DR. JULIAN G. BRUCE
ST. GEORGE ISLAND STATE PARK

UNIT MANAGEMENT PLAN

APPROVED

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

FEBRUARY 7, 2003

Department of
Environmental Protection

Jeb Bush
Governor

Marjorie Stoneman Douglas Building
3900 Commonwealth Boulevard, MS 140
Tallahassee, Florida 32399-3000

David B. Struhs
Secretary

February 12, 2003

Bryanne White
Office of Park Planning
Division of Recreation & Parks
3900 Commonwealth Blvd., M.S. 525
Tallahassee, Florida 32399-3000

Dr. Julian G. Bruce St. George Island State Park **Lease # 2992**

Dear Ms. White:

On February 7, 2003 Acquisition and Restoration Council recommended approval of the Land Management Plan for Dr. Julian G. Bruce St. George Island State Park. Therefore, the Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund approves this plan. Pursuant to Section 253.034 and 259.032, Florida Statutes, and Chapter 18-2, Florida Administrative Code the plan's five-year update will be due on February 7, 2008.

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

Sincerely,

Delmas T. Barber

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

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INTRODUCTION

Dr. Julian Bruce St. George Island State Park (referred to in this plan as St. George Island State Park) is located in Franklin about ten miles southeast of Eastpoint (see Vicinity Map). Access to the park is from U.S Highway 98. The Vicinity Map reflects access to the park and other significant land and water resources that exist near the park.

Dr. Julian G. Bruce St. George Island State Park was acquired as a donation on April 17, 1963. Since the donation, the Trustees acquired several additional parcels through purchases under the LATF, EEL, CARL, and P2000/CARL programs and added them to the park. For this plan, park acreage has been calculated based on the composition of natural communities, in addition to ruderal and developed areas. Currently the park contains approximately 2,023.66 acres.

At St. George Island 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.

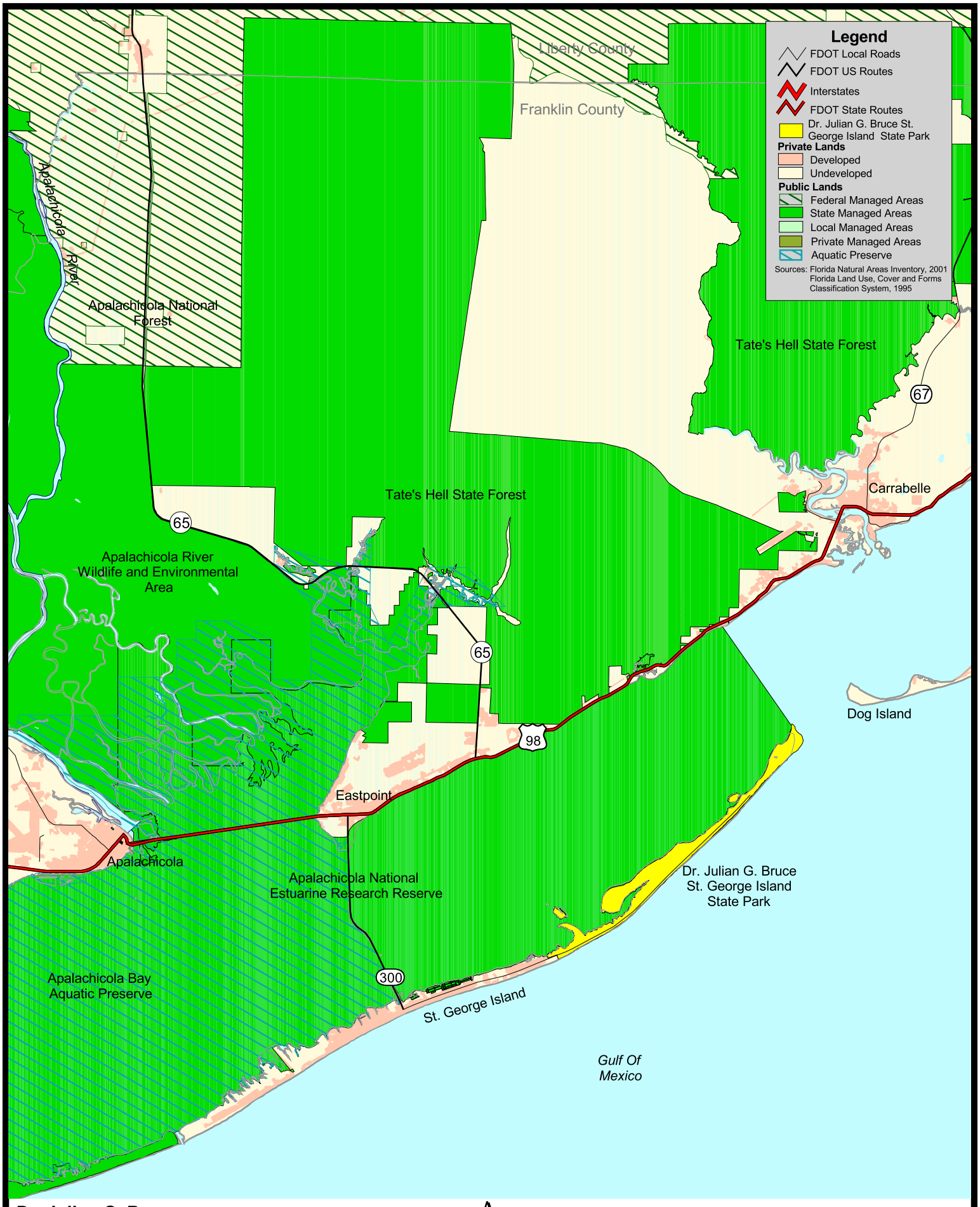
PURPOSE AND SCOPE OF THE PLAN

This plan serves as the basic statement of policy and direction for the management of St. George Island 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 supercede and replace the current approved plan of May 27, 1997. All development and resource alteration encompassed in this plan is subject to the granting of appropriate permits; easements, licenses, and other required legal instruments. Approval of the management plan does not constitute an exemption from complying with the appropriate local, state, or federal agencies. This plan is also intended to meet the requirements for beach and shore preservation, as defined in Chapter 161, Florida Statutes, and Chapters 62B-33, 62B-36 and 62R-49, Florida Administrative Code.

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

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

In the development of this plan, the potential of the park to accommodate secondary 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



Dr. Julian G. Bruce Saint George Island State Park Vicinity Map

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1 0 1 2 3 4 5 Miles

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

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 and should be discouraged.

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.

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 Procedures Manual** (OPM) and cover such areas as personnel management, uniforms and personal appearance, training, signs, communications, fiscal procedures, interpretation, concessions, camping regulations, resource management, law enforcement, protection, safety and maintenance.

In the management of St. George Island 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 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 Resources and Cultural Resources

1. Continue to implement "natural systems management" whereby primary resource management emphasis is placed on restoring and maintaining the natural processes that shape the structure, function, and species composition of the natural communities of the unit.
   - **A.** Support efforts to develop a comprehensive survey of the flora and fauna of the park.
   - **B.** Monitor listed species and record disturbance of nesting shorebirds and marine turtles from human and non-human sources.
   - **C.** Identify, establish, and protect foraging, resting, and nesting areas for over-wintering piping plovers and other shorebirds.
   - **D.** Ensure that lighting installed for old and new structures is consistent with the recommendations and regulations needed to protect marine turtles.
   - **E.** Determine the needs and potential impacts upon shorebirds when developing plans to use heavy equipment, fencing, or plants as measures to restore dunes after major storm events.
   - **F.** Continue to plan and implement a prescribed fire program. Use the latest research to guide establishment of proper fire regimes for burning panhandle coastal scrub.
   - **G.** Implement measures to protect old "catfaced" turpentine pines when burning areas containing these trees.
   - **H.** Continue ongoing efforts to control and remove invasive exotic plants.
   - **I.** Continue ongoing efforts to control and remove exotic animals with emphasis placed on coyotes and feral cats.
   - **J.** Implement road improvements necessary to keep four-wheel drive vehicles inside the footprint of the unimproved road that provides access to the eastern tip of the park.
   - **K.** Continue to evaluate the numbers of visitors using the east end of the island by installing a trail counter to count vehicles that access this area.
   - **L.** Seek funding to raise the elevation of the dune crossover boardwalks.
   - **M.** Support efforts to have natural channels marked that connect with boat launching sites to protect oyster bars and for the safety of boaters.
2. Protect and monitor archaeological sites for vandalism, unauthorized digging and illegal collecting.
3. Ensure that all ground disturbing activities be coordinated with the Division of Historical

Resources.

Recreational

4. Continue to provide quality resource based outdoor recreational and interpretive programs and facilities at the state park.
   A. Provide primitive and standard camping facilities to allow for overnight stays at the park.
   B. Maintain access and provide facilities to support saltwater beach activities, including fishing, surfing, swimming, boating, picnicking and sunbathing.
   C. Provide on and offsite interpretive programs, including static interpretive displays and ranger led talks and walks.

5. 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. Establish interpretive kiosks for public education concerning the significant natural features of wildlife and ecosystems within main use areas.
   B. Establish primitive camping opportunities along the bay shore for canoeists and kayakers.
   C. Expand existing hiking trails and re-establish boardwalk and observation deck across from the East Slough Beach Use Area.
   D. Construct a separate paved bicycle/pedestrian path along the park drive.
   E. Implement standard campground improvements, including constructing a screened pavilion for camp programs, upgrade utility systems, add landscape buffers between sites and expand a portion of existing sites to accommodate larger recreation vehicles.
   F. Address the need to alleviate erosion and flooding problems associated with structures at the beach use areas by relocating facilities within or directly adjacent to the existing developed footprint.
   G. Improve existing parking areas at the East End and East Slough boat launch.
   H. Explore opportunities for private vendors to provide training, education, tours, supplies and equipment at the park to enhance recreational opportunities and the visitor experience.

Administration/Operations

6. Provide efficient and effective management of park resources and facilities while maintaining a high level of visitor service.
   A. Obtain a Biologist II, Park Service Specialist and two Ranger positions to address the natural resource needs, goals, and objectives of the park.
   B. Pursue funding for the upgrade of existing facilities to assure compliance with the Americans with Disabilities Act.
   C. Assure that appropriate training is provided to all staff in visitor services, park information, and emergency procedures.
   D. Maintain high maintenance standards and conduct routine safety inspections to provide clean and safe facilities and use areas.
   E. Collaborate with other land managers to share information and enhance recreational opportunities.
   F. Periodically evaluate park interpretive programs and tours to ensure up-to-date quality programming.
   G. Recruit and maintain volunteer support to assist park staff with the maintenance of park facilities, protection of park resources and implementation of park programs.
   H. Pursue adequate funding to meet park operations needs, such as corrective maintenance, visitor protection, resource management and visitor services. These efforts should include partnerships and other alternatives to the Legislative

appropriation process.

I. Assure compliance with Division, state and federal safety guidelines and training requirements.

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. The DEP, Bureau of Beaches and Wetland Resources aids staff in planning and construction activities seaward of the Coastal Construction Line. In addition, the Bureau of Beaches and Wetland Resources aids 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.

Staff from the park and the Apalachicola National Estuarine Research Reserve (ANERR) will coordinate resource management activities to enhance staff resources, share expertise and increase their land management effectiveness and efficiency.

Public Participation

During the development of this management plan, the Division sought public input by conducting a series of meetings. An initial public workshop was held on July 9, 2001. The purpose of the meeting was to solicit comments from the public before the development of this management plan.

A second public workshop was held June 26, 2002. The purpose of this meeting was to present this draft management plan to the public.

A DEP Advisory Group meeting was held June 27, 2002. The purpose of this meeting was to provide the advisory group members the opportunity to discuss this draft management plan.

Other Designations

St. George Island State Park is not within an Area of Critical State Concern as defined in section 380.05, Florida Statutes. Currently it is not under study for such designation. The park is a component of the Florida Greenways and Trails System.

All waters within the unit have been designated as Outstanding Florida Waters, pursuant to Chapter 62-302, Florida Administrative Code. Surface waters in this unit are also classified as Class III waters by DEP. This unit is within the boundaries of the Apalachicola National Estuarine Research Reserve 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.

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

St. George Island State Park is situated on the Gulf Barrier Chain, a narrow strip of wind and storm deposited sands occurring along the southern edge of the Apalachicola Coastal Lowlands of the Gulf Barrier Chain. The island is over 28 miles long and 3 to 7 miles offshore. The eastern 8.5+ miles of the island comprise the park. The low dunes and overwash areas occupy most of the shoreline, sand dunes and adjacent communities along the Gulf side of the island. The undulating dunes range from 2 to 25 feet. Many of the larger dunes were damaged during hurricane Opal (1995) and some height may have been lost. The dunes are recovering some size, but progress is slow.

On the sound side of the island, rattlesnake point peninsula is an area of ancient dune activity. These relict dunes range from about 5 to 10 feet above sea level with one relict dune reaching 21 feet. The eastern end of the island is accreting. The topography here is low and highly dynamic. As time goes on, these dunes are expected to grow beyond the 3 to 5 feet currently exhibited.

Geology

A structural feature known as the Apalachicola embayment has influenced the geology of St. George. This embayment feature has existed since at least the Miocene, or approximately 30 million years before present (mybp). It has been accumulating sediments since that time. The limestone bed lies approximately 300 feet below the current surface of St. George Island. The deeper, older Bruce creek and St. Mark's formations of the late Oligocene to middle Miocene (20-30 mybp) are composed of limestone built from calcareous shells of mostly mollusks, but also ostracods, bryozoans, algae, corals, sea urchins and benthic and planktonic foraminifera.

The species assemblage present in these limestones suggest that they were deposited under near-shore, warm, shallow, sometimes shoaling seas that were very similar to those occurring around the present-day Florida Keys.

The overlying Intra-coastal formation of the late Miocene to middle Pliocene (5-20 mybp) is composed of largely of poorly consolidated, sandy limestone. The variable faunal assemblages indicate diverse maritime conditions during deposition. The prevalence of planktonic foraminifera in the lower portions of this formation indicates that it was probably deposited under deeper seas, perhaps as deep as 300 to 600 feet. The presence of other fossils and a deposition hiatus suggest that sea levels fluctuated substantially during this time, but generally were receding until near-shore estuarine and marine conditions again prevailed during the late Pliocene and early Pleistocene (2-5 mybp) when the molluscan-rich Chipola and Jackson Bluff formations were deposited. These formations were subsequently covered by 50 to 70 feet of unconsolidated, cross-bedded and inter-bedded sands, clays and other clastics, which are typical of a prograding delta and fluctuating sea levels.

St. George Island did not exist in its present form until relatively recently, as the presence of mollusk reefs 10 to 20 feet below the surface in many areas indicates that estuarine conditions prevailed where the island now stands. Estuarine and fluvial sediments 30 to 40 feet below the surface have been radiocarbon dated at around 28,000 to 40,000 years old. In general, the oldest portion of the island, the Gap Point Peninsula, is estimated to be less than 3000 years old.

The island initially developed from two offshore shoals, which emerged during slightly lower sea levels. Three separate small islands, which were present less than 1000 years ago, slowly merged in to the present configuration. These dynamic changes in its recent geologic history indicate that continued alterations in the island's shape, size and topography are inevitable. The island is expected to continue on a slow migration landward as sea levels rise.

Soils

Seven soil types have been identified on St. George Island. These include Beaches, Direго and Bayvi Tidal Soils, Corolla Sand, Duckston sand, Rutledge fine sand, Newhan Corolla complex, Duckston-Rutledge-Corolla complex and Ductston-Bohicket-Corolla complex. Soil descriptions are provided in Addendum 2 of this plan. As mentioned previously, most of the island is comprised of highly dynamic beach and dune systems. Management activities will follow generally accepted best management practices established in the Florida Department of Agriculture and Consumer Services 1993 Silviculture Best Management Practices to prevent soil erosion and conserve soil and water resources on site.

