Florida Department of Environmental Protection

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3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Jonathan P. Steverson
Secretary

August 23, 2016

Ms. Sine Murray
Division of Recreation and Parks
Department of Environmental Protection
3900 Commonwealth Boulevard, MS 525
Tallahassee, Florida 32399-3000

RE: Dr. Julian G. Bruce St. George Island State Park - Lease #2992
Dear Ms. Murray:

On **August 19, 2016**, the Acquisition and Restoration Council recommended approval of the **Dr. Julian G. Bruce St. George Island State Park** management plan. Therefore, the Division of State Lands, Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, hereby approves the **Dr. Julian G. Bruce St. George Island State Park** management plan. The next management plan update is due August 19, 2026.

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

Sincerely,

Joseph Wilson
Office of Environmental Services
Division of State Lands

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

APPROVED
Unit Management Plan

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Division of Recreation and Parks
August 2016

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INTRODUCTION

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

St. George Island State Park's initial acquisition was by donation on April 17, 1963. Since the donation, the Trustees acquired several additional parcels through purchases under the Land Acquisition Trust Fund, Environmentally Endangered Lands, Conservation and Recreation Lands and P2000/CARL programs and added them to the park. Currently the park contains approximately 2,023 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 Significance of the Park

The purpose of St. George Island State Park is to provide for resource-based public outdoor recreational activities, especially saltwater beach activities, camping and hiking. The park conserves natural areas and sandy beaches provide opportunities for outdoor recreation and conservation for the enjoyment of future generations of Florida residents and visitors.

Park Significance

- The park's mosaic of high-quality upland and wetland natural communities provides exceptional habitat for listed bird species. It has the most diverse shorebird nesting of all the State Parks along the northwest Florida Gulf Coast with the highest abundance of overwintering piping plovers. During the spring and fall migration, it is also a major area for neotropical birds and raptors.

- The park has the second highest density of sea turtle nesting along the northwest Florida Gulf Coast.

- The beach dune, scrubby flatwoods 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.

- The park contains cultural resources representing historic periods dating back 3,000 years or more.

- The park provides visitors with an exceptional, pristine barrier island experience with 9 miles of white sandy beach and 12 miles of estuary shoreline for a variety of saltwater-based recreational activities.

St. George Island State Park is classified as a State Park in DRP's unit classification system. In the management of a 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.

Purpose and Scope of the Plan

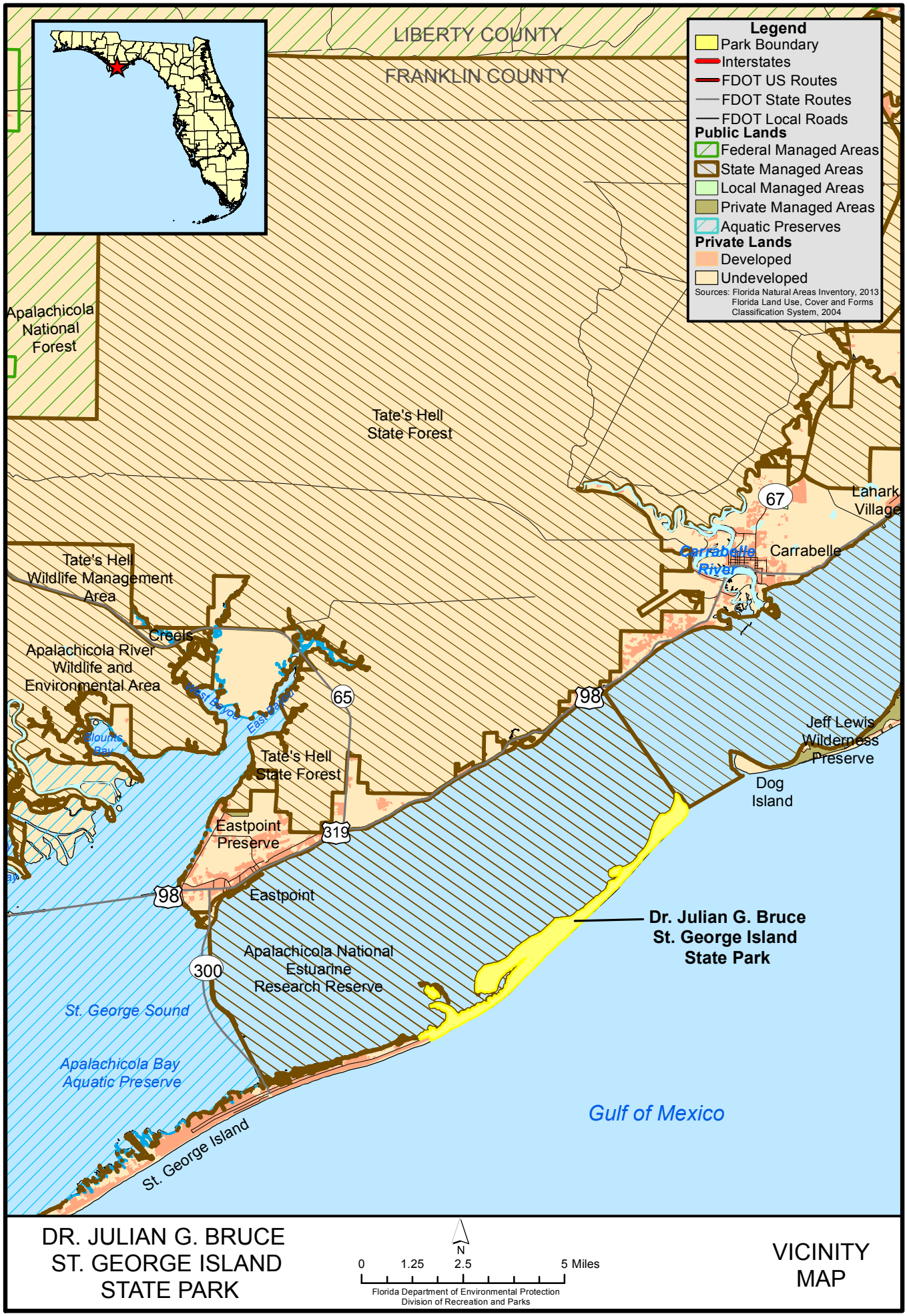
This plan serves as the basic statement of policy and direction for the management of St. George Island State as a unit of Florida's state park system. It identifies the goals, objectives, actions and criteria or standards that guide each aspect of park administration, and sets forth the specific measures 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 is intended to be consistent with the State Lands Management Plan. With approval, this management plan will replace the 1997 approved plan.

