts. Other ditches date from various episodes of golf course construction. Some ditches may even date back to the plantation period. Many of the ditches drain what were once naturally functioning wetlands. Presently, almost no undrained natural wetlands remain on the island. Notable examples of ditched wetlands include the swales between the dunes in the Mount Cornelia complex, a barely functioning freshwater wetland (depression marsh) just north of the southwesternmost pine plantation, and three remnant wetland systems located at the easternmost ends of salt marsh fingers that extend into the island from the west. Other wetlands undoubtedly existed on Fort George Island before the extensive ditching occurred. At least four artificially enlarged ponds currently serve as wetland habitat on Fort George Island. These ponds appear to have been natural wetlands before their enlargement. All of these ponds are linked to salt marsh via ditches.

One of the long-range goals of the Division is to restore ruderal wetlands within the park. Before initiating wetland restoration on Fort George Island, however, staff should complete their evaluation of the network of ditches, culverts and created ponds. The evaluation should focus on: 1) locations of ditches, 2) age and origin of ditches, 3) historic significance of ditches, 4) current impacts of ditches on adjacent natural communities, 5) current impacts of ditches on adjacent cultural resources and 6) current drainage effects on adjacent private and public parcels. Once this evaluation is finished, staff will be able to develop specific plans for restoration and establish priorities. A completed restoration plan will allow the park to take advantage of mitigation opportunities as they arise. The Division is currently using DOT mitigation funds to contract a hydrologic restoration feasibility study that will evaluate the items listed

above.

Planted pines occur along Palmetto Avenue, introduced in the mid-1960s by Victor Blue (Jones 1967). The western boundaries of the pine stands are irregular, with fringes of maritime hammock separating the pines from the marsh. In the interior of some stands, pines are planted around large live oaks. Many maritime hammock species are beginning to colonize the understory in the less dense sections of the stands. It appears that these pine stands will succeed slowly toward maritime hammock if left undisturbed. Self thinning is already taking place.

Developed. Developed areas include the Rollins Lodge and Garage and vicinity (a park residence is located there), the Neff House and vicinity, the Ribault Clubhouse and its grounds, the Thomson Tabby Ruins and the immediately adjacent area, the Chappelle houses and grounds, and sections of paved road encompassed within the park boundaries.

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.

Nine listed plant species and 21 listed animal species have been recorded at Fort George Island Cultural State Park. Two of the three listed ferns are wetland species in the genus *Osmunda*. Another, plume polypody (*Pecluma plumula),* has not been seen on the island since at least 1983. Records exist from only two locations on the island, at cultural site DU149 and on one of the tabby slave quarters at Kingsley Plantation. Both sites were surveyed in 1984 and site DU149 was resurveyed in1999; neither survey relocated the plant. Current thought is that the polypody fern is now extirpated from the island (Water and Air Research, Inc. 1984). A fourth listed fern, Southern lip fern (*Cheilanthes microphylla*), occurs on the island. While it has not yet been recorded on park property, suitable habitat exists within the park so staff should be on the lookout for it. The remaining listed plants in the park thrive in relatively undisturbed habitat with the exception of one population of low peperomia *(Peperomia humilis)*, which is being encroached upon by confederate jasmine (*Trachelospermum jasminoides*). An additional four species of plants are listed by CITES; they are all orchid species.

Numerous listed animals use habitat on or adjacent to Fort George Island. Some are transient but others inhabit the park year round. Gopher tortoises (*Gopherus polyphemus*) of many sizes (ages) are common in open areas of the island, including abandoned fairways. Gopher tortoises also frequent the dune system around Mount

Cornelia. Florida gopher frogs (*Rana capito aesopus*) and indigo snakes (*Drymarchon corias couperi*) are also known from the island, but were not observed in the last two surveys conducted in 1985 (Fairfield Communities) and in 1992 (Jacksonville Zoo partnership). Wading birds, some listed by the FFWCC as Species of Special Concern, have long maintained a roosting area just north of the Ribault Clubhouse. Fort George Island also provides important habitat for a breeding population of painted buntings (*Passerina ciris*). This neotropical migrant, while not yet considered a listed species, has experienced a significant, 4-6% annual decrease in numbers recently in the southeastern United States. Habitat loss is a major cause of the decline. At Fort George Island, however, summer resident painted buntings continue to find refuge in the park's well-preserved maritime hammock and along forest edges.

Special Natural Features

Mount Cornelia, a natural dune formation that is the dominant landform on the island, is an important geologic feature. Rising to an elevation of 54.7 feet m.s.l., Mount Cornelia is one of the highest points along the Atlantic seacoast south of New Jersey.

Three U.S. Champion trees have been documented on the island, namely tough bumelia (*Bumelia tenax*), Carolina holly (*Ilex ambigua*) and wax myrtle. Several of the plant species recorded for Fort George Island, specifically marine vine (*Cissus trifoliata*), wild coffee and low peperomia, is growing at the northernmost limits of their known ranges.

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 describe 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 39 sites within the unit. Numerous other sites occur in the surrounding salt marshes. Thirty-one (or possibly as many as thirty-two) of the Fort George sites lie within the boundaries of the park. The exact location of one site, Fort St. George, is unknown, but it also may lie within the park. Kingsley Plantation, managed by the National Park Service, contains two recorded sites. Two other known sites on the island are located on private property. Currently, four sites on Fort George Island are recognized as National Register Sites, two of which are on state

park property. Others are eligible for nomination.

Fort George Island Cultural State Park has a rich and extensive heritage. The park's cultural resources span a period stretching from approximately 2680 BC to the present. Included among these resources are the largest and least disturbed shell ring in the southeastern United States; archaeological remains from one of the longest operating Spanish missions in Florida; structural and archaeological remains dating from the plantation period of the 18th and 19th centuries; and the Ribault Clubhouse, golf course and associated structures from the boom period of the late 19th century. That one small island contains such a comprehensive cross section of Florida history is unique.

Extensive archaeological work has taken place on and around Fort George Island. A number of resources on the island are known from descriptions dating back to the 19th century (see summary in Dickenson and Wayne 1987). The earliest systematic surveys of Fort George Island were commissioned by landowners who wished to develop portions of the island (Nidy 1974, Hart and Fairbanks 1982, Dickinson and Wayne 1987). Several later studies were conducted after establishment of the NPS's Timucuan Ecological and Historic Preserve, of which Fort George Island is a part. These studies included an overview and assessment of archaeological sites within the preserve (Hammersten 1988), a historical resource study (Stowell 1996), and additional archaeological testing of non-surveyed areas (Russo et. al 1993).

At least 25 of the sites located in Fort George Island Cultural State Park have a prehistoric component. Noteworthy among these sites is the Fort George Shell Ring (DU72). This shell ring, located in the Rollins Bird Sanctuary, is the largest and most complicated shell ring known in the world, reaching a maximum diameter of 250 meters. It is larger in volume than any other known ring (Russo and Saunders 1999). It is also unique in that eleven smaller rings are attached to the main ring. Recent investigations have indicated that the areas surrounding the shell ring may have been occupied year round, which is contrary to current thinking about the life patterns of peoples from the Orange Period of 1600-2300 BC (Russo 1993, Russo and Saunders 1999). This site is currently thought to be so significant that it deserves nomination to the National Register of Historic Places. Furthermore, studies of the site likely are sufficient to meet nomination criteria for the Register (see Russo and Saunders 1999 for nomination strategies). The current condition of the shell ring is fair. Some shell may have been mined out of the eastern side of the ring, but confirmation of that would require further testing.

Immediately surrounding the shell ring is the Rollins Bird Sanctuary site (DU7510), comprising the above mentioned village site and midden deposits from several periods. Other prehistoric midden deposits are located adjacent to the Rollins Bird Sanctuary site, including the Fort George Island Midden (DU5), the Chappelle Midden (DU1542) and the Liana Site (DU136). The McGundo Midden (DU7511) is located south of the

Fort George Island Midden and the Liana Site. These sites occupy the southern third of the island and represent cultural deposits from the Preceramic period (3500-2400 BC) to the Savannah and St. Johns periods (AD 1600). It should also be noted that, despite the relatively extensive archaeological survey work that has been conducted on Fort George Island, delimitation of site boundaries has often been influenced more by modern property boundaries and by the limits of surveys than by the actual extent and period of cultural deposits.

Over the years, coastal erosion and various land use practices have had a significant impact on the condition of shell mounds along the eastern shoreline of the island. In the past, roads were cut through midden deposits, mosquito control ditches were excavated through many sites and shell was mined for use in the construction of tabby structures and roads and for fill material. Purportedly, the McGundo Midden and portions of the Fort George Island Midden once attained a height of over 10 meters; these middens are now almost reduced to grade. In general, the condition of the middens on the island is fair; most of the disturbed areas are now stabilized. The Fort George Midden, however, which stretches along the eastern side of the island, is rated as poor due to chronic erosion.

Archaeologists have identified numerous other prehistoric sites at Fort George Island Cultural State Park. These include 15 shell middens other than the five mentioned previously. One of the midden sites has also been identified as a campsite and another as a village site. Midden conditions vary. Some are undisturbed while others have been variously affected by roads, mosquito control ditches, shell mining and golf course construction. Although many were altered significantly by these disturbances, the middens are now somewhat stabilized and are considered to be in fair condition. Exceptions to this assessment occur where active erosion is taking place along ditches that are subject to tidal action. Some of these ditches bisect sites or run adjacent to them. One burial mound and one artifact scatter are also located in the park. The mound was severely damaged by pot hunting activities of years past.

Several of the midden sites also have historic period deposits. The Ribault Clubhouse, for example, sits atop the Ribault Club Midden. On the site of the present clubhouse a 19th century hotel once stood. The hotel later burned. During the construction and later demolition of the 19th century hotel and during construction of the present clubhouse, upper levels of the Ribault Club Midden were disturbed. The midden contains debris from the original Fort George Hotel (Dickenson and Wayne 1987). Other midden sites contain artifacts from the Mission period that are associated with the Mission San Juan del Puerto. These sites include the Twister Site (8DU137), the Thirteenth Green Site (8DU138) and the San Juan Creek Site (8DU148).

The Mission San Juan del Puerto represents the "first contact" period, which is a mixing of prehistoric and historic periods. Because of the Mission Site association with the

Spanish mission system and with Frey Francisco Pareja, and because of its potential to yield information as an archaeological site, it has been listed on the National Register of Historic Places. The mission's longevity was one of the greatest in Florida. Established in 1587, the mission functioned until it was destroyed in 1702 during an English invasion of what was then Spanish Florida. During the mission's operation, nine smaller associated mission stations, or visitas, were established in the outlying area relatively short distances away. One of these visitas may have been located on Big Talbot Island, as indicated by evidence uncovered during a recent archaeological excavation (Thunan pers. comm.). Francisco Pareja, one of the missionaries, spent 33 years at San Juan del Puerto and left written records of the life and ways of the Timucuan Indians. Several of his works were actually written in the Timucuan language; these texts are the earliest known writings in any North American Indian language (Stowell 1996).

Today, archaeological remains are all that survive of San Juan del Puerto. Various archaeologists have undertaken investigations of the site (Jones 1967, Dickenson and Wayne 1985, Nidy 1974, Hart 1982 in Dickenson and Wayne 1985, Hart and Fairbanks 1982 in Dickenson and Wayne 1985, Russo 1993). Because of these studies, the boundaries of the site are relatively well defined. Furthermore, the probable locations of the mission core area and associated aboriginal village have been identified. The same research indicated a possibility that the aboriginal inhabitants of the mission site were not only Timucuan, but also Guale Indian (Dickenson and Wayne 1985). The condition of the San Juan del Puerto site is fair. Current disruptions of the site include Palmetto Avenue, a small associated parking area that bisects the site, and possibly the tidal creek and associated ditch that lie to the south. Past disruptions of the site include probable cultivation during the plantation period, clearing in the 1960s for the pine plantation that now sits atop much of the site, and the excavation of mosquito control ditches north and south of the site.

A number of other historical resources are present on Fort George Island. Englishman James Oglethorpe built Fort Saint George, the namesake for Fort George Island, in 1736. As previously mentioned, the fort's exact location is unknown. Nidy (1974) assigned its location to Mount Cornelia, but recent archaeological investigations have revealed no evidence to support this. A new site number (DU1543) has been assigned to the circular earthworks that were previously thought to be associated with Fort Saint George. Numerous other locations have been proposed as the site of the fort; however, none of these has produced supporting archaeological evidence.

Some resources date from the plantation period, when the more intensive types of land use are thought to have started. A succession of landowners bought, farmed and sold properties on Fort George Island. These properties contained the lands and some of the structures of what we now call the Kingsley Plantation, presently a unit of the National Park Service. According to Baker (1985), Europeans first cleared extensive areas of the

island during the early plantation period, ca. 1760s-1780s. Cultivation by Native Americans has been documented as occurring well before that. For example, Jonathan Dickenson described stockpiles of corn when he visited San Juan del Puerto in 1696 (Stowell 1996). Native agricultural practices likely existed on the island even earlier. The island was operated as a plantation under a succession of owners from about the 1760s until the 1850s. Sea Island cotton, timber, corn, sugar cane, rice, indigo, sweet potatoes, oranges and lemons were all produced (Wayne and Dickenson1986, Stowell 1996). While exact measurements are not available, it has been estimated that most of the island was cleared at one point or another during the plantation era (Baker 1985). To what extent any portion was cultivated is unclear, but in the 1840s near the end of the plantation period, between 162 and 180 acres were under active cultivation (Stowell 1996).

One site that is associated with agricultural use of the island is the Rice Dam Site (DU2579). This site contains remnants of an earthen dam and wooden floodgates that once stretched across a slough. These structures were presumably built to impound water in the slough for purposes of rice cultivation. A mosquito control ditch has since breached the dam.

Site DU149 consists of two burial monuments made of tabby brick. Two tablets, placed at the site sometime after construction, suggest that the monuments were built around 1808 and that they commemorate the remains of the McIntosh family, relatives of one of the plantation owners. An alternative interpretation is that site DU149 contains two British soldiers from the 18th Century (Stowell 1996). The tablets were later removed, but have since been recovered from a private landowner. The monuments' style and workmanship are ostensibly similar, but in actuality, they differ considerably. Further reconnaissance of the area by Florida Park Service staff has provided indications that the monuments are located in a burial ground, probably a historic era cemetery. Site DU149 has been vandalized in the past and is currently in poor condition. Vegetation is removed on a regular schedule to help arrest deterioration of the tabby.

At the southern end of the island, atop the McGundo Midden, stand the remains of a partially constructed tabby house called the Thomson Tabby Ruins (DU379), also referred to as the Munsila McGundo/Thomas Ruins. The builder of the structure remains unknown. Archaeologists have attributed Zephaniah Kingsley of Kingsley Plantation with building the structure for his wife and children. Other evidence suggests that a planter employed by one of the plantation owners, Charles R. Thomson, may have built the house. Thomson reportedly died before moving to the island (Stowell 1996).
In March of 2006, the National Park Service, Historic Preservation Training Center (HPTC) assisted DEP with the stabilization of the tabby structure under the September 29, 2004 cooperative agreement with DEP. Conservation and stabilization tasks were performed in accordance with recommendations from the Historic Structures Report. Stabilization included materials analyses, cleaning, grouting repairs, tabby concrete cast

and the reinstatement of the wood mantel, headers and buck jamb. Conservation work on the ruins complied with the Secretary of Interior's Standards and Guidelines for Historic Structures and was reviewed by the DHR.

Severe erosion of the McGundo Midden still threatened the ruins, however, so the Division considered various means of stabilizing slopes at the site. In 2007, the park partially restored a critically eroded section of the midden immediately west of the ruins. Staff placed similar type shell from an off-site location atop a thin fabric barrier between historic and modern materials, forming a shell slope that tapers downward to the edge of a tidal marsh. If that effort fails to reinforce DU379 adequately, staff may need to find additional shell material, obtain a wetland permit and partially fill the marsh at the base of the slope.

Remnants of a mill site (DU77) are located near the mid-section of the island along a tidal creek. The site is described as a sugar mill in the Florida Master Site File; however, its previous function is unknown. A tabby platform and earthworks were all that remained of the mill the last time it was located. Weisman (1990) reported that he was unable to locate the mill ruins during field reconnaissance and suggested that mosquito ditching might have destroyed the site. Further investigation is needed to assess the condition of these resources.

Several structures within the park date from the Florida Boom development period of the 1920s. These structures are associated with the Ribault Club, a club resort and real estate venture, with an associated nine-hole golf course, tennis courts and other amenities. These developments were designed to attract a wealthy membership from northern cities that would purchase land from the club and build winter homes and cottages.

One of three homes built on the island during the 1920s boom period, the Nettleton Neff House, is located on park property. The Neff House is a structure in the Tudor Revival style that stands atop a large dune on the east side of the Island. The Neff House was constructed to serve as a private resort home in the 1920s. The original house is in poor condition but has been stabilized. A wing added in the 1960s has been removed because it was contributing to the deterioration of the original house. The major source of damage to the historic portion of the structure stemmed from the poor condition of the 1960s addition. Water entered the collapsing 1960s structure and traveled into the original portion of the building. This caused elevated humidity levels throughout the structure, further compromising its condition. An asbestos removal project has been completed. A Historic Structures Report was completed in 2006, giving the park alternative resource management strategies for the Neff house.

Several structures associated with the golf course also date from the Boom Period of the 1920s. The clubhouse (Ribault Club clubhouse/Fort George Club clubhouse), attributed to Maurice Fatio and Mellon Greeley, was completed in 1928. The clubhouse building

consists of a main H-shaped, masonry veneer, wood-framed structure with two asymmetrical wooden wings. The north wing had experienced a fire. Over the years, the original clubhouse had undergone several minor alterations, including shed roofs and porches. After appropriate documentation, these alterations were removed. The clubhouse building suffered from years of deferred maintenance leading to extensive water and termite damage, as well as vandalism. Currently, however, the clubhouse is completely stabilized and fully renovated. It is now open to the public for events, and it contains an extensive array of interpretive displays developed by the NPS in coordination with the Division. The Division, the DHR and the City of Jacksonville funded the restoration of the building. The Ribault Clubhouse was successfully nominated for listing on the National Register of Historic Places in 2000.

Some of the structures, or sites of former structures, associated with the golf course and clubhouse are unrecorded, i.e. the Lodge, Caddy structure, and Shelter. The Lodge was a wood frame structure purportedly built to accommodate visitor overflow from the clubhouse. Located northeast of the clubhouse, it had become decrepit and dangerous. This building has been photographically documented, demolished and removed. The Caddy structure (groundskeeper's office) is a small wood frame structure that was probably completed before World War II. The Caddy structure is a stable structure. The soil below the Caddy structure is contaminated with arsenic, and a plan to remove the contamination is in development. The Rain Shelter (on-course shelter, stopping point) is another small wood-framed building. The actual date of construction is unknown, but it was probably built before 1960. The condition of the Shelter is poor. The roof is missing and the walls are failing. Other unrecorded cultural resources include clubhouse support facilities such as driveways, tennis courts, lawn bowling green, putting green and a pump house. Most are in fair or poor condition.

The recently acquired Chappelle addition contains the historic Hall Chappelle House, built in 1888, the Leo Chappelle House, which was built in the 1960s and two freestanding contemporary garages. A Historic Structures Report has not yet been prepared for the Hall Chappelle House. The Chappelle House is not recorded in the Florida Master Site File.

An unrecorded, but partially documented, historical resource that dates from the plantation period is Palmetto Avenue. A line of cabbage palms along the avenue marks the route of the historic road to the Kingsley Plantation. The palms were planted in the early and mid 19th century, and many are still alive. The general condition of the palms is deteriorating due to their advanced age. Other observed threats to the palms are competition for light from adjacent forest trees, grading of Palmetto Avenue, and trimming associated with maintenance of overhead power lines. Using GPS equipment, district biologists have begun to map the locations of individual palms and to document their health.