Minerals

There are no known mineral deposits of commercial value at this park.

Hydrology

St. George Island is located at the southern edge of the Apalachicola River Drainage Basin and serves as a protective barrier between the marine waters of the Gulf of Mexico and the estuarine waters of Apalachicola and St. George Sound. The Apalachicola River discharges an average of 16 billion gallons per day. These waters are identified as Class II waters. The large influx of fresh water substantially lowers the salinity of the bay side of the island.

The Floridan Aquifer underlies the entire region. At the park, it is approximately 50 to 75 feet below sea level, occurring primarily within the Bruce Creek limestone and the intracoastal formation. Slightly permeable shell beds and then relatively impermeable clays overlie these strata. The clays may act as an aquiclude and impart artesian characteristics to the underlying aquifer, but also restrict surface water recharge to the aquifer. Because freshwater recharge is absent and because the island is surrounded by marine and estuarine waters, the Floridan

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SOILS MAP

Aquifer under St. George Island is infiltrated with salt water and is generally non-potable. The most significant ground water sources on St. George Island are the shallow water table aquifers occurring within the upper 25 to 30 feet of sands and shells underlain with an impermeable clay layer. This system is completely dependent on rainfall directly on the island, which averages about 56 inches annually. Depletion of this aquifer is a possibility, especially during extensive droughts.

Due to the extensive porosity of the overlying sands, drainage on the island is almost exclusively subsurface. Only occasional surface waters are present. These typically occur as elongated inter- dune swales of relict dune systems on the older portions of the island. In addition to these depression marshes, a large, shallow coastal Dune Lake lies near the eastern tip of the island. Two deep borrow pits have succeeded into what are essentially small lakes near the campground. The estuarine and marine waters that surround the island subject the shorelines to tidal influences.
Tides normally vary about 2.6 feet daily, but may substantially exceed this during tropical storms and hurricanes. 5 to 6 foot storm surges are expected about every 10 years and 8 to 10 foot surges are expected every 50 to 100 years. Storm tides significantly affect the island's ground and surface waters, as well as estuarine areas behind the island.

Natural Communities

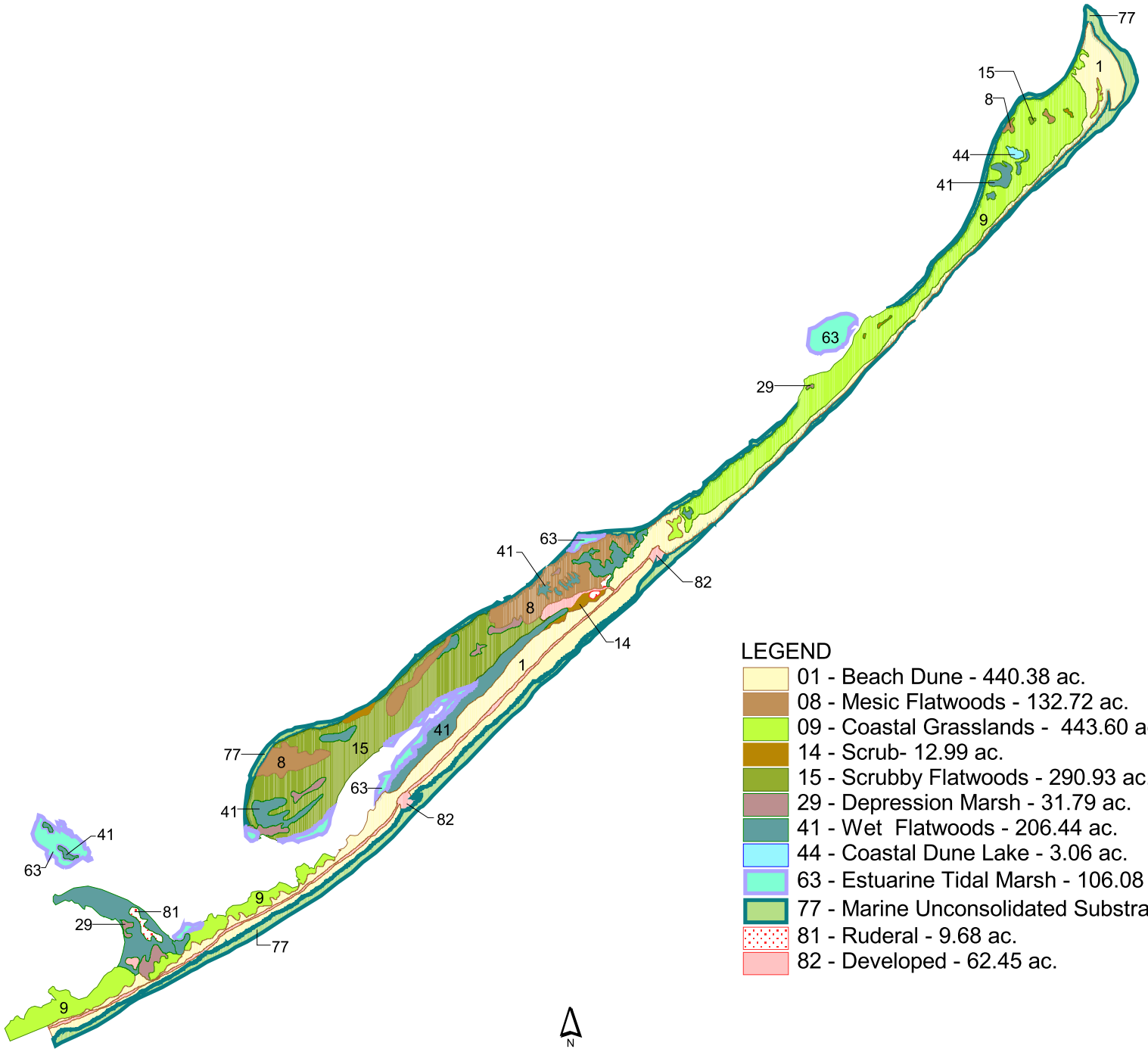
The system of classifying natural communities employed in this plan was developed by the Florida Natural Areas Inventory (FNAI) **FNAI Descriptions**. The premise of this system is that physical factors, such as climate, geology, soil, hydrology and fire frequency generally determine the species composition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

The park contains 10 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 3.

St. George Island contains some very dynamic natural communities. Some of the descriptions of those natural communities have changed in recent years, because of hurricanes, storms and recovery from those storms. Five natural communities described in the previous version of this plan are not listed here. This is due to the succession of some of the communities, changes caused by hurricanes, and small changes in the FNAI community descriptions. The natural communities that are no longer applicable are coastal berm, coastal strand, overwash plain, hydric hammock and xeric hammock.

Beach dune. The dunes are recovering from one major hurricane in recent years. Hurricane Opal in 1995 caused significant damage to the dune systems, which are still evident today. Planting of sea oats, replacement of dune crossovers and the installation of sand fencing have aided recovery of the dune system. After hurricane Opal, a portion of the beach dune system was completely flattened. An artificial "dune" was created in some areas and seems have sped up recovery of the area. The dunes are fragile and very susceptible to damage from foot traffic. The remaining "blowout" areas along the dune line are frequently used for nesting by least terns, snowy plovers, piping plovers, and American oystercatchers.

Mesic flatwoods. This natural community at St. George is closely associated with the wet



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NATURAL COMMUNITIES MAP

flatwood areas and the drier, scrubby flatwoods. The quality of the mesic flatwoods in this park has improved over the last few years and is now in good condition. This area was also heavily turpentined in the past evidenced by the numerous "cat-faced" trees within it. One of the main vegetative components that delineate this community from some of the other flatwood types is the presence of saw palmetto. The mesic flatwoods are rather interspersed mainly throughout Gap Point peninsula.

Coastal grassland. This community was previously called overwash plain, however, it is now best described as coastal grassland. The area is mainly treeless and flat with numerous grasses and a few shrubs. Gulf muhly is the predominate grass in this community. Also included in this natural community are the interdunal swales. These are very similar to the grassland description but are smaller and bounded by dunes and are slightly wetter for a longer portion of the year. The coastal grasslands at St. George are among the largest remaining expanses of this natural community left in Florida. They are extremely important areas for foraging and resting of some neo-tropical migrant birds and as nesting areas for some species of shorebirds. The area is largely undisturbed by human activity and should remain so. The main road leading to the "east end" fishing area bisects much of the grasslands along the island. At least one species of shorebird is often found nesting along the edge of the roadbed. Some type of barrier should be installed to prevent visitors from driving outside the footprint of the road.

Scrub. A large portion of the park lies within this natural community. The scrub is mainly the area behind the primary and secondary dunes, dominated by sand pine, scrub oaks, saw palmetto, etc.

The coastal scrub at St. George does not cleanly fit within the established FNAI description. This community quickly grades into more of a scrubby flatwoods in most areas. Differentiating between scrub and scrubby flatwoods at St. George Island can be difficult. Sand pine is under-represented in St. George scrub, when compared to other panhandle coastal scrubs.

Scrubby flatwoods. Difficult to classify at this park, the scrubby flatwoods do not fit well into the classic definition used by most Florida agencies. The scrubby flatwoods lack the presence of rusty lyonia and has components of scrub, scrubby flatwoods and xeric hammock. Perhaps it is best described as a "xeric flatwoods" in that it has portions of the above-mentioned communities. The overwhelming majority of the slash pines in this community have been turpentined. The trees are still of relatively small diameter, indicating that they are very old.

Depression marsh. These small, ephemeral wetlands occur usually within the mesic and wet flatwood communities. In years with normal rainfall amounts there is standing water in these small, shallow marshes most of the year. In recent years there has been and continues to be, a record drought, keeping these small wetlands dry.

Wet flatwoods. As with the mesic flatwoods, this natural community is also interspersed mainly throughout Gap Point peninsula and the small peninsula on the east side of rattlesnake cove. The wet flatwoods are closely associated with the depression marshes and the mesic flatwood areas of the park. At this park, the wet flatwoods differ from the mesic by the absence of saw palmetto and generally wetter soils. The recent and continuing years of extreme drought has begun to blur the boundaries and make identification of the areas more difficult.

Coastal dune lake. One naturally occurring coastal dune lake exists near the eastern tip of the island. It is shallow and may be absent of water during excessive drought. Two small man

made borrow pits located near the campground have succeeded and closely resemble natural lakes and should be managed as such in the future (further description of these two lakes can be found in the description of ruderal areas. Considered in fair condition, the lake is very low due to excessive drought in recent years.

Estuarine tidal marsh. The tidal marshes at this park are currently in good to excellent condition. Very little human disturbance occurs in these areas with the exception of some litter that wash in from the bay. This is an important nursery area for marine and estuarine animals. Black needlerush and smooth cordgrass are the dominant plants. Tidal fluctuation is the most important factor in the health of this community.

Marine unconsolidated substrate. This community is typical beach material, i.e. sand, shell mash, etc. It is a highly dynamic and productive system. It is an important shorebird feeding area. This is the area most used by the public and is one of the things that bring tourists from all over the world. The sand is off-white and fine in most areas, with relatively few shell fragments. Those areas with shell mash present are highly used by shorebirds for foraging.

Ruderal. These areas are disturbed areas in mostly early successional stages. Mowed areas around campgrounds, ditches, etc. are good examples. Two ponds near the main campground were originally borrow pits that provided the fill to stabilize the campground. The pits filled and have succeeded into lakes that are difficult to distinguish from naturally occurring lakes. Technically, these lakes will be considered ruderal, but will be managed as naturally occurring lakes.

Developed. Areas in the park referred to as developed are those that are maintained by mowing or other disturbance. Parking areas, roads, maintenance facilities, ranger residences, etc. are good examples of developed areas.

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 4 contains a list of the designated species and their designated status for this park. Management measures will be addressed later in this plan.

St George Island State Park is home to a significant number of designated species. It is a major area during the spring and fall migration of neotropical birds and raptors. St George Island has the second highest density of sea turtle nesting in the panhandle.

Loggerhead and green sea turtles regularly use the beaches for nesting each year. In recent years, at least one leatherback sea turtle has attempted to nest on St George Island. Average turtle nesting should be between 30 and 60 nests per year. Kemps Ridley sea turtles can be found in nearshore waters. Average numbers of recorded nests have fallen off in recent years. The cause for this decline is currently unknown, but efforts are underway to determine the cause and correct it. There is at least one gopher tortoise on the park, but how it got there is a matter of some conjecture. It is possible this tortoise was released here, as no other records of tortoises exist for the park.

St George Island State Park is home to a large number of designated nesting shorebirds as well as federal and state listed overwintering shorebirds. These nesting areas are extremely sensitive to disturbance and could easily abandon nests or foraging areas when too many disturbances are occurring. This fact should be taken into consideration before any additional facilities are considered. Overwintering piping plovers are found in greater abundance here than anywhere else in the Florida panhandle. The international piping plover census data from

1991, 1996 and 2001 show a continued decline in the number of piping plovers observed at St George. It is surmised that loss of habitat in breeding areas and loss of foraging habitat are largely to blame for the decline. Greater effort will be made to monitor piping plovers in the future.

Snowy plovers and least terns nest on St George Island. As with other shorebird species, nesting seems to be in decline. Nest monitoring is becoming increasingly important to making appropriate management decisions to avoid nest abandonment or nest failure because of human or non-human related impacts.

Two known American oystercatchers pairs nest in the park on an annual basis. Nesting success should be tracked and observations communicated to the Florida Fish and Wildlife Conservation Commission. Steps should be taken to avoid nesting disturbance.

Bald eagles are seen with greater frequency in recent years. There is at least one active eagle nest on the park. In addition, Peregrine falcons are seen during migration with regularity. One snowy owl was seen and confirmed by several reliable sources in the year 2000. This owl was photographed and seen in the park for about 3 weeks. It is thought that an uncommon weather front pushed the bird this far south.

Presently the presence of flatwood salamanders (*Ambystoma cingulatum*) at this park is undetermined. Some of the wet flatwood areas on rattlesnake cove peninsula, west of the campground may support a population of flatwoods salamanders. A comprehensive herpetological survey should be conducted to determine whether flatwoods salamanders (or other rare reptiles and amphibians) occur here.

Godfrey's blazing star (*Liatris provincialis*), large-leaved jointweed (*Polygonella macrophylla*) and sea oats (*Uniola paniculata*) are three designated plant species known to occur on the park. As surveys that are more comprehensive are conducted, it is likely that more designated plant species will be found.

Special Natural Features

There are no particularly special natural features to discuss at this park other than the island itself. Barrier islands are a dynamic and fragile ecosystem and should be treated as such.

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 lists three recorded archaeological sites within the park boundaries: FR840, FR845, and FR846. A resource evaluation assessment by the Bureau of Natural and Cultural Resources found that all three were in fair condition. No evidence of digging or looting was detected. These sites were exposed briefly by Hurricane Opal (1995) but have recovered well.

St. George Island State Park's cultural heritage is limited by it geologically young age (Less

than 4,000 years old). Native Americans from the Deptford (c. 1000 B.C.), Santa Rosa-Swift Creek (0-500 A.D.) Weeden Island (C 500 to 1200 A.D.) and Fort Walton (c. 1200 to 1550 A.D.) periods inhabited many nearby coastal areas. These natives spent time on St. George Island, but probably only temporarily, due to the lack of fresh water resources.