The plan consists of three interrelated components: the Resource Management Component, the Land Use Component and the Implementation Component. The Resource Management Component provides a detailed inventory and assessment of the natural and cultural resources of the park. Resource management needs and issues are identified, and measurable management objectives are established for each of the park's management goals and resource types. This component provides guidance on the application of such measures as prescribed burning, exotic species removal, imperiled species management, cultural resource management and restoration of natural conditions.

The Land Use Component is the recreational resource allocation plan for the park. Based on considerations such as access, population, adjacent land uses, the natural and cultural resources of the park, current public uses and existing development, measurable objectives are set to achieve the desired allocation of the physical space of the park. These objectives locate use areas and propose the types of facilities and programs and the volume of public use to be provided.

The Implementation Component consolidates the measurable objectives and actions for each of the park's management goals. An implementation schedule and cost estimates are included for each objective and action. Included in this table are (1) measures that will be used to evaluate DRP's implementation progress, (2) timeframes for completing actions and objectives and (3) estimated costs to complete each action and objective.

All development and resource alteration proposed 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


LIBERTY COUNTY
FRANKLIN COUNTY
Legend
Park Boundary
Interstates
FDOT US Routes
FDOT State Routes
FDOT Local Roads
Public Lands
Federal Managed Areas
State Managed Areas
Local Managed Areas
Private Managed Areas
Aquatic Preserves
Private Lands
Developed
Undeveloped
Sources: Florida Natural Areas Inventory, 2013
Florida Land Use, Cover and Forms Classification System, 2004
Apalachicola National Forest
Tate's Hell State Forest
Tate's Hell Wildlife Management Area
Apalachicola River Wildlife and Environmental Area
Creels
West Bayou
East Bayou
Blounts Bay
Tate's Hell State Forest
Eastpoint Preserve
Eastpoint
Apalachicola National Estuarine Research Reserve
St. George Sound
Apalachicola Bay Aquatic Preserve
St. George Island
Gulf of Mexico
Dr. Julian G. Bruce St. George Island State Park
Jeff Lewis Wilderness Preserve
Dog Island
Lanark Village
Carrabelle
Carrabelle River
67
65
98
319
300
DR. JULIAN G. BRUCE ST. GEORGE ISLAND STATE PARK
N
0 1.25 2.5 5 Miles
Florida Department of Environmental Protection
Division of Recreation and Parks
VICINITY MAP

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

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0 0.375 0.75 1.5 Miles

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2011

REFERENCE MAP

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.

In the development of this plan, the potential of the park to accommodate secondary management purposes was analyzed. These secondary purposes were considered within the context of DRP's statutory responsibilities and the resource needs and values of the park. This analysis considered the park natural and cultural resources, management needs, aesthetic values, visitation and visitor experiences. For this park, it was determined that no secondary purposes could be accommodated in a manner that would not interfere with the primary purpose of resource-based outdoor recreation and conservation. Uses such as water resource development projects, water supply projects, stormwater management projects, linear facilities and sustainable agriculture and forestry (other than those forest management activities specifically identified in this plan) are not consistent with this plan.

The potential for generating revenue to enhance management was also analyzed. Visitor fees and charges are the principal source of revenue generated by the park. It was determined that multiple-use management activities would not be appropriate as a means of generating revenues for land management. Instead, techniques such as entrance fees, concessions and similar measures will be employed on a case-by-case basis as a means of supplementing park management funding.

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

Management Program Overview

Management Authority and Responsibility

In accordance with Chapter 258, Florida Statutes and Chapter 62D-2, Florida Administrative Code, DRP 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 Board of Trustees of the Internal Improvement Trust Fund (Trustees) has granted management authority of certain sovereign submerged lands to DRP 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. 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 affect public recreational uses.

At St. George Island State Park, certain management activities are needed within the management zone of sovereign submerged land along the entire shoreline, beginning at the mean high water or ordinary high water line, or from the edge of emergent vegetation and extending waterward for 150 feet. The submerged resources within the buffer zone contain significant species diversity and provide recreational opportunities for park visitors. Visitors are able to access this community either from the beach or from a boat. Management actions occurring within the buffer zone are educational outreach, removal of trash, litter and other debris, public safety and emergency response activities, protection of listed species (including but not limited to sea turtles and shorebirds) and the monitoring and inventory of natural and cultural resources.

Many operating procedures are standardized system-wide and are set by internal direction. These procedures are outlined in DRP's Operations Manual (OM) that covers such areas as personnel management, uniforms and personal appearance, training, signs, communications, fiscal procedures, interpretation, concessions, public use regulations, resource management, law enforcement, protection, safety and maintenance.