Other unrecorded resources on Fort George Island include the original Ribault Club golf course and the Rollins Bird and Plant Sanctuary's garage and lodge. The original golf course, created in 1927, contained nine holes. Noted golf course designer Donald Ross is reputed to be the architect, though the Division has not corroborated this. Expansion to an 18-hole course occurred in the 1960s. Currently the golf course is abandoned. Reforestation of the site through natural succession to maritime hammock is the present goal.

There is a Lodge and Garage associated with the development of the Rollins Bird and Plant Sanctuary. The buildings were constructed by Ms. Millar (Gertrude) Wilson at the time she donated the Sanctuary to Rollins College in 1939-40. Ms. Wilson was the daughter of John F. Rollins and was born on Ft. George Island. John Rollins was the brother of Alonzo Rollins, the founder of Rollins College in Winter Park, FL. The structures were built to provide housing for students coming to study at the Sanctuary and for Rollins Alumni gatherings. The garage is a log building. The exterior of the lodge is constructed of sawn half-logs nailed in place to give the appearance of a log building (Stowell 1996). The lodge, which is in better condition than the garage, is currently used as a residence for park personnel. The condition of these resources can be assessed as fair, pending further investigation. These structures are significant for their association with the development of the Sanctuary, which was the last of the Rollins holdings on the island, and as examples of rustic, camp architecture that was common in the early half of the twentieth century. A contemporary newspaper account also mentions a fallen chimney and cellar from a reportedly earlier structure near the new buildings. The existence or location of these resources has not yet been confirmed. Wilson also had trails built in the Sanctuary and no research has been conducted to locate the trails that could be considered part of the historic landscape.

Currently, no formal program of cultural landscape management exists at the park despite the recognition of several important cultural landscapes. People have altered nearly all of Fort George Island during the many periods of human occupation of the island. At present, only one of the island's cultural landscapes is actively managed. The two original fairways within view of the Ribault Clubhouse are informally identified as important features of the cultural landscape worthy of preservation. The park currently maintains the portions of these two fairways that are in view of the Ribault Clubhouse and within the boundaries of the National Register site.

RESOURCE MANAGEMENT PROGRAM

Special Management Considerations

Timber Management Analysis

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

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

A timber management analysis was not conducted for this park. The total acreage for the unit is below the 1,000-acre threshold established by Florida Statutes. Timber management is not advised in this park due to probable impacts on cultural resources.

Additional Considerations

Abandoned fairways are succeeding toward maritime hammock. Biological and park staff should continue to monitor fairway succession photographically, and should conduct quantitative monitoring as time permits. University faculty and staff should be encouraged to continue the studies started by John Randall. Photo-monitoring and associated qualitative assessments should suffice to determine if natural processes of succession are progressing toward maritime hammock. Management of the fairways should be adaptive. Presently, natural processes appear to be accomplishing restoration goals. Future monitoring, however, may indicate the need for more active management, including the addition or removal of particular species from the system.

Pine plantations on the island are slowly evolving toward maritime hammock. The southern stand is bounded on its eastern side by the historic route into Kingsley Plantation. Other stands to the north are bisected by the same road. This road is lined with mature sabal palms that were planted during the plantation era. These palms are considered a cultural resource and would require protection if trees were harvested from this site. After careful consideration of access issues and the cultural, historic and aesthetic impacts that a silvicultural thinning operation of the pines would have, it was decided that logging was not appropriate for this area.

Management Needs and Problems

1. A formal study of the island's diverse cultural landscapes is needed in order to identify significant landscapes for preservation and to outline procedures for doing so. The entire island could be considered a cultural landscape, with sites representing many periods in the island's history, ranging from the world-renowned Fort George Shell Ring (1600-2300 BC) to the Ribault Club golf fairways of the 1920s.

2. Some historic structures are in a state of decline, or are unrecorded.
   - **A.** Historic structures need a schedule of regular inspection and maintenance.
   - **B.** The original portion of the Neff House has been stabilized but will continue to deteriorate without ongoing maintenance.
   - **C.** The Caddy structure has not yet been recorded in the Florida Master Site File.

D. Site DU149 is in poor condition. The monuments require frequent removal of invasive vegetation, and may need increased protection from vandalism.

E. The Rollins Sanctuary Lodge and Garage both need condition assessments. These resources have not yet been recorded in the Florida Master Site File.

F. The Hall Chappelle House needs a condition assessment, a Historic Structures Report and a rehabilitation plan. The house also needs to be recorded in the Florida Master Site File.

G. The Division is planning to develop some recreational facilities in the area around the Ribault Clubhouse. Since the Clubhouse is situated on a midden site, the Division should plan development very carefully and take extra precautions to avoid detrimental impacts to the cultural site.

3. Cultural sites require regular inspection and maintenance to document changes in condition, and to slow rates of decline.

A. To maintain and protect cultural resources, the park should develop a schedule of site visits tailored to individual site needs.

B. The extent of damage to the Sugar Mill Site is currently unknown. Construction of two mosquito control ditches may have destroyed the ruins. The archaeology of the Sugar Mill Site needs evaluation in conjunction with a review of the findings of the hydrologic restoration feasibility study.

C. Heritage palm trees along historic Palmetto Avenue are declining in health for a number of reasons, particularly road maintenance practices, competition from other canopy trees, and power line maintenance.

D. The extent of impacts to the San Juan del Puerto Site from various disturbances is currently unknown. Past and present disruptions of the site include clearing for agricultural purposes during the plantation period, construction and maintenance of Palmetto Avenue and associated parking spaces, digging of adjacent mosquito control ditches, and conversion to a pine plantation in the 1960s.

4. At least one site at the park has a sufficient assemblage of information to meet nomination criteria for the National Register of Historic Places.

A. The possible eligibility of the Fort George Shell Ring for nomination to the National Register remains undetermined, although recent research indicates the site is highly significant. Four sites on Fort George Island are currently listed on the National Register of Historic Places. The extensive history of the island may merit the nomination of the entire island as a historic district, with multiple periods represented.

5. Effective management of the cultural resources on Fort George Island Cultural State Park will require a continued commitment of funding and staffing resources by the Division. Swift action is often needed to prevent costly deterioration of the historic structures and archaeological sites due to natural weathering and in response to impacts of storms, other periodic natural disturbances and vandalism. An ongoing management problem is that funding for the park's unusually large cultural resource management needs must compete for the limited funds

available, statewide, for cultural resource management and other state park management needs.

6. The park's collections need additional management.
- **A.** No final scope of collections statement exists.
- **B.** Condition assessments of collections items are needed, and conservation needs must be determined.
- **C.** Collection storage conditions need improvement.
- **D.** An appropriate method for accepting and integrating donated items into the collections is not yet established at the park.
- **E.** Collection cataloguing needs improvement.
- **F.** Collections need to be interpreted.

7. Natural communities need additional restoration, and water resources on the island need continual monitoring and protection.
- **A.** Humans have greatly disrupted the natural hydrology of Fort George Island by constructing an extensive network of ditches that have altered drainage patterns in several natural communities. Impacts of the ditches may include: loss of wetlands, acceleration of drainage, prevention of natural sheet flow, diversion of runoff from wetlands, introduction of salt water to areas that were previously unaffected by salt, and the establishment of interconnections among low-lying wet areas that were previously isolated. Roads and trails cross ditches in several locations, increasing the potential for soil erosion, impoundment of surface waters, and degradation of water quality. Impacted wetlands include tidally influenced systems, basins and swales.
- **B.** Abandoned fairways are slowly succeeding toward maritime hammock, but to determine if supplemental plantings are needed, regular monitoring of the successional process should continue.
- **C.** Concrete bulkheads, associated dredging, and mosquito control ditches constructed at Point Isabel have destroyed or degraded portions of the natural salt marsh that historically existed there. The bulkhead is undermined due to tidal action.

8. The park contains listed animal and plant species, as well as non-listed animal species that have experienced recent, significant declines in population. Present also are champion trees and plants that are growing at the northernmost extent of their ranges. District and park staffs need to continue tracking these species through the established program of periodic monitoring. Due to a region-wide steady decrease in numbers, painted buntings on the island should be monitored annually. Staff should check the condition of champion trees every few years.

9. Due to the recent rapid expansion of residential and commercial growth in the North Jacksonville area, park and district staffs need to exercise ever-greater vigilance to insure continued protection of water quality and wetland function within the park.

10. Exotic plants and animals occur in the park.
- **A.** Feral hogs cause soil disturbance and damage vegetation within the park.

Hogs are potential threats to listed plants and to cultural resources. Rooting has been observed in at least one shell ring.

B. The Asian ambrosia beetle (*Xyleborus glabratus*), a pest that has recently invaded the southeastern United States, has caused high rates of mortality in mature red bay trees in the park through the spread of laurel wilt disease.

C. Exotic vegetation, while uncommon on most of Fort George Island, exists in scattered locations and requires periodic treatment. The Chappelle Midden has an infestation of confederate jasmine that is threatening a population of low peperomia, a listed species.

11. Fort George Island contains a unique and complex array of natural and cultural resources that afford exceptional opportunities for interpretation. Interpretation of these resources needs to be strengthened and expanded, particularly along hiking trails.

12. Realization of the potential for interpretation will require staffing or funding dedicated to accomplishing interpretive and resource management goals.

Management Objectives

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

1. In coordination with Park Partners, conduct a formal study of cultural landscapes on Fort George Island and develop a comprehensive management plan for the diverse landscapes represented.

2. Continue a regular schedule of inspection and maintenance for the park's historic structures. Seek funding support, continue ongoing stabilization, restoration and rehabilitation planning and project implementation.

A. Continue to use the Cultural Site Visitation protocol for ongoing inspection, assessment and maintenance of all historic resources.

B. Continue to document all factors contributing to a deterioration of the condition of any historic structure, and take appropriate corrective actions in a timely manner.

C. Continue to develop restoration and/or rehabilitation plans for all historic structures in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties or, where appropriate, consider alternative strategies for preservation.

D. Take the necessary steps to record the Caddy structure and other resources associated with the Ribault Clubhouse (driveways, tennis courts, and a pump house) on the Florida Master Site File. Conduct stabilization work as needed.

E. Reassess the condition of site DU149 monuments and implement steps to stabilize and protect the structures from vandalism.

F. Determine the historic status of the Garage and Lodge in the Rollins Sanctuary, and record them on the Florida Master Site File, if warranted. Conduct stabilization work as needed.

G. Continue to stabilize and maintain both of the Chappelle houses. Conduct a condition assessment for the Hall Chappelle House, prepare a Historic Structures Report for the house and develop a rehabilitation plan. Record the house on the Florida Master Site File.

H. Upgrade the stabilization treatment for the Neff House to Secretary of Interior standards and seek the funds necessary to minimize its decline for the short term. Actively pursue a partnership for the adaptive reuse of the building for its long-term preservation.

I. When developing facilities in or near known archaeological or historical sites such as the Ribault Clubhouse and the Ribault Club Midden, use the results of prior archaeological investigations to guide the planning process. Proper planning should result in fewer incidents of cultural resource disturbance requiring mitigation for damages to archaeological sites.

A. Prepare a report synthesizing all archaeological work done at the Ribault Club House Midden to date.

3. Continue the program of cultural site protection through regular inspection, assessment and maintenance.

A. Develop and implement a schedule of cultural site visits based on individual site needs to provide for the maintenance and protection of cultural resources. Continue to photo-document resources that are in poor condition. Continue the program of educating park staff via the cultural resource management workdays organized by BNCR and district staff.

B. Seek funding for an archaeologist to assess the Sugar Mill Site in conjunction with a review of the results of the recent hydrologic restoration study to determine which features are intact and which features may have been destroyed during construction of mosquito ditches.

C. Coordinate with the City of Jacksonville, the Jacksonville Electric Authority and the NPS to reduce or eliminate impacts to palms along Palmetto Avenue caused by road and power line maintenance activities.

D. Seek funding for a small-scale archaeological project to determine if Palmetto Avenue, its associated parking turnout and an adjacent mosquito control ditch have had negative impacts on the San Juan del Puerto Site. The same study should provide recommendations for remedial actions, if necessary.

4. Pursue the listing of park resources on the National Register of Historic Places.

A. Determine if the Fort George Shell Ring is eligible for listing on the National Register of Historic Places. If so, prepare a proposal for listing. Additionally, determine if the entire island is eligible for listing on the National Register as a historic district with multiple periods represented.

5. Actively manage park collections.
- **A.** Finalize a scope of collection statement for the park.
- **B.** Assess the condition of all collections items and determine conservation needs.
- **C.** Improve collection storage conditions.
- **D.** Develop a protocol for accepting and integrating donated items into park collections.
- **E.** Implement the scope of collections recommendations on cataloguing.
- **F.** Interpret the collections to the public.

6. Take appropriate steps to restore natural communities.
- **A.** Continue studies of the altered hydrology of the island, including the network of ditches, culverts and created ponds, and determine possible effects on park resources. Pursue additional funds to complete the hydrological studies necessary to guide and facilitate restoration of freshwater wetlands on the island. Develop plans for restoring natural hydrology as needed.
- **B.** Continue the photographic monitoring of fairway succession, and conduct quantitative monitoring as time permits. Encourage university faculty and staff to continue studies of succession on abandoned fairways. Future monitoring may indicate the need for more active management, including the addition or removal of particular species from the system.
- **C.** Pursue mitigation funds or other sources to accomplish restoration of the salt marsh at Point Isabel.

7. Continue to monitor listed and regionally rare species.
- **A.** Continue to monitor populations of listed plants, as well as the several plant species found at the northern limits of their range.
- **B.** Search the island for previously documented U.S. Champion trees to determine their status.
- **C.** Continue to document areas utilized by wading birds and shore birds, and map the locations to facilitate protection as significant habitat.
- **D.** Continue to maintain and protect appropriate gopher tortoise habitat (i.e. the two fairways maintained as part of the island's cultural landscape and the dune system around Mount Cornelia).
- **E.** Continue the periodic monitoring of the island's painted bunting population. Evaluate possible effects on bunting habitat when planning new park facilities and trails. Educate visitors about local and global threats to neotropical migrants such as the painted bunting.

8. Continue to protect water quality and wetland function within the park.
- **A.** Continue to encourage and facilitate water quality monitoring of groundwater and surface water within the park.
- **B.** Continue to cap unused wells within the park.
- **C.** Continue to coordinate with appropriate agencies to assess the adequacy and function of various culverts under roadways.

9. Remove exotic plants and animals from the park.
   A. Continue to remove feral hogs from the park to prevent damage to natural communities, rare plants and cultural resources like the shell rings.
   B. Continue to remove invasive, naturalized and ornamental exotic plants from the park, particularly those in the Chappelle addition where confederate jasmine is engulfing low peperomia.
   C. Continue to track the spread of the Asian ambrosia beetle, monitor the red bay mortality on the island and cooperate with exotic pest experts in researching possible ways to reduce the spread of the laurel wilt disease.

10. Enhance interpretation of Fort George Island's resources while incorporating the interpretive theme of the park.
   A. Continue to develop an interpretive plan for the park.
   B. Present the park's interpretive theme to the public using a series of interpretive displays (i.e. historical land use on Fort George is tightly linked to the natural and cultural resources present today).
   C. Provide a fuller interpretation of park resources such as the shell mounds and associated vegetation, the Fort George Shell Ring, San Juan del Puerto, the golf course fairways, and the forests that have evolved from the plantation era.

11. Obtain sufficient staffing or funding to perform cultural resource management and interpretation duties at the park.

Management Measures for Natural Resources

Hydrology

Hydrologic alterations on Fort George Island have been identified and mapped. A feasibility study for restoration of some of these alterations is underway. The magnitude of the ditch system requires that rehabilitation of impacted areas be prioritized based on the extent of impact and on the potential for successful restoration. Greater emphasis will be placed on restoring areas where ditches drain existing wetlands. In some cases, the ditching has destroyed the original hydrologic system and it is now unclear how these areas should be restored. Spoil piles line the banks of many of the larger ditches. Where possible, spoil will be returned to adjacent ditches. When developing plans for the restoration of ditched areas on Fort George Island, staff will seek approval from the appropriate regulatory agencies. Advice will be sought from those agencies and from other agencies having management interests, such as the NPS and the DEP Bureau of Coastal and Aquatic Managed Areas.

Park management will continue to encourage and facilitate water quality monitoring of ground and surface waters within the park. At least six wells in the park are currently not in use. Any wells not in use and not being used for monitoring purposes should be capped or permanently abandoned to prevent contamination. With natural flow rates of the wells reaching 2000 gallons per minute, leaks or failed casings are potentially problematic.

The park will continue to coordinate with appropriate agencies to assess the adequacy and function of various culverts under roadways.

Park and District 2 staffs will pursue the restoration of salt marsh located at Point Isabel. The first step should be removal of the existing bulkhead, installed in the 1960s. Spoil deposits from dredging in the1960s and spoil from mosquito control ditching in the 1970s should be re-deposited in the dredged areas. The former spoil sites should then be re-planted with salt marsh vegetation. Funding for this project will be sought from mitigation sources. Because of the culturally sensitive nature of Fort George Island, preliminary comment on the project should be obtained from the Division of Historic Resources before placing the project on any mitigation rosters. Until the area is restored, park personnel should continue to monitor the shoreline erosion at Point Isabel as the concrete bulkhead gradually undermines.

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.

Natural communities identified within this park do not require burning.

Designated Species Protection

The welfare of designated species is an important concern of the Division. In many cases, these species will benefit most from proper management of their natural communities. At times, however, additional management measures are needed because of the poor condition of some communities, or because of unusual circumstances that aggravate the particular problems of a species. To avoid duplication of efforts and conserve staff resources, the Division will consult and coordinate with appropriate federal, state and local agencies for management of designated species. Specifically, data collected by the FWC and USFWS as part of their ongoing research and monitoring programs will be reviewed periodically to inform management of decisions that may have an impact on designated species at the park.

Protection of designated (listed) plant species on Fort George Island essentially means protecting suitable habitat from disturbance. For instance, interpretive or research activities conducted at the Fort George Shell Ring, Rollins Bird Sanctuary, the Chappelle Midden, or the McGundo Midden need to be carefully planned and monitored due to the localized presence of sensitive plants in the shell mound natural community.

Populations of these sensitive plants could be harmed by the trampling of visitors or by the creation of openings in the canopy. Removal of vegetation from tabby structures also requires special precautions. For example, at a minimum district biological staff or others with botanical expertise should inspect the general site of a tabby structure to ensure that rare plants, which have formerly been recorded on such structures, are not inadvertently killed during the process of removing vegetation. Prompt removal of feral hogs will help protect cultural resources such as the shell rings and certain sensitive species such as ground orchids. The eventual restoration of wetlands on the island will also benefit some listed plant species.

Although the vast majority of designated animals recorded on Fort George Island are transient in nature, several species are more permanently positioned there and need extra attention. The wading bird roosting area near the boat basin should be monitored, and other aggregations of wildlife should be mapped as park personnel encounter them. Up to two of the abandoned fairways should be maintained as open areas, not only to enhance the program of cultural landscape management, but also to provide habitat for gopher tortoises.

Exotic Species Control

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

A population of feral hogs recently became established on the island. The park has initiated an aggressive removal campaign, in coordination with the USDA Wildlife Services section. The hog removal effort should continue for as long as needed.

With the recent spread of the exotic Asian ambrosia beetle from Georgia into Florida, red bay trees in the maritime hammock on Fort George Island are at risk of extirpation due to the laurel wilt disease that is introduced by the beetles. The Division of Recreation and Parks is monitoring the situation closely, and is cooperating with entomologists in the Division of Forestry in efforts to learn more about beetle dispersal mechanisms and possible methods of controlling the spread of the wilt disease. The park discourages transportation of firewood from areas known to have beetle infestations.