More recently, the Apalachee and later the Creek, were known to inhabit the vicinity. In Sept. 1799, the HMS Fox, a British Schooner under the command of Lt. James T Wooldtridge, sank off the eastern tip of the island during a tropical storm. It was well provisioned with trade goods, military supplies and one hundred mercenary troops, including William Augustus Bowles, the self-proclaimed "General Director' of the Creek Nation. Attempts to locate the remains of this wreck have been unsuccessful.

From 1920 through 1934, the area was used by cattle ranchers Mr. Clifford Land and Mr. Herb Cook. They also used the area to produce turpentine, still evidenced by the very high density of "cat faced" trees in the park. The military used the island during the 1940's for military training and maneuvers.

RESOURCE MANAGEMENT PROGRAM

Special Management Considerations

Timber Management Analysis

Chapters 253 and 259, Florida Statutes, require an assessment of the feasibility of managing timber in land management plans for parcels greater than 1,000 acres if the lead agency determines that timber management is not in conflict with the primary management objectives of the land. The feasibility of harvesting timber at this park during the period covered by this plan was considered in context of the Division's statutory responsibilities, and an analysis of the park's resource needs and values. The long-term management goal for forest communities in the state park system is to maintain or re-establish old-growth characteristics to the degree practicable, with the exception of early successional communities such as sand pine scrub and coastal strand.

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

Additional Considerations

The Trustees have also granted management authority of certain sovereign submerged lands to the Division under Management Agreement MA 68-086. One natural community that is not mapped is the estuarine mollusk reef. This natural community occurs outside of the current legal boundary of the park, however this community is within the 400' management authority of the Division.

Estuarine mollusk reefs are oyster bars located off the north coast of the island. These reefs in the surrounding waters of St. George Island are extremely important feeding areas for many vertebrates. These reefs also provide a wonderful fishing resource for park visitors.

The eastern tip of the island is a popular fishing spot. Many people obtain after hours passes and use the park after nightfall. One potential impact that could occur from this use is the type and placement of lighting for these use areas. In keeping with the Franklin County Lighting Ordinance, and to prevent sea turtle nest disturbance and hatchling disorientation, any lighting needs pursued by the park should be done with the protection of sea turtles in mind. Lighting near the park entrance can also affect sea turtles. Wherever possible, appropriate "turtle friendly" lighting should be used; numerous low-cost, turtle friendly lighting options are

available.

Some nesting birds often use the edge of the unimproved road leading to the eastern tip of the island. Occasionally, vehicles will travel outside the footprint of the road in an attempt to avoid some of the deep sandy areas sometimes resulting in crushed eggs and nestlings. Road improvements will be implemented, that may include signage, fencing and/or stabilization of problem areas, to help prevent the road from becoming wider and protect nests of birds that use the grasslands adjacent to the road.

As demand for more access continues, additional facilities are likely to be considered. Great consideration should be given to the disturbance to shorebird nesting, sea turtle nesting and habitat loss when planning more facilities. Areas containing designated species nesting areas and critical habitats should be avoided with respect to any facility placement.

The portion of the island from the gate just east of the Sugar Hill beach pavilion use area to the eastern end of the island should be designated as a protected zone. This park offers visitors a wide array of outdoor opportunities ranging from the very convenient, to the very remote. This diverse set of opportunities is one of the main features that make St. George Island a worldwide destination for visitors. The eastern tip of the island is the primary fishing area of the park. The small patches of flatwoods, expanses of coastal grassland and relatively undisturbed primary dunes make this area a very important resting and foraging area for neo-tropical migrant birds, as well as nesting areas for shorebirds and sea turtles. Subsequently, as the human population of the area inevitably increases, so will the human related pressure on the natural systems.

Channels near the boat launches within the park waters should be more clearly marked with channel markers to avoid potential for boaters to run aground on oyster bars on the bay side of the park.

Management Needs and Problems

1. Adequate staffing to accomplish the natural resource management needs and endangered species monitoring needs of the park. In particular, sea turtle and shorebird monitoring needs to become more of a priority.
2. Funding to re-build dune crossover boardwalks to elevate them above grade. Sand migration and dune recovery is burying the boardwalks.
3. Address the sand road leading from the eastern use area to the eastern tip of the island. Currently only 4-wheel drive access is possible. As the sand road becomes more difficult to cross, the probability exists that drivers will increase the width of the road to avoid being stuck in the softer sand. Some type of road delineation and/or stabilization of problem areas to prevent widening of the road should be implemented.
4. Removal of feral cats, occasionally found in the park, should continue.

Management Objectives

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

1. Improve sea turtle and shorebird nest monitoring.
2. Continue an active prescribed burn program.
3. Perform a comprehensive biological inventory for the park.
4. Seek park service specialist or biologist position to help monitor and manage the sensitive

natural resources of the park.

5. Identify and protect shorebird-nesting areas from both human and non-human disturbance particularly with American oystercatchers, snowy plovers and least terns.

Management Measures for Natural Resources

Hydrology

Hydrology at this park is really a non-issue except where storms and hurricanes are concerned. No significant streams exist in the park. Wave action can and do erode areas of shoreline. In most instances, the eroded areas recover with time. This system of accretion and erosion is a natural part of the ecology of the island.

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.

As a coastal barrier island, prescribed burning can be a problem. Normally, coastal scrub will burn, often only when conditions are extremely dry and fire permits are difficult to obtain. Recent thinking suggests that the panhandles coastal scrub burns catastrophically, or not well at all.

Some of the “cat faced” slash pines are over 100 years old. The burn scars and experience would indicate that the fire interval on this area is much longer than it would be on a similar area of the mainland. It is likely that the flatwoods areas on this island do not conform to the regular fire interval described for mainland flatwoods areas. As such, the park manager should burn the flatwoods areas using his or her discretion.

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. The Division will consult and coordinate with appropriate federal, state and local agencies for management of designated species.

1. Sea turtle “friendly” lighting should be installed at every opportunity following the guidelines of the Franklin County lighting ordinance.
2. Sea turtle and shorebird monitoring will be improved.
3. A complete herpetological survey should be completed. The herpetological fauna of the park is largely unknown.
4. Listed shorebird nesting should be more closely monitored to detect and correct any nest abandonment or disturbance by humans.

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 impact non-resistant native species. Therefore, the policy of the Division is to remove exotic species from native natural communities.

Occasionally coyotes and feral cats will take up residence in the park and can have a

detrimental effect on shorebirds and nesting sea turtles. Cats, armadillos and coyotes will be removed immediately. St. George Island is relatively exotic free with respect to plants. However, vigilance must be maintained to identify and remove exotics whenever they are encountered.

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.

Stingrays, dog flies, fire ants, mosquitoes, jellyfish, alligators and occasionally venomous snakes will be encountered on the park. While not a problem in and of themselves, they can pose problems for the unwary or when unexpectedly encountered.

Management Measures for Cultural Resources

The management of cultural resources is often complicated because these resources are irreplaceable and extremely vulnerable to disturbances. The advice of historical and archaeological experts is required in this effort. Approval from Department of State, Division of Historical Resources (DHR) must be obtained before taking any actions, such as development or site improvements that could affect or disturb the cultural resources on state lands (see **DHR Cultural Management Statement**).

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

All sites will be monitored regularly by qualified staff to determine if any degradation of the site(s) is/are occurring. Advice on appropriate protection measures will be sought from the appropriate agency or bureau.

Research Needs

Natural Resources

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

1. Better data is needed for the shorebird and sea turtle nesting that occurs on the park. This area is an important spot for loggerhead sea turtle nesting and nesting for least tern, snowy plovers and American oystercatchers. Disturbance distances at this park should be determined and used as a guide to how far away visitors and facilities should be from important nesting areas. As reliable data is obtained, it should be used to guide any future use or developments planned for the park.
2. Research showing any negative impacts from increased visitor capacity should be done. As new research becomes known, it should be incorporated to ensure that an appropriate balance is struck between visitor use and habitat health and protection needs.

Cultural Resources

1. A phase I cultural survey is recommended for this park. It is very likely that as more areas are surveyed for the presence of cultural resources, more will be found. Should any significant sites be discovered, appropriate artifact collection measures and site protection should be implemented.

2. As sites are found, they should be documented with the Florida master Site file.

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 5. Cost estimates for conducting priority management activities are based on the most cost effective methods and recommendations currently available (see Addendum 5).

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.

To date, a land management review of Dr. Julian Bruce St. George Island State Park has not been conducted.

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, adjacent land uses and the park's interaction with other facilities.

Franklin County is largely rural, with development clustered within the coastal communities of Apalachicola, Eastpoint and Carabelle. A significant portion of the remainder of the county is comprised of public lands, including the Apalachicola National Forest, Tate’s Hell State Forest and St. Vincent National Wildlife Refuge. Resource dependent industries, timber and fishing, have historically been the economic engines of this region. Although the county is not particularly large in terms of population, it has experienced a rapid rate of population growth over the last 20 years. From 1980 to 1990, the county’s population increased by 17 percent. Between 1990 and 1999 an additional 21 percent increase occurred (Florida Statistical Abstract, 2000). The majority of this growth is largely the result of residential development and the establishment of vacation rental units.

Existing Use of Adjacent Lands

Dr. Julian G. Bruce St. George Island State Park is located in southern Franklin County, approximately 10 miles southeast of the town of Eastpoint. State Road 300 and the Bryant Patton Bridge provide access to the park from U.S. Highway 98. St. George Island is comprised primarily of single-family homes, and rental properties with a commercial uses clustered along the main roadway as one enters the island. Land adjacent to the park’s western boundary supports a condominium community on the Gulf side and single-family homes on the bay side. The former parcel contains a sewage treatment facility within site of the park entrance. Significant conservation lands near the park include the Apalachicola National Forest, Tate’s Hell State Forest, Apalachicola National Estuarine Research Reserve, Apalachicola Bay Aquatic Preserve, Apalachicola River Wildlife and Environmental Area, Dog Island Preserve, Cape St. George State Reserve, St. Vincent National Wildlife Refuge,

John S. Phipps Preserve, and Bald Point State Park.

Planned Use of Adjacent Lands

No significant changes in land use are anticipated immediately adjacent to the park. However, the conversion of adjoining land to more intensive uses in the future could produce an adverse impact to the park, which may include, changes in surface and groundwater quality and quantity, fragmentation of adjacent wildlife habitat, complication of the Division's prescribed fire management activities, traffic congestion and degradation of the aesthetic character of the land surrounding the park. It will be important for division staff to participate in the review of all Comprehensive Plan amendments, proposed zoning changes and development plans within the Greenline boundary of this park in the future.

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.

Dr. Julian G. Bruce St. George Island State Park is a narrow strip of wind and storm deposited sands occurring along the southern edge of the Gulf Barrier Chain. The general topography of the park is relatively flat. Low dunes and overwash areas occupy most of the shoreline. The undulating dunes range from 2 to 25 feet in height. The eastern end of the island is accreting and the topography of this section is low and very dynamic. The upland natural communities of this park include beach dune, scrub, scrubby flatwoods, coastal grasslands and mesic flatwoods. The wetland communities include wet flatwoods, depression marsh, estuarine tidal marsh, coastal dune lake and estuarine mollusk reef. These features and communities provide a broad array of recreational and educational opportunities for park visitors.

The park is bound by the Gulf of Mexico on the east and St. George Sound on the west. The primary recreational resources of the park are its shorelines on the Gulf of Mexico and Apalachicola Bay. Over 200,000 visitors used the beach area, camping area and trails in the park in fiscal year 1999-00. The management of this volume of public use on the shoreline areas of the park continues to be the greatest challenge in the Division's management of the area.

This region of Florida is one of the State’s richest in terms of rare and endangered wildlife and the park is home to a significant number of designated species, including nesting and over-wintering shorebirds. As discussed in the Resource Management Component, the park's mosaic of high-quality upland and wetland natural communities provides exceptional habitat for listed bird species. The island has the second highest density of sea turtle nesting and the highest abundance of overwintering piping plovers in the panhandle. During the spring and fall migration, it is also a major area for neotropical birds and raptors. The exceptional opportunities for wildlife observation are expected to generate large visitor numbers in the future.

The beach dune, scrub and coastal grassland communities of the park are of utmost regional importance, since the park is one of the few remaining areas in the region where these

communities remain. In addition, the resulting landscape has exceptional visual qualities. The protection of park visual resources and the preservation of the landscape's unique wilderness character are important components of the Division's resource management and development plans for this park.

Although the park is relatively remote, it contains cultural landscapes created over the past 4,000 years or more. Three sites of pre-historic and historic importance are included in the Florida Site File for Dr. Julian G. Bruce St. George Island State Park. Additional details are noted in the Cultural Resources section. Additional archaeological research should be conducted and the information gathered incorporated into the interpretive and educational programs at the park.

Assessment of Use

All legal boundaries, significant natural features, structures, facilities, roads, trails and easements 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 noted in the Cultural Resources section, the island has been used by humans well over 2,000 years. During the 1900s, the pine forests of the island were turpentined with many "cat-faced" trees still visible. The U.S. Army used the island for training purposes during WWII.

Recreational Uses

Beach use, saltwater swimming, fishing, picnicking, camping, hiking, canoeing, kayaking, bird watching and nature study are the recreational activities available at this park. Offshore fishing and boating (including a large amount of personal watercraft use) are popular activities in the waters surrounding the park. The eastern third of the peninsula is a limited access area. In this area, a wilderness-like experience is available to a limited number of users for shoreline fishing, hiking and bird watching.

Protected Zones

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

At Dr. Julian G. Bruce St. George Island State Park, the wetland communities, coastal grasslands, beach dune and scrub communities have been designated as protected zones. The East End, a limited access area, has also been designated as a protected zone. These areas represent 65 percent of park lands.

Existing Facilities

East Slough Group Camp
Group camp
Canoe launch
Bathhouse (1)
Paved parking (25 spaces)
Stabilized parking (up to 10 vehicles)

East Slough Boat Ramp
Boat ramp
Stabilized & unimproved parking area (up to 20 vehicles)

DR. JULIAN G. BRUCE ST. GEORGE ISLAND STATE PARK

LEGEND
- COUNTY ROAD
- PARK ROAD PAVED
- PARK ROAD UNPAVED
- Trails
- Park boundary
- Walkways
- Special use areas
- Marine structures.shp
- Camping areas
- Parking
- Structures

INSET 2

ST. GEORGE SOUND

GULF OF MEXICO

EAST END PARKING

PARK ROAD UNPAVED

MARSH ISLAND

SUGAR HILL BEACH AREA

SUGAR HILL CAMPING AREA (60 SITES)

PARK ROAD PAVED

EAST SLOUGH BEACH USE AREA

BOAT LAUNCH

EAST SLOUGH

GAP POINT

INSET 1

RATTLESNAKE COVE

COUNTY ROAD

PICNIC SHELTER

PICNIC SHELTER

RESTOOMS

RESTOOMS

BATH HOUSE(2)

PLAYGOUND

DUMP STATION

HIKING TRAIL

OBSERVATION DECK

EAST SLOUGH

PICNIC SHELTER

RESTOOMS

RESTOOMS

PICNIC SHELTER

PRIMITIVE CAMPING AREA

BOAT LAUNCH

INSET 2

N

2000 0 2000 4000 Feet

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

INSET 1

CANOE LAUNCH

GROUP CAMP AREA

ST. GEORGE SOUND

RESIDENCE(2)

STORAGE SHED

SHOP

RESIDENCE(2)

WATER TREATMENT PLANT

ENTRANCE STATION

BASE MAP

East Slough Beach Use Area
Large picnic shelters (3)
Boardwalk (850 LF)
Bathhouse (2)
Paved parking (220 spaces)

Campground

60 sites w/utilities
Playground
Amphitheater
Bathhouse (2)
Stabilized trailhead parking (up to 8 vehicles)

Primitive Camping Area
Primitive camping area (4 sites)

Sugar Hill Beach Use Area
Large picnic shelters (3)
Boardwalk (850 LF)
Bathhouse (2)
Paved parking (220 spaces)

East End Fishing Area
Stabilized parking area (up to 20 vehicles)
Stabilized service road (2 mi.)