Park Management Goals

The following park goals express DRP's long-term intent in managing the state park.

1. Provide administrative support for all park functions.
2. Protect water quality and quantity in the park, restore hydrology to the extent feasible and maintain the restored condition.
3. Restore and maintain the natural communities/habitats of the park.
4. Maintain, improve or restore imperiled species populations and habitats in the park.
5. Remove exotic and invasive plants and animals from the park and conduct needed maintenance-control.
6. Protect, preserve and maintain the cultural resources of the park.
7. Provide public access and recreational opportunities in the park.
8. Develop and maintain the capital facilities and infrastructure necessary to meet the goals and objectives of this management plan.

Management Coordination

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

The Florida Fish and Wildlife Conservation Commission (FWC), assists staff in the enforcement of state laws pertaining to wildlife, freshwater fish and other aquatic life existing within the park. In addition, the FWC aids DRP with wildlife management programs, including imperiled species management. The Florida Department of State (FDOS), Division of Historical Resources (DHR) assists staff to ensure protection of archaeological and historical sites. The DEP, Bureau of Beaches and Coastal Systems aids staff in planning and construction activities seaward of the Coastal Construction Line. In addition, the Bureau of Beaches and Coastal Systems aid the staff in the development of erosion control projects.

Public Participation

DRP provided an opportunity for public input by conducting a public workshop and an Advisory Group meeting to present the draft management plan to the public. These meetings were held on November 18 and 19, 2014, respectively. Meeting notices were published in the Florida Administrative Register, November 10, 2014 [VOL 40/219], included on the Department Internet Calendar, posted in clear view at the park, and promoted locally. The purpose of the Advisory Group meeting is to provide the Advisory Group members an opportunity to discuss the draft management plan (see Addendum 2).

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 Florida Department of Environmental Protection (DEP), Division of Recreation and Parks (DRP) in accordance with Chapter 258, Florida Statutes, 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. Management measures expressed in this plan are consistent with the DEP's overall mission in ecosystem management. Cited references are contained in Addendum 3.

DRP's philosophy of resource management is natural systems management. Primary emphasis is placed on restoring and maintaining, to the degree possible, the natural processes that shaped the structure, function and species composition of Florida's diverse natural communities as they occurred in the original domain. Single species management for imperiled species is appropriate in state parks when the maintenance, recovery or restoration of a species or population is complicated due to constraints associated with long-term restoration efforts, unnaturally high mortality or insufficient habitat. Single species management should be compatible with the maintenance and restoration of natural processes, and should not imperil other native species or seriously compromise park values.

DRP's management goal for cultural resources is to preserve sites and objects that represent Florida's cultural periods, significant historic events or persons. This goal often entails 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 can be affected by conditions and events that occur beyond park boundaries. Ecosystem management is implemented through a resource management evaluation program that assesses resource conditions, evaluates management activities and refines management actions, and reviews local comprehensive plans and development permit applications for park/ecosystem impacts.

The entire park is divided into management zones that delineate areas on the ground that are used to reference management activities (see Management Zones Map). The shape and size of each zone may be based on natural community type, burn zone, and the location of existing roads and natural fire breaks. It is important to note that all burn zones are management zones; however, not all management zones include fire-dependent natural communities. Table 1 reflects the management zones with the acres of each zone.

Table 1: St. George Island State Park Management Zone Acreage

Management Zone	Acreage	Managed with Prescribed Fire
SG-01	131	Y
SG-02	185	Y
SG-03	221	Y
SG-04	96	Y
SG-05	86	Y
SG-06	58	Y
SG-07A	52	Y
SG-07B	31	Y
SG-07C	34	Y
SG-08	35	Y
SG-09	40	Y
SG-10	131	N
SG-11	126	Y
SG-12	110	N
SG-13	55	N
SG-14	604	Y
SG-15	28	N

Resource Description and Assessment

Natural Resources

Topography

The park's topography is typical of northwest Florida Barrier Islands, with primary and secondary dune fields along the Gulf front. Broad, flat areas occupied by pineland or coastal grassland occur landward. Areas of ridge and swale topography, indicative of relict dune fields, also occur landward, primarily on the Gap Point Peninsula (Management Zones SG-03, SG-04, SG-05).

St. George Island is one of the easternmost segments of the northwest Florida barrier island chain. The park comprises the easternmost nine miles of the island, which is approximately 4.5 miles off shore from the Franklin County mainland. The park's most notable topographic feature is the primary and secondary dunes. Moving landward from the relatively flat Gulf beach, the park's beach dune system begins with subtle fore dunes. The primary dune line occurs just landward and is typically anchored/stabilized by sea oats (*Uniola paniculata)*, Beach grass (*Panicum amarum)* and other dune building vegetation. Historically, dune elevations along the primary dune line have reached up to 25 feet. The primary dunes were most recently impacted by Hurricane Opal (1995) and Hurricane Dennis (2005).

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

0 0.5 2 Miles

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Florida Department Environmental Protection
Divison of Recreation and Parks
Date of Aerial: 2011

MANAGEMENT ZONES MAP

The majority of the primary dune line, particularly at the east side of the park, was overwashed by storm surge and displaced landward as a series of washover fans. In many areas, these washover fans buried park facilities and the main access road. As a result, artificial dunes were created adjacent to facilities and roadways where sand was removed by heavy equipment. The park's primary dunes have experienced very good recovery, since Hurricane Dennis, due largely to major, post storm sea oat planting projects intended to encourage dune growth.