Exotic plant species are not generally widespread on the island. Scattered individuals of Japanese honeysuckle (*Lonicera japonica*), mimosa (*Albizia julibrissin*), lantana (*Lantana camara*), and chinaberry (*Melia azederach*) have been seen in natural areas of the park. Exotic ornamental plants including Japanese climbing fern (*Lygodium japonicum*),

English ivy (*Hedera helix*), confederate jasmine and air potato (*Dioscorea bulbifera*) are also found around developed areas. One patch of air potato near the park residence is encroaching on the edge of a colony of low peperomia. Confederate jasmine at the Chappelle house has invaded another colony of low peperomia. These patches are a high priority for control, but removal of the exotic plants should be accomplished in a manner that will cause the least harm to the peperomia. Exotic plant eradication efforts should be prioritized. Species given the highest priority for removal should be those considered by the Florida Exotic Pest Plant Council to be the most invasive, or those exotic species that are directly affecting listed or rare plants. The district biological staff will assist the park in its exotic plant control 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.

Management Measures for Cultural Resources

The management of cultural resources is often complicated because these resources are irreplaceable and extremely vulnerable to disturbances. The advice of historical and archaeological experts is required in this effort. Managers of state lands must coordinate any land clearing or ground disturbing activities with the Division to allow for review and comment on the proposed project. Recommendations may include, but are not limited to approval of the project as submitted, pre-testing of the project site by a certified archaeological monitor, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effects.

Projects such as additions, exterior alteration or related new construction regarding historic structures must also be submitted to the Division of Historical Resources for review and comment by the Division's architects. Projects involving structures fifty years of age or older, must be submitted to this agency for a significance determination**.** In rare cases, structures under fifty years of age may be deemed historically significant. These must be evaluated on a case-by-case basis. Adverse impacts to significant sites, either archaeological sites or historic buildings, must be avoided. Furthermore, managers of state property should prepare for locating and evaluating historic resources, both archaeological sites and historic structures.

1. The Division will address concerns about the decline of historic structures and take appropriate actions.
   A. The Division will further stabilize the Neff House based on the 2006 Historic Structures Report and in accordance with the Secretary of the Interior's

Standards and place a high priority on minimizing further deterioration of the building. Alternative preservation and management strategies for the Neff house will be considered. These may include developing adaptive reuse plans based on the Historic Structures Report's recommendations and seeking a public or private sector partner to adapt the building to a use compatible with the park plan.

B. The Division will develop plans for stabilization of the Caddy structure and other resources associated with the Ribault Clubhouse (driveways, tennis courts, and a pump house). Staff will initiate procedures to record the Caddy structure in the Florida Master Site File.

C. The Division will seek funds to implement the recommendations of the Historic Structures Report for the Site DU149 monuments, and will consult with a preservation architect or masonry preservation specialist regarding implementation of the recommendations.

D. Staff will conduct condition assessments of the Rollins Sanctuary Lodge and Garage, prepare, and submit Florida Master Site File Forms. Additional research will be conducted in the area to establish the existence of original nature trails developed on the site and the location of a reported earlier structure and shell midden.

E. The Division will determine the method of stabilization and seek funding to assist with the stabilization of the McGundo Midden.

F. The Division will evaluate the stabilization needs of both the Chapelle houses. For the Hall Chappelle House, the Division will seek funding to conduct condition assessments, prepare a Historic Structures Report and develop a rehabilitation plan. Staff will submit the site to the Florida Master Site File. As discussed in the Land Use Component, reuse of the historic and modern buildings in this complex is recommended to create a museum house and Cultural Resource Center to support research and interpretive programs in the park. The Division may seek public or private sector partners to adapt the buildings to these or other uses compatible with the park.

G. Historic structures at the park will be documented using criteria developed for the Historic American Building Survey program. All restoration and/or rehabilitation plans for historic structures in the park will be developed in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties.

2. When the Division considers development in or near known archaeological or historical sites, such as around the Ribault Clubhouse and the Ribault Club Midden, staff will use the results of prior archaeological investigations to guide the planning process and thereby minimize cultural resource disturbance.

A. Archaeologists and certified archaeological monitors have conducted extensive monitoring throughout the area around the Ribault Clubhouse as mitigation for various demolitions, construction, and fencing projects at the site. In addition, several archaeologists had already surveyed parts of the site

before the state acquired the property. The Division will seek funding for a project to produce a historic overview and synthesis of all archaeological work performed to-date in and around the Ribault Clubhouse (including the Ribault Midden Site, 8DU76). The primary objectives of this work will be to determine the extent of archaeological resources at the site, to establish the limits of each component (occupation period), and to identify disturbed or archaeologically sterile areas. This information should prove useful in guiding future development at the site, and will help staff determine the additional research needed to make sound decisions about placement of facilities. Other objectives of this work will be to provide information to park staff for interpreting to the public the aboriginal and historic inhabitants represented by the archaeological site, and to provide recommendations for site management.

B. Prior to the construction of the Batten Island Bridge and the crossroad connector the Division will seek funding to provide archeological research and interpretation of the area to be disturbed.

3. Park staff will continue the program of cultural site protection through regular inspection, assessment and cyclical maintenance.

A. Staff will develop and implement a schedule of cultural site visits based on individual site needs to provide for the cyclical maintenance and protection of the resources.

B. The Division will continue to educate park staff via the cultural resource management workdays organized by BNCR and district staff.

C. The Division will look for funding to assess the Sugar Mill Site. The assessment will attempt to correlate archaeological findings with results of the recent hydrological study in order to determine which features are still present and which features may have been destroyed during construction of mosquito ditches.

D. Park staff will coordinate with the City of Jacksonville, the Jacksonville Electric Authority and the NPS to reduce or eliminate impacts to palms along Palmetto Avenue caused by road and power line maintenance activities.

E. The Division will seek funding for a small archaeological project to determine if Palmetto Avenue, its associated parking turnout and an adjacent mosquito control ditch may be negatively impacting the San Juan del Puerto Site. Proposed remedial actions should be included in the project report.

F. Park staff will routinely document resources that are in poor condition. The Division will seek funding to study eroding sites before they disappear.

4. The Division will coordinate with the NPS to pursue funding for the development and implementation of a formal cultural landscape management plan that will encompass all of Fort George Island.

A. Prior to establishment of the formalized plan, staff will continue to maintain all or portions of the two fairways from the original nine-hole golf course that are in view of the Ribault Clubhouse. Maintenance practices will be minimal

and conducted with the objective of preserving the open aspect of the fairways. The open nature of this cultural landscape will also benefit the resident population of gopher tortoises.

B. Future planning should consider cultural and natural landscapes on all of Fort George Island, seeking an appropriate balance in preserving natural and cultural landscapes.

5. The Division will pursue listing of park resources on the National Register of Historic Places.

A. Staff will try to determine if the Fort George Shell Ring is eligible for listing on the National Register of Historic Places. If it is eligible, park staff will prepare a proposal for listing. Additionally, staff will try to determine if the entire island is eligible for listing on the National Register as a historic district with multiple periods.

6. Park staff will improve collections management at Fort George Island.

A. Staff will finalize a scope of collection statement for the park.

B. Collection storage conditions will be improved.

C. The park will develop a protocol for accepting and integrating donated items into the collection.

D. The park will implement the scope of collection recommendations on cataloguing.

E. The park will endeavor to improve interpretation of the collections.

The Division will seek staffing or funding to perform cultural resource management and interpretation duties at the park.

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.

The following research/monitoring will enhance the ability of the park to manage and interpret natural resources:

1. Additional evaluation of the hydrological effects of the extensive system of ditches, manmade ponds and culverts on the island, followed by development of a hydrological restoration plan.

2. Investigation of potential sources of high fecal coliform counts in the waters around Fort George Island. Research should target the relative contributions of failed septic systems and artificial drainage ways that convey surface waters to

adjacent water bodies.

3. Comprehensive survey of vascular flora in the park.
4. Survey of macro-invertebrates in the park.
5. Continuation of the research initiated by Dr. John Randall regarding successional processes on the fairways.
6. Research on the land use history of the island, including a determination of what forest types were likely present before extensive human use of the island.

Cultural Resources

The following research will enhance the ability of the park to manage and interpret cultural resources:

1. As a high priority, develop a comprehensive Cultural Landscapes Study and Master Plan to guide future cultural resource management and interpretation by the Florida Park Service and the National Park Service on Fort George Island.
2. As part of this Cultural Landscape study, establish a priority list of sites for focused research to better protect, manage and interpret the multiple cultural sites found on the island.
3. As a high priority, initiate focused research to expand knowledge on the extent, significance and condition of the San Juan del Puerto mission site. As part of this research, determine if Palmetto Avenue, the associated parking turnout, and an adjacent mosquito control ditches are negatively impacting this or other cultural resources in that vicinity of the island.
4. Continue archaeological research of the Rollins Shell Ring site to expand understanding of the site and improve the Division's ability to protect, manage and interpret the cultural site.
5. Compile a summary report of the existing research about Fort George Island and periodically update it over time. As an initial step, appropriate persons should be encouraged or hired to expand upon Stowell's work (1996) and write a professional narrative of the complete history of the island.
6. Develop oral history documentation of people who have personal connections with the Ribault Clubhouse and create better documentation of past structural modifications and other changes to the building.

Resource Management Schedule

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

Land Management Review

Section 259.036, Florida Statutes, established land management review teams to determine whether conservation, preservation, and recreation lands 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.

Fort George Island Cultural State Park was subject to a land management review on December 6, 1999. The review team determined:

1. The land is being managed for the purpose for which it was acquired.
2. The actual management practices, including public access, complied with the management plan for this site.

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's objective is to provide quality development for resource-based recreation throughout the state with a high level of sensitivity to the natural and cultural resources at each park.

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

EXTERNAL CONDITIONS

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

Fort George Island Cultural State Park is located within Duval County about 26 miles northeast from the center of Jacksonville, Florida in the northeastern part of the state. The populations Duval County and the adjacent Nassau County have grown 14 percent since 1990, and are projected to grow an additional 11.5 percent by 2010 (BEBR, University of Florida, 2000). Over 1.1 million Floridians reside within 50 miles of the park, which includes the cities of Jacksonville, Fernandina Beach and St. Augustine (Census, 2000). The Division estimates that 60,499 people visited the park in FY 2005-06.

Existing Use of Adjacent Lands

Fort George Island Cultural State Park is the southernmost of four barrier island units jointly administered by the Division: Little Talbot Island State Park, east and north across the Fort George River; Big Talbot Island State Park directly north; and Amelia Island State Park immediately north of Big Talbot Island on the southern tip of Amelia Island. The island is surrounded by navigable waterways and extensive salt marshes, including the Fort George River to the north and east, the St. Johns River to the south and Sisters Creek to the west. These adjacent waterways support high levels of boat traffic. The historic and natural resource significance of the St. Johns River has been acknowledged by an American Heritage River designation. Nassau River-St. Johns River Marshes Aquatic Preserve includes the submerged lands surrounding the island and extends north to the Nassau River.

Fort George Island also lies within the boundary of the Timucuan Ecological and Historical Preserve, administered by the National Park Service (NPS). Kingsley Plantation, located on the northwest corner of the island, the Governor Broward House, located south of the Island on Hechscher Drive, and Fort Caroline National Memorial, approximately four miles to the west on the south shore of the St. Johns River, are managed by the NPS as part of the Preserve. Kingsley Plantation includes several historic structures, including the remains of tabby slave cabins, and is accessible by river via private boat or ferry.

Huguenot Memorial Park, administered by the City of Jacksonville (COJ), lies to the east of the island on an accreting landmass at the mouth of the St. Johns and Fort George Rivers, and is a popular beach park with camping. COJ purchased property at the Fort George Island Bridge that contains a fish camp, RV campground, restaurant, and public boat ramp. The City has not yet formalized plans for the boat ramp and commercial properties acquired at the bridge, although it is likely that a public boat ramp will be maintained.

Approximately 60 privately owned parcels exist on Fort George Island, concentrated in three areas: the northwest corner, near Kingsely Plantation; the east side, just north of the Ribault Club; and the southern end of the island. Nearly half of these parcels have improvements, primarily single-family homes. The historic St. George's Episcopal Church is located adjacent to residences near the southeastern shoreline

Batten Island, a spoil island with several private residences around its western perimeter, and State Road 105 (Hecksher Drive), with mixed commercial, residential and industrial development, lie to the south of the state park. The northern terminus of the Mayport Ferry is located less than a mile south of the intersection of Fort George Road and State Road 105 (A1A). Finally, the Mayport Naval Air Station is

located directly south of Fort George Island, across the St. Johns River.

Planned Use of Adjacent Lands

Over 140,000 acres of marsh and uplands surrounding the park are in public ownership and managed for the purposes of conservation and recreation. These public lands serve to buffer the park from major impacts of future land use changes. The complex of state parks and other publicly owned and protected lands provide a unique variety of natural areas available for public enjoyment. Extensive beaches, coastal scrub, mixed pine and oak uplands, estuaries and salt marshes, outstanding boating and fishing waters, and prehistoric and historic features all lie within a few miles of Fort George Island.

The potential for this area to provide new recreational opportunities, nature and heritage based tourism and natural resource protection is exceptional. The proximity to urban Jacksonville and to the developing resort communities extending from Amelia Island north creates great potential for future increases in visitation to the state park, the national preserve and the city park.

Future residential, commercial and industrial development along State Road 105 will increase traffic congestion adjacent to the island. Increased traffic on the highway has been noted since the opening of the Broward (Dames Point) Bridge, connecting State Road 105 more directly to the Jacksonville urbanized area.

Activities at the Mayport Naval Station currently affect visitors to Fort George Island with the frequent sound of aircraft. This impact is expected to continue and may increase in the future.

Planning and right of way acquisition is underway to create the Timucuan Trail, a paved bicycle facility along A1A. The proposed trail route will connect regional parks starting at the City of Jacksonville's Kathryn Abby Hanna Park on the Atlantic Ocean proceeding northward along A1A through the old port community of Mayport before crossing the St. Johns River via the St. Johns River Ferry Service. The trail will continue north on A1A, connecting the entrances of Fort George Island, Huguenot Memorial (City) Park, Talbot Islands State Parks before crossing the George Crady Bridge and the Nassau Sound and terminating in Nassau County at Amelia Island State Park. When completed, this facility will provide additional non-vehicular access for visitors to the complex of federal, state and local parks surrounding Fort George Island. Plans to link the Timucuan Trail with a trail connector through Fort George Island to Kingsley Plantation are discussed below.

The Fort George Island Cultural State Park will be included within Segment 26 of the Florida Circumnavigation Saltwater Paddling Trail. This canoe and kayak trail is part of the Florida Greenways and Trails Program and is made up of 26 segments

that begins on the Gulf of Mexico at the Florida/Alabama border and ends at the Florida/Georgia border on Atlantic Ocean. Segment 26 will begin at the Sister's Creek Marina and end at Fort Clinch State Park for a total of 29-30 miles. This segment covers marshes, preserves, and overlaps the boundaries of five state parks: Fort George Island, Little Talbot Island, Big Talbot Island, Amelia Island and Fort Clinch.

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 landscape on Fort George Island has been continually altered by various human uses during its long history of human occupation. The more visible areas of recent human influence include tracts of planted pines to the west, remnant golf course fairways throughout the north-central portion of the island and a network of manmade ditches. Nearly all of Batten Island is a ruderal landscape created by dredge spoil deposition.

Most of the native vegetation of the island has been harvested or cleared at some time in the past. However, the long period since large agricultural activities prevailed has allowed the growth of a verdant canopy of oaks, hickories, cedars and other hammock trees and understory species over most of the island. The aesthetic qualities and the microclimate comfort of these dense, shaded areas are greatly appreciated by the modern island visitor.

The prevalence of disturbed upland areas on the park property provides appropriate sites for the location of necessary park facilities. However, the presence of many cultural sites and occurrences of numerous listed plant species will make site planning and analysis for park development an exacting process.

Water Area

Four small ponds are located on Fort George Island, all of which appear to be man-made or altered during the period of 20th century development. Most of these have achieved a relatively natural appearance. The vegetated shorelines, open water and remote locations of these important freshwater resources provide various opportunities for wildlife viewing. Three tidal creeks flow into Garden Creek on the west side of the island. The island's creeks, extensive marshes and estuarine systems will provide additional points for wildlife viewing and interpretation for the park.

Two boat basins on the northeast shoreline of the island possess excellent scenic qualities. It is not recommended that motorized boating or swimming activities be encouraged at these locations due to shallow bottoms and poor ambient water quality.

Shoreline

The Fort George River borders the northern and northeastern shoreline of the island, creating approximately 4,000 feet of narrow beach. Portions of this shoreline are bulkheaded adjacent to the Kingsley Plantation. These areas are not accessible to the public or considered as recreational resources in this plan. An exception to this recommendation is an area near Point Isabel, a bluff along the northeastern shoreline of the island offering exceptional views toward Little Talbot Island, Long Islands and Big Talbot Island. This location should be considered for access to park visitors. However, a collapsing concrete bulkhead and seawall located in the vicinity may present conditions hazardous to visitor activity. Facility planning will need to address safety concerns in this area before being opened for public access.

The remainder of the shoreline of Fort George Island is vegetated by salt marsh and estuarine communities and largely inaccessible. High shell mounds create a low bluff along the eastern shoreline from the Ribault Club south to the southern tip of the island. Appropriate protective measures will be taken to avoid visitor activities that might cause erosion on any of the shoreline areas of the island.

Natural Scenery

The maritime hammock provides a lush canopy ideal for scenic drives, bicycling or walks along the roadways of the island. Trails providing access into the hammock will add to the scenic quality of the visitor experience. Views over the estuary should be made available at numerous locations. In addition, the exceptional visual qualities of the island's historic architecture and ruins enrich the experience of visitors.

Significant Wildlife Habitat

Estuarine areas attract large numbers of wading birds, and the edge effect of the

abandoned golf course fairways attracts a variety of predatory birds. The freshwater ponds also attract waterfowl, and abandoned fairways and open areas on the island are home to a number of gopher tortoises. River otters have been observed in the freshwater ponds near the old fairways and are expected to be present along many of the mosquito ditches and in Blue Pond. A rookery used by herons and other wading birds is located just east of Kingsley Plantation.

More important in this evaluation of interpretive resources on the island may be its unique botanical characteristics. The vegetation makeup of the island includes the presence of plant species normally found further south. Designated plant species include Godfrey's privet, terrestrial peperomia and a variety of terrestrial and arboreal orchids. The diversity of flora and fauna are an important aspect of the visitor's experience on Fort George Island.

Great care will be taken to preserve and protect all species on the island. The enforcement of park rules prohibiting the collection of plants and animals is critical in ensuring their survival for future generations. Designated species will continue to be given the highest level of protection. In most cases, public access to their locations will be limited to ranger guided walks or prohibited entirely. In all cases, the layout and design of interpretive trails will be coordinated with species identification in order to provide access and educational opportunities through sensitive areas. The security and health of rare plants or plant associations near interpretive trails will be monitored on a regular basis. If adverse impacts are detected, the adjacent trails will be rerouted or closed.

Natural Features

Significant natural features of the island include the Fort George River, Mount Cornelia (an old dune complex that is one of the highest points on the southeastern Atlantic coast), older established areas of the maritime hammock, surrounding salt marshes and the unique plant assemblages.

Archeological and Historical Features

The most significant interpretive resources of Fort George Island are the abundant archaeological and historical sites spanning some 5000 years of human occupation. In addition to the 39 sites recorded in the Florida Master Site File, several historic structures (including single-family homes outside the park boundaries) and distinct landscape features will provide superior interpretive opportunities.