Trails
Hiking Trail (2 mi.)
Boardwalk (located across from shop area, 300 LF)

Support Facilities
4-bay shop building (3)
Ranger station
Residences (3)
Service roads (0.25 mi.)
Park drive (7.6 mi.)

CONCEPTUAL LAND USE PLAN

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

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

Potential Uses and Proposed Facilities

Dr. Julian G. Bruce St. George Island State Park is one of many recreational and natural areas in the Florida that attracts large numbers of visitors. Resource-based outdoor recreation in Florida continually increases in popularity. The growth of Florida's resident and tourist populations brings increasing pressure for more widespread access and for denser levels of public use in the natural areas available to the public. Consequently, one of the

EAST PASS

EAST END
* Monitor visitor use
* Sign access road & stabilize problem areas

ST. GEORGE SOUND

CAMPGROUND
* Screened pavilion
*Tent camping area
*Landscape buffering
*Site reconfiguration
*Volunteer host sites
*Potential concession site

SUGARHILL BEACH USE AREA
*Relocation of facilities
*Potential concession site

GULF OF MEXICO

Primitive Campsites

Paved Bicycle / Pedestrain Path

Stabilize & organize EAST SLOUGH BOAT LAUNCH parking area

Hiking Trail Extension & Slough Boardwalk

Redesign Boardwalk & Observation Deck

GROUP CAMP
* Screened pavilion

EAST SLOUGH BEACH USE AREA
*Relocation of facilities
*Potential concession site

ENTRANCE STATION
* Replace entrance station
* Extend camper registration parking area

LEGEND
- Proposed Facilities
- Existing Trails
- Proposed Trails
- Park Boundary
- Protected Zones

DR. JULIAN G. BRUCE
ST. GEORGE ISLAND STATE PARK
CONCEPTUAL LAND USE PLAN

N

4000 0 4000 8000 12000 Feet

PREPARED BY: FL
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF RECREATION AND PARKS
OFFICE OF PARK PLANNING

greatest challenges for public land managers is the balancing of reasonable levels of public access with the need to preserve and enhance the natural and cultural resources of the protected landscapes.

In general, the existing recreational activities provided at the park are appropriate and should continue at existing visitation levels. Some improvements to park facilities and infrastructure are needed for the Division to fulfill its responsibilities to provide outdoor recreation and protect and enhance the natural and cultural resources of the park. Dr. Julian G. Bruce St. George Island State Park has a huge potential for nature-based recreation and education programs. Watchable wildlife opportunities, the park's wilderness character, its scenic qualities, excellent recreational and unique ecological resources attract state, national and international visitors.

Interpretive facilities. The education of recreational users will become an issue of critical importance in the management of Dr. Julian G. Bruce St. George Island State Park as population pressure continues to bring large numbers of visitors to the park. Environmental stewardship issues, therefore, need to be brought to the attention of park's recreational users to balance recreation with protection and management of the park's natural and cultural resources. To complement the existing and proposed programs offered by and at the park, interpretive stations are recommended at each of the locations where visitors gain access to natural or cultural resources through the park's facilities or landscapes. These interpretive stations will aid in the linking of existing park programs, the various recreational activities with the landscape, providing visitors with opportunities to experience a variety of recreation and educational program combinations.

Camping facilities. Screened pavilions are recommended in both the standard campground and primitive group camp that would provide a sheltered space for evening interpretive programs and a location for campers to mingle, particularly during the peak season for biting insects. Consideration should be given to reconfiguring a portion of sites in the standard campground to accommodate large recreation vehicles. Any changes to the layout of existing sites should be sensitive to preserving the visitor experience for all types of campground users. Additional landscaping is also recommended to provide adequate visual screening between all of the sites. The water and electrical systems servicing the campground are proposed for upgrade.

To enhance the visitor experience for tent campers, a designated tent camping area is proposed at the west end of the campground adjacent to the existing parking area that serves the trailhead and primitive camping area. Consideration will be given to a modest expansion of the footprint of the existing stabilized parking area to accommodate this new use.

To encourage additional volunteer support at the park, up to four volunteer host RV sites are recommended a short distance from the dump station along the north side of the campground road.

Two primitive canoe/kayak-in campsites, for up to eight persons/site, are proposed on the bay shoreline between the existing primitive camping area and the Group Camp. Spur trails are recommended to tie these sites to the existing trail system so campers can access other use areas of the park.

East Slough Boat Launch. The lack of other public boat launch facilities on the island makes the park's boat launch a popular location for boating access. While the Division does not support boat ramp improvements or expansion that would serve to encourage increased motorized boating in this area, improvements to the parking area are recommended to accommodate existing levels of use in a more efficient and organized fashion. Parking is

currently accommodated within a small area stabilized with former roadbed material and the adjacent unimproved area. The improved area needs to be resurfaced, adjacent soft sands stabilized, and the boundaries of the parking area more clearly defined to eliminate creep. It is proposed that the footprint of the area currently utilized for parking be stabilized with a pervious or semi-pervious paving material and marked with wheel stops. These recommended improvements should be accompanied by interpretive signage aimed at increasing awareness of shorebird areas sensitive to disturbance and encouraging responsible boating behavior.

East End. Since Hurricane Opal, the Division has established the East End as a limited-access use area via an established permit system. This area offers outstanding opportunities for a remote visitor experience that complements the more intense recreational use in the western part of the park. During this plan's five-year implementation period, staff will continue to monitor visitor use in this use area to determine if existing carrying capacities are appropriate and whether existing patterns of use warrant providing restroom facilities onsite. Given the remote nature of this location, vulnerability to storm impacts, and poor road conditions, facilities in this location may prove impractical to maintain/service. As discussed in the Resource Management Component, road conditions are such that vehicles occasionally stray from the roadbed to avoid soft areas resulting in resource impacts. It is recommended that signage be maintained along the roadway directing drivers to stay on the road path and that problem areas be stabilized to eliminate the need for roadway creep. Consideration should be given to using some type of barrier in problem areas, if necessary.

Trails and Boardwalks. There is currently no shoulder to accommodate bicyclists on park roadways. Ideally, a paved pedestrian and bicycle path should be established between the park entrance and the Sugar Hill Beach Use Area. This paved trail will connect to the proposed County trail outside of the park boundaries, eliminate the safety problems related to pedestrian, and bicycle use of the park drive. If it is determined that shifting sands would make the construction of an ongrade-paved trail impractical, then a paved bike lane on the shoulders of the existing park drive should be provided at a minimum.

The boardwalk and observation deck across from the East Slough Beach Use Area is recommended to be redesigned with a covered shelter and seating. The design of this facility will remain sensitive to preserving views of the slough from the park's trail system. A hiking trail is proposed to extend from this location east to the existing trail that runs between the campground and the primitive camping area. The East Slough Beach Use Area parking lot would serve as the trailhead for the parks' expanded hiking trail system, which will provide better access for day-use visitors and eliminate orientation and safety problems within the campground. A boardwalk crossing of the east end of the slough is recommended to provide a connection with the existing trail and enhance views across this picturesque waterbody. Interpretive displays should be placed at appropriate locations along the trail to describe the resources of the park. In addition, the boardwalks at the two beach use areas and the one located across from the shop area should be elevated.

East Slough and Sugar Hill Beach Use Areas. Storm tides are creating erosion problems at both of the beach use areas of the park. Flooding renders bathhouses inoperable for extended periods. The facilities at both locations, particularly the East Slough Beach Use Area, are recommended to be relocated. Consideration should be given to reusing existing structures. All efforts will be made to relocate facilities as near to the existing footprint of the developed areas, as is practical to minimize resource impacts. The relocation of these facilities will allow the restoration of portions of the primary dune line in these areas. At the same time, parking areas should be evaluated to improve drainage conditions and

stormwater management.

Concession Opportunities. The park's abundant natural resources provide an ideal setting for private business operators to establish concession facilities to serve park visitors. Concession operations could provide rental equipment (canoes, kayaks, bicycles), camping supplies, refreshments, tours, and educational programs that would enhance the visitor experience. A small, portable storage facility is recommended to support a concession at the park. Potential locations include the existing beach use areas or campground. Additional mobile concession operations will be considered on a case-by-case basis.

Support facilities. The park ranger station is in poor condition and inadequately sized and should be replaced. The parking area for the registered camper rigs is also recommended for expansion in this area. A portion of the park drive that is most susceptible to storm damage will be considered for relocation if site conditions permit. Consideration will also be given to removing the two unused water tanks in the shop area.

Facilities Development

Preliminary cost estimates for the following list of proposed facilities are provided in Addendum 5. 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.

The following is a list of recreational and interpretive facilities proposed for development at Dr. Julian G. Bruce St. George Island State Park:

Interpretive Facilities
Interpretive signs and displays

Camping Areas

Standard Campground
Screened pavilion
Expand size of campsites (up to 7)
Landscape buffers
Tent campsites (up to 8 sites)
Volunteer host RV sites (up to 4)
Upgrade water and electric systems

Primitive Group Camp
Screened pavilion
Canoe/kayak-in primitive campsites (2-8 person/site capacity)

East Slough Boat Launch
Stabilized and organize parking area

East End
Sign access road and stabilize problem areas

Trails and Boardwalks
Paved pedestrian/bicycle path
Boardwalk slough crossing
Covered observation deck with seating
Extend hiking trail
Elevate boardwalks

East Slough and Sugar Hill Beach Use Areas
Relocate facilities
Stormwater management improvements

Support Facilities
Replace entrance station
RV parking area
Partial relocation of park drive
Portable concession storage building

Existing Use and Optimum Carrying Capacity

Carrying capacity is an estimate of the number of users a recreation resource or facility can accommodate and still provide a high quality recreational experience and preserve the natural values of the site. The carrying capacity of a unit is determined by identifying the land and water requirements for each recreation activity at the unit and then applying these requirements to the unit's land and water base. Next, guidelines are applied which estimate the physical capacity of the unit's natural communities to withstand recreational uses without

significant degradation. This analysis identifies a range within which the carrying capacity most appropriate to the specific activity, the activity site and the unit's classification is selected (see Table 1).

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

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**
Beach Use						
Swimming / Picnicking	1,400	2,800			1,400	2,800
Shoreline fishing	80	160			80	160
Camping						
Standard	240	240	32	32	272	272
Primitive	12	12			20	20
Group	25	25			25	25
Boating						
Canoe / Kayak	20	40			20	40
Motorized	80	80			80	80
Trails						
Hiking and nature trails	20	80	10	40	30	120
East End Fishing	40	120			40	120
TOTALS	**1,917**	**3,557**	**42**	**72**	**1,967**	**3,637**

Optimum Boundary

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

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

At this time, no lands are identified for acquisition. No lands are considered surplus to the needs of the park.

Addendum 1—Acquisition History and Advisory Group Staff Report

Purpose and Sequence of Acquisition

The State of Florida acquired Dr. Julian G. Bruce St. George Island State Park to protect, develop, operate, and maintain the property for public outdoor recreational, park, conservation, historic and related purposes. The initial acquisition of Dr. Julian G. Bruce St. George Island State Park took place on April 17, 1963, as a donation. Since this initial donation, the Trustees have acquired several individual parcels through purchases under the LATF, EEL, CARL, and P2000/CARL programs and added them to the park.

On August 23, 1977, the Board of Trustees of the Internal Improvement Trust Fund (Trustees) transferred the management authority of this property to the Division of Recreation and Parks (Division), under lease No. 2992. This lease is for a period of ninety-nine (99) years, which will expire on August 23, 2076.

In accordance with the lease from the Trustees, the park will be managed for the conservation and protection of natural, historic and cultural resources and provide resource-based public outdoor recreation which is compatible with the conservation and protection of the property.

Title Interest

The Trustees hold fee simple title to Dr. Julian G. Bruce St. George Island State Park.

Special Conditions on Use

Dr. Julian G. Bruce St. George Island State Park is designated as single-use to provide resource-based public outdoor recreation and other 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 Dr. Julian G. Bruce St. George Island State Park**.**

Instrument:	Release of Reverter
Instrument Holder:	St. George Island Gulf Beaches, Inc.
Beginning Date:	January 12, 1971
Ending Date:	Forever
Outstanding Rights, Uses, Etc.:	The instrument states that the property shall be used only for public purposes. If not, it the title will revert to St. George Island Gulf Beaches, Inc.

Instrument:	Easement
Instrument Holder:	DNR/Division (now DEP/Division)
Beginning Date:	April 11, 1984
Ending Date:	Coterminous with Lease No. 2992.
Outstanding Rights, Uses, Etc.:	The easement allows Florida Power Corporation to use a 10-foot wide strip of land to construct, repair, and maintain a distribution system for electrical transmission.

Instrument:	Easement
Instrument Holder:	DNR/Division (now DEP/Division)
Beginning Date:	December 7, 1978
Ending Date:	Coterminous with Lease No. 2992.
Outstanding Rights, Uses, Etc.:	The easement allows St. George Island Utility Company to use a 5-foot wide strip of land to construct, operate and maintain a water line and water main.

Instrument:	Easement
Instrument Holder:	DNR/Division (now DEP/Division)
Beginning Date:	July 21, 1978
Ending Date:	Coterminous with Trustees Lease No. 2992 or until the use is abandoned.
Outstanding Rights, Uses, Etc.:	The easement allows the Florida Power Corporation to use of a 10-foot wide strip of land to construct, operate and maintain an electrical distribution system.

The Honorable Alan Pierce
Mayor
City of Apalachicola
33 Commerce Street
Apalachicola, FL 32328

The Honorable Eddie Creamer
Chair
Franklin County Board of
County Commissioners
33 Market Street, Suite 203
Apalachicola, FL 32320

Barry A. Burch, Park Manager
Dr. Julian G. Bruce
St. George Island State Park
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Florida Fish and Wildlife
Conservation Commission
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David Core, District Manager
Florida Division of Forestry
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Represented by:
Mr. Ace Haddock
Florida Division of Forestry
Tate's Hell State Forest
290 Airport Road
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Cliff Butler, Chair
Franklin Soil and Water
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Post Office Box 488
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Woody Miley, Manager
Apalachicola National Estuarine
Research Reserve
350 Carroll Street
Eastpoint, FL 32328

Represented by:
Mr. Roy Ogles
Apalachicola National Estuarine
Research Reserve
350 Carroll Street
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Anita Gregory, Executive Director
Apalachicola Bay Chamber of Commerce
99 Market Street, Suite 100
Apalachicola, FL 32320

Gary Lloyd, Chair
Sierra Club, Big Bend Group
1922 Mallory Square
Tallahassee, FL 32308

Larry Thompson, President
Apalachee Audubon Society
102 East Fourth Avenue
Tallahassee, FL 32303

Jeanni McMillan, Owner
Jeanni's Journeys
240 East 3rd Street
St. George Island, FL 32328

Ms. Helen Spohrer
Sunset Beach Homeowners Association
123 Gulf Beach Drive West
St. George Island, FL 32328

Mr. Curt Spangler
457 West Pine Avenue
St. George Island, FL 32328

The Advisory Group appointed to review the proposed land management plan for Dr. Julian G. Bruce St. George Island State Park met at 9:00 am, June 27, 2002 at the St. George Island Volunteer Fire Department. Roy Ogles represented Woody Miley. Ace Haddock represented David Core. The Honorable Alan Pierce, The Honorable Eddie Creamer, Karen Lamonte, Cliff Butler, Larry Thompson and Jenni McMillan did not attend. All other appointed advisory group members were present. Attending staff were Barry Burch, Roland Hall, Mickey Bryant, Harold Mitchell and Michael Kinnison.