Well established secondary dunes occur north of the main east-west running park road, between the boat ramp and the campground road (SG-02). This relict dune line is very well anchored with deep rooted shrubs and trees including sand live oak (*Quercus geminate),* myrtle oak (*Quercus myrtifolia),* Chapman oak (*Quercus champanii),* slash pine (*Pinus elliottii)*, Southern Magnolia (*Magnolia grandiflora)* and yaupon holly (*Ilex vomitoria).* Some secondary dune areas, including Sugar Hill, experienced escarpment erosion resulting from the Hurricane Dennis storm surge, however these dunes remain the highest current elevations on the park.

Broad relatively flat areas occur towards the Sound side of the island. These are various, lower elevation sites occupied by slash pine flatwoods, coastal grassland or saw grass (*Cladium jamaicense)* dominated basin marsh.

The portion of the park located on Gap Point Peninsula consists of a ridge and swale topography. The excessively well drained sandy ridges are dominated by dune rosemary (*Ceratiola ericoides)* and sand live oak, while the lower lying swales are occupied by slash pine dominated flatwoods, or linear sawgrass wetlands.

Geology

A structural feature known as the Apalachicola embayment has influenced the geology of St. George Island. This embayment feature has existed since at least the Miocene, or approximately 30 million years before present. It has been accumulating sediments since that time. The underlying limestone strata lie approximately 300 feet below the current surface. The deeper, older Bruce Creek and St. Mark's formations of the late Oligocene to middle Miocene (20-30 million years before present) are composed of limestone built from calcareous mollusk shells, as well as ostracods, bryozoans, algae, corals, sea urchins and 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 million years before present) is composed 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 million years before present) when the mulluscan-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 recent geologic time, 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 3,000 years old.

The island initially developed from two off shore shoals, which emerged during slightly lower sea levels. Three separate small islands, which were present approximately 1,000 years ago, slowly merged 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

There are eight soil types identified within the park (see Soils Map):

Beaches soil type consists almost exclusively of quartz grains with various quantities of broken shells. The shell fragments are often the same size as the quartz grains. This soil type comprises the relatively flat open beach along the gulf and sandy portions of the Sound side shore at the far east end of the island. Approximately half of this soil type can be tidally flooded daily, and all of the beach can be flooded during storm events.

Diregо and Bayvi soils, tidal are very poorly drained mucky soils that support salt marshes along many of the Sound side areas of the park, including two small marsh islands. Much of this soil type is flooded daily by normal high tides.

Corolla Sand consists of white sandy soils of the beach dune natural community, as well as areas of ancient beach dune and swales, that currently support very sparse scrubby flatwoods primarily within management zones SG-03, SG-04, SG-05 and SG-06 on the Gap Point Peninsula.

Duckston Sand consists of somewhat poorly drained dark gray soil. The Franklin County Soil Survey describes this soil type as supporting a maritime pine forest or coastal savannah. Maritime pine forest areas consist of slash pine, cabbage palm (*Sabal palmetto)*, gallberry (*Ilex glabra)*, glossy fetterbush (*Lyonia lucida)* and marshhay cordgrass (*Spartina patens)* and are identified in this plan as wet flatwoods. Coastal savannah areas are identified in this plan as coastal grassland, and consist of marshhay cordgrass, gulf muhly (*Muhlenbergia capillaris), sea oats* and various other grasses.

Legend

- 03 - Beaches
- 04 - Diregо and Bayvi soils, tidal
- 10 - Corolla sand, 0 to 5 percent slope
- 26 - Duckston sand, ocassionally flooded
- 31 - Rutlege fine sand
- 39 - Scranton sand, slough
- 40 - Newhan-Corolla complex, rolling
- 46 - Duckston-Rutlege-Corolla complex
- 99 - Water

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

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0 0.5 1 2 Miles

Florida Department Environmental Protection
Divison of Recreation and Parks
Date of Aerial: 2011

SOILS MAP

Rutledge Fine Sand is very poorly drained and occupies broad, low-lying flats or swales primarily on the Gap Point Peninsula. This soil type supports a very dense growth of slash pine and wax myrtle.

Scranton Sand, Slough is very dark gray, poorly drained sand that occurs in low-lying basin marsh near the far western end of management zone SG-02.

Newhan-Corolla Complex, Rolling is well-drained deep sandy soils that comprise the park's primary sand dunes along the Gulf beach. This soil type also occurs along the more landward, relict dunes primarily within management zone SG-02 and to a lesser extent within management zones SG-03, SG-04 and SG-05.

Duckston-Rutlege-Corolla Complex is a mosaic of relatively poorly drained sandy soils that occupy broad lower lying areas generally towards the Sound side of the island. The Duckston and Rutlege components support wet flatwoods and small basin marsh natural communities, the latter of which are dominated by sawgrass. The Corolla components support sparse scrubby flatwoods, with scattered dune rosemary.

The park maintains designated dune cross over points for beach access, and restricts unregulated foot traffic and vehicular traffic throughout the highly erodible soils of the beach dune natural community. All resource management roads are maintained as on-grade trails, and only used for approved resource management activities as necessary. Additionally, Park Service staff have planned and conducted major, post-hurricane, dune restoration activities, with focus on mass revegetation of impacted areas. These activities and protective measures provide for the conservation of soil resources and help control soil erosion.

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 Bay and St. George Sound. The Apalachicola River discharges an average of 16 billion gallons per day. The bay system is identified as a Class II water. The large influx of fresh water substantially lowers the salinity within the greater Apalachicola Bay.