The major focus of the current plan for Fort George Island Cultural State Park is to create unique opportunities for visitors to experience and comprehend the complex cultural landscape of the island. Visitors will be exposed to cultural sites from a variety of cultural contexts in order to instill an appreciation of the landscape and ecological changes that have resulted from human settlement over time.

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

As detailed in the Resource Management Component, humans have used Fort George Island for thousands of years. Past uses with the most significant impact on the landscape, include plantation agriculture, resort recreation and residential development activity.

Recreational Uses

Current recreational uses are limited to a 4.4-mile self-guided loop tour that interprets island history and natural resources, and 1.4 miles of hiking and off-road biking trails. The National Park Service provides interpretive tours of historic structures and associated grounds at Kingsley Plantation. An unimproved kayak/canoe launch is located on the Fort George River at the Ribault Club. The launch predates the acquisition of the property by the state, and does not conform to current environmental or design standards.

Other Uses

Many inappropriate uses of the island's natural and cultural resources have occurred in the past and in recent times; shaping present day Fort George Island. These impacts should be in the interpretative program and include environmental impacts from ditching for mosquito control, golf course construction/operation, residential development and road construction (see the RMC for further detail) as well as mining of island's shell mounds and middens for construction materials. Vandalism of cultural resources is an ongoing problem for both the National Park Service and the Division impacting prehistoric/historic burial sites and historic structures. Until access to the island can be controlled, public treasures remain vulnerable to destruction or defacement.

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, is 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 Fort George Island, the locations of known cultural sites and listed plant and

POINT ISABEL

SEAWALL

GARDEN CREEK

NEFF HOUSE

CADDY SHACK

RESTROOMS

CANOE LAUNCH

PICNIC SHELTER

RIBAULT CLUB FAIRWAYS

STORAGE

RIBAULT CLUBHOUSE & VISITOR CENTER

BLUE POND

HALL CHAPPELLE HOUSE

CHAPPELLE HOUSES

ROLLINS BIRD & PLANT SANCUARY

PALMETTO AVE

FORT GEORGE RD

HAULOVER CREEK

A1A

LEGEND

- Park Boundary
- State Road
- County Road
- Park Road Paved
- Park Road Unpaved
- Hiking Trail
- Hiking\Biking Trails
- Structures
- Marine Structures
- Parking Lots
- Ribault Club Fairways
- Water Bodies

N

0 305 610 1,220 Feet

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

FORT GEORGE ISLAND CULTURAL STATE PARK

BASE MAP

animal species have been designated as protected zones. These locations are not shown on the conceptual land use plan as a precaution against disturbance. All wetland natural communities as delineated on the Natural Communities Map are designated protected zones. A large central area of relatively undisturbed vegetation that includes Blue's Pond and the Rollins Bird and Plant Sanctuary is designated as a protected zone as well. Public access should be limited to a single trail at the southern limit of this zone to preserve the area as a refuge for wildlife and rare plants.

Existing Facilities

Recreation Facilities

Existing facilities at the park are limited and largely concentrated near the restored Ribault Club, surrounding grounds and additional stabilized parking located across Fort George Road at the caddy shack. A gravel parking lot provides access to the clubhouse and small picnic shelter with composting restroom to north of the clubhouse. An unimproved drive just north of the clubhouse grounds leads to a kayak/canoe launch and a small grass parking area.

Trails consist of a self-guided, interpretive loop tour following Fort George Road and Palmetto Avenue, and about 3.25 miles of shared-use trails for hiking and biking. An unimproved parking area located on the north end of Fort George Road provides access to the latter.

Support Facilities

Support facilities are limited to one ranger residence attached to the Ribault Club and Visitor Center. The majority of roads on the island, a significant portion of which remain unpaved, are owned and maintained by the City of Jacksonville. The road system will be used for public access to the various interpretative sites and should be maintained in safe and serviceable condition. The following is a comprehensive listing of existing recreation and support facilities.

Ribault Club Area

Ribault Club and Visitor Center
Stabilized parking (67 cars)
Overflow parking (100 cars)
Composting restroom
Small picnic shelter
Interpretive signs (2)
Kayak/canoe launch

Trails and Interpretation

Shared-use trail (1.40 miles)
Unpaved trailhead parking

Support Facilities

Ranger residence

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. After new facilities are constructed, the park staff monitors conditions to ensure that impacts remain within acceptable levels.

Potential Uses and Proposed Facilities

Hunter-gatherers and pre-Columbian agriculturists were the sole inhabitants Fort George Island for several thousand years until first European contact and colonial settlement began in the late 16th Century. Plantation agriculture was the dominant land use on the island from the mid-18th to the late-19th Centuries, to be replaced by recreation and real estate development from the late 19th Century until the 1980s. Strident public interest in the protection of the island from a large planned development by Fairfield Properties, Inc. culminated in the acquisition of the developer's property through the CARL program in 1989.

Fort George Island has exceptional significance in the Florida State Park System because its landscape and structures exhibit the cumulative results of over 5000-years of interaction between human beings and the natural world. Each period of human occupation contributed in the shaping of the island landscape we see today. Some human activities permanently altered natural features and processes, while others left no visible traces. The changing interactions between human occupants and visitors and the island ecosystems should be the focus of the interpretive

AREA

FERRY LANDING (NPS)

FT. GEORGE RIVER

KINGSLEY PLANTATION (NPS)

LITTLE TALBOT ISLAND STATE PARK

POINT ISABEL

OVERLOOK

HISTORIC SABAL PALM CORRIDOR

PARKING POD

OVERLOOK

PARKING POD

OVERLOOK

HISTORIC NINE HOLE GOLF COURSE CULTURAL LANDSCAPE AND TRAIL CORRIDOR

FERRY LANDING

RIBAULT CLUBHOUSE LANDSCAPE DEVELOPMENT

EXTEND EXISTING TRAIL TO PALMETTO AVE.

PARKING POD W/ RESTROOM

TWO WAY CONNECTOR

BLUE'S POND

FORT GEORGE ROAD AND PROPOSED KINGSLY CONNECTOR

HALL CHAPPELLE HOUSE CULTURAL RESOURCE CENTER

PALMETTO AVENUE

A1A

FT. GEORGE INLET

FERRY LANDING/ ALAMACANI BOAT RAMP AREA (COJ)

ROLLINS BIRD & PLANT SANCTUARY LITTLE TALBOT ISLAND STATE PARK

PARKING POD

THOMSON / MCGUNDO RUINS

HUGUENOT MEMORIAL PARK

ENTRANCE STATION

BATTEN ISLAND

HECKSCHER DR.

ST. JOHNS RIVER

FERRY LANDING (COJ)

FORT GEORGE ISLAND ROAD

GOVERNOR BROWARD HOUSE (NPS)

LEGEND

- PROPOSED FACILITIES & IMPROVEMENTS
- PROPOSED DEVELOPMENT AREA
- PROPOSED TIMUCUAN TRAIL/ KINGSLY CONNECTOR (SHARED-USE)
- PROPOSED INTERPRETIVE TRAIL (HIKING ONLY)
- EXISTING SHARED-USE TRAIL
- PROPOSED ROAD
- EXISTING ROADS
- PROTECTIVE ZONE
- ORIGINAL RIBAULT CLUB FAIRWAYS
- FT. GEORGE ISLAND CULTURAL STATE PARK
- OTHER PUBLIC LANDS

N

0 250 500 1,000 Feet

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

FORT GEORGE ISLAND CULTURAL STATE PARK

CONCEPTUAL LAND USE PLAN

programs of the park. Existing recreational and interpretive opportunities at Fort George Island Cultural State Park are limited due to the absence of facilities. This plan proposes an expansion of public use areas and support facilities. Support for the interpretation of the cultural landscape is the primary purpose of this proposed development program. Additional recreational opportunities are recommended to provide a balanced program of activities for visitors of all ages and interests. Recreational uses, however, are secondary in importance at this state park because of the depth and significance of the interpretive resources it contains.

Interpretation at the state park will be enhanced by creating trails, boardwalks, overlooks and other facilities allowing controlled access to a number of cultural sites and sensitive natural features. A variety of actions in the planning, design, operation, monitoring and maintenance of the facilities will ensure the protection of these sites. The following guidelines will direct the site planning and design of all facilities:

1. Stabilize resources in poor condition before opening to public access.
2. Protect sensitive resources from visitor impacts by providing infrastructure such as fences and boardwalks where appropriate.
3. Post signs that discourage vandalism or unauthorized access from the water.
4. Patrol sites regularly to monitor for vandalism and assess the condition of each site annually or more frequently if needed.

The protection of rare plant communities will be assured by pre-design surveying and collaboration between the FPS District 2 staff and the Division's Bureau of Design and Construction, when initial site planning has begun for new facilities. The Division will coordinate with Department of State, Bureau of Archeological Research in the siting of all trails, trail amenities, recreational areas and support facilities to minimize impacts to cultural resources. When feasible, Division staff will also draw on the expertise of the National Park Service regarding management of public uses in sensitive resource areas.

Responsible visitor conduct relating to sensitive natural and cultural resources will be fostered through education and direct contact with Park Service personnel and volunteers. Signage and the erection of fencing are two methods to be used to create buffers at specific locations, if needed. Visitor impacts will be regularly monitored and additional protective measures will be enacted to eliminate visitor impacts, if necessary. Access to sites deemed too sensitive for unregulated visitation, such as the Fort George Shell Ring, would be provided by ranger-guided tours.

Proposed interpretive and recreational improvements include:

1. Interpretive trails that provide controlled access to cultural sites, wildlife viewing areas and landscape features throughout the island.
2. Interpretive stations and rest areas at appropriate locations to support informative

and enjoyable use of the trails.

3. Roadway and circulation improvements to create safe conditions for exploration by bicycle and by foot.
4. A large pavilion available for special events, group functions and additional picnic areas at trailheads.
5. Improvements to the canoe/kayak launch near the Ribault Club to allow delivery of boats.

Recreation and Interpretive Facilities

Ribault Club area. The Ribault Club is the primary node of public activity. The Visitor Center, located in the north wing of the Club, is jointly staffed by FPS and NPS and serves to orient visitors to the island's resources through interpretive exhibits, programs and tours. The clubhouse offers rental space supported by catering and warming kitchens for community or private events, social and educational events. A ranger residence and sleeping quarters for visiting researchers, or park volunteers have also been incorporated into the design of this facility. In addition to providing an orientation function for park visitors, the clubhouse also serves as the starting point for trails and tours. Adaptive reuse of the Caddy Shack is recommended for interpretive and concession-related programs. In the future, park staff or concessionaires may rent bicycles, Segway vehicles, canoes and kayaks in the vicinity and/or lead tours from the clubhouse area.

Landscape improvements are proposed surrounding the clubhouse to enhance use of the grounds and provide access from the building to the Fort George River. Improvements should consider universally accessible walkways, plantings, unobtrusive lighting and a boardwalk to the river shoreline designed to open the surrounding landscape for visitors or groups. The design of these improvements must be consistent with the historic character of the building while supporting the adaptive reuse of the building and grounds for new purposes.

The former site of the Lodge to the northeast of the clubhouse is recommended for a large pavilion with restrooms to provide covered space for large group picnics, special events and functions. The pavilion should be designed with partial walls, screens and ceiling fans to enhance its usability year-round. The architectural style of this structure should draw on elements of the Old Lodge and complement the clubhouse. Scattered picnic tables and grills in the vicinity are recommended to provide additional picnicking opportunities.

The City of Jacksonville and the National Park Service (NPS) are currently planning ferry service from the greater Jacksonville area to the Timucuan Trail State and National Parks. Potential sites for ferry landings adjacent to Fort George Island Cultural State Park include Kingsley Plantation, the Governor Broward House, and land at the Fort George Inlet at A1A. If the City and NPS succeed in establishing the city's ferry service,

a ferry landing at the south side of the Ribault Club should also be developed in the area adjacent to the canoe/kayak launch. The ferry landing would be screened from view from the clubhouse by existing large trees. Funding for the landing would be provided by grant sources coordinated by the Timucuan Trail State and National Parks partnership. Signage and/or split rail fencing are recommended to discourage access to sensitive areas of the shoreline adjacent to the launch and ferry landing sites.

A great deal has been learned about the historic and prehistoric use of the Ribault Club area from a variety of archaeological investigations. The Resource Management Component has identified the need for a synthesis of the knowledge gained from this work. The results of this project should be used to inform the design and siting of the facilities proposed in this management plan for the Ribault Club area.

Historic Houses. As discussed in the Resource Management Component, the Hall-Chappelle House, built in 1888, the Nettleton-Neff House, built in the 1920's and the Rollins Sanctuary Lodge and Garage, built in 1940 are historic structures managed as part of the state park.

The Neff House is located north of the Ribault Club, and sits some 54 feet above sea level on Mount Cornelia, a relict sand dune. The house is isolated from easy public access because of its elevation and its separation from Fort George Road by a fairway of the historic golf course. The Neff House was the subject of a Historic Structures Report in 2006. It is currently boarded up to protect it from vandalism and the elements, waiting funding for additional stabilization work.

The Chappelle houses are located along Edgewood Avenue south of the Ribault Club, and include the historic structure, a modern residence and two modern garage buildings. A Historic Structures Report for the Hall-Chappelle house is recommended, but has not been funded.

The Rollins Sanctuary Lodge and Garage are associated with the establishment of the Rollins Bird and Plant Sanctuary. Their original use was to provide for short-term housing for students studying at the Sanctuary. The structures are located along Edgewood Avenue south of the Chappelle House, and are presently used for staff housing. Contemporary accounts indicate that some trails were cut in 1940 during the development of the Sanctuary. There may be maps of these trails and if so, there may be trails that need to be preserved as a part of the historic landscape of this property.

During the planning process, the Division and its partners with the City of Jacksonville and the National Parks Service have considered a number of park-related adaptive reuses for both houses. The 2006 report on the Neff House also suggested a number of uses it could serve, including single-family housing for park staff or specialists involved in special studies of the park; multiple-guest housing, such as a bed and

breakfast inn, Elderhostel or volunteer housing; a guest house for events related to the Ribault Club; staff offices; and a public archaeology program. These uses could be appropriate for the Hall-Chappelle House and its associated modern structures, as well.

Because of the location and configuration of the Chappelle Houses and outbuildings, this plan recommends adaptation of the historic structure as a museum house, creating a setting for interpretive talks focused on the unique families and personalities that shaped and directed the island's development through the 20th. Century. It is recommended to adapt the modern structures to provide office, dormitory and work space for a Cultural Resource Center. The center would provide a base for visiting researchers engaged in ongoing archaeological investigations of the park's cultural sites. The work of the Center would be directed to help protect the park's cultural resources, improve the Division's expertise in their management and provide information for expansion of park interpretive programs. An interpretive program would also be developed to highlight the work of the Center.

It is recommended to continue to use the Rollins Sanctuary Lodge and Garage for staff housing. The Lodge is in very good shape and the Garage needs basic repairs to maintain its integrity.

Trails and interpretation. The interpretive values of the park are its greatest recreational assets. Division staff has developed a Statement for Interpretation to provide a framework for addressing interpretive programming. The Statement identifies five purposes of interpretation at the park:

1. Foster an understanding of and appreciation for the cultural and natural sites on the island and elsewhere in the Timucuan Preserve.
2. Present the island's history while comparing and relating it to the regional, national and international events.
3. Illustrate the impact of approximately 5,000 years of human interaction with the natural environment.
4. Introduce the succession of different cultures on the island through or resulting from national or international events.
5. Relate the experience to the visitors in a way that involves them, providing perspectives of area history, while drawing historical relationships that link to the island's natural and cultural resources.

The Statement also includes interpretive themes, theme statements, objectives, priorities and management concerns that will be used to guide all aspects of interpretation at Fort George Island Cultural State Park.

The design and development of interpretive sites and content will strive to reveal the human-induced landscape changes that have shaped Fort George Island. Many of the

island's cultural sites represent more than one land use context (pre-Columbian, colonial settlement, plantation agriculture and/or recreation and development) as cultural groups mixed, were replaced by others and the uses of island resources shifted over time. These locations provide unique opportunities to interpret the landscape changes that have occurred throughout human history on the island, the cultural landscape of Fort George Island.

The Ribault Club and Visitor Center provides a central location for interpretive exhibits, programs, lectures and tours, and serve to expose visitors to the rich natural and cultural history of the island while orienting them to additional recreational facilities and opportunities at the state park and within the Timucuan Preserve. For visitors with little time available for exploration, the Visitor Center may provide their only interpretive experience.

The Division will incorporate a variety of methods for interpreting park resources, including interpretive exhibits, signs and kiosks, artifacts and replica displays, trail guides, audio tours, guided tours, outdoor classroom opportunities for K-12 students, guest speakers, theater, living history and folkways demonstrations and off-site programs in cooperation with the National Park Service, City of Jacksonville, local schools and various service organizations. An emphasis will be placed on creating an interactive interpretive program, with static displays supplemented by audiovisual materials, talks and guided tours. To facilitate the development of interpretive content, a master resource document will be compiled providing information on the archeological and historical contexts and resources of Fort George Island. The Division will also develop tour guide manuals to insure consistency and professional delivery of information on staff- or contractor-guided tours.

A system of loop trails is proposed to provide exposure to a variety of archeological and historic sites representing a cross section of cultural and land use contexts. The trail system will be comprised of three components: interpretive (hiking only) trails, shared-use trails for hiking and biking, and a driving/biking loop trail along existing roads. To the greatest extent possible, interpretive trails should be kept to minimum allowable widths, constructed by minimal clearing of vegetation and maintain a natural surface with the exception of the proposed Timucuan Trail. Where appropriate to the physical and environmental conditions of the site, sections of the trail system should be stabilized to provide universal accessibility to essential interpretive locations.

The northern-most loop would provide access to a spur trail leading to an overlook at Point Isabel along the Fort George River and the vicinity of the Duval County Crypts. Access within this area will be designed to address public safety issues along the steep shoreline and the need to avoid direct contact with the crypts. A portion of the trail, from Point Isabel to the Ribault Club, could serve as an alternative route for visitors moving between Kingsley Plantation and the Ribault Club (see Access and Traffic

Circulation below).

A network of interpretive trails along the west side of the island stretching from Kingsley Plantation to the south end of the island should be linked to the existing shared-use trail. The interpretive trails will allow visitors to walk from Kingsley plantation along Palmetto Avenue, weaving through maritime hammock, and along the edge of salt marshes, with potential stops at Grave Robber's Mound, Mission San Juan Del Puerto, the Liana Site, the Thomson Tabby Ruins and the St. George's Episcopal Church. The precise routing of trails will consider the stabilization and protection needs of the most sensitive and/or remote cultural sites before opening to public access. It may be determined that guided tours are the most appropriate means of access. Several boardwalk crossings of ditches will be required and the trail may follow the road right-of-way at several points to create a continuous system. An overlook is proposed on the island's western shoreline to enhance views of the extensive salt marshes to the west, and the Rice Dam site.

A branch of the multi-use Timucuan Trail, the Kingsley Connector, is proposed for Fort George Island. The 10 foot-wide paved trail segment will be 2.4 miles in length and provide access to the island via Fort George Road and a loop trail linking the Ribault Club with Kingsley Plantation. This will also accommodate the route of a proposed tram to move visitors between the Ribault Club and Kingsley Plantation. A portion of the north bound trail near Mount Cornelia will require clearing a limited area of vegetation in order to bypass a colony of gopher tortoises and the rise of elevation of Mount Cornelia. The southbound Kingsley Connector should use an existing hiking trail and three fairways of the abandoned golf course. Funding for the Kingsley Connector project will be provided by grant sources coordinated by the Timucuan Trail State and National Parks partnership.