Mr. Kinnison began the meeting by explaining the purpose of the advisory group, reviewing the meeting agenda and format, providing an overview of the Division's planning process and discussing the main topics of the previous evening's workshop. The meeting was then opened for the advisory group to comment on the proposed management plan.

Summary Of Advisory Group Comments

Roy Ogles urged extreme caution when considering boat ramp improvements. He was concerned about the presence of oyster bars in a pristine, sensitive system and the potential impacts from increased boat traffic. He suggested that private lands were more appropriate to address the island's need for boating access and recommended that the park not undertake additional improvements. **Helen Spohrer** stated that the lack of boat ramp facilities was a major problem on the island. She supported proposed parking improvements in the plan. She asked if visitors were instructed on the hazards of launching a boat in the park. **Mr. Burch** responded that staff assesses the size of craft entering the park and advise those with large boats to try a different area to launch. **Curt Spangler** agreed that the island needs a ramp but did not want the park to serve as a main boat launch site. **Anita Gregory** discussed the public pressure that exists to establish a suitable ramp and the county's unsuccessful attempt to establish one. **Ace Haddook** asked if restricting boat launching to certain size craft was an option. **Mr. Burch** explained that he was trying to accommodate the public, while educating them to the potential hazards. **Mr. Hall** discussed the difficulty in determining what type boat is more damaging than others are and defending a restrictive policy. He stated that education was the best way to encourage responsible use. **Ms. Spohrer** asked if the park allowed the launching of personal watercraft and discussed public sentiment in restricting their use. **Mr. Kinnison** explained that the Division does not target one type of craft over another in terms of restricting use other than motorized and nonmotorized vessels. **Mr. Burch** indicated that they have not become a problem at the park.

Mr. Ogles stated that the number of bikes in the park warrants construction of a trail regardless of whether the trail outside the park is complete. He indicated that bicyclists were already sharing the roads with cars and that it was a significant safety issue. **Ms. Spohrer** suggested that it may be possible to do in phases, connecting use areas first, then the rest of the park once the county's trail is complete. **Ms. Gregory** stated that the chamber of commerce receives many requests about bicycling opportunities and that they encourage visitors to ride to in the park. **Mr. Burch** affirmed the tremendous amount of bike traffic currently in the park. **Mr. Ogles** discussed historic attempts at operating concessions in the park and the problems faced by erratic visitation patterns. He suggested a park store in the campground as having likelihood of success and noted the opportunities for collaborating with the developing CSO to support a concession. **Mr. Kinnison** clarified the CSO concept and the contributions they make to parks, and **Mr. Burch** explained the status of the CSO of the park. **Ms. Gregory** recommended operation of a concession by a local private vendor. **Mr. Burch** explained that a local outfitter had conducted a successful kayak education program at the park. **Mr. Hall** explained that anyone could approach the park to acquire a permit for a concession. **Mr. Kinnison** suggested that language be added to the plan that discusses the concept of a concession and the possible types and locations being considered. **Mr. Ogles** recommended revising some of the language that discuss adjacent land use too more accurately reflect current conditions. He suggested adding language to the plan that discusses coordinating resource management, including the use of prescribed fire, with the Apalachicola Estuarine Research Reserve. He suggested the park may be an excellent location for establishment of a listed species of lichen. He expressed support for the plans for improving trails and believes they will eliminate conflicts with existing use areas and open significant

natural areas for hikers.

Mr. Spangler recommended constructing a pathway from the Sugar Hill parking area to the bay for the purposes of launching canoes and kayaks. **Mr. Kinnison** indicated that staff will consider the concept.

Mr. Haddook encouraged the park to address road conditions at the East End, but not to improve to the point that two-wheel drive vehicles could access. He expressed support for construction of a separate bike trail and agreed that conditions on the park road were dangerous to bicyclists. He asked for clarification on burn intervals used at the park. **Mr. Burch** explained that the communities on barrier islands do not follow fire cycles of inland fire adapted communities. He discussed how the island systems are more influenced by storms than fire and that the use of fire will need to be closely evaluated.

Ms. Gregory discussed the need to improve informational and interpretive materials to inform the public about the resources and recreation opportunities at the park. She urged the Division to fund the development of a brochure. **Ms. Spohrer** expressed an interest in providing a link to the park website on her business webpage. **Ms. Gregory** also discussed the role volunteer hosts could play in networking with the chamber of commerce to help promote the park. She indicated that the chamber receives requests for dogs in campgrounds and asked for clarification of the pet policy of the park. **Mr. Burch** explained that dogs are allowed in the campground on hand held leashes but not on the beach due to safety and resource management concerns. **Ms. Gregory** discussed the public frustration with the new reservation system. **Mr. Hall** stated that improvements are being made, including upgrading computer systems, and that the new system is opening Florida State Parks to the world via the Internet.

Gary Lloyd stated his support for constructing the bike trail without waiting on the county to complete their trail. He asked is there was a limit to the amount that could be requested to fund park needs. **Mr. Mitchell** explained that there were no caps on funding requests but that the annual legislative budget request does not meet all needs.

Ms. Spohrer expressed her support for the proposed bike path. She asked if the park had considered eliminating motorized watercraft in park waters. **Mr. Kinnison** explained that the Division tries to accommodate a variety of users while balancing the need for public access with resource protection. He indicated that the current approach of maintaining limited facilities for boat use was preferable to prohibiting boats. Staff discussed the problems of enforcing such a policy. **Ms. Spohrer** supported the idea of producing a new park brochure and affirmed that more information was needed to distribute to the public to promote visitation. She discussed the popularity of the island to with pet owners and encouraged the park to be a dog-friendly location.

Mr. Burch discussed volunteer involvement with park projects, such as the trail system, fundraising for ADA improvements and sea turtle surveys, and the important role of the CSO. He also indicated that the park was considering additional special events, such as a kayakathon.

Written Comments

The following is a summary of substantive comments submitted by Karen Lamonte of the Fish and Wildlife Conservation Commission and from Jeanni McMillan of Journeys of St. George Island.

Ms. McMillan complemented park staff, particularly Mr. Burch, as being friendly, cooperative and very willing to work with eco-tourist businesses. She indicated that this had not always been the case in the past. She stated her interest in expanding her relationship with the park to provide concession services, such as canoe/kayak rentals, guided trips, marine identification walks, cast netting lessons, and oyster harvesting demonstrations.

Ms. Lamonte commended the Division on the natural resource goals and objectives set out in the plan, particularly those related to monitoring and management of shorebird species. She emphasized how important it was for the park to monitor nesting shorebird species and adjust plans if populations

decline due to human intrusion. Additionally, she commended the Division for their light touch in terms of new development at the park. She provided information to update the plan's discussion of nesting American oystercatchers and listing of designated species. She was concerned that proposed improvements to the boat launch area may increase the number of boaters in this area and cause disturbance within shorebird resting and nesting areas. She recommended including signage at the boat launch, oyster bars and sand bar islands around Goose Island and in Rattlesnake and Shell Point coves indicating that these areas should not be entered by boaters and that birds should not be disturbed. She proposed minimizing the impacts from relocating beach use area facilities by using existing footprints as much as possible, not expanding the size of facilities, and restoring the old use areas to natural habitat. She expressed support for improvements to more clearly define the boundaries of the road and parking area at the East End to eliminate resource impacts, and encouraged posting signs in areas used by shorebirds until the work is complete. She also recommended against providing any additional facilities in this area.

Advisory Group Vote

The advisory group members were asked if they approved the draft unit management plan for the Dr. Julian G. Bruce St. George Island State Park. All members present agreed that the draft plan was appropriate and should be approved.

The meeting was then adjourned.

Staff Recommendations

Staff recommends approval of the proposed management plan for Dr. Julian G. Bruce St. George Island State Park as presented with the following recommended changes.

Issue: Importance of coordinating resource management with the Apalachicola National Estuarine Research Reserve (ANERR).

Recommendation: Add text under the Management Coordination Section of the Introduction that addresses coordination between ANERR and the Division.

Issue: Concession concept.

Recommendation: Add discussion to the Land Use Component that addresses the potential for establishing concession operations at the park.

Issue: Canoe/kayak launch on the Bay.

Recommendation: A field visit to the proposed site revealed it to be unworkable due to the distance required to portage boats and the potential impacts to the surrounding beach dune community.

Issue: Shorebird protection signage.

Recommendation: Include signage as part of the proposed boat launch area improvements aimed at increasing awareness of shorebird areas sensitive to disturbance.

Addendum 2—Soil Descriptions

(**3) Beaches -** Beaches consist of narrow strips of nearly level land areas along the Gulf of Mexico and adjacent bays. They formed in deposits of mixed sand and shell fragments. Individual areas range from less than 100 to more than 300 feet in width. As much as half of the beach can be flooded daily by high tides, and all of the beach can be flooded by storm tides. The most extensive areas of this unit are on St. Vincent Island, St. George Island, and Dog Island.

Beaches typically consist of loose, fine sand ranging from gray to white or sand that contains various quantities of broken shells throughout. In most areas the shell fragments are the size of sand grains, but in some areas they are larger in some parts of the profile. Layers differ primarily in color or in shell content. Some profiles appear uniform throughout.

Included in mapping are small areas of Corolla, Duckston, and Hurricane soils. The soils are on the landward fringes of the map unit.

Beaches are covered daily with saltwater at high tides. They are susceptible to movement by the wind and tide. Many areas do not support vegetation, and the remaining areas are sparsely vegetated by salt-tolerant plants.

(4) Direго and Bayvi soils, tidal - These very poorly drained, nearly level soils are in gulf coast tidal marshes and in estuarine marshes along the lower reaches of the Apalachicola River. Individual areas are generally elongated along the gulf coast and are irregularly shaped or elongated in other places. They range from 3 to several thousand acres in size. They are about 50% Dirego soil and 40% Bayvi soil. Slopes are less than 1%.

In most areas the natural vegetation consists of black needlerush, marshhay cordgrass, and smooth cordgrass.

(10) Corolla Sand - This somewhat poorly drained, nearly level or gently sloping soil is on flats and small dunes and in swales on large dunes along the gulf coast beaches. Slopes range from 0 to 5% but are generally less than 3%. Individual areas are narrow and elongated and range from 5 to 100 acres in size.

Typically, the surface layer is light gray sand about 6 inches thick. The next layer is sand. The upper 18 inches is very pale brown, and the lower 8 inches is light gray. The next 2 inches is a buried surface layer of grayish brown sand. Below this to a depth of 80 inches or more is gray light sand.

The Corolla soil has a seasonal high water table at a depth of 18 to 36 inches for 3 to 6 months in most years. Flooding can occur during severe coastal storms. The available water capacity is low. Permeability is very rapid. Natural fertility and the content of organic matter are low.

(26) Duckston Sand - This poorly drained, nearly level soil is on level flats adjacent to coastal dunes and marshes and in low swales between dunes. Slopes range from zero to 2% Individual areas are elongated and range from five to 100 acres in size.

Typically, the surface layer is dark gray sand about 4 inches thick. The underlying material extends to a depth of 80 inches or more. In sequence downward, it is 5 inches of grayish brown sand, 19 inches of light brownish gray sand, 25 inches of white sand, and 27 inches of more light gray sand.

The Duckston soil has a high water table within a depth of 12 inches throughout most years. The water table may fluctuate slightly with rising and falling tide. Flooding is likely during periods of heavy rainfall in combination with high tides or during coastal storms. The available water capacity is very low. Permeability is very rapid. The content of organic matter and natural fertility are low.

(31) Rutledge fine sand - This very poorly drained, nearly level soil is on broad, low lying flats and on narrow flats adjacent to streams. Slopes range from 0 to 2%. Individual areas are elongated or irregularly shaped and range from 25 to 500 acres in size.

Typically, the surface layer is fine sand about 13 inches thick. The upper 6 inches is very dark brown, and the lower 7 inches is very dark gray. Below this to a depth of 80 inches or more is sand. The upper 21 inches is grayish brown, the next 24 inches dark gray and the lower 22 inches or more is gray.

The Rutledge soil has a seasonal high water table at or slightly above the surface for 3 to 6 months in most years. The water table is within a depth of 20 inches during the rest of most years. The available water capacity is low. Permeability is rapid. The content of organic matter is high in the surface layer and low in the rest of the profile. Natural fertility is medium.

(40) Newhan-Corolla complex, rolling - The excessively drained or somewhat poorly drained, gently undulating to steep soils are on coastal dunes and in swales. Slopes generally range from 5 to 15% but can range from 2 to 30%. Individual areas of these soils are elongated and range from 25 to 150 acres in size. They are about 60% Newhan soil and25% Corolla soil. Newhan soils are on high dunes, and Corolla soils are on low dunes and in high swales between dunes.

Typically, the surface layer of the Newhan soil is gray sand about 1 inch thick. The underlying material extends to a depth of 80 inches or more. It is about 5 inches of light gray sand, 5 inches of white sand, 10 inches of mixed light gray and light brownish gray sand and 59 inches or more of light gray sand.

The Newhan soil does not have a seasonal high water table within a depth of 80 inches. The Corolla soil has a seasonal high water table at a depth of 18 to 36 inches for 2 to 6 months in most years. The water table in this soil is below a depth of 36 inches for the rest of most years. The available water capacity is very low in both soils. Permeability is very rapid. The content of organic matter and natural fertility are low.

(46) Duckston-Rutlege-Corolla complex - These very poorly drained to somewhat poorly drained, nearly level soils are on low ridges and flats and in swales on the barrier islands. The individual landscape components occur in a repeating, parallel sequence. Slopes range from 0 to 2% but are slightly higher on short breaks between dunes and swales. Individual areas of these soils are elongated and range from 100 to several thousand acres in size. The are about 50% Duckston soil, 25% percent Rutlege soil and 20% Corolla soil. The very poorly drained Duckston soil is on flats. The somewhat poorly drained Corolla soil is on low ridges.

Typically, the surface layer of Rutlege soil is very dark grayish brown fine sand about 10 inches thick. Below this to a depth of 80 inches or more is grayish brown fine sand.

Typically, the surface layer of the Corolla soil is very dark gray sand about 3 inches thick. Below this to a depth of 80 inches or more is light gray and light brownish gray sand.

The Duckston soil has a seasonal high water table within a depth of 12 inches for as long as 12 months In most years. About 6 to 18 inches of water is ponded on the surface of the Rutlege soil for months or longer in most years. The Corolla soil has a seasonal high water table of 18 to 36 inches for 2 to 6 months in most years. The available water capacity is low or very low in all three soils. Permeability is rapid or very rapid. The content of organic matter generally is low, but it is high in the surface layer of the Rutlege soil. Natural fertility is low.

(47) Duckston-Bohicket-Corolla complex - These very poorly drained to somewhat poorly drained, nearly level soils are on low ridges and flats and in narrow, elongated tidal marshes on the barrier islands. The individual landscape components occur in a repeating, parallel sequence. Slopes generally range from 0 to 2% but are slightly higher on short breaks between dunes and swales. Individual areas of these soils elongated and range from 200 to 800 acres in size. They are about 50% Duckston soils, 25% Bohicket soil, and 15% Corolla soil. The poorly drained Duckston soil is on very low dune ridges, on nearly level flats, and in swales between the low dune ridges of the somewhat poorly

drained Corolla soils. The very poorly drained Bohicket soil is in narrow, elongated tidal marshes between the low dune ridges.