The Floridan Aquifer underlies the entire region and lies 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 the island is surrounded by marine and estuarine water, the Floridan Aquifer under St. George Island is infiltrated with salt water and 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 given increased residential development and potential climate factors such as extended drought periods.

Due to the extensive porosity of the overlying sands, drainage on the island is almost exclusively subsurface. Along most of the barrier island, only occasional surface water is present. Within the park, these ephemeral wetlands typically occur as elongated inter-dune swales within relict dune systems primarily in management zones SG-02, SG-03, SG-04 and SG-05. The park does have a few relatively permanent freshwater bodies, consisting of a shallow coastal dune lake near the eastern tip of the island and two deep borrow pits that have succeeded into what are essentially small ponds near the east end of the campground. A large basin marsh, near the park shop, retains standing water, except during prolonged drought periods.

The park's marine and estuarine shorelines are subject to daily tidal influence. Tides normally vary about 2.6 feet daily, but substantially exceed this during tropical storms and hurricanes. Five to six foot storm surges are expected about every 10 years. Eight to ten foot storm surges are expected every 50 to 100 years. In addition to obvious topographic impacts, storm surge significantly affects the island's surface and ground water as well.

The park's hydrology has been relatively unaltered by limited past and current human activities, however continues to be shaped by natural processes, associated with the maritime environment and storm events.

Natural Communities

This section of the management plan describes and assesses each of the natural communities found in the state park. It also describes the desired future condition (DFC) of each natural community and identifies the actions that will be required to bring the community to its desired future condition. Specific management objectives and actions for natural community management, exotic species management, imperiled species management are discussed in the Resource Management Program section of this component.

The system of classifying natural communities employed in this plan was developed by the Florida Natural Areas Inventory (FNAI). The premise of this system is that physical factors such as climate, geology, soil, hydrology and fire frequency generally determine the species composition of an area, and that areas that are similar with respect to those factors will tend to have natural communities with similar species compositions. Obvious differences in species composition can occur, however, 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. Some physical influences, such as fire frequency, may vary from FNAI's descriptions for certain natural communities in this plan.

When a natural community within a park reaches the desired future condition, it is considered to be in a "maintenance condition." Required actions for sustaining a community's maintenance condition may include, maintaining optimal fire return intervals for fire dependant communities, ongoing control of non-native plant and animal species, maintaining natural hydrological functions (including historic water flows and water quality), preserving a community's biodiversity and vegetative structure, protecting viable populations of plant and animal species (including those that are imperiled or endemic), and preserving intact ecotones linking natural communities across the landscape.

The park contains nine distinct natural communities as well as artificial pond and developed areas (see Natural Communities Map). A list of known plants and animals occurring in the park is contained in Addendum 5.

Wet Flatwoods

Desired Future Condition: The dominant pines will be slash pine. Depending on the site, native herbaceous groundcover, consisting largely of salt meadow cordgrass, may be over the majority of the area. Other wet flatwoods sites may have a shrub-dominated understory. Shrub species may include wax myrtle, gallberry (*Ilex glabra*), fetterbush (*Lyonia lucida*), yaupon holly, shiny blueberry (*Vaccinium myrsinites*) and saw palmetto. Shrubs are generally knee-waist high or less. The Optimal Fire Return Interval for this community at St. George Island State Park is estimated to be 3-8 years.

Description and Assessment: The largest, contiguous areas of wet flatwoods occur on the Rattlesnake Cove Peninsula (SG-07A) and on the Gap Point Peninsula (SG-03, SG-04 and SG-05). The area that most closely fits the herbaceous understory model is within SG-07A. The scattered slash pines extend north towards the end of Rattlesnake Peninsula, sheltering a diverse understory that includes saltmeadow cordgrass, gallberry, glossy fetterbush, scattered oaks, wax myrtle, blazing star (*Liatris chapmanii*), saw palmetto (*Serenoa repens*), yellow-eyed grass (*Xyris caroliniana*), yaupon holly, deer's tongue (*Carphephorus odoratissimus*), boneset (*Eupatorium sp.*), southern beeblossom (*Gaura angustifolia*), yellow flax (*Linum medium*), bush goldenrod (*Euthamia sp.*) St. John's wort (*Hypericum sp.*), rose mallow (*Hibiscus moscheutos*) and seashore mallow (*Kosteletzkya pentacarpos*) as well as many others. Sawgrass often dominates the more landward portions of the adjacent high salt marsh, delineating an ecotone between the flatwoods and marsh. A small area of mature live oaks (*Quercus virginiana*) and scattered red cedar (*Juniperus virginiana*) near the youth camp in SG-07A has characteristics of maritime hammock. This is a favored resting site for Neotropical migratory birds, and popular among birders during the spring and fall migrations.

The wet flatwoods on the Gap Point Peninsula occur in low-lying, "swale-like" areas between the higher scrubby flatwoods ridges. These wet flatwoods are often

dominated by very dense, even- age slash pine. One of the primary burn objectives is to reduce the number and overall density of pines in these areas. With the reintroduction of fire, site conditions will begin to favor a more balanced plant diversity that will include early successional grasses and other herbaceous species.

While a large, contiguous area within SG-01 is mapped as wet flatwoods, this area is actually a mosaic of wet flatwoods, scrubby flatwoods and small basin marsh communities.

A very pronounced, forested swale occurs within SG-02 just north of the ancient "Sugar Hill" dunes. This area is best described as a shrub dominated wet flatwoods, although one relatively small segment, with live oaks, cabbage palms and coastal plains willow exhibits characteristics of coastal hydric hammock.