The canopied roadways of the island provide an additional trail loop opportunity for self-guided driving tours and bicyclists. Proposed traffic circulation improvements will serve to make these roads, safer and more attractive for bicycles, pedestrians and motor vehicles (Access and Traffic Circulation below).

The proposed trail improvements will create a system that includes approximately 4.25 miles of interpretive trails (hiking only), 3.25 miles of shared-use trails (hiking and biking), and roughly 4.75 miles of biking opportunities along existing roadways. Designated canoe/kayak trails have the potential to add miles of additional trail opportunities. This trail expansion will significantly enhance interpretive and recreational opportunities at the park, and provide a number of ways for visitors to experience Fort George Island, according to their preference. Some visitors may elect to undertake their own self-guided tours, driving or pedaling to different parking pods and selecting trails according to their ability and interest. Visitors that are more adventurous will have the option of exploring most of the island by hiking or biking.

Others may limit their visit to the Ribault Club and Kingsley Plantation. Opportunities are provided by this conceptual plan for park operated or privately operated tours to move visitors form point to point through the cultural landscape of the island to conduct a variety of guided tour options.

A better system of information and signage is needed to inform the visiting public about the various locations and types of shared-use trails, single use trails, canoeing and kayaking launches, landings and paddling trails and other water-access facilities located throughout the Talbot Island state parks and on Fort George Island Cultural State Park.

Access and traffic circulation. The existing island roads are extremely narrow, with trees located directly at the road edge. Fort George Road or Edgewood Drive, located along the eastern shoreline, and between the Ribault Club and Palmetto Avenue, carries drivers through sharp curves with limited sight lines. While the existing layout of these roads provides a scenic driving experience, it also creates potential hazards for drivers, bicyclists and pedestrians. Another issue of importance involves security. Vandalism is a significant concern at the park. The control of visitor access is complicated by the need to maintain public access for island residents.

The issue of traffic circulation is anticipated to take on greater importance as visitation increases at the park. However, the Division does not have the authority to address all proposed road improvements since the majority of island roads are maintained by the City of Jacksonville. The Division will implement proposed improvements on lands within its jurisdiction, and will assist with a coordinated approach to traffic circulation planning with the City of Jacksonville, National Park Service and local residents in order to properly plan for the safe, efficient flow of traffic and the protection of public and private property. Any changes to the existing roads should consider the need to maintain the aesthetics of the tree canopy and avoid significant changes to the historic character of the Avenue of Palms. The following improvements are suggested for further study to address the issues traffic and park visitor circulation:

1. Clear the minimum amount of vegetation necessary along the roads to improve sight distances at those locations considered hazardous.
2. Reduce existing speed limits to previous levels.
3. Consider establishing one-way traffic flow and bike lanes on some of the existing roads.
4. Consider improvements to road surfaces. Improvements that would serve to encourage increased traffic speeds (i.e. paving) should be implemented only in conjunction with other measures designed to enhance safety such as lower speed limits and one-way circulation.
5. Construct a two-way crossroad along the existing power line corridor to shorten travel distances to and from the Ribault Club.

6. Install an electronic security gate that would be in operation after normal operating hours of the park.
7. Reroute island access through Batten Island.
8. Delay construction of Kingsley Connector until road circulation and pedestrian/bicycle safety issues have been addressed.
9. A two-way, paved connection between Palmetto Avenue, Fort George Road and the Ribault Club would help handle the traffic volume generated by visitors accessing the primary use area of the park.

A road and traffic circulation study is now being conducted by the City of Jacksonville with collaboration by the Division and the National Park Service. These suggestions and others will be considered through the course of that study. Island residents will be fully involved in the traffic study and subsequent decisions regarding the future configuration of roads and traffic on the island.

Until access through Batten Island is established (see below), it is recommended that the proposed security gate be located on Fort George Road. A keypad gate or other control system would help address security concerns of local residents and help ensure the protection of the island's many cultural sites. The system should be designed for use outside of normal park operating hours providing access to island residents, guests, and park staff. An appropriate location for the gate requires coordination with the entities listed above since the Division does not have jurisdictional authority within existing road right of ways.

It is recommended that a paved, two-way road and bridge connection to Batten Island be constructed as a long-term solution to controlling access to the park. Visitors would enter the park from Heckscher Drive, cross Batten Island and a short bridge over the marsh, to the intersection of Palmetto Avenue and Fort George Road. In addition to offering greater protection for island resources and property, and providing a common point of visitor contact, this routing would remove traffic from one of the most hazardous sections of Fort George Road. An entrance station is proposed to be sited on Batten Island, an appropriate distance from the Heckscher Drive intersection. A security gate should be incorporated into the design of this facility to control access to the island after park operating hours, while allowing egress and ingress by island residents.

Support Facilities

Visitors of all physical abilities, ages and preferences will be attracted to the interpretive and recreational opportunities on Fort George Island. Because a number of visitors will need to drive to, or be delivered to the outlying loops of the interpretive trails systems, three additional parking pods are recommended as shown on the Conceptual Land Use Plan. Parking pods will provide additional points for visitors to access the proposed trail system and serve as drop-off points for park tours. Each pod is recommended to provide stabilized parking for up to five vehicles, bike racks, directional signage, an

interpretive kiosk, small covered shelter and picnic tables. With the exception of a composting restroom at the pod at the north end of Palmetto Avenue, no restroom and water facilities are proposed at the other outlying facilities at this time.

The service road to the existing canoe/kayak launch east of the Ribault Club should be improved to create a convenient drop-off and turn-around area for visitors delivering boats to the launch point. No parking should be provided near the water. Users should deliver their equipment to the launch, and park in the developed parking areas north and west of the clubhouse.

Facilities Development

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

Ribault Club Area

Landscape improvements
Fort George River boardwalk
Large pavilion with restrooms
Adaptive reuse of historic Caddy Shack
Scattered picnic tables and grills

Trails and Interpretation

Interpretive trails (hiking) (4.25 mi.)
Kingsley Plantation connector trail (shared-use) (.50 mi.)
Interpretive master plan
Scattered picnic tables/benches (10)
Interpretive kiosks (6)

Trails and Interpretation (cont.)

Interpretive signs/displays (12)
Overlooks/ Wildlife blinds (2)
Bike racks (4)
Composting restroom
Covered shelters (4)
Stabilized parking pods (3-5 vehicles/pod)

Access and Traffic Circulation

Paved two-way connector road
Engineering study for Batten Island road and bridge

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.

Table 1--Existing Use And Optimum Carrying Capacity

	Existing Capacity		Proposed Additional Capacity		Estimated Optimum Capacity	
Activity/Facility	**One Time**	**Daily**	**One Time**	**Daily**	**One Time**	**Daily**
Trails						
Nature			107	428	107	428
Biking	45	180			45	180
Shared Use	33	132	5	20	38	152
Boating						
Canoe/Kyaking	20	40			20	40
Ribault Clubhouse and Grounds	440	880			400	1,600
TOTAL	**538**	**1,232**	**112**	**448**	**610**	**2,400**

Optimum Boundary

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

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

The optimum boundary map reflects lands identified for direct management by the Division as part of the park. These parcels may include public as well as privately owned lands that improve the continuity of existing park lands, provide additional natural and cultural resource protection, and/or allow for future expansion of recreational activities. At this time, no lands are considered surplus to the needs of the park. Acquisitions of improved parcels will be reviewed on case-by-case basis in conjunction with the park residence and administration needs.

KINGSLEY PLANTATION
(STATE HISTORICAL SITE)

Garden Creek

AQUATIC PRESERVE

RIVER

Golf Course

Mt Cornelia

PALMETTO AVE

FORT GEORGE ISLAND

BOUNDARY

37

Creek

DRIVE

TOLL BRIDGE

KINGSLEY PLANTATION
STATE HISTORICAL SITE

St George Ch

Round Pond

EDGEWOOD

Hanlon

A1A

HUGUENOT MEMORIAL PARK

BM 10

FORT GEORGE ISLAND
CULTURAL STATE PARK

N

0 350 700 1,400 Feet

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

LEGEND

Park Boundary

Optimum Boundary

OPTIMUM BOUNDARY MAP

Addendum 1 – Acquisition History and Advisory Group Staff Report

Purpose of Acquisition

The Board of Trustees of the Internal Improvement Trust Fund of the State of Florida (Trustees) acquired Fort George Island Cultural State Park to develop, operate and maintain the property for outdoor recreational, park, conservation, historic and related purposes.

Sequence of Acquisition

On June 29, 1989, the Trustees obtained title to a 372.82-acre property constituting the initial area of Fort George Island Cultural State Park. The Trustees purchased the property from Fairfield Communities, Inc. for $7,325,076.38 with CARL funds. Since the initial purchase, the Trustees acquired several individual parcels under P2000/Acquisitions and Inholdings and Florida Forever/Acquisitions and Inholdings, and added these new acquisitions to the Fort George Island Cultural State Park lease.

Lease Agreement

On August 22, 1989, the Trustees leased Fort George Island Cultural State Park to the State of Florida Department of Natural Resources (now State of Florida Department of Environmental Protection), Division of Recreation and Parks (Division) under Lease No. 3784. The lease is for a period of fifty (50) years, and it will expire on August 3, 2039.

According to the Trustees Lease No. 3784, the Division manages Fort George Island Cultural State Park only for the development, conservation and protection of natural and cultural resources of the park and uses this property for compatible resource-based public outdoor recreation.

Title Interest

The Trustees hold fee simple title to Fort George Island Cultural State Park.

Special Conditions on Use

Fort George Island Cultural State Park is designated single-use to provide resource-based public outdoor recreation and other park related uses. Uses such as water resource development projects, water supply projects, storm-water management projects, and linear facilities and sustainable agriculture and forestry (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

Following is a listing of outstanding rights, reservations and encumbrances that apply to Fort George Island Cultural State Park.

Instrument: .....Easement No. 31358
Instrument Holder: .....Trustees
Beginning Date:.....August 29, 2005
Ending Date:.....Perpetual as long as the easement is used and maintained as a public road.
Outstanding Rights, Uses, Etc.: .....The easement allows the City of Jacksonville to use and maintain the subject easement area as a public road. In addition, is subject to the city vacating a certain portion of Fort George Island Road to be used as part of Fort George Cultural State Park parking area and other park related purposes.

Instrument: .....Conservation Easement
Instrument Holder: .....Trustees
Beginning Date:.....September 7, 1990
Ending Date:.....Perpetual
Outstanding Rights, Uses, Etc.: .....The conservation easement allows the St. Johns River Water Management District to use and regulate said property in complying with Section 373.016, Florida Statutes.

Instrument: .....Warranty Deed
Instrument Holder: .....Fairfield Communities, Inc.
Beginning Date:.....June 29, 1989
Ending Date:.....Forever
Outstanding Rights, Uses, Etc.: .....The deed is subject to easements of record for ingress/egress and utilities existed on or before June 29, 1989.

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The Honorable Michael H. Boyle,
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The Advisory Group appointed to review the proposed unit management plan for Talbot Islands State Parks and Ft. George Island Cultural State Park met in the Sarabay Center at Big Talbot Island State Park, Jacksonville, Florida on October 24, 2007. Nathan Rezeau represented Kelly Boree (City of Jacksonville), Jennifer Hart represented Bruce Hill (FL Division of Forestry), Patrick Leary represented Carole A. Adams (Duval Audubon Society), Gil Langley represented Regina Duncan (Amelia Island Chamber of Commerce) and Lowell Hall represented Janie Thomas (Shrimp Producers). The Honorable John Peyton and The Honorable Ray Holt (City of Jacksonville), The Honorable Michael H. Boyle (Nassau County), Barbara Goodman (National Park Service), Doug Moore (Soil and Water Conservation District) and Emily Lisska (Jacksonville Historical Society) did not attend. All other appointed Advisory Group members were present. Attending observers included Kevin Crabtree (adjacent landowner) and Doris Leary (Duval Audubon & Audubon of Florida). Attending staff included William Cutts, Craig Parenteau, Dan Pearson, Anne Barkdoll, Brenna Daniels, Kathleen Kelso, Aaron Rodriguez, Kristin Ebersol, Tim Davis, Tera Meeks, Eric Steffey, Lew Scruggs and Jillaine DeBuono.

Mr. Scruggs began the meeting by explaining the purpose of the advisory group, and providing a brief overview of the Division's planning process He gave a brief review of the comments received at the October 23rd public workshop. He asked the Advisory Group members to comment on the plan first, followed by public comment.

Summary of Advisory Group Comments

Nathan Rezeau recommended continued coordination between the Division and the COJ regarding the Fort George Island road study. Mr. Rezeau informed the group that the city is in the process of writing the project scope for the road study and is awaiting the appointment of a contract consultant. Mr. Rezeau stated that the plans looked good overall.

Keith Ashley (Archeological and Cultural Consultant) stated that the plans looked good and the archeological and cultural resources were well covered. Mr. Ashley expressed concern about the road project on Ft. George Island and recommended careful archeological research and interpretation. He recommended a synthesis and incorporation of contemporary nomenclature for all previous research documenting the islands since the 1960s and for the parks to become proactive in the protection of cultural resources. He advised the Division to study eroding sites before they disappear. Mr. Ashley also recommended that an archeological survey be conduced in order to protect cultural resources during future development.

Warren Anderson (adjacent landowner) suggested improved access to overnight accommodations. Mr. Anderson stated he would like to see cabins but was concerned

about impacts during development.

Nancy Frashuer (adjacent landowner) recommended that the Division retain the original canopy and landscape of Ft. George Island. Regarding changes to road circulation, Ms. Frashuer agreed with the need to improve security, but also stated that the one-way road proposal would speed up traffic. She also recommended speed bumps and signage as a traffic-calming alternative. Ms. Frashuer stated that the proposed two-way road was too close to adjacent residential properties and needed buffering or use of old fairways. Ms. Frashuer expressed concerns about the build up of sedimentation in the Fort George River inlet. She also had concerns with accommodating RVs at the camping area on Little Talbot Island and agrees with the need to separate RV camping from tent camping. Ms. Frashuer asked the Division to post notices and mail/distribute flyers to Ft. George Island residents advertising future public meetings.

Lowell Hall (asked to be considered in the future as an Advisory Group representative for the Citizens for the Preservation of Public Beaches. He stated he would like continued public vehicle access to the beach at Amelia Island State Park. He expressed concern over language in the plan that seems to indicate that vehicle access to the beach would not be available. Staff informed Mr. Hall that the text in question was outdated and would be removed from the plan. Mr. Hall recommended the development of an access road to the beach along the park's north boundary. Bob Joseph explained that wetlands and dunes along the park's northern boundary pose obstacles for road development through the park. Mr. Joseph noted that the parcel north of the park would be considered for an access road if the land were acquired when the current owner is willing to sell. Mr. Hall also recommended a camping area developed on Amelia Island.

Jack Healan (Amelia Island Plantation) sited the use of Amelia Island State Park by guests of Amelia Island Plantation. Mr. Healan stated he liked the proposed improvements, but recommends an access road with shelter located near the northern boundary of the park. Mr. Healan cited the White Oaks developments covered facility as a good example because the facility accommodates large private and business gatherings.

Gil Langley stated that the plan did not thoroughly address the development of accessible programs, services and facilities for the disabled and suggested the parks look to the Open Doors Organization for innovative ideas. Mr. Joseph identified accessibility as a high priority with the Division and the parks and described current work towards further ADA compliance as well as innovative programming.

Curtis Siver (Seminole Canoe and Kayak Club) noted that the plan lacked emphasis on

the needs of canoe and kayak users, citing the need for improvements addressing ease of access for aging paddlers (short carries and calmer waters), signage for locating access points, services geared toward combined biking/paddling recreation. Mr. Siver also noted accommodations needed for trailered boats at Ft. George Island. Mr. Siver informed the group of the services preformed by paddlers, including the collection of garbage at remote sites along the waterways. Tom Larson explained that, regionally, parks were developing a number of paddling access points. Dan Pearson cited discussions of new access points in the Divisions draft management plans.

John Reyes (Jacksonville and the Beaches Convention and Visitors Bureau) stated that he attended the workshop and thought the plan was good. Mr. Reyes recommended balance of impacts with respect to Ft. George Island residence and public access. He supported the protection of resources for ecotourism, increased litter control, development of hiking, kayaking, and cycling tourism, as well as planning for shore excursions from cruise ships. Mr. Reyes recommended tent and RV camping areas, separated for optimal camping experiences.

J. B. Miller (St. Johns River Water Management District) offered the District's help in capping abandoned wells. He asked if the Timucuan Trail was to be a paved facility. Bob Joseph said the Division is closing wells and is making progress. He stated that the Timucuan Trail is to be a paved shared use facility.

Addressing the Talbot Islands, Mr. Miller asked about the proposed A1A round-abouts, management of the Rollins Bird Sanctuary as part of Little Talbot Island instead of Ft. George, and potential impacts of future beach day use facility development and burn management practices on the Painted bunting habitat. Mr. Joseph noted an increase in highway speed adjacent to the parks and thinks that the round-abouts are a solution that avoids stopping traffic at the park's intersections. Mark Middlebrook and Lowell Hall stated their support for proposed the round-abouts for the protection of cyclers and pedestrians. Mr. Scruggs explained that a deed restriction on the Rollins property requires it to be included in the boundary of Little Talbot Island State Park. Dan Pearson clarified the Division’s practice utilizing naturally occurring tidal and wind driven washovers for managing Painted bunting habitats. Mr. Pearson said the plan would be revised to include language that maintains options for prescribed burns.

Mr. Miller requested clarification in the UMP that no beach driving would take place on Little Talbot Island other than for management or emergency purposes. He also recommended that the plan mention Long Island as a protected zone.

Terry Doonan (Florida Fish and Wildlife Conservation Commission) stated he associated round-abouts with more urbanized areas and was curious how the traffic devices would work in a naturalized setting. Mr. Doonan said the parks did a good job

on managing listed species. He asked how the Division addresses decisions with multiple mandates or if there is a management criterion. Bob Joseph cited the park's use of monitoring and analysis of public and management impacts. Lew Scruggs stated that balancing decisions were made on a case-by-case basis with the understanding of the need for flexibility. Mr. Doonan recommended the Division to seek coordination with the partnership for regional approach towards conservation and for the Division to look broadly before acquiring parcels. He also advised the parks to move forward on the Nassau Shoals interagency management agreement with the involvement of the city and other groups that could help. Mr. Doonan stated he would like to see Beach tiger beetles mentioned in plan and ranked for protection in the FNAI species list. He recommended that the parks consider the U. F. Sea Grant Program in its search for funding sources.

Stan Sanford (Bicycling Representative) stated that he would like to see cycling improvements to include bicycle trail surface treatment that would harden the trails and widen trails beyond "minimum width" to accommodate a broader range of ages and skill levels. He would like the parks to provide at lease 50 miles of bicycle trails and possibly the use the park's service roads to make visiting the park worthwhile for cycling. He recommended that ferries be equipped to transport bicycles. Mr. Sanford would like the UMP to cite ferry points as "ADA and bicycle friendly" and clarify the definition of "multi-use" trail. He also expressed concerns about high-speed traffic on A1A, adding that an area resort did not include the parks for bicycling due to high risk and liability. Mr. Sanford also addressed canoe/kayak usage within the park and suggested increased signage for locating access points as well as type of launch; i.e.: natural/sand, ramp, etc.

Hallie Stevens (The Nature Conservancy) stated the UMP draft was an ambitious plan dealing with an incredible range of resources, but stressed that the Division should balance public use with protection of natural areas.

Nicole Robinson (Nassau River-St. Johns River Marshes Aquatic Preserve) recommended that the plan address sedimentation, erosion and corresponding land changes. Ms. Robinson stated that she would like the plans to allow for management flexibility due to continual changes of the land. She noted the Aquatic Preserve staff and the Three Rivers Conservation Coalition have concerns about impervious surfaces and runoff from stormwater. In addtion, Ms. Robinson expressed concerns about ferry stops. She would like to discuss the project and potential impacts with the participating parties.