The Duckston soil has a seasonal high water table within a depth of 12 inches for as long as 12 months in most years. The Bohicket soil is flooded daily by normal high tides. The Corolla soil has a seasonal high water table at a depth of 18 to 36 inches for 3 to 6 months in most years. The available water capacity is low or very low in all three soils. Permeability is rapid or very rapid in the Duckston and Corolla soils and very slow or slow in the Bohicket soil. The content of the organic matter is generally low, but it is high in the surface layer of the Bohicket soil. Natural fertility is low.

Addendum 3—Plant And Animal List

Dr. Julian Bruce St. George Island State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Pepper vine	*Ampelopsis arborea*	
Grass	*Amphicarpum muhlenbergianum*	
Coastal bluestem	*Andropogon callipes*	
Broomsedge	*Andropogon virginicus*	
Three awn grass	*Aristida spiciformis*	
Grass	*Aristida virgata*	
False willow	*Baccharis angustifolia*	
Salt myrtle	*Baccharis hamlimfolia*	
Saltwort	*Batis maritima*	
Sea oxeye	*Borrichia frutescens*	
False buckthorn	*Bumelia lanuginosa*	
Gray nickerbean	*Caesalpinia bonduc*	
Sea rocket	*Cakile constricta*	
Deer tongue	*Carphephorus odoratissimus*	
Partridge pea	*Cassia fasciculata*	
Buttonbush	*Cephalanthus occidentalis*	
Sandspur	*Cenchrus tribuloides*	
Dune rosemary	*Ceratiola ericoides*	
Spurge	*Chamaesyce ammannoides*	
Spurge	*Chamaesyce hyssopifolia*	
Fingergrass	*Chloris petraea*	
Woody goldenrod	*Chrysona pauciflosculosa*	
Scrub mint	*Conradina canescens*	
Sawgrass	*Cladium jamaicensis*	
Reindeer moss	*Cladonia sp.*	
Butterfly pea	*Clitoria mariana*	
Stinging nettle	*Cnidoscolus stimulosus*	
Beach croton	*Croton punctatus*	
Sand coco-grass	*Cyperus lecontei*	
Sedge	*Cyperus polystachios*	
Sedge	*Cyperus retrosus*	
Persimmon	*Diospyros virginiana*	
Seashore saltgrass	*Distichlis spicata*	
Love grass	*Eragrostis elliotii*	
Love grass	*Eragrostis refracta*	
Coral bean	*Erythrinia herbacea*	
Thoroughwort	*Eupatorium anomalum*	
Sedge	*Fimbristylis castanea*	
Sedge	*Fuirena scirpoides*	
Aleguminous vine	*Galactica volubilis*	
Madder	*Hedyotis unifolia*	
Dune sunflower	*Helianthus debilis*	
Camphor weed	*Heterotheca subaxillaris*	
Aster	*Heterotheca subaxillaris*	
Marsh pennywort	*Hydrocotyle bonariensis*	
St. John's wort	*Hypericum reductum*	
Gallberry	*Ilex glabra*	
Yaupon	*Ilex vomitoria*	
Railroad vine	*Ipomea pes-capre*	
Beach morning glory	*Ipomea stolonifera*	
Marsh elder	*Iva frutescens*	

*** Non-native Species**

Dr. Julian Bruce St. George Island State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Red cedar	*Juniperus selicicola*	
Needle rush	*Juncus roemarianus*	
Rush	*Juncus scirpoides*	
Pin-weed	*Lechia torreyi*	
Sea lavender	*Limonium carolinianum*	
Fetterbush	*Lyonia lucida*	
Loosestrife	*Lythrum lineare*	
Muhly grass	*Muhlengbergia filipes*	
Wax myrtle	*Myrica cerifera*	
Evening primrose	*Oenothera humifusa*	
Prickly pear cactus	*Opuntia sp.*	
Wild olive	*Osmanthus americana*	
Royal fern	*Osmuda regalis*	
Dune panic grass	*Panicum amarum*	
Grass	*Panicum repens*	
Grass	*Panicum virgatum*	
Herb	*Paronychia erecta*	
Grass	*Paspalum setaceum*	
Grass	*Paspalum urvillei*	
Grass	*Paspalum vaginatus*	
Red bay	*Persea borbonia*	
Ground cherry	*Physalis angustifolia*	
Sand pine	*Pinus clausa*	
Slash Pine	*Pinus elliotti*	
Marsh fleabane	*Pluchea rosea*	
Jointweed	*Polygonella polygama*	
Resurrection fern	*Polypodium polypodiodes*	
Herb	*Polypremum procumbens*	
Bracken fern	*Pteridium aquilinum*	
Chapman's oak	*Quercus chapmannii*	
Sand live oak	*Quercus hemisphaerica*	
Sand post oak	*Quercus margaretta*	
Myrtle oak	*Quercus myrtlefolia*	
Live oak	*Quercus virginiana*	
Winged sumac	*Rhus copallina*	
Poison Ivy	*Rhus radicans*	
Sedge	*Rhynchospora megalacarpa*	
Cabbage palm	*Sabal palmetto*	
Glasswort	*Salicornia virginica*	
Black willow	*Salix nigra*	
Coastal bluestem	*Schizachyrium maritimum*	
Seacoast bluestem	*Schizacyrium scoparium*	
Bullrush	*Scirpus americanus*	
Nut-rush	*Scleria ciliata*	
Saw palmetto	*Serenoa repens*	
Sea purslane	*Sesuvium portulacastrum*	
oxtail	*Setaria geniculata*	
Senna seymeria	*Seymeria cassioides*	
Greenbriar	*Smilax auriculata*	
Bamboo vine	*Smilax laurifolia*	
Goldenrod	*Solidago mexicana*	

*** Non-native Species**

Dr. Julian Bruce St. George Island State Park

Plants

Common Name	***Scientific Name***	**Primary Habitat Codes (for designated species)**
Goldenrod	*Solidago microcephala*	
Hedge hyssop	*Sophronanthe hispida*	
Smooth cordgrass	*Spartina alterniflora*	
Salt meadow cordgrass	*Spartina patens*	
F Cordgrass	*Spartina spartinae*	
Sea blite	*Suaeda linearis*	
Cattail	*Typha sp.*	
Tree sparkleberry	*Vaccinium arboreum*	
Blueberry	*Vaccinium myrsinites*	
Vetch	*Vicia acutifolia*	
Muscadine	*Vitis rotundifolia*	
Spanish bayonet	*Yucca alvifolia*	

*** Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
	MOLLUSKS	
Atlantic Bay scallop	*Aequipecten concenticus*	
Calico scallop	*Aequipecten gibbus*	
Incongruous ark	*Anadara brasiliana*	
Cut-ribbed ark	*Anadara lienosa floridana*	
Eared ark	*Anadara notabilis*	55
Blood ark	*Anadara ovalis*	55
Transverse ark	*Anadara transversa*	
Channeled duck clam	*Anatina plicatella*	
Buttercup lucine	*Anodontia alba*	
Atlantic jingle	*Anomia simplex*	
Turkey wing	*Arca zebra*	
Common sundial	*Architectonica nobilis*	
Florida spiny jewel box	*Arcinella cornuta*	
Lentil astarte	*Astarte subequilatera*	
Saw-toothed pen shell	*Atrina serrata*	
Fallen angel wing	*Barnea truncata*	
Hooked mussel	*Brachidontes recurvus*	
Lightning Whelk	*Busycon contrarium*	
Pear Whelk	*Busycon spiratum*	
Common nutmeg	*Cancellaria reticulata*	
Broad ribbed cardita	*Cardita floridana*	
Florida cerith	*Cerithium floridanum*	
Cross-barred Venus	*Chione cancellata*	
Lady-in-waiting Venus	*Chione intapurpurea*	
Costate lucine	*Codakia costata*	
Tiger lucine	*Codakia orbicularis*	
Dwarf tiger lucine	*Codakia orbiculata*	
False drill	*Contharus multangulus*	
Sozon's cone	*Conus sozoni*	
Eastern oyster	*Crassastrea virginica*	
Common Atlantic slipper shell	*Crepidula fornicata*	
Spotted slipper shell	*Crepidula maculosa*	
Eastern white slipper shell	*Crepidula plana*	
Angel wing	*Cyrtopleura costata*	55
Giant Atlantic cockle	*Dinocardium robustum*	
Vanhyning's cockle	*Dinocardium vanyningi*	
Cross-hatched lucine	*Divaricella quadrisulcata*	
Fat gulf donax	*Donax tumidus*	
Florida coquina	*Donax variabilis*	
Elegant dosinia	*Dosinia elegans*	
Small jacknife clam	*Ensis minor*	
Angulate Wentletrap	*Epitonium angulatum*	
Banded tulip	*Fasciolaria hunteria*	
True tulip	*Fasciolaria tulipa*	
Common fig shell	*Ficus communis*	
Common egg cockle	*Laevicardium laevigatum*	
Floccose periwinkle	*Littorina floccosa*	
Marsh periwinkle	*Littorina irrorata*	
Florida lucine	*Lucina floridana*	

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Pennsylvanian lucine	*Lucina pensylvanica*	
Constricted Macoma	*Macoma constricta*	
Sunray Venus	*Macrocallista nimbosa*	
Wedge-shaped Martesia	*Martesia cuneiformis*	
Striate martesia	*Martesia striata*	
Florida crown conch	*Melongena corona*	
Southern quahog	*Mercenaria campechiensis*	
Atlantic ribbed mussel	*Modiolus demissus*	
Apple murex	*Murex pomum*	
Rose murex	*Murex rubidus*	
Common eastern nassa	*Nassarius vibex*	
Olive nerite	*Neritina reclivata*	
Ponderous ark	*Noetia ponderosa*	
Lettered olive	*Oliva sayana*	
Rice olivella	*Olivella floralia*	
Variable olivella	*Olivella mutica*	
Zigzag scallop	*Pecten zigzag*	
Bankia shipworm	*Pelecypoda sp.*	
False angel wing	*Petricola pholadiformis*	55
Woven lucine	*Phacoides nassula*	
Scotch bonnet	*Phalium granulatum*	
Atlantic pearl oyster	*Pinctata radiata*	
Florida Horse conch	*Pleuroploca gigantea*	
Kitten's paw	*Plicatula gibbosa*	
Atlantic moon-snail	*Polinices duplicatus*	
Florida marsh clam	*Pseudocyrena floridana*	
Crenate pyram	*Pyramidella crenulata*	
Common rangia	*Rangia cuneata*	
Junonia	*Scaphella junonia*	
Common baby's ear	*Sinum perspectivum*	
Emerald nerite	*Smaragdia virdis*	
Atlantic surf clam	*Spisula raveneli*	
White strigilla	*Strigilla mirabilis*	
Florida fighting conch	*Strombus alatus*	
Stout tagelus	*Tagelus plebeius*	
Lintea tellin	*Tellina aequisriata*	
Alternate tellin	*Tellina alternata*	
Gray Atlantic auger	*Terebra cinerea*	
Atlantic auger	*Terebra dislocata*	
Florida rock shell	*Thais haemastoma haysae*	
Prickly cockle	*Trachycardium egmontianum*	
Yellow cockle	*Trachycardium muricatum*	
Chestnut turban	*Turbo castanea*	
Atlantic oyster drill	*Urosalpinx cinerea*	
Tampa drill	*Urosalpinx tampaensis*	
Fargo's Worm shell	*Vermicularia fargoi*	
	ARTHROPODS	
Leaf-footed Bug	*Acanthocephala femorata*	55
House Cricket	*Acheta domestica*	Throughout
Two-spotted Lady Beetle	*Adalia bipunctata*	Throughout

*** Non-native Species**

Dr. Julian Bruce St. George Island State Park

Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Summer Mosquitoes	*Aedes sp.*	Throughout
Gulf Fritillary Butterfly	*Agraulis vanillae*	Throughout
Green-darter	*Anax junius*	Throughout
Least Skipper	*Ancyloxypha numitor*	Throughout
Palmetto Walkingstick	*Anismorpha buprestoides*	Throughout
Honey Bee	*Apis mellifera*	Throughout
Pipevine Swallowtail Butterfly	*Battus philenor*	Throughout
German Cockroach	*Blattella germanica*	Throughout
American Bumble Bee	*Bombus pennsylvanicus*	Throughout
Blue Crab	*Callinectes sapidus*	55
Red-banded Hairstreak Butterfly	*Calycopis cecrops*	Throughout
Deer Fly	*Chrysops sp.*	Throughout
Orange Sulphur Butterfly	*Colias eurytheme*	Throughout
House Mosquitoes	*Culex pipiens*	Throughout
Gemmed Satyre Butterfly	*Cyllopsis gemma*	Throughout
Queen Butterfly	*Danaus gilippus*	Throughout
Monarch Butterfly	*Danaus plexippus*	Throughout
Cow Killer "Velvet Ant"	*Dasymutilla occidentalis*	20,22
Black Turpentine Beetle	*Dendroctonus terebrans*	15
Southern Pearly-eye Butterfly	*Enodia portlandia*	Throughout
Variegated Fritillary Butterfly	*Euptoieta claudia*	Throughout
Little Yellow Butterfly	*Eurema lisa*	Throughout
Sleepy Orange Butterfly	*Eurema nicippe*	Throughout
Zebra Swallowtail Butterfly	*Eurytides marcellus*	Throughout
Northern Mole Cricket	*Gryllotalpa hexadactyla*	Throughout
Field Cricket	*Gyrillus pennsylvanicus*	Throughout
Zebra Butterfly	*Heliconius charithonius*	Throughout
Deer Tick	*Ixodes scapularis*	Throughout
Common Buckeye Butterfly	*Junonia coenia*	Throughout
Black Widow Spider	*Latrodectus mactans*	Throughout
Daddy-long-legs	*Leiobunum sp.*	Throughout
Viceroy Butterfly	*Limenitis archippus*	Throughout
Red-spotted Purple Butterfly	*Limenitis arthemis*	Throughout
Carolina Wolf Spider	*Lycosa carolinensis*	Throughout
Little Wood Satyre Butterfly	*Megisto cymela*	Throughout
Broad-winged Katydid	*Microcentrum rhombifolium*	Throughout
House Fly	*Musca domestica*	Throughout
Golden-silk Spider	*Nephila clavipes*	Throughout
Giant Swallowtail Butterfly	*Papilio cresphontes*	Throughout
Eastern Tiger Swallowtail	*Papilio glaucus*	Throughout
Black Swallowtail Butterfly	*Papilio polyxenes*	Throughout
American Cockroach	*Periplaneta americana*	Throughout
Cloudless Sulphur Butterfly	*Phoebis sennae*	Throughout
Phaon Crescent Butterfly	*Phycoides phaon*	Throughout
Love Bug	*Plecia nearctica*	Throughout
Common Checkered Skipper	*Pyrgus communis*	Throughout
Eastern Subterranean termite	*Reticulitermis flavipes*	Throughout
Lubber Grasshopper	*Romalea microptera*	Throughout
Red Fire Ant	*Solenopsis invicta*	20,22
Carolina Mantid Praying Mantis	*Stagmommantis carolina*	Throughout
Gray Hairstreak Butterfly	*Strymon melinus*	Throughout

*** Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Black Horse Fly	*Tabanus atratus*	Throughout
Eastern Yellow Jacket	*Vespula maculifrons*	20,22
	FISH	
Scrawled cowfish	*Acanthostroacium quadricornis*	55
Striped anchovy	*Anchoa hepsetus*	55
Bay anchovy	*Anchoa mitchilli*	55
Finetooth shark	*Aprionodon isodon*	55
Sheepshead	*Archosargus probatocephalus*	55
Sea catfish	*Arius felis*	55
Gafftopsail catfish	*Bagre marinus*	55
Silver perch	*Bairdiella chrysura*	55
Common jack	*Caranx hippos*	55
Blacknose shark	*Carcharhinus acronotus*	55
Spinner shark	*Carcharhinus acronotus*	55
Bull shark	*Carcharhinus leucas*	55
Blacktimp shark	*Carcharhinus limbatus*	55
Gulf black sea bass	*Centropristis striata*	55
Angelfish	*Chaetodipterus faber*	55
Striped burrfish	*Chilomycterus schoepfi*	55
Sand seatrout	*Cynoscion arenarius*	55
Spotted seatrout	*Cynoscion nebulosus*	55
Southern stingray	*Dasyatis sabina*	55
Sand perch	*Diplectrum formosum*	55
Sharksucker	*Echeneis naucrates*	55
Ladyfish	*Elops saurus*	55
Spotfin majora	*Eucinostomus argenteus*	55
Silver jenny	*Eucinostomus gula*	55
Bonito	*Euthynnus alletteratus*	55
Gulf killifish	*Fundulus grandis*	55
Longnose killifish	*Fundulus similis*	55
Tiger shark	*Galeocerdo cuvieri*	55
Mosquitofish	*Gambusia affinis*	55
Code goby	*Gobiosoma robustum*	55
Lined seahorse	*Hippocampus erectus*	55
Feather blenny	*Hypsoblennius hentzi*	55
Pinfish	*Lagodon rhomboides*	55
Rainwater killifish	*Luscania parva*	55
Gray snapper	*Lutjanus griseus*	55
Tarpon	*Megalops atlantica*	55
Rough silverside	*Membras martinica*	55
Tidewater silverside	*Menidia beryllina*	55
Southern kingfish	*Menticirrhus americanus*	55
Gulf whiting	*Menticirrhus littoralus*	55
Clown goby	*Microgobius gulosus*	55
Planehead filefish	*Monacanthus hispidus*	55
Striped bass	*Morone saxitilis*	55
Striped mullet	*Mugil cephalus*	55
Florida smoothhound	*Mustelus norrisi*	55
Lesser electric ray	*Narcine brasiliensis*	55
Lemon shark	*Negaprion brevirostris*	55

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

Dr. Julian Bruce St. George Island State Park

Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Sand shark	*Odontapsis taurus*	55
Gulf toadfish	*Opsanus beta*	55
Pigfish	*Orthopristis chrysoptera*	55
Southern flounder	*Paralichthys lethostigma*	55
Gulf butterfish	*Peprilus burti*	55
Sailfin molly	*Poecilia latipinna*	55
Bluefish	*Pomatomus saltatrix*	55
Bighead searobin	*Prinotus roseus*	55
Smalltooth sawfish	*Pristis pectinata*	55
Cobia	*Rachycentron canadum*	55
Clearnose skate	*Raja eglanteria*	55
Remora	*Remora remora*	55
Red drum	*Sciaenops ocellata*	55
Spanish mackerel	*Scomberomorus maculatas*	55
Barbfish	*Scorpaena plumieri*	55
Spot	*Seiostomus xanthurus*	55
Greater amberfish	*Seriola dumerili*	55
Southern puffer	*Sphoeroides nephelus*	55
Scalloped hammerhead	*Sphryna lewini*	55
Great hammerhead	*Sphyrna mokarran*	55
Cuban dogfish	*Squalus cubensis*	55
Atlantic needlefish	*Strongylura marina*	55
Blackcheek tonguefish	*Symphurus plagiusa*	55
Dusky pipefish	*Syngnathus floridae*	55
Chain pipefish	*Syngnathus louisianae*	55
Gulf pipefish	*Syngnathus scovelli*	55
Inshore lizardfish	*Synodus foetens*	55
Florida pompano	*Trachinotus carolinus*	55
	AMPHIBIANS	
Florida cricket frog	*Acris gryllus*	
Southern Toad	*Bufo terrestris*	20,22
Eastern Narrow-mouthed Toad	*Gastrophryne carolinensis*	20,22
Green Treefrog	*Hyla cinerea*	30,31,33
Squirrel Treefrog	*Hyla squirella*	20,22
Bull Frog	*Rana catesbeiana*	30,31,33
Pig Frog	*Rana grylio*	30,31,33
Southern Leopard Frog	*Rana utricularia*	30,31,33
Eastern Spadefoot Toad	*Scaphiopus holbrookii*	20,22
	REPTILES	
Eastern Cottonmouth	*Agkistrodon piscivorus*	30,31,33
American Alligator	*Alligator mississippiensis*	33,55
Green Anole	*Anolis carolinensis*	Throughout
Loggerhead sea turtle	*Caretta caretta*	
Scarlet Snake	*Cemophora coccinea*	20,22,31
Green sea turtle	*Chelonia mydas*	
Six-lined Racerunner	*Cnemidophorus sexlineatus*	20,22
Black Racer	*Coluber constrictor*	20,22
E. Diamondback	*Crotalus adamanteus*	20,22
Leatherback sea turtle	*Dermochelys coriacea*	

*** Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Red Rat Snake	*Elaphe guttata*	20,31,33
Gray Rat Snake	*Elaphe obsoleta spiloides*	20,31,33
Southeastern Five-lined Skink	*Eumeces inexpectatus*	20,22,31
Broad-headed Skink	*Eumeces laticeps*	20,31
Gopher Tortoise	*Gopherus polyphemus*	***
Eastern mud turtle	*Kinosternon subrubrum*	33,55
Ornate diamondback terrapin	*Malaclemys terrapin*	33,55
Coachwhip	*Masticophis flagellum*	20,22
Gulf saltmarsh snake	*Nerodia fasciata clarki*	
Banded watersnake	*Nerodia fasciata fasciata*	
Rough Green Snake	*Opheodrys aestivus*	31,33
Island glass lizard	*Ophisaurus compressus*	
Eastern glass lizard	*Ophisaurus ventralis*	
Pine Snake	*Pituophis melanoleucus*	20,22
Fence Lizard	*Sceloporus undulatus hyacinthinus*	20,22
Ground Skink	*Scincella laterale*	20,22
Dusky Pigmy Rattlesnake	*Sistrurus miliarius barbouri*	20,22
Gulf Coast Box Turtle	*Terrapene carolina*	20,22,31
Eastern Ribbon Snake	*Thamnophis sauritus*	
Eastern Garter Snake	*Thamnophis sirtalis*	20,30,31,33
	BIRDS	
Copper's Hawk	*Accipiter cooperii*	20,22,31,33
Sharp-shinned Hawk	*Accipiter striatus*	Throughout
Spotted Sandpiper	*Actitis macularia*	33,55
Red-winged Blackbird	*Agelaius phoeniceus*	31,33
Wood Duck	*Aix sponsa*	33,55
Bachman’s sparrow	*Aimophila aestivalis*	
Roseate Spoonbill	*Ajaia ajaja*	55
Sharp-tailed sparrow	*Ammospiza caudacuta*	
Pintail	*Anas acuta*	
American Wigeon	*Anas americana*	55
Northern Shoveler	*Anas clypeata*	55
Green-winged Teal	*Anas crecca*	55
Blue-winged Teal	*Anas discors*	55
Mottled duck	*Anas fulvigula*	
Eurasian Wigeon	*Anas penelope*	55
Mallard	*Anas platyrhynchos*	55
American Black Duck	*Anas rubripes*	55
Gadwall	*Anas strepera*	55
Water pipet	*Anthus spinoletta*	
Sprague’s pipet	*Anthus spragueii*	
Anhinga	*Anhinga anhinga*	55
Golden Eagle	*Aquila chrysaetos*	OF
Ruddy Turnstone	*Arenaria interpres*	
Ruby-throated Hummingbird	*Archilochus colubris*	20,31,33
Great Egret	*Ardea alba*	55
Great Blue Heron	*Ardea herodias*	55
Short-eared owl	*Asio flammeus*	
Lesser Scaup	*Aythya affinis*	55
Redhead	*Aythya americana*	55

Common Name	***Scientific Name***	**Primary Habitat Codes (for all species)**
Ring-necked Duck	*Aythya collaris*	55
Greater Scaup	*Aythya marila*	55
Ring-necked Duck	Aythya nyroca	
Canvasback	*Aythya valisineria*	55
Cedar Waxwing	*Bombycilla cedrorum*	20,22,31,33
American Bittern	*Botarus lentiginosus*	
Canada Goose	*Branta canadensis*	
Great Horned Owl	*Bubo virginianus*	20,31,33
Bufflehead	Bucephala albeola	
Common Goldeneye	*Bucephala clangula*	55
Cattle Egret	*Bubulcus ibis*	
Red-tailed Hawk	*Buteo jamaicensis*	20,22,31,33
Red-shouldered Hawk	*Buteo lineatus*	20,22,31,33
Broad-winged Hawk	*Buteo platypterus*	20,22,31,33
Green Heron	*Butorides virescens*	55
Sanderling	*Calidris alba*	
Dunlin	*Calidris alpina*	
Red Knot	Calidris cenutus	
White-rumped Sandpiper	Calidris fuscicollis	
Western sandpiper	*Calidris mauri*	
Pectoral Sandpiper	Calidris melanotos	
Least Sandpiper	Calidris minutilla	
Semi-palmated Sandpiper	Calidris pusillus	
Common Snipe	Capella gallinago	
Chuck-will's-widow	*Caprimulgus carolinensis*	20,31,33
Whip-poor-will	*Caprimulgus vociferus*	20,31,33
Northern Cardinal	*Cardinalis cardinalis*	20,21,31,33
Pine Siskin	*Carduelis pinus*	20,22
American Goldfinch	*Carduelis tristis*	20,31,33
Purple Finch	*Carpodacus purureus*	20,31
Willet	Cataptrophorus semipalmatus	
Turkey Vulture	*Cathartes aura*	Throughout
Veery	*Catharus fuscescens*	20,22
Hermit Thrush	*Catharus guttatus*	20,22
Gray-cheeked Thrush	*Catharus minimus*	20,22
Swainson's Thrush	*Catharus ustulatus*	20,22
Brown Creeper	*Certhia americana*	20,22,31
Belted Kingfisher	*Ceryle alcyon*	55
Red-bellied Woodpecker	Centurus carolinus	
Chimney Swift	*Chaetura pelagica*	20,22,31,33
Semi-palmated Plover	Charadrius americana	
Killdeer	*Charadrius vociferus*	33,55
Wilson’s Plover	Charadrius wilsonia	
Snow Goose	*Chen caerulescens*	
Black Tern	*Chlidonias niger*	55
Lark Sparrow	Chondestas grammacus	
Common Nighthawk	*Chordeiles minor*	20,22
Northern Harrier	*Circus cyaneus*	55
Marsh Wren	*Cistothorus palustris*	31,33,55
Sedge Wren	*Cistothorus platensis*	33,55
Oldsquaw	*Clangula hyemalis*	

*** Non-native Species**

Dr. Julian Bruce St. George Island State Park

Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Yellow-billed Cuckoo	*Coccyzus americanus*	20,31,33
Black-billed Cuckoo	*Coccyzus erythropthalmus*	
Northern Flicker	*Colaptes auratus*	20,22
Northern Bobwhite	*Colinus virginianus*	20,22
Eastern Wood-Pewee	*Contopus virens*	20,22
Black Vulture	*Coragyps atratus*	Throughout
American Crow	*Corvus brachyrhynchos*	Throughout
Fish Crow	*Corvus ossifragus*	20,22,33,55
Blue Jay	*Cyanocitta cristata*	20,22,31
Black-throated Blue Warbler	*Dendroica caerulescens*	20,22
Bay-breasted Warbler	*Dendroica castanea*	
Yellow-rumped Warbler	*Dendroica coronata*	20,22
Florida Prairie Warbler	*Dendroica discolor*	
Yellow-throated Warbler	*Dendroica dominica*	20,22
Blackburnian Warbler	*Dendroica fusca*	
Black-throated Gray Warbler	*Dendroica nigrescens*	
Palm Warbler	*Dendroica palmarum*	20,22,31,33
Chestnut-sided Warbler	*Dendroica pensylvanica*	20,22
Yellow Warbler	*Dendroica petechia*	
Pine Warbler	*Dendroica pinus*	20,22
Blackpoll Warbler	*Dendroica striata*	20,22
Cape May Warbler	*Dendroica tigrina*	
Black Throated Green Warbler	*Dendroica virens*	
Bobolink	*Dolichonyx oryzivorus*	
Pileated Woodpecker	*Dryocopus pileatus*	20,22,31,33
Downy Woodpecker	*Dryocopus pubescens*	
Gray Catbird	*Dumetella carolinensis*	20,22,33
Little Blue Heron	*Egretta caerulea*	55
Snowy Egret	*Egretta thula*	55
Tricolored Heron	*Egretta tricolor*	55
Swallow-tailed Kite	*Elanoides forficatus*	Throughout
Traill's Flycatcher	*Empidonax sp.*	
Least Flycatcher	*Empidonax minimus*	
Acadian Flycatcher	*Empidonax virescens*	20,22
White Ibis	*Eudocimus albus*	55
Rusty Blackbird	*Euphagus carolinus*	31,33
Merlin	*Falco columbarius*	22
Peregrine Falcon	*Falco peregrinus*	20,22
American Kestrel	*Falco sparverius*	20,22
Magnificent frigatebird	*Fregata magnificens*	
American Coot	*Fulica americana*	55
Common Snipe	*Gallinago gallinago*	33,55
Common Moorhen	*Gallinula chloropus*	55
Common Loon	*Gavia immer*	55
Red-throated Loon	*Gavia stellaris*	
Gull-billed tern	*Gelochelidon nilotica*	
Common Yellowthroat	*Geothlypis trichas*	20,55
Blue Grosbeak	*Guiraca caerulea*	20,31,33
American Oystercather	*Haematopus palliatus*	55
Bald Eagle	*Haliaeetus leucocephalus*	Throughout
Worm-eating Warbler	*Helmitheros vermivorus*	20,31,33