The eastern half of SG-03 is mapped as scrubby flatwoods, however, imbedded in this portion of the scrubby flatwoods map unit are numerous wet flatwoods swales and small basin marshes.

General Management Measures: Management measures for larger areas of wet flatwoods will include routine prescribed burning according to this community's recommended Optimal Fire Return Interval. Smaller, mosaic components of this natural community will be burned in accordance with the fire return intervals of the surrounding natural communities. Management objectives may include reduction of pine overstory. All wet flatwoods will be included in periodic monitoring for exotic species.

Scrubby Flatwoods

Desired Future Condition: Slash pines are the dominant tree in North Florida barrier island scrubby flatwoods. Mature sand pines (*Pinus clausa*) will typically not be present. There will be a diverse shrubby understory often with patches of bare white sand. A patchy scrub-type oak "canopy" will vary in height from 3 – 8 feet and there will be a variety of oak age classes/heights across the landscape. Dominant shrubs include sand live oak, myrtle oak, Chapman's oak and dune rosemary. Cover by herbaceous species is often well below 40 percent. Sparse herbaceous species include sandy field beak-rush (*Rhynchosproa megalocarpa*), switchgrass (*Panicum virgatum*) and broomsedge (*Andropogon virginicus*). The Optimal Fire Return Interval for this community is regionally variable. In the nutrient poor, sandy soils and maritime environs of St. George Island, the Fire Return Interval is estimated to be 5-15 years. More frequent burning would likely eliminate iconic understory species such as dune rosemary and Conradina.

Description and Assessment: Expansive xeric pinelands occur within SG-03, SG-04, SG-05, SG-06 and SG-07A. These areas occur on relatively flat well drained uplands or along very well drained sand ridges, indicative of relict/ancient dune fields. Scrubby flatwoods at St. George Island State Park have a widely scattered overstory of mature slash pines. Sand pines are completely absent in most areas. Slash pine regeneration in the nutrient poor, droughty soil is minimal. The

Legend

- BD - Beach Dune 572.73 ac.
- CG - Coastal Grassland 248.63 ac.
- SCF - Scrubby Flatwoods 632 ac.
- WF - Wet Flatwoods 255.17 ac.
- BM - Basin Marsh 21.39 ac.
- SAM - Salt Marsh 171.04 ac.
- CDLK - Coastal Dune Lake 3.26 ac.
- EUS - Estuarine Unconsolidated Substrate 78.03 ac.
- MUS - Marine Unconsolidated Substrate 261.24 ac.
- AP - Artificial Pond 1.94 ac.
- DV - Developed 47.63 ac.

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

N

0 0.5 1 2 Miles

Florida Department Environmental Protection
Divison of Recreation and Parks
Date of Aerial: 2011

NATURAL COMMUNITIES MAP

understory consists mostly of scattered sand live oak, Chapman oak, myrtle oak, dune rosemary, Conradina, yaupon holly and sparse saw palmetto. Herbaceous species, including those listed in the preceding paragraph, are present, however usually sparsely scattered. There are many unvegetated areas of white sand, particularly if the very thin layer of fine dead fuel has been burned in recent years.

General Management Measures: Management measures for the park's scrubby flatwoods will include prescribed burning and periodic monitoring for exotic species.

Beach Dune

Desired Future Condition: A coastal mound or ridge of unconsolidated sediments found along shorelines with high energy waves. Vegetation will consist of herbaceous dune forming grass species such as sea oats and beachgrass. Other typical species include railroad vine (*Ipomea pes-caprae*), seashore paspalum (*Paspalum vaginatum*), beach umbrellas (*Hydrocotyle bonariensis*), golden aster (*Heterotheca subaxillaris*), seaside goldenrod (*Solidago sempervirens*), sea rocket (*Cakile constricta*), sand-squares (*Paronychia erecta*), beach groundcherry (*Physalis angustifolia*), beach morning glory (*Ipomea imperati*) and sea oxeye (*Borrichia frutescens*. Shrubs such as salt bush (*Baccharis halimifolia*) may be scattered within the herbaceous vegetation.

Stabilized back dunes will be anchored by sand live oak (*Quercus geminata*), Chapman oak (*Quercus champanii*), scrub rosemary (*Conradina canescens*), dune rosemary, bush goldenrod (*Chrysoma pauciflosculosa*), slash pine, and southern magnolia.

Description and Assessment: Beach dune community extends contiguously along the entire Gulf side of the park. Development within this community includes two beach access parking areas, and the main park road which extends 8.6 miles to a point near the island's eastern tip. The beach dune begins at the Gulf beachfront as often lightly vegetated foredunes and more heavily vegetated primary dunes. Moving inland, this community often consists of lower profile undulating sand dunes, with dominant vegetation consisting of sea oats as well as woody shrubs and perennials such as sand live oak, Chapman oak, woody goldenrod and rosemary. This community also includes the roughly two miles of high, well-established back dunes that occur largely within SG-02 and SG-01. The back dunes are very well anchored with deep-rooted slash pines, southern magnolia and a variety of woody shrubs. Higher portions of this relict dune line, referred to as "Sugar Hill," still rise to approximately 50 feet, despite heavy escarpment erosion associated with Hurricanes Opal (1995) and Dennis (2005). The beach dune community often borders coastal grassland as one moves inland from the Gulf. Community delineation can be quite abrupt, or less obvious, with a gradual transition, in areas most recently disturbed by storm surge.