Tom Larson (Northeast Florida Sierra Club) recommended that the plans develop long-term management plans (at least 50 years) for addressing future build-out, rising seas, global warming, and the effects of projected populations of urban areas on park lands.

Mr. Larson stated that the plans did not explain how analysis and objectives are defined, applied and tracked. He said the plan should define management priorities, scheduling and costs.

Regarding natural and cultural resources, he urged the Division to increase documentation, specify and define risks, management techniques and restoration and create greater accessibility because the public will appreciation the resources only if the resource is known and experienced. Mr. Larson recommended restoring Sabal palms along Palmetto Ave. He suggested that reoccurring problems identified in previous management plans be addressed or removed from the current or future plans. He said fire appears overdue and recommended that burns should be discussed in the plan with time frames and be put back on schedule. Mr. Larson stated he wanted to see policies and procedures for road kill and nuisance and exotic animal control. Regarding water quality, Mr. Larson said he would like the parks to include better waste management practices including more restrooms and boat pump-outs. He said the parks need ongoing assessments of water quality, including fish sampling, and solutions and plans regarding altered topography. Mr. Larson stated he would like to know how impacts of water vessels, including launch sites and ferry docking, will effect the shorelines and bottoms of waterbodies. He also recommended that ferry plans be circulated within the partnership. Mr. Larson would like to see a better integration and influence of the regional partnership. He advised the Division to aggressively target out parcels on the north end of Big Talbot Island.

Mr. Larson stated visitor surveys are needed to shape management and interpretation. He proposed that the plans address recreational impacts, including impacts from equestrian use. He recommended the tram proposal to include fuel cell or hybrid vehicles to reduce noise and emissions. He stated that the Timucuan Trail should be completed because it would be a high value improvement. Mr. Larson would like the Division to consider two additional campsites on Long Island. He advised the parks to isolate tent camping sites from the noise of A1A and from RV camping sites.

Mark Middlebrook (North Florida Land Trust) said the plans are good, and said that he would try to provide specific comments.

Patrick Leary (Duval Audubon Society) acknowledged the many demands on finite resources in these state parks. He stated he would like to see the plans incorporate and address non-traditional activities (wedding, filmmaking, organized events, etc.) and unregulated uses. He also mentioned the need for the plan to address unauthorized parking along A1A, because of existing visitor parking areas. He stated that roadside parking on A1A is adversely impacting resources by causing erosion on the road shoulders and making unintended areas accessible for hiking. Mr. Leary recommended additional design detail and impact assessment for the Timucuan Trail. He said he also

wants built portions of the trail to be mapped with GPS. Bob Joseph and Lew Scruggs explained that the Conceptual Land Use Plan map is not a site plan, and not intended to provide the level of design detail being requested.

Mr. Leary expressed concerns regarding the proposed primitive camping area and hiking trail on Long Island. He said Long Island has a unique habitat and the plan did not address impacts on Painted bunting habitats and unintended consequences of user groups having access and affecting the environment. Staff stated that the Division will use a discrete trail or access the island via canoe/kayak to monitor without creating high traffic access through the marsh and that cool season use of campers' verses the bunting's nesting season during hot weather months should be considered. Lew Scruggs responded that the Division would not develop a hiking trail if it were not appropriate to the habitat, and that mention of users potentially fording the creek would be removed.

Mr. Leary requested that setback distances for nesting shorebirds be addressed in the plan. He stated he was pleased to see required beach closures addressed in the plan. He questioned the beach use study area proposed for Little Talbot Island, and the need to consider not only shore nesting species but also migrating species; particularly plovers, and Painted buntings. Dan Pearson explained that the parks are studying solitary nesting species and found that closing off beaches is not always the best protective measures due to boat landings, adding that optimal protection includes education and interpretation. Bob Joseph noted that law enforcement patrols boat-landing areas, particularly during holidays, and enforces no camping rules. Mr. Scruggs explained that the protection of bird habitat, including migrating species and Painted buntings, would be included in the analysis of the beach use study area.

Due to the location of the Alimacani boat ramp, Mr. Leary considered the planned canoe/kayak launch site near the Ft. George Inlet Bridge to be redundant. He recommended screening the retention ponds in the bridge parking area. Mr. Leary identified the ponds as a source of freshwater for shorebirds and that traffic related bird fatalities could be alleviated with a vegetated screen that *influences the birds to fly higher above the traffic flow when going to and from the ponds.* Mr. Leary also sited unregulated use and access to the inlet sandbars by visitors with dogs. Staff explained that signs prohibiting dogs are posted at the park boundary on the inlet sandbar. Mr. Leary inquired if the volunteer host sites proposed for Little Talbot Island could be sited closer to the riverside boat landing area for increased enforcement.

In relation to nesting seasons of upland birds, Mr. Leary noted that the plans do not identify a time frame or season for prescribed fires. He also had concerns for species with longer nesting seasons, such as raptors. Staff explained that the Division tries to burn during the natural Spring and Summer burn seasons and that species nesting

seasons are taken into consideration.

Attached are written comments by Mr. Leary.

Jennifer Hart (Florida Division of Forestry) advised the Division to mention prescribed fire as part of timber management in the UMP. She noted that the regime is scheduled for mesic habitats, but would like to see how this is affecting flatwoods.

Jody Hetchka (Friends of Talbot Islands State Parks) stated that she would like to see more archeological research and protection in the parks. She supported the recommendation to designate idle zones for Myrtle Creek due to an increase of negative encounters between power boaters, jet skiers and paddlers. She sited instances of harassment by power boaters.

Comments by Non-Appointed Attendees

Doris Leary (Duval Audubon Society and Audubon of Florida) advised the park to consider buoy systems to control boat landings and impacts to the Nassau Sound shoal areas. She sees a need to coordinate with management of the City's Huguenot Park to avoid shifting impacts from one to the other, specifically bird impacts resulting from kite surfing activities.

Summary of Comments Submitted in Writing

Julie Brashears Wraithmell (Audubon of Florida) conveyed that she is pleased to see the plan include Nassau Sound and is grateful for Division's participation in creating a meaningful management for this critical resource. Ms. Wraithmell recommended the plan indicate the natural resource significances of these shoals, because they are becoming a significant wintering site for federally endangered Piping Plovers and nearly 10% of the world's population of Red Knot *rufa* subspecies use the islands as stopover habitat each spring and fall (*rufa* are a candidate species for federal listing under the USFWS). She recommended the plan address park and park activity influences adjacent natural resources because of their imperiled a status. She stated the park is a source of disturbance for these birds and has been linked to mortality in such long-distance migrants. Ms. Wraithmell sited boats launched from the park's potential new canoe launch sited at the south end of L. Talbot, as well as the Jacksonville Sheriff's Office exercises once permitted by park management to operate from the south end of the island. While the latter issue has been resolved with park management, she recommended that the plan to address these kinds of scenarios, because they had occurred. She suggested that the south end shoals be addressed because of their potential of joining the island and allowing pedestrian access to the shoals, posing a greater disturbance risk.

Attached are written comments by Ms. Wraithmell.

Staff Recommendations

A number of improvements in the text of the Introduction and Resource Management Component of the draft management plan will be made to address comments received from Advisory Group. The following specific changes will be made primarily to the Land Use Components of the draft plans:

All Parks

- Better interpretive signage for natural and cultural resources and more informative signage regarding location and types of canoe/kayak launches throughout all parks will be recommended. Educational kiosks will be proposed for all critical habitat areas to help manage potential visitor impacts to nesting and resting shorebirds.

Amelia Island State Park

- Text on page 74 describing vehicle access to the beach will be revised to make it clear that vehicle access is allowed on the beach.

Big Talbot Island State Park

- Long Island will be included in the protected zone. Text will be added recommending studies to determine if the proposed hiking trail would create unacceptable impacts to vegetation or wildlife, particularly in regards to Painted buntings. If studies indicate the need, the proposed campsites on the eastern end of Long Island will remain as paddle-in facilities only.
- Discussion of roadside parking problems along A1A as it crosses Myrtle and Simpson Creeks will be added, including a recommendation that Division staff organize parking facilities at the old rest area just south of Houston Ave, and work with DOT to install no parking signs along the affected road shoulders.

Little Talbot Island State Park

- Text recommending studies of potential impacts to Painted bunting and shorebird habitat will be included in the discussion of the beach-use study area.
- Division staff understands concerns by Mr. Leary and Ms. Wraithmell that park visitors using the proposed canoe/kayak launch at the Ft. George Inlet bridge parking area may disturb resting and feeding shorebirds on the adjacent shoals. This area is very accessible from A1A. It has historically been a public access route and will continue to attract visitors in the future. We do not believe an effort to prohibit public access here would be successful. It is the Division's mission to manage public access to protect natural resources and provide recreational opportunities. Staff recommends that the proposed launch facility should remain in

the plan, and that educational written and graphic displays and Park Service programs will be implemented with the development to address the wildlife protection issues, to fulfill that mission. Text of the management plan will be revised accordingly. Staff agrees with the comments that DRP and the City of Jacksonville must collaborate on management of Little Talbot Island State Park, Huguenot Park, Alimacani and Ft. George Island Cultural State Park to address impacts to shorebirds and other natural resources. Discussion on this topic will be added to all components of the draft management plan.

- A recommendation will be added to the Resource Management Component of the Talbot Islands plan that Division staff will work with DOT to develop a gateway landscape north of the Ft. George Inlet bridge to route shorebirds flying to the ponds away from the hazardous vehicular traffic along A1A.

Fort George Island Cultural State Park

- Improved signage and a drop-off loop for improved accessibility are recommended for the canoe/kayak launch located east of the Ribault Club.
- The conceptual plan will be revised to show changes to the proposed two-way crossroad to provide a greater buffer to adjacent residences. The plan's recommendations on altering directions of traffic flow on the island will be removed. A brief description of the City of Jacksonville traffic study, now in initial stages, will be added to the management plan. That discussion will include clear direction that the island's residents will be fully involved in the study and its final recommendations.

With these changes, Division staff recommends that the draft management plans be approved and submitted for review by the Acquisition and Restoration Council.

January 3, 2008

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Addendum 3—Soils Descriptions

(7) Arents, nearly level - These are a poorly drained soils which are derived from loamy and sandy marine sediments. Soils of this map unit are linear in shape, consisting of 20 to 120 acres and are located in flatwoods. Arents and similar components make up 85 to 90 percent of the mapping unit.

Typically, the soils consist of mixed soil material. This material is light gray, grayish brown, very pale brown, yellow, black, dark reddish brown, strong brown, and red fine sand, sandy loam, and sandy clay loam. Sandy textures are dominant in most areas. The sandy loam and sandy clay loam part is fragmented subsoil material. Pieces of weakly cemented subsoil material are also present in most of these soils. Thickness of the material ranges from 2 to 20 feet. This soil does not have any orderly sequence of horizons.

Many areas of the soils are shallow ponds or low flatwoods that have been filled with available soil material above natural ground level. Soil materials are moved long distances by truck in some areas; in others the soil material is available at the site and transportation of the soil material is minimal.

(19) Cornelia fine sand, 0 to 5 percent slopes - The Cornelia soils somewhat excessively drained and occur on nearly level and gently sloping rises. Cornelia fine sand arises from marine sediments into areas of convex slopes which range from 3 to 50 acres in size. Cornelia soil and similar components make up 85 to 91 percent of the mapping unit.

Typically, the surface layer of Cornelia soil is very dark gray fine sand about 7 inches thick. The subsurface layer is fine sand about 32 inches thick. The upper 6 inches is gray and the lower 26 inches is white. The subsoil extends to a depth of 106 inches. It is dark organic stained fine sand that is coated with organic matter. The subsoil is dark reddish brown between depths of 39 to 53 inches, dark yellowish brown between depths of 53 and 73 inches, and reddish brown between depths of 92 and 106 inches.

The soils are rapidly permeable and very rapidly permeable. Generally, the high water table is below a depth of 72 inches.

(24) Hurricane and Ridgewood soils, 0 to 5 percent slopes - This map unit consists of somewhat poorly drained soils located on rises and knolls. It is derived from sandy marine sediments that formed convex slopes ranging from 3 to 150 acres in size. Hurricane soil and similar components make up 53 to 60 percent, Ridgewood soil and similar components make up 33 to 40 percent, and contrasting components make up 0 to 14 percent of the map unit.

Hurricane soils are somewhat poorly drained and occur on nearly level and gently sloping rises and knolls. The surface layer is grayish brown fine sand about 5

inches thick. The subsurface layer is fine sand. It extends to a depth of about 68 inches. It is yellowish brown in the upper part, light yellowish brown in the next part, and light gray in the lower part. The subsoil extends to a depth of 80 inches or more. It is dark organic stained fine sand. It is dark brown in the upper part and dark reddish brown in the lower part.

The Ridgewood soils are somewhat poorly drained and occur on nearly level and gently sloping rises and knolls. The surface layer is gray fine sand about 7 inches thick. The substratum extends to a depth of 80 inches or more. It is fine sand that is light yellowish brown in the upper part and pale brown and light gray in the lower part.

Hurricane soils are moderately rapidly permeable and rapidly permeable. Generally the high water table is at a depth of 24 to 42 inches. Ridgewood soils are rapidly permeable. Generally, the high water table is at a depth of 18 to 42 inches.

(29) Kureb fine sand, 2 to 8 percent slopes - This map unit consists of excessively drained soils located on rises and dunes. It is derived from sandy marine sediments that have convex to concave slopes ranging from 3 to 50 acres in size. Kureb soil and similar components make up 85 to 100 percent of the map unit.

Typically, the surface layer is dark gray fine sand about 4 inches thick. The next layer is white fine sand that extends to a depth of 16 inches. Below this, to a depth of 60 inches, is yellow fine sand that contains tongues of white fine sand from the layer above. These tongues are surrounded by dark reddish brown, weakly cemented fine sand. Thin discontinuous layers of more dark reddish brown, weakly cemented fine sand occur at irregular intervals along the upper boundary of this layer. Below this, to a depth of 80 inches or more, is very pale brown fine sand that contains tongues similar to those in the layer above.

This soil is rapidly permeable. Generally, the high water table is at a depth of more than 72 inches.

(32) Leon fine sand, 0 to 2 percent slopes - This map unit is poorly drained and occurs in nearly level flatwoods. It is derived from sandy marine sediments that have linear shape ranging from 3 to 75 acres in size. Leon soil and similar components make up 89 to 98 percent of the map unit.

Typically, the surface layer is fine sand about 8 inches thick. In the upper 5 inches it is very dark gray, and in the lower 3 inches it is dark gray. The subsurface layer is gray fine sand about 10 inches thick. The subsoil is fine sand that extends to a depth of more than 80 inches. It is dark organic stained fine sand that is coated with organic matter. It is black between the depths of 18 and 26 inches, very dark

gray between depths of 26 and 37 inches, dark brown between depths of 37 and 45 inches, and dark reddish brown between depths of 45 and 80 inches.

The soils are slowly permeable to moderately rapidly permeable. In areas in flatwoods, the high water table generally is at a depth of 6 to 18 inches.

(35) Lynn Haven fine sand, 0 to 2 percent slopes - This map unit is very poorly drained and is located on the flats and in seep areas on side slopes. It is derived from sandy marine sediments that have concave slopes ranging from 3 to 75 acres in size. Lynn Haven soil and similar components make up 85 to 100 percent of the map unit.

Typically, the surface layer is fine sand about 13 inches thick. In the upper 7 inches it is black, and in the lower 6 inches it is very dark gray. The subsurface layer is mixed light gray and gray fine sand about 8 inches thick. The subsoil is fine sand that extends to a depth of more than 80 inches and is coated with organic matter. It is black between the depths of 21 and 35 inches, dark reddish brown between depths of 35 and 62inches, and dark brown between depths of 62 and 80 inches.

The soils are moderately permeable and moderately rapidly permeable. Generally, the high water table is at or near the surface.

(36) Mandarin fine sand, 0 to2 percent slopes - This map unit is somewhat poorly drained and occurs in the slightly elevated, nearly level flatwoods of the Lower Coastal Plain. It is derived from sandy marine sediments which form a convex shape ranging from 3 to 100 acres in size. Mandarin soil and similar components make up 85 to 93 percent of the map unit.

Typically, the surface layer is dark gray fine sand about 4 inches thick. The subsurface layer is fine sand about 22 inches thick. The upper 4 inches is light brownish gray, and the lower 18 inches is light gray. The subsoil is dark organic stained fine sand that extends to a depth of 46 inches. The sand grains are coated with organic matter. The subsoil is very dark grayish brown between depths of 26 and 30 inches, very dark brown between depths of 30 and 35 inches, black between depths of 35 to 40 inches, and brown between depths of 40 to 46 inches. Below this, to a depth of 56 inches, is light gray fine sand. The next 6 inches is white fine sand, and the next 11 inches is grayish brown fine sand. Between depths of 73 and 80 inches is weakly cemented, black fine sand, and the sand grains are coated with organic matter.

The soils are moderately permeable. Generally, the high water table is at a depth of 18 to 42 inches.

(46) Ortega fine sand, 0 to 5 percent slopes - The Ortega soils are moderately well drained and occur on nearly level and gently sloping rises and knolls. Individual areas arise from sandy marine sediments which are convex in shape and range from 3 to 85 acres in size. Ortega soil and similar components consist of 88 to 98 percent of the map unit.

Typically, the surface layer is grayish brown fine sand about 5 inches thick. Below this to a depth of 48 inches is very pale brown fine sand. The next layer is white fine sand to a depth of 63 inches and very pale brown sand between depths of 63 and 80 inches or more.

The soils are rapidly permeable. Generally, the high water table is at a depth of 42 to 72 inches.

(58) Pottsburg fine sand, high, 0 to 3 percent slopes - This map unit is nearly level, somewhat poorly drained soil on the flatwoods at slightly higher elevations than the surrounding soils. Individual areas arise from sandy marine sediments which are convex in shape and range from 3 to 150 acres in size. Pottsburg soil and similar components consist of 88 to 93 percent of the map unit.

Typically, the surface layer is gray fine sand about 3 inches thick. The subsurface layer extends to a depth of 57 inches. It is brown fine sand 7 inches thick, grayish brown fine sand 24 inches thick, and light gray fine sand 23 inches thick. The subsoil, between depths of 57 and 80 inches, is dark reddish brown fine sand that is weakly cemented and well-coated with organic matter.

These soils are moderately permeable generally the high water table is at a depth of 6 to 24 inches.

(68) Tisonia mucky peat, 0 to 1 percent slopes, very frequently flooded - This map unit consists of level to nearly level, very poorly drained soil on tidal marshes. Individual areas arise from partly decomposed organic material which are linear in shape and range from 10 to 1,000 acres or more in size. Tisonia soil and similar components consist of 95 to 100 percent of the map unit.

Typically, the surface layer is dark grayish brown mucky peat about 18 inches thick. It is underlain by dark olive gray clay that extends to a depth of 65 inches or more.
The soils are very slowly permeable. The high water table generally is at or near the surface, and areas are flooded twice daily by fluctuating tides for very brief periods.