*** Non-native Species**

Dr. Julian Bruce St. George Island State Park

Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Black-necked stilt	*Himantopus mexicanus*	
Barn Swallow	*Hirundo rustica*	31,33
Wood Thrush	*Hylocichla mustelina*	20,22
Yellow-breasted Chat	*Icteria virens*	
Northern Oriole	*Icterus galbula*	
Orchard Oriole	*Icterus spurius*	20
Mississippi Kite	*Ictinia mississippiensis*	Throughout
Tree Swallow	*Iridoprocne bicolor*	
Least bittern	*Ixobrychus exilis*	
Dark-eyed junco	*Junco hyemalis*	20,31,33
Loggerhead Shrike	*Lanius ludovicianus*	22
Herring gull	*Larus argentatus*	
Laughing Gull	*Larus atricilla*	55
Ring-billed Gull	*Larus delawarensis*	55
Lesser black-backed gull	*Larus fuscus*	
Bonaparte's gull	*Larus philadelphia*	
Greater black-backed gull	*Larus marinus*	
Bonaparte's Gull	*Larus philadelphia*	55
Loggerhead Shrike	*Lanius ludovicianus*	
Black Rail	*Laterallus jamaicensis*	
Marbled godwit	*Limosa fedora*	
Short billed dowitcher	*Limnodromus griseus*	
Hooded Merganser	*Lophodytes cucullatus*	55
Red-bellied Woodpecker	*Melanerpes carolinus*	20,22
Red-headed Woodpecker	*Melanerpes erythrocephalus*	20,22
White-winged Scoter	*Melanitta deglandi*	
Surf Scoter	*Melanitta perspicullata*	
Wild Turkey	*Meleagris gallopavo*	20,22,31,33
Swamp Sparrow	*Melospiza georgiana*	20,31,33
Lincoln's Sparrow	*Melospiza lincolni*	
Song Sparrow	*Melospiza melodia*	20,22
Red-breasted Merganser	*Mergus serrator*	55
Northern Mockingbird	*Mimus polyglottos*	20,22,31,33
Black-and-white Warbler	*Mniotilta varia*	20,22,33
Brown-headed Cowbird	*Molothrus ater*	20,22
Gannet	*Morus bassanus*	
Great Crested Flycatcher	*Myiarchus crinitus*	20,22
Long-billed Curlew	*Numenius americanus*	
Whimbrel	*Numenius phaeopus*	
Black-crowned Night-Heron	*Nycticorax nycticorax*	55
Yellow-crowned Night-Heron	*Nycticorax violaceus*	
Kentucky Warbler	*Oporornis formosus*	20,22,31
Eastern Screech Owl	*Otus asio*	20,31,33
Osprey	*Pandion haliaetus*	33,55
Northern Parula	*Parula americana*	20,22,31
Tufted Titmouse	*Parus bicolor*	20,22
Carolina Chickadee	*Parus carolinensis*	20,22,31,33
Savannah Sparrow	*Passerculus sandwichensis*	????
Fox Sparrow	*Passerella iliaca*	22
Painted Bunting	*Passerina ciris*	
Indigo Bunting	*Passerina cyanea*	20,22

*** Non-native Species**

Dr. Julian Bruce St. George Island State Park

Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
White Pelican	*Pelecanus erythrorhynchos*	
Cliff Swallow	*Petrochelidon pyrrhonota*	
Double-crested Cormorant	*Phalacrocorax auritus*	55
Great Cormorant	*Phalacrocorax carbo*	55
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	20,22
American Woodcock	*Philohela minor*	
Downy Woodpecker	*Picoides pubescens*	20,22
Hairy Woodpecker	*Picoides villosus*	20,22
Rufous-sided Towhee	*Pipilo erythrophthalmus*	20,22
Scarlet Tanager	*Piranga olivacea*	20,22,31
Summer Tanager	*Piranga rubra*	20,22
American Plover	*Pluvialis dominica*	
Black-bellied Plover	*Pluvialis squatorola*	
Horned Grebe	*Podiceps auritus*	55
Pied-billed Grebe	*Podilymbus podiceps*	55
Blue-gray Gnatcatcher	*Polioptila caerulea*	20,22
Vesper Sparrow	*Pooecetes gramineus*	
Purple Gallinule	*Porphyrula martinica*	55
Sora	*Porzana carolina*	31,33,55
Purple Martin	*Progne subis*	20,22,31,33
Prothonotary Warbler	*Protonotaria citrea*	20,22,31,33
Rufous-sided Towhee	*Pysilo erythropthalmus*	
Vermillion Flycatcher	*Pyrocephalus rubinus*	
Boat-tailed Grackle	*Quiscalus major*	*20,31,33*
Common Grackle	*Quiscalus quiscula*	20,31,33
King Rail	*Rallus elegans*	
Virginia Rail	*Rallus limicola*	
Florida Clapper Rail	*Rallus longirostris*	
American avocet	*Recurvirostra americana*	
Ruby-crowned Kinglet	*Regulus calendula*	20,22
Golden-crowned Kinglet	*Regulus satrapa*	*20,31,33*
Bank Swallow	*Riparia riparia*	31,33
Snail Kite	*Rostrhamus sociabilis*	55
Black skimmer	*Rhynchops niger*	
Eastern Phoebe	*Sayornis phoebe*	20,22
American Woodcock	*Scolopax minor*	20,31,33
Ovenbird	*Seiurus aurocapillus*	20,31,33
Louisiana Waterthrush	*Seiurus motacilla*	31,33,55
Northern Waterthrush	*Seiurus noveboracensis*	31,33,55
American Redstart	*Setophaga ruticilla*	20,22,33
Eastern Bluebird	*Sialia sialis*	20,22
Red-breasted Nuthatch	*Sitta canadensis*	20,22,31
White-breasted Nuthatch	*Sitta carolinensis*	20,22,31
Brown-headed Nuthatch	*Sitta pusilla*	20,22
Yellow-bellied Sapsucker	*Sphyrapicus varius*	20,22,31,33
Pine sisken	*Spinus pinus*	
American Goldfinch	*Spinus tritus*	
Dickcissel	*Spiza americana*	
Chipping Sparrow	*Spizella passerina*	20,22
Field Sparrow	*Spizella pusilla*	20,22
Parasitic jaeger	*Steganopus parasiticus*	

*** Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Wilson's phalarope	*Steganopus tricolor*	
Rough-winged Swallow	*Stelgidopteryx serripennis*	31,33
Caspian tern	*Sterna caspia*	
Foreter's Tern	*Sterna forsteri*	55
Sooty Tern	*Sterna fuscata*	55
Common tern	*Sterna hirundo*	
Royal tern	*Sterna maxima*	
Sandwich tern	*Sterna sandwichensis*	
Eastern meadowlark	*Sturnella magna*	
Starling	*Sturnus vulgaris*	
Barred Owl	*Strix varia*	20,22,31,33
Tree Swallow	*Tachycineta bicolor*	31,33
Carolina Wren	*Thryothorus ludovicianus*	20,22,31,33
Brown Thrasher	*Toxostoma rufum*	20,22
Lesser Yellowlegs	*Tringa flavipes*	
Greater Yellowlegs	*Tringa melanoleuca*	
Solitary Sandpiper	*Tringa solitaria*	33,55
House Wren	*Troglodytes aedon*	20,22
Winter Wren	*Troglodytes troglodytes*	20,22
Buff-breasted sandpiper	*Tryngites subrufficollis*	
American Robin	*Turdus migratorius*	20,22,31,33
Eastern Kingbird	*Tyrannus tyrannus*	20,22
Western Kingbird	*Tyrannus verticalus*	
Common Barn Owl	*Tyto alba*	20,31,33
Orange-crowned Warbler	*Vermivora celata*	20,22,31
Golden-winged Warbler	*Vermivora chrysoptera*	20,22
Tennessee Warbler	*Vermivora peregrina*	20,22
Blue-winged Warbler	*Vermivora pinus*	20,22
Nashville Warbler	*Vermivora ruficapilla*	
Yellow-throated Vireo	*Vireo flavifrons*	20,22
White-eyed Vireo	*Vireo griseus*	20,22
Red-eyed Vireo	*Vireo olivaceus*	20,22
Philadelphia Vireo	*Vireo philadelphicus*	
Solitary Vireo	*Vireo solitarius*	20,22,31,33
Hooded Warbler	*Wilsonia citrina*	20,22
White-winged dove	*Zenaida asiatica*	
Mourning Dove	*Zenaida macroura*	20,22,31
White-throated Sparrow	*Zonotrichia albicollis*	20,22
White-crowned Sparrow	*Zonotrichia leucophrys*	20,22
	MAMMALS	
Coyote*	*Canis latrans*	Throughout
Nine-banded armadillo *	*Dasypus novemcinctus*	20,22,31,33
Opossum	*Didelphis marsupialis*	20,22,31
River otter	*Lutra canadensis*	33,55
White-tailed deer	*Odocoileus virginianus*	20,22,31,33
Cotton mouse	*Peromyscus gossypinus*	20,22
Raccoon	*Procyon lotor*	20,31,33
Eastern mole	*Scalopus aquaticus*	20,22,31
Gray squirrel	*Sciurus carolinensis*	20,22,31
Fox squirrel	*Sciurus niger*	22

*** Non-native Species**

Dr. Julian Bruce St. George Island State Park

Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Gray fox	*Urocyon cinereoargenteus*	20,22,31
Red fox*	*Vulpes vulpes*	Throughout

*** Non-native Species**

Terrestrial

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

Palustrine

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

Lacustrine

43. Clastic Upland Lake
44. Coastal Dune Lake
45. Coastal Rockland Lake

Lacustrine—Continued

46. Flatwood/Prairie Lake
47. Marsh Lake
48. River Floodplain Lake
49. Sandhill Upland Lake
50. Sinkhole Lake
51. Swamp Lake

Riverine

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

Estuarine

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

Marine

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

Subterranean

79. Aquatic Cave
80. Terrestral Cave

Miscellaneous

81. Ruderal
82. Developed

MTC Many Types Of Communities
OF Overflying

Addendum 4—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)

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

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.

Dr. Julian Bruce St. George Island State Park

Designated Species

Plants

Common Name/ *Scientific Name*	**Designated Species Status** FDA	USFWS	FNAI
Curtiss' milkweed; Sandhill milkweed			
Asclepias curtissii	E		G3/S3
Godfrey's blazing star			
Liatris provincialis	E		G2/S2
Large-leaved jointweed			
Polygonella macrophylla	LT		G2/S2
Narrow-leaved sundew; Water sundew			
Drosera intermedia	T		G5/S3
Scrub holly; Sand-loving American holly			
Ilex opaca var. *arenicola*			G5T3/S3
Cinnamon fern			
Osmunda cinnamomea	CE		
Royal fern			
Osmunda regalis var. *spectabilis*	CE		
Cutthroatgrass			
Panicum abscissum	E		G2/S2
Paper-like nailwort; Papery whitlow-wort			
Paronychia chartacea	E	T	G3T3/S3
Golden fringed orchid; Yellow-crest orchid			
Platanthera cristata	T		
Scrub milkwort; Lewton's milkwort			
Polygala lewtonii	E	E	G2/S2
Needle palm			
Rhapidophyllum hystrix	CE		

Dr. Julian Bruce St. George Island State Park

Designated Species

Animals

Common Name/ *Scientific Name*	**Designated Species Status** FFWCC	USFWS	FNAI
AMPHIBIANS			
Florida gopher frog *Rana capito*	LS		G4, S3
REPTILES			
American alligator *Alligator mississippiensis*	LS	T(S/A)	G5, S4
Loggerhead sea turtle *Caretta caretta*	LE	LE	G3,S3
Green sea turtle *Chelonia mydas*	LE	LE	G3,S2
Eastern diamondback rattlesnake *Crotalus adamanteus*			G5,S3
Leatherback sea turtle *Dermochelys coriacea*	LE	LE	G3,S2
Gopher tortoise *Gopherus polyphemus*	LS		G3, S3
Gulf salt marsh snake *Nerodia clarkii clarkii*			G4,S3
Florida pine snake *Pituophis melanoleucus*	LS		G5T3? S3
BIRDS			
Eastern brown pelican *Pelecanus occidentalis*	LS		G4, S3
Great white heron *Ardea herodias*			G5T2, S2
Little blue heron *Egretta caerulea*	LS		G5, S4
Great egret *Ardea alba*			G5, S4
Snowy egret *Egretta thula*	LS		G5, S4
Tricolored heron *Egretta tricolor*	LS		G5, S4
Black-crowned night heron *Nycticorax nycticorax*			G5, S3?
Yellow-crowned night heron *Nycticorax violaceus*			G5, S3?
Least bittern *Ixobrychus exilis*			G5, S4
Florida clapper rail *Rallus longirostris*			G3,S3
Black rail *Laterallus jamaicensis*			G4,S3
Swallow-tailed kite *Elanoides forficatus*			G4, S2S3

Dr. Julian Bruce St. George Island State Park

Designated Species

Animals

Common Name/ *Scientific Name*	**Designated Species Status** FFWCC	USFWS	FNAI
Cooper's hawk			
Accipiter cooperii			G4, S3?
Southern bald eagle			
Haliaeetus leucocephalus	LT	LT	G4, S3
Osprey			
Pandion haliaetus			G5, S3S4
Crested caracara			
Caracara plancus	LT	LT	G5, S2
Merlin			
Falco columbarius			G4, SU
Peregrine falcon			
Falco peregrinus	LE	LE	G4, S2
Least bittern			
Ixobrychus e. exilis			G5, S4
Southern hairy woodpecker			
Picoides villosus			G5, S4?
Louisiana waterthrush			
Seiurus motacilla			G5, S3
Florida prairie warbler			
Dendroica discolor			G5,S3
American redstart			
Setophaga ruticilla			G5, S3
Bachman's sparrow			
Aimophila aestivalis			G3, S3
MAMMALS			
Florida mouse			
Podomys floridanus	LS		G3, S3

Addendum 5—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.

1. Increased staffing with a Park Biologist II and a Park Services Specialist, and 2 Ranger positions to adequately address resource management needs of the park. **Estimated Cost: $30,000/year for Biologist, $27,000/year for Park Service Specialist Position and $50,000/yr for the two Ranger positions, recurring annually.**
2. Replace on-grade dune boardwalks with above grade boardwalks to allow for dune growth and recovery. **Estimated Cost, $100,000.**
3. Continue active prescribed burn program. Return overgrown areas to maintenance condition and return a natural fire regime to the park as is possible. ESTIMATED COST: $7,000 /year recurring cost.
4. Control various exotic plant species occurring on the park, striving to achieve maintenance control levels. **Estimated Cost: $1000, recurring annually.**
5. Control exotic animal species occurring in the park**. Estimated Cost: $2,000, recurring annually.**
6. Conduct a Level I archaeological survey of the park. **Estimated Cost: $20,000.**
7. Install and maintain natural and cultural resource related interpretive kiosks along trails and at main beach use areas. **Estimated Cost: $30,000 and $5,000 annually.**

TOTAL ESTIMATED COST: $265,000 plus $145,000 per year in annual costs.

Dr. Julian G. Bruce St. George Island State Park

Development Cost Estimate

Item	Quantity	Unit	Unit Price	Multiplier	Amount
Beach Use Areas					
Engineering Study for Facilities Relocation	1.000	LS	$50,000.00	1.00	$50,000.00
Large Bathhouse, off-grade	4.000	ea.	$225,000.00	1.00	$900,000.00
Camping Areas					
Medium Area Native Plant Buffer Landscape	2.000	LS	$50,000.00	1.00	$100,000.00
New Standardized Campsite	11.000	ea.	$4,500.00	1.00	$49,500.00
Screened Pavilion	2.000	ea.	$70,000.00	1.00	$140,000.00
East End					
Organize and Fence Parking Area	2.000	per 10	$1,000.00	1.00	$2,000.00
East Slough Boat Launch					
Parking	2.000	SY	$30.00	1.00	$60.00
Support Facilities					
Flammable/Small Storage Building	1.000	ea.	$9,600.00	1.00	$9,600.00
Large Ranger Station	1.000	ea.	$115,000.00	1.00	$115,000.00
New Paved Trailer Parking	2.000	per 5 ri	$11,000.00	1.00	$22,000.00
Two Lane Road (paving)	0.500	mile	$290,000.00	1.00	$145,000.00
Trails					
5 Ft. Paved Shoulder/ Bicycle Trail	26400.000	LF	$25.00	1.00	$660,000.00
6 Ft. Elevated Boardwalk	1500.000	LF	$165.00	1.00	$247,500.00
Interpretive Display/Kiosk	3.000	ea.	$20,000.00	1.00	$60,000.00
Interpretive Signs	3.000	ea.	$5,000.00	1.00	$15,000.00
Observation Deck	1.000	ea.	$30,000.00	1.00	$30,000.00
			Sub-Total		$2,545,660.00
			20 Percent Design, Permitting and Contingency Fee		$509,132.00
			Total		**$3,054,792.00**

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