Imbedded within some landward portions of the beach dune community are linear wetlands that could be described as coastal interdunal swale. These ephemeral wetlands are dominated by sedges. Capeweed (*Phyla nodiflora*), buttonweed

(*Diodia virginiana*) and dotted smartweed (*Polygonum punctatum*) are among the vegetation. These areas primarily occur just north of the park road, within SG-01 and SG-02.

Large sections of the park's beach dune, particularly towards the western end of the park, were heavily overwashed by Hurricane Dennis (2005). Large-scale beach dune restoration projects involving mass sea oat plantings focused on these areas. Approximately 1.7 million sea oats were planted between the western boundary and Sugar Hill in order to begin restoring the primary dune line by natural process. Another 80,000 sea oats were planted in 2010. Sea oat survival and resulting dune building/recovery has been excellent. This restoration approach begins with mass revegetation of deep-rooted on-site plants, rather than artificial, post-storm sand dune creation by scraping and pushing with heavy equipment. The result has been the steady regrowth of heavily vegetated; deeply anchored primary dunes. Although the recently planted areas were heavily impacted by storm surge associated with the 2012 hurricane season, these dune restoration areas significantly protected older well established dune areas located just landward.

Other common plants found within the park's beach dune community include beach grass, sea rocket, beach morning glory, railroad vine, sand squares, salt bush, beach umbrellas, cottonweed (*Froelichia floridana*), sea oxeye, seaside goldenrod, beach orach (*Atriplex pentandra*), rock rose (*Helianthemum corymbosum*), seaside evening primrose (*Oenothera humifusa*), beach false foxglove (*Agalinis fasciculata*), beach groundcherry (*Physalis angustifolia*) and sea lavender (*Limonium sp.).*

General Management Measures: Management measures will focus on community and habitat protection, including removal of non-indigenous predators that impact native imperiled species. Dune restoration activities such as mass sea oat planting will be initiated per need and available funding. Unapproved activities that would result in fragmentation or impacts to sensitive vegetation and resulting erosion will not be allowed.

Coastal Grassland

Desired Future Condition: Predominantly herbaceous community occupying the flatter and drier portions just landward of the beach dune natural community. With the exception of overwash from severe storms, it is a relatively stable community compared to the dynamic primary dunes. Coastal grassland occurs primarily on the broader barrier islands and capes along the sandy coasts of Florida. Characteristic plant species at St. George Island include Muhly grass (*Muhlenbergia capillaris*), saltmeadow cordgrass (*Spartina patens*) bluestem grasses (*Andropogon* spp. and *Schizachyrium* spp.), camphorweed (*Heterotheca subaxillaris*) and greenbriar (*Smilax auriculata*). Other common species include seaoats (*Uniola paniculata*), beachgrass (*Panicum amarum*), coastal lovegrass (*Eragrostis refracta*), marsh pink (*Sabatia sp.*), white-top sedge (*Rhynchospora colorata*), coastal dropseed (*Sporobolus virginicus*) and arrow-feather (*Aristida purpurescens*). The optimal fire return interval for this community type, locally, is estimated to be 3-10 years.

Description and Assessment: Large flat or gently rolling areas dominated by a variety of grasses are best described as coastal grassland. These savanna-like communities are identical in character and species composition to the desired future condition description above. Species dominants can vary between sites. Gulf muhly grass is much more prevalent in the large coastal grassland within SG-08 and SG-09, while saltmeadow cordgrass is often dominant in the eastern portion of the park within SG-14. Some coastal grasslands at the east end are imbedded with smaller areas of beach dune.

The relatively thick cover of grasses and other herbaceous plants generally precludes colonization of woody shrubs and overstory forming slash pines, aside from a few very widely scattered individuals. However, islands of woody shrubs such as saltbush, wax myrtle (*Myrica cerifera*) oaks, willows and dense, even-aged thickets of slash pines can become established and expand if fires are absent for many years. A primary burn objective is to reduce woody species, and restore proper herbaceous vs. woody species proportions within the grasslands.

Animal species that depend on the coastal grasslands include cotton mouse (*Peromyscus gossypinus*) and coachwhip (*Masticophis flagellum*). Snowy plovers, Wilson's plovers and American Oystercatchers nest within the coastal grasslands as well as adjacent beach dune community.

The coastal grasslands on St. George Island State Park add a significant element of natural community diversity, as well as dramatic visual expanse.

General Management Measures: General management measures for coastal grassland will include prescribed burning and site-specific vegetation management measures such as reduction of off-site woody shrubs or thinning of unnaturally high-density pines if necessary. Monitoring and removal of exotic plant species and non-indigenous predators will be conducted as necessary.

Basin Marsh

Desired Future Condition: Emergent herbaceous and low shrub species are dominant over most of the area, and there will be an open vista. Trees are few and if present occur primarily along the edges of the community. There is little accumulation of dead grassy fuels due to burning; one can often see the soil surface through the vegetation when the community is not inundated. Dominant vegetation in basin marsh will include sawgrass, common reed (*Phragmites australis*), arrowheads (*Sagittaria sp*.), buttonbush (*Cephalanthus occidentalis*), St. John's wort (*Hypericum sp*.), and coastalplain willow (*Salix caroliniana*). The Optimal Fire Return Interval for this community is 3-10 years depending on fire frequency of adjacent communities. The park's basin marshes are ephemeral wetlands; however, they can hold water for extended periods, depending on frequency and amounts of rainfall.