Addendum 4—Plant and Animal List

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

PTERIDOPHYTES

Ebony spleenwort ..... *Asplenium platyneuron*
Swamp fern ..... *Blechnum serrulatum*
Southern grape-fern ..... *Botrychium biternatum*
Southern wood fern ..... *Dryopteris ludoviciana*
Japanese climbing fern* ..... *Lygodium japonicum*
Mariana maiden fern* ..... *Macrothelypteris torresiana*
Tuberous sword fern* ..... *Nephrolepis cordifolia*
Sword fern ..... *Nephrolepis exaltata*
Bulbous adder's-tongue ..... *Ophioglossum crotalophoroides*
Slender adder's-tongue ..... *Ophioglossum nudicaule*
Adder's tongue fern ..... *Ophioglossum petiolatum*
Cinnamon fern ..... *Osmunda cinnamomea* 7, 84
Royal fern ..... *Osmunda regalis var. spectabilis* 37, 84
Plume polypody ..... *Pecluma plumula* 17
Resurrection fern ..... *Pleopeltis polypodioides var. michauxiana*
Whisk-fern ..... *Psilotum nudum*
Bracken fern ..... *Pteridium aquilinum var. pseudocaudatum*
Chinese ladder brake* ..... *Pteris vittata*
Downy shield fern* ..... *Thelypteris dentata*
Marsh fern ..... *Thelypteris palustris var. pubescens*
Netted chain fern ..... *Woodwardia areolata*
Virginia chain fern ..... *Woodwardia virginica*

GYMNOSPERMS

Red cedar ..... *Juniperus virginiana*
Slash pine ..... *Pinus elliottii*
Loblolly pine ..... *Pinus taeda*

ANGIOSPERMS

Monocots

Bushy bluestem ..... *Andropogon glomeratus*
Broomsedge bluestem ..... *Andropogon virginicus*
Greendragon ..... *Arisaema dracontium*
Giant reed* ..... *Arundo donax*
Asparagus fern* ..... *Asparagus* sp.
Bamboo* ..... *Bambusa* sp.
Bandana-of-the-Everglades ..... *Canna flaccida*

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Slender woodoats	*Chasmanthium laxum*	
Spring coralroot	*Corallorhiza wisteriana*	
String-lily	*Crinum americanum*	
Sago palm*	*Cycas revoluta*	
Indian goosegrass*	*Eleusine indica*	
Florida butterfly orchid	*Encyclia tampensis*	7, 17
Green-fly orchid	*Epidendrum conopseum*	7, 17
Centipedegrass*	*Eremochloa ophiuroides*	
Carolina fimbry	*Fimbristylis caroliniana*	
Water spider false reinorchid	*Habenaria repens*	
Spiked crested coralroot	*Hexalectris spicata*	7, 17
Mangrove spiderlily	*Hymenocallis latifolia*	
Needle rush	*Juncus roemerianus*	
Italian ryegrass*	*Lolium perenne*	
Florida addersmounth orchid	*Malaxis spicata*	
Hairgrass	*Muhlenbergia capillaris*	
Basket grass	*Oplismenus setarius*	
Bahiagrass*	*Paspalum notatum*	
Blackseed needlegrass	*Piptochaetium avenaceum*	
Rose natalgrass*	*Rhynchelytrum repens*	
Cabbage palm	*Sabal palmetto*	
Mother-in-law's tongue*	*Sansevieria hyacinthoides*	
Saw palmetto	*Serenoa repens*	
Coastal foxtail	*Setaria corrugata*	
Earleaf greenbrier	*Smilax auriculata*	
Saw greenbrier	*Smilax bona-nox*	
Laurel greenbrier	*Smilax laurifolia*	
Sarsaparilla vine	*Smilax pumila*	
Saltmarsh cordgrass	*Spartina alterniflora*	
Marshhay cordgrass	*Spartina patens*	
Marsh ladiestresses	*Spiranthes cernua* var. *odorata*	
Ft. George ladiestresses	*Spiranthes polyantha*	17
Spring ladiestresses	*Spiranthes vernalis*	
Smutgrass*	*Sporobolus indicus*	
St. Augustinegrass	*Stenotaphrum secundatum*	
Bartram's airplant	*Tillandsia bartramii*	
Ball-moss	*Tillandsia recurvata*	
Spanish moss	*Tillandsia usneoides*	
Purplequeen*	*Tradescantia pallida*	
Purpletop tridens	*Tridens flavus*	

*** Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Eastern gamagrass	*Tripsacum dactyloides*	
Broadleaf cattail	*Typha latifolia*	
Spanish bayonet	*Yucca aloifolia*	
Coontie	*Zamia pumila*	
Lawn orchid*	*Zeuxine strateumatica*	
Bitter ginger*	*Zingiber zerumbet*	
Dicots		
Sticky jointvetch*	*Aeschynomene viscidula*	
Mimosa*	*Albizia julibrissin*	
Peppervine	*Ampelopsis arborea*	
Groundnut	*Apios americana*	
Devil's walkingstick	*Aralia spinosa*	
Smallflower pawpaw	*Asimina parviflora*	
Saltwater falsewillow	*Baccharis angustifolia*	
Sea myrtle	*Baccharis halimifolia*	
Saltwort	*Batis maritima*	
Rattan vine	*Berchemia scandens*	
Beggarticks	*Bidens alba* var. *radiata*	
Crossvine	*Bignonia capreolata*	
Red spiderling	*Boerhavia diffusa*	
Bushy seaside oxeye	*Borrichia frutescens*	
American beautyberry	*Callicarpa americana*	
Sasanqua camellia*	*Camellia sasanqua*	
Trumpet creeper	*Campsis radicans*	
Mockernut hickory	*Carya alba*	
Pignut hickory	*Carya glabra*	
Hackberry	*Celtis laevigata*	
Spurred butterfly pea	*Centrosema virginianum*	
Mouse-ear chickweed*	*Cerastium glomeratum*	
Partridge pea	*Chamaecrista fasciculata*	
Goldenaster	*Chrysopsis* spp.	
Camphortree*	*Cinnamomum camphora*	
Marinevine	*Cissus trifoliata*	
Sour orange*	*Citrus* X *aurantium*	
Virginsbower	*Clematis virginiana*	
Tread-softly	*Cnidoscolus stimulosus*	
Coral beads	*Cocculus carolinus*	
Stiff dogwood	*Cornus foemina*	
Showy rattlebox*	*Crotalaria spectabilis*	

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Leafless swallowwort	*Cynanchum scoparium*	
Threeflower ticktrefoil*	*Desmodium triflorum*	
Carolina ponysfoot	*Dichondra caroliniensis*	
Common persimmon	*Diospyros virginiana*	
Loquat*	*Eriobotrya japonica*	
Coralbean	*Erythrina herbacea*	
American strawberry bush	*Euonymus americanus*	
Eupatorium	*Eupatorium* spp.	
Climbing fig*	*Ficus pumila*	
Godfrey's swampprivet	*Forestiera godfreyi*	17
Firewheel	*Gaillardia pulchella*	
Common gardenia*	*Gardenia jasminoides*	
Blue huckleberry	*Gaylussacia frondosa* var. *tomentosa*	
Yellow jessamine	*Gelsemium sempervirens*	
English ivy*	*Hedera helix*	
Hedyotis	*Hedyotis* sp.	
Pinebarren frostweed	*Helianthemum corymbosum*	
East coast dune sunflower	*Helianthus debilis*	
Large leaf marshpennywort	*Hydrocotyle bonariensis*	
St. Andrew's cross	*Hypericum hypericoides*	
Carolina holly	*Ilex ambigua*	
Dahoon	*Ilex cassine*	
Gallberry	*Ilex glabra*	
American holly	*Ilex opaca*	
Yaupon	*Ilex vomitoria*	
Seaciast marshelder	*Iva imbricata*	
Star jasmine*	*Jasminum multiflorum*	
Shrimp plant*	*Justicia brandegeana*	
Devil's backbone*	*Kalanchoe daigremontiana*	
Lavendar scallops*	*Kalanchoe fedtschenkoi*	
Grassleaf lettuce	*Lactuca graminifolia*	
Lantana*	*Lantana camara*	
Carolina sealavendar	*Limonium carolinianum*	
Sweetgum	*Liquidambar styraciflua*	
Japanese honeysuckle*	*Lonicera japonica*	
Coral honeysuckle	*Lonicera sempervirens*	
Christmasberry	*Lycium carolinianum*	
Coastalplain staggerbush	*Lyonia fruticosa*	
Maleberry	*Lyonia ligustrina* var. *foliosiflora*	
Southern magnolia	*Magnolia grandiflora*	

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Chinaberry*	*Melia azederach*	
Black medic*	*Medicago lupulina*	
Snow squarestem	*Melanthera nivea*	
Creeping cucumber	*Melothria pendula*	
Climbing hempvine	*Mikania scandens*	
Partridgeberry	*Mitchella repens*	
Spotted beebalm	*Monarda punctata*	
Indianpipe	*Monotropa uniflora*	
Red mulberry	*Morus rubra*	
Southern bayberry	*Myrica cerifera*	
Oleander*	*Nerium oleander*	
Wild olive	*Osmanthus americanus*	
Eastern hophornbean	*Ostrya virginiana*	
Virginia creeper	*Parthenocissus quinquefolia*	
Purple passionflower	*Passiflora incarnata*	
Yellow passionflower	*Passiflora lutea*	
Low peperomia	*Peperomia humilis*	17
Red bay	*Persea borbonia*	
Swamp bay	*Persea palustris*	
Wild bean	*Phaseolus* spp.	
Oak mistletoe	*Phoradendron leucarpum*	
Turkey tangle fog fruit	*Phyla nodiflora*	
American pokeweed	*Phytolacca americana*	
Carolina laurelcherry	*Prunus caroliniana*	
Black cherry	*Prunus serotina*	
Flatwoods plum	*Prunus umbellata*	
Wild coffee	*Psychotria nervosa*	
Wafer ash	*Ptelea trifoliata*	
Sand live oak	*Quercus geminata*	
Laurel oak	*Quercus laurifolia*	
Water oak	*Quercus nigra*	
Live oak	*Quercus virginiana*	
Carolina Buckthorn	*Rhamnus caroliniana*	
Winged sumac	*Rhus copallinum*	
Tropical Mexican clover*	*Richardia brasiliensis*	
Rouge plant	*Rivina humilis*	
Southern dewberry	*Rubus trivialis*	
Wild petunia	*Ruellia caroliniensis*	
Smallflower mock buckthorn	*Sageretia minutiflora*	
Annual glasswort	*Salicornia bigelovii*	

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Tropical sage	*Salvia coccinea*	
Lyreleaf sage	*Salvia lyrata*	
Elderberry	*Sambucus nigra* subsp. *canadensis*	
Soapberry	*Sapindus saponaria*	
Perennial glasswort	*Sarcocornia perennis*	
Helmet skullcap	*Scutellaria integrifolia*	
Shoreline seapurslane	*Sesuvium portulacastrum*	
Tough bully	*Sideroxylon tenax*	
Black nightshade	*Solanum chenopodioides*	
Solanum	*Solanum* sp.	
Seaside goldenrod	*Solidago sempervirens*	
Seashore dropseed	*Sporobolus virginicus*	
Climbing aster	*Symphyotrichum carolinianum*	
Horse sugar	*Symplocos tinctoria*	
Eastern poison ivy	*Toxicodendron radicans*	
Confederate jasmine*	*Trachelospermum jasminoides*	
Forked bluecurls	*Trichostema dichotomum*	
Sparkleberry	*Vaccinium arboreum*	
Highbush blueberry	*Vaccinium corymbosum*	
Deerberry	*Vaccinium stamineum*	
Florida valerian	*Valeriana scandens*	
Frostweed	*Verbesina virginica*	
Tall ironweed	*Vernonia angustifolia*	
Viburnum	*Viburnum* spp.	
Early blue violet	*Viola palmata*	
Common blue violet	*Viola sororia*	
Muscadine	*Vitis rotundifolia*	
Shoestring fern	*Vittaria lineata*	
Southern rockbell*	*Wahlenbergia marginata*	
Chinese wisteria*	*Wisteria sinensis*	
Hercules'-club	*Zanthoxylum clava-herculis*	

*** Non-native Species**

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

FISH

Anchovy	*Anchoa sp.*	66
Sheepshead	*Archosargus probatocephalus*	66
Snook	*Centropomus undecimalis*	66
Spotted sea trout	*Cynoscion nebulosus*	66
Striped mullet	*Mugil cephalus*	66

AMPHIBIANS

Salamanders

Dwarf salamander	*Eurycea quadridigitata*	31, 37
Southern slimy salamander	*Plethodon grobmani*	7, 37, 84

Frogs and Toads

Greenhouse frog*	*Eleutherodactylus planirostris*	7, 17, 24, 84
Eastern narrow-mouthed toad	*Gastrophryne carolinensis*	7, 17, 24, 84
Green treefrog	*Hyla cinerea*	7, 31, 84
Squirrel treefrog	*Hyla squirella*	7, 31, 84
Florida gopher frog	*Rana capito aesopus*	24, 84
Southern leopard frog	*Rana sphenocephala*	7, 31, 84
Eastern spadefoot toad	*Scaphiopus holbrooki holbrooki*	7, 17, 24, 84

REPTILES

Crocodilians

American alligator	*Alligator mississippiensis*	66, 84, open water

Turtles

Loggerhead turtle	*Caretta caretta*	66, open water
Snapping turtle	*Chelydra serpentina*	7, 84
Gopher tortoise	*Gopherus polyphemus*	17, 24, 84
Striped mud turtle	*Kinosternon baurii*	7, 24, 84
Eastern mud turtle	*Kinosternon subrubrum*	7, 24, 84
Cooter	*Pseudemys floridana*	7, 84
Florida box turtle	*Terrapene carolina bauri*	7, 17, 24, 84
Red-eared slider*	*Trachemys scripta elegans*	7, 84
Florida softshell turtle	*Trionyx ferox*	7, 84

Lizards

Green anole	*Anolis carolinensis*	7, 17, 24, 84

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Six-lined racerunner	*Cnemidophorus sexlineatus sexlineatus*	17, 24
Southeastern five-lined skink	*Eumeces inexpectatus*	24, 84
Broad-headed skink	*Eumeces laticeps*	7, 17, 84
Eastern glass lizard	*Ophisaurus ventralis*	7, 17, 84
Southern fence lizard	*Sceloporus undulatus undulatus*	24, 84
Ground skink	*Scincella lateralis*	7, 17, 24, 84
Snakes		
Florida cottonmouth	*Agkistrodon piscivorous conanti*	31, 84
Scarlet snake	*Cemophora coccinea*	24, 84
Southern black racer	*Coluber constrictor priapus*	MTC
Eastern diamondback rattlesnake	*Crotalus adamanteus*	7, 17, 24
Southern ring-necked snake	*Diadophis punctatus punctatus*	MTC
Eastern indigo snake	*Drymarchon corais couperi*	7, 24, 84
Corn snake	*Elaphe guttata guttata*	MTC
Yellow rat snake	*Elaphe obsoleta quadrivittata*	7, 17, 84
Scarlet kingsnake	*Lampropeltis triangulum elapsoides*	17, 84
Eastern coachwhip snake	*Masticophis flagellum flagellum*	24, 84
Rough green snake	*Opheodrys aestivus aestivus*	7, 17, 84
Eastern garter snake	*Thamnophis sirtalis sirtalis*	MTC
BIRDS		
Ducks and Geese		
Green-winged Teal	*Anas crecca*	66, open water
Blue-winged Teal	*Anas discors*	66, open water
Lesser Scaup	*Aythya affinis*	66, open water
Hooded Merganser	*Lophodytes cucullatus*	66, open water
Red-breasted Merganser	*Mergus serrator*	66, open water
Quails		
Northern Bobwhite	*Colinus virginianus*	7, 84
Loons		
Common Loon	*Gavia immer*	66, OF
Grebes		
Horned Grebe	*Podiceps auritus*	open water
Pied-billed Grebe	*Podilymbus podiceps*	66, open water

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Pelicans		
American White Pelican	*Pelecanus erythrorhynchos*	66, OF
Brown Pelican	*Pelecanus occidentalis*	66, OF
Cormorants		
Double-crested Cormorant	*Phalacrocorax auritus*	66, open water
Darters		
Anhinga	*Anhinga anhinga*	66, open water
Herons and Bitterns		
Great Blue Heron	*Ardea herodias*	66
American Bittern	*Botaurus lentiginosus*	66
Cattle Egret	*Bubulcus ibis*	84
Green Heron	*Butorides virescens*	66, 84
Great Egret	*Ardea alba*	66
Little Blue Heron	*Egretta caerulea*	66
Reddish Egret	*Egretta rufescens*	66
Snowy Egret	*Egretta thula*	66
Tricolored Heron	*Egretta tricolor*	66
Yellow-crowned Night-Heron	*Nyctanassa violacea*	66
Black-crowned Night-Heron	*Nycticorax nycticorax*	66
Ibises and Spoonbills		
White Ibis	*Eudocimus albus*	66, 84
Storks		
Wood Stork	*Mycteria americana*	66
Vultures		
Turkey Vulture	*Cathartes aura*	84, OF
Black Vulture	*Coragyps atratus*	84, OF
Hawks, Eagles, and Kites		
Red-tailed Hawk	*Buteo jamaicensis*	7, 84, OF
Red-shouldered Hawk	*Buteo lineatus*	7, 84, OF
Northern Harrier	*Circus cyaneus*	66, OF
Bald Eagle	*Haliaeetus leucocephalus*	66, OF
Osprey	*Pandion haliaetus*	66, OF

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Falcons		
Peregrine Falcon	*Falco peregrinus*	OF
American Kestrel	*Falco sparverius*	84
Rails, Gallinules, and Coots		
American Coot	*Fulica americana*	66
Sora	*Porzana carolina*	66
Virginia Rail	*Rallus limicola*	66
Clapper Rail	*Rallus longirostris*	66
Plovers		
Semipalmated Plover	*Charadrius semipalmatus*	66
Killdeer	*Charadrius vociferus*	66, 84
Wilson's Plover	*Charadrius wilsonia*	66
Black-bellied Plover	*Pluvialis squatarola*	66
Oystercatchers		
American Oystercatcher	*Haematopus palliatus*	66
Snipes and Sandpipers		
Spotted Sandpiper	*Actitis macularius*	66
Ruddy Turnstone	*Arenaria interpres*	66
Sanderling	*Calidris alba*	66
Dunlin	*Calidris alpina*	66
Stilt Sandpiper	*Calidris himantopus*	66
Western Sandpiper	*Calidris mauri*	66
Least Sandpiper	*Calidris minutilla*	66
Semipalmated Sandpiper	*Calidris pusilla*	66
Willet	*Catoptrophorus semipalmatus*	66
Marbled Godwit	*Limosa fedoa*	66
Whimbrel	*Numenius phaeopus*	66
American Woodcock	*Scolopax minor*	7, 37, 84
Lesser Yellowlegs	*Tringa flavipes*	66
Greater Yellowlegs	*Tringa melanoleuca*	66
Gulls, Terns, and Skimmers		
Herring Gull	*Larus argentatus*	66, OF
Laughing Gull	*Larus atricilla*	66, OF
Ring-billed Gull	*Larus delawarensis*	66, OF
Great Black-backed Gull	*Larus marinus*	OF
Bonaparte's Gull	*Larus philadelphia*	66, OF

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Black Tern	*Chlidonias niger*	66, OF
Least Tern	*Sterna antillarum*	66, OF
Caspian Tern	*Sterna caspia*	OF
Forster's Tern	*Sterna forsteri*	66, OF
Common Tern	*Sterna hirundo*	OF
Royal Tern	*Sterna maxima*	OF
Gull-billed Tern	*Sterna nilotica*	66, OF
Sandwich Tern	*Sterna sandvicensis*	OF
Black Skimmer	*Rynchops niger*	OF
Doves		
Rock Pigeon	*Columba livia*	84
Common Ground-Dove	*Columbina passerina*	84
Mourning Dove	*Zenaida macroura*	MTC
Cuckoos		
Yellow-billed Cuckoo	*Coccyzus americanus*	7
Owls		
Great Horned Owl	*Bubo virginianus*	7, 24, 84
Eastern Screech-Owl	*Megascops asio*	7, 24, 84
Barred Owl	*Strix varia*	7, 37, 84
Goatsuckers		
Chuck-will's-widow	*Caprimulgus carolinensis*	7, 84
Common Nighthawk	*Chordeiles minor*	OF
Swifts		
Chimney Swift	*Chaetura pelagica*	OF
Hummingbirds		
Ruby-throated Hummingbird	*Archilochus colubris*	7, 84
Kingfishers		
Belted Kingfisher	*Ceryle alcyon*	66, open water
Woodpeckers		
Northern Flicker	*Colaptes auratus*	7, 84
Pileated Woodpecker	*Dryocopus pileatus*	7, 17, 84
Red-bellied Woodpecker	*Melanerpes carolinus*	7, 17, 24, 84
Red-headed Woodpecker	*Melanerpes erythrocephalus*	7, 84

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Downy Woodpecker	*Picoides pubescens*	7, 17, 24, 84
Yellow-bellied Sapsucker	*Sphyrapicus varius*	7, 17, 37, 84
Flycatchers		
Great Crested Flycatcher	*Myiarchus crinitus*	7, 84
Eastern Phoebe	*Sayornis phoebe*	MTC
Eastern Kingbird	*Tyrannus tyrannus*	84
Shrikes		
Loggerhead Shrike	*Lanius ludovicianus*	84
Vireos		
Yellow-throated Vireo	*Vireo flavifrons*	7, 84
White-eyed Vireo	*Vireo griseus*	7, 24, 84
Red-eyed Vireo	*Vireo olivaceus*	7, 17, 24, 37
Blue-headed Vireo	*Vireo solitarius*	7, 17, 24, 84
Jays and Crows		
American Crow	*Corvus brachyrhynchos*	MTC
Fish Crow	*Corvus ossifragus*	MTC
Blue Jay	*Cyanocitta cristata*	MTC
Martins and Swallows		
Barn Swallow	*Hirundo rustica*	84, OF
Purple Martin	*Progne subis*	84, OF
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	84, OF
Tree Swallow	*Tachycineta bicolor*	84, OF
Titmice		
Tufted Titmouse	*Baeolophus bicolor*	MTC
Carolina Chickadee	*Poecile carolinensis*	MTC
Nuthatches		
Brown-headed Nuthatch	*Sitta pusilla*	84
Creepers		
Brown Creeper	*Certhia americana*	7, 17,84
Wrens		
Marsh Wren	*Cistothorus palustris*	66
Sedge Wren	*Cistothorus platensis*	66

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Carolina Wren	*Thryothorus ludovicianus*	MTC
House Wren	*Troglodytes aedon*	7, 84
Kinglets		
Ruby-crowned Kinglet	*Regulus calendula*	7, 17, 24, 84
Golden-crowned Kinglet	*Regulus satrapa*	7, 24, 84
Gnatcatchers		
Blue-gray Gnatcatcher	*Polioptila caerulea*	MTC
Thrushes		
Veery	*Catharus fuscescens*	7, 17, 84
Hermit Thrush	*Catharus guttatus*	7, 17, 24, 84
Gray-cheeked Thrush	*Catharus minimus*	7, 17
Swainson's Thrush	*Catharus ustulatus*	7, 17
Wood Thrush	*Hylocichla mustelina*	7, 17, 24
Eastern Bluebird	*Sialia sialis*	84
American Robin	*Turdus migratorius*	MTC
Mimids		
Gray Catbird	*Dumetella carolinensis*	7, 84
Northern Mockingbird	*Mimus polyglottos*	MTC
Brown Thrasher	*Toxostoma rufum*	7, 84
Starlings		
European Starling*	*Sturnus vulgaris*	84
Pipits		
Water Pipit	*Anthus spinoletta*	84, OF
Warblers		
Black-throated Blue Warbler	*Dendroica caerulescens*	7, 17, 84
Yellow-rumped Warbler	*Dendroica coronata*	MTC
Prairie Warbler	*Dendroica discolor*	84
Yellow-throated Warbler	*Dendroica dominica*	7, 24, 84
Palm Warbler	*Dendroica palmarum*	7, 84
Yellow Warbler	*Dendroica petechia*	31, 66, 84
Pine Warbler	*Dendroica pinus*	7, 24, 84
Blackpoll Warbler	*Dendroica striata*	7, 84
Cape May Warbler	*Dendroica tigrina*	7, 84
Common Yellowthroat	*Geothlypis trichas*	31, 66, 84

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Black-and-white Warbler	*Mniotilta varia*	7, 17, 24, 84
Northern Parula	*Parula americana*	7, 17, 37, 84
Prothonotary Warbler	*Protonotaria citrea*	31, 84
Ovenbird	*Seiurus aurocapilla*	7, 17, 24, 84
Northern Waterthrush	*Seiurus noveboracensis*	7, 84
American Redstart	*Setophaga ruticilla*	7, 17, 24, 84
Orange-crowned Warbler	*Vermivora celata*	7, 17, 84
Tennessee Warbler	*Vermivora peregrina*	7, 84
Tanagers		
Summer Tanager	*Piranga rubra*	7, 24, 84
Sparrows, Towhees, and Juncos		
Saltmarsh Sharp-tailed Sparrow	*Ammodramus caudacutus*	66
Seaside Sparrow	*Ammodramus maritimus*	66
Dark-eyed Junco	*Junco hyemalis*	84
Eastern Towhee	*Pipilo erythrophthalmus*	7, 84
Chipping Sparrow	*Spizella passerina*	7, 84
Field Sparrow	*Spizella pusilla*	84
Swamp Sparrow	*Melospiza georgiana*	66, 84
Song Sparrow	*Melospiza melodia*	7, 84
Savannah Sparrow	*Passerculus sandwichensis*	66, 84
Fox Sparrow	*Passerella iliaca*	7, 17, 84
Vesper Sparrow	*Pooecetes gramineus*	84
White-throated Sparrow	*Zonotrichia albicollis*	7, 84
Cardinals, Grosbeaks, and Buntings		
Northern Cardinal	*Cardinalis cardinalis*	MTC
Blue Grosbeak	*Guiraca caerulea*	7, 84
Painted Bunting	*Passerina ciris*	7, 84
Indigo Bunting	*Passerina cyanea*	7, 84
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	7, 24, 84
Meadowlarks, Blackbirds, and Orioles		
Red-winged Blackbird	*Agelaius phoeniceus*	31, 66, 84
Bobolink	*Dolichonyx oryzivorus*	84
Baltimore Oriole	*Icterus galbula*	7, 84
Orchard Oriole	*Icterus spurius*	7, 84
Brown-headed Cowbird	*Molothrus ater*	7, 84
Eastern Meadowlark	*Sturnella magna*	84
Boat-tailed Grackle	*Quiscalus major*	MTC

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Common Grackle	*Quiscalus quiscula*	MTC
Finches		
American Goldfinch	*Carduelis tristis*	7, 24, 84
Pine Siskin	*Carduelis pinus*	7
Purple Finch	*Carpodacus purpureus*	7, 84
Old World Sparrows		
House Sparrow*	*Passer domesticus*	85
MAMMALS		
Didelphids		
Opossum	*Didelphis virginiana*	MTC
Insectivores		
Eastern mole	*Scalopus aquaticus*	7, 17, 84
Bats		
Unidentified bats	*Vespertilionidae* or *Molossidae*	MTC
Edentates		
Nine-banded armadillo*	*Dasypus novemcinctus*	MTC
Rodents		
Round-tailed muskrat	*Neofiber alleni*	66, 84
Rice rat	*Oryzomys palustris*	66, 84
Cotton mouse	*Peromyscus gossypinus*	7, 17, 84
Eastern gray squirrel	*Sciurus carolinensis*	MTC
Lagomorphs		
Eastern cottontail	*Sylvilagus floridanus*	84
Marsh rabbit	*Sylvilagus palustris*	66, 84
Carnivores		
Dog*	*Canis familiaris*	MTC
Cat*	*Felis catus*	MTC
River otter	*Lutra canadensis*	66, 84
Bobcat	*Lynx rufus*	MTC
Atlantic salt marsh mink	*Mustela vison lutensis*	66, 84
Raccoon	*Procyon lotor*	MTC

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Gray fox	*Urocyon cinereoargenteus*	MTC
Artiodactyls		
White-tailed deer	*Odocoileus virginianus*	MTC
Feral pig*	*Sus scrofa*	MTC
Trichechids		
West Indian manatee	*Trichechus manatu*	66, open water

* **Non-native Species**

Habitat Codes

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

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

Lacustrine
45. Clastic Upland Lake
46. Coastal Dune Lake
47. Coastal Rockland Lake
48. Flatwood/Prairie Lake
49. Marsh Lake
50. River Floodplain Lake
51. Sandhill Upland Lake
52. Sinkhole Lake
53. Swamp Lake

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

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

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

Subterranean
82. Aquatic Cave
83. Terrestral Cave

Miscellaneous
84. Ruderal
85. Developed

MTC Many Types of Communities
OF Over Flying

Addendum 5—Designated Species List

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

The Nature Conservancy and the Natural Heritage Program Network (of which FNAI is a part) define an element as any exemplary or rare component of the natural environment,such as a species,natural community,bird rookery,spring,sinkhole,cave,or other ecological feature. An element occurrence (EO) is a single extant habitat that sustains or otherwise contributes to the survival of a population or a distinct,self-sustaining example of a particular element.

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

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

FNAI GLOBAL RANK DEFINITIONS

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

LEGAL STATUS

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

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

LE = Listed as Endangered Species in the List of Endangered and Threatened Wildlife and Plants under the provisions of the Endangered Species Act. Defined as any species that is in danger of extinction throughout all or a significant portion of its range.

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

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

PT = Proposed for listing as Threatened Species.

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

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

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

STATE

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

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

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

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

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

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

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

Fort George Island Cultural State Park Designated Species—Plants

Common Name/ *Scientific Name*	Designated Species Status FDACS	USFWS	FNAI
Florida butterfly orchid *Encyclia tampensis*	CE		
Green-fly orchid *Epidendrum conopseum*	CE		
Godfrey's swampprivet *Forestiera godfreyi*	LE		G2,S2
Spiked crested coralroot *Hexalectris spicata*	LE		
Cinnamon fern *Osmunda cinnamomea*	CE		
Royal fern *Osmunda regalis* var. *spectabilis*	CE		
Plume polypody *Pecluma plumula*	LE		G5,S2
Low peperomia *Peperomia humilis*	LE		G5,S2
Ft. George ladiestresses *Spiranthes polyantha*	LE		G4,S1,S2

Fort George Island Cultural State Park Designated Species—Plants

Common Name/ *Scientific Name*	Designated Species Status FDACS	USFWS	FNAI

Common Name/ *Scientific Name*	Designated Species Status FFWCC	USFWS	FNAI
AMPHIBIANS			
Florida gopher frog *Rana capito aesopus*	LS		G3,S3
REPTILES			
American alligator *Alligator mississippiensis*	LS	LT(S/A)	G5,S4
Eastern diamondback rattlesnake *Crotalus adamanteus*			G4,S3
Eastern indigo snake *Drymarchon corias couperi*	T	T	G3,S3
Loggerhead turtle *Carretta caretta*	LT	LT	
Gopher tortoise *Gopherus polyphemus*	SSC		G3,S3
BIRDS			
Little Blue Heron *Egretta caerulea*	LS		G5,S4
Reddish Egret *Egretta rufescens*	LS		G4,S2
Snowy Egret *Egretta thula*	LS		G5,S3
Tricolored Heron *Egretta tricolor*	LS		G5,S4
White Ibis *Eudocimus albus*	LS		G5,S4
Peregrine Falcon *Falco peregrinus*	LE		G4,S2
American Oystercatcher *Haematopus palliatus*	LS		G5,S2
Bald Eagle *Haliaeetus leucocephalus*	LT	LT	G4,S3
Wood Stork *Mycteria americana*	LE	LE	G4,S2
Osprey *Pandion haliaetus*			G5,S3,S4
Brown Pelican			

Common Name/ *Scientific Name*	Designated Species Status FFWCC	USFWS	FNAI
Pelecanus occidentalis	LS		G4,S3
Least Tern			
Sterna antillarum	LT		G4,S3
MAMMALS			
Atlantic salt marsh mink			
Mustela vison lutensis			G5,T3,S3
Round-tailed muskrat			
Neofiber alleni			G3,S3
West Indian manatee			
Trichechus manatus	LE	LE	G2,S2

Addendum 6—Florida Master Site File List Of Cultural Sites

FMSF #	Site Name	Period	Site Type	Condition
DU4	Fort George Island Sand Mound	Unknown prehistoric	Sand burial mound	Severely looted, location uncertain
DU5	Fort George Island Midden	Late Archaic / St. Johns	Shell Midden	Road through midden, shell mining in the past
DU53	San Juan Del Puerto Mission	St. Augustine / St. Johns / Spanish I	Archaeological remains of the Spanish Mission and associated village	Looting in SE portion, dredging in San Juan Creek, Palmetto Avenue bisects
DU72	Fort George Shell Ring	Orange	Shell ring	Little disturbance, possibly limited shell mining
DU76	Ribault Club Midden	Late Archaic / St. Johns I / 19th Century	Shell Midden	Upper levels disturbed from construction and demolition of Ft. George Hotel and construction of clubhouse. Lower levels thought to be intact
DU77	Sugar Mill	Late 18th and early 19th Century	Mill remains and earthworks	Weisman (1990) failed to locate, cited impacts from mosquito ditch
DU136	Liana	Late St. Johns/ Savannah periods	Shell Midden	No reported impacts
DU137	Twister	Savannah/Mission/ Alachua periods	Shell Midden	Mosquito control ditches within site

FMSF #	Site Name	Period	Site Type	Condition
3DU138	Thirteenth Green	Savannah /Mission/ Deptford / St. Johns II periods	Shell Midden	Little information available, reported as deteriorated
DU139	Ditch	Deptford / Savannah	Shell Midden	Bisected by mosquito ditch
DU140	Borderline	St. Johns I	Shell Midden	Nearly destroyed by mosquito ditch
DU141	Grave Robbers Mound	St. Johns I?	Burial mound	Severely looted
DU142	Sand Gnat	Unknown prehistoric	Shell Midden	Former road cuts through entire length
DU143	Alimacani	Unknown prehistoric	Shell Midden/ Village	No reported impacts
DU144	Slough Point	Orange / Savannah	Shell Midden	Disturbed by mosquito ditch
DU145	Sixteenth Tee	Unknown	Shell Midden	Probably destroyed by construction of golf course
DU146	Mill Midden	Orange / St. Johns I / St. Johns II	Shell Midden	Cut by at least 3 mosquito control ditches
DU147	Smilax	Alachua period	Campsite/ Shell Midden	Disturbed from shell mining
DU148	San Juan Creek	Mission/ Savannah/ St. Johns	Shell Midden	No reported impacts
DU149	Duval County Crypt	Early 19th Century	Tabby and brick burial crypts	Vandalized in past
DU379	Thomson Tabby Ruin, formerly called Munsilna McGundo House		Tabby house	Declining

FMSF #	Site Name	Period	Site Type	Condition
DU650	Fort St. George	18th Century	Military fortification	Location unknown
DU1542	Chappelle Midden	Orange / Deptford / St. Johns II / Savannah / 20th Century	Midden	No reported impacts
DU1543	Dune	Uncertain, possibly War of 1812 or Civil War	Human created depressions, possibly for gun mounts	No reported impacts
DU2575	Golf Course 10	Deptford/St. Johns/Late Archaic	Shell Midden	No reported impacts
DU2576	Golf Course 11	Deptford/St. Johns/Late Archaic	Shell Midden	No reported impacts
DU2577	Golf Course 6	Late 18th Century / prehistoric	Artifact scatter	Minor disturbance from past agricultural use
DU2578	Golf Course 13	Undetermined—late prehistoric	Shell Midden	Minor disturbance from past agricultural use
DU2579	Rice Dam	Historic plantation period, early 19th century	Earthen dam and wood floodgates	Cut by mosquito control ditch
DU7510	Rollins Bird Sanctuary	Preceramic / Orange / Deptford / St. Johns I / Swift Creek / Savannah / St. Johns II	Shell Midden	No reported impacts
DU7511	McGundo Midden	Preceramic / Orange	Shell Midden	Severely damaged by shell mining
DU7525	Neff House	1930s Boom period	Structure	Condition deteriorated

FMSF #	Site Name	Period	Site Type	Condition
DU7526	Fort George Island Golf Club House	1930s Boom period	Structure	Condition deteriorated, rehabilitation underway

Information in this table was compiled from Florida Master Site File Forms, Hammersten 1988, and Russo 1993.

Addendum 7—Priority Schedule And Cost Estimates

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

Natural and Cultural Resource Management

1. Stabilization of Site DU149 structures. 0-10 years. Estimated Cost: $50,000.
2. Completion of Thomson Tabby Ruins - McGundo Midden stabilization. 0-10 years. Estimated Cost: $50,000.
3. Rehabilitation of the Neff House. 0-10 years. Estimated Cost: $ 3,000,000.
4. Assessment, recordation and stabilization of Rollins garage and lodge. 0-10 years. Estimated Cost: $10,000.
5. Assessment, recordation, and stabilization of the Chappelle houses and associated structures. 0-10 years. Estimated Cost: $15,000.
6. Assessment, recordation, and stabilization of the Caddy structure and other resources associated with the Ribault Clubhouse. 0-10 years. Estimated Cost: $5,000.
7. Continuation of program of cultural site protection through visitation, assessment and maintenance. 0-10 years. Estimated Cost: $20,000.
8. Development of program of cultural landscape management. 0-10 years. Estimated Cost: $15,000.
9. Pursuit of National Register Listings. 0-10 years. Estimated Cost: $12,000.
10. Research on hydrological changes in the park. Development of plans for the restoration of natural hydrology as needed. 0-10 years. Estimated Cost: $20,000.
11. Implementation of recommendations for restoration of natural hydrology. 0-10 years. Estimated Cost: $200,000.
12. Continued protection of water quality and wetland function within the park. 0-10 years. Estimated Cost: $30,000.
13. Restoration of tidal marsh at Point Isabel. 0-10 years. Estimated Cost: $100,000.
14. Continued monitoring and protection of listed and regionally rare species. 0-10 years. Estimated Annual Cost: $500. Total Estimated Cost: $5,000.
15. Continued monitoring of natural community succession on the fairways. 0-10 years. Estimated Cost: $5,000.
16. Removal of exotic plants and animals from the park. 1-10 years. Estimated Initial Cost: $8000. Annual Recurring Costs: $3000. Total Estimated Cost: $38,000.
17. Production of interpretive displays. 0-10 years. Estimated Cost: $30,000.

18. Staffing or funding to perform cultural resource management and interpretation duties. 0-10 years. Estimated Annual Cost: $25,400. Total Estimated Cost: $254,000.

19. Part-time staffing or funding to perform natural resource management and interpretation duties. 0-10 years. Estimated Annual Cost: $16,000. Total Estimated Cost: $160,000.

20. Continued development of comprehensive lists of plant and animal species occurring within the park, including documentation of exotic species. 0-10 years. Estimated Cost: $15,000.

21. Active management of park collections. 0-10 years. Estimated Cost: $5,000.

22. Protection measures (fencing, posting, and patrol) as appropriate to discourage incompatible use and protect the integrity of outlying parcels. 0-10 years. Estimated Cost: $20,000.

Total Estimated Cost: $4,059,000.00

Capital Improvements

Development Area or Facilities	**Estimated Cost**
Batten Island	$1,271,200.00
Hall Chappelle House	to be determined
Ribault Clubhouse Area	$498,000.00
Trails and Interpretation	$360,820.00
Support Facilities	$274,000.00

Total Cost with Contingency: $2,874,824.00