Description and Assessment: The majority of the park's ephemeral wetlands are best described as basin marsh. They typically occur as linear depression features

either between relict dune ridges, or in broad low-lying basins. Examples of the linear "swale-like" marshes are located on the Gap Point Peninsula, primarily within SG-03. These linear wetlands occur in the low-lying areas between the scrubby flatwoods ridges, and are dominated by sawgrass. Gallberry and glossy fetterbush, typical of wet flatwoods, occurs along the narrow ecotonal periphery. A variety of sedges occur along the periphery as well as the interior, where standing water can persist for extended periods, pending frequency and amounts of rain. The park's largest basin marsh is located within SG-07B near the shop facility. This wetland occurs within a large, rounded basin, extending from the beach dune community inland to wet and scrubby flatwoods. Dominant vegetation is sawgrass and common reed. Buttonbush, arrowhead and seashore mallow (*Kosteletzkya pentacarpos*) occur here as well. All of the basin marshes have dark, mucky, organic soils that are either saturated or at least damp, if not completely inundated by standing water. Very seldom do these soils completely dry out.

Common animal species within the park's freshwater marshes include green anole (*Anolis carolinensis*), cricket frog (*Acris gryllus*), red winged blackbird (*Agelaius phoeniceus*), cottonmouth (*Agkistrodon piscivorus*) and eastern box turtle (*Terrapene Carolina*).

General Management Measures: Natural hydrology is largely unaltered within and around basin marsh natural communities. Prescribed burning, associated with fire intervals of adjacent natural communities, will be conducted as well as exotic species monitoring and removal when necessary.

Salt Marsh

Desired Future Condition: A largely herbaceous community that occurs in the portion of the coastal zone affected by tides and seawater and protected from large waves. Salt marsh typically has distinct zones of vegetation based on water depth and tidal fluctuations. Saltmarsh cordgrass (*Spartina alterniflora*) dominates the seaward edge; the areas most frequently inundated by tides. Needle rush (*Juncus roemerianus*) dominates the higher, less frequently flooded areas. Other characteristic species include Carolina sea lavender (*Limonium carolinianum*), coastal loosestrife (*Lythrum lineare*), seaside goldenrod (*Solidago sempervirens*), saltwort (*Batis maritima*), perennial glasswort (*Salicornia virginica*) and seashore mallow. A landward border of salt-tolerant shrubs including groundsel tree (*Baccharis halimifolia*), saltwater falsewillow (*Baccharis angustifolia*), marshelder (*Iva frutescens*), and Christmasberry (*Lycium carolinianum*) may exist. Soil salinity and flooding are the two major environmental factors that influence salt marsh vegetation. While there is little data on natural fire frequency in salt marshes, fire probably occurred sporadically and with a mosaic pattern, given the patchiness of the fuels intermixed with creeks, salt flats, etc. Similar to other northwest Florida coastal parks, portions of salt marsh at St. George Island adjacent to fire type communities will usually carry fire. Fire can be intense if needle rush and cordgrass continuity is very good or in areas with storm deposited fuel loads. Optimal fire return interval for salt marsh follows the fire frequency for adjacent fire type communities.

Description and Assessment: Large low-lying areas along the Sound side shoreline of the park are best described as salt marsh. Portions of these salt marshes are influenced by daily tidal flooding. All of these estuarine wetlands are heavily vegetated primarily with saltmarsh cordgrass and needle rush as described above. Both species tolerate a wide range of salinities, but cordgrass is generally found along the "seaward" edge where the marsh is flooded almost daily, whereas needle rush is found where the marsh is flooded less frequently. Good examples of salt marsh occur along the Rattlesnake Cove Peninsula (SG-07A) and along the shoreline of East Slough (SG-02 and SG-06). Additionally, two small predominantly salt marsh islands occur along the park's Sound side shoreline (SG-07C Goose Island and SG-15 Marsh Island).

The park's salt marshes are important biologically productive natural communities. The base of the food chain is supplied not only by the rooted plant matter, but also by algae and detritus found on the stems of plants, on the sediment surface, and suspended in the water column of pools and tidal creeks. A vast assemblage of estuarine and marine species depend on salt marshes along St. George Island and the greater Apalachicola Bay system as primary habitat during all or part of their life cycle. These include well-known commercial and recreational species such as mullet (*Mugil sp.*), blue crabs (*Callinectes sapindus*), oysters (*Crassostrea virginica*), shrimp (*Penaeus sp.*), redfish (*Sciaenops ocellatus*) and spotted seatrout (*Cynoscion nebulosus*).

General Management Measures: Management measures for salt marsh will include habitat protection, prescribed burning in association with adjacent fire type communities, periodic monitoring for exotic species and removal of storm deposited trash and debris as necessary.

Coastal Dune Lake

Desired Future Conditions: Coastal dune lakes are generally shallow elliptic depressions occurring in coastal communities. They are generally permanent water bodies, although water levels fluctuate substantially. They are typically lentic water bodies without significant surface inflows or outflows. Instead, water is largely derived from lateral ground water seepage through the surrounding well-drained coastal sands. Storms occasionally provide large inputs of salt water and salinities vary dramatically over the long term.

Vegetation is largely restricted to a narrow band along the shore, composed of hydrophytic grasses and herbs or a dense shrub thicket, depending on fire frequency of any adjacent fire type communities or water fluctuations.

Description and Assessment: A 3.2-acre shallow, sand bottom lake near the east end of the island is best described as a coastal dune lake. There is an ephemeral connection to the St. George Sound through approximately 500 feet of winding, high salt marsh that is only inundated with saltwater during storm surge. The water within the lake was notably fresh during the site visit by Park Managers and District Biological staff in May of 2011. Additionally, a contiguous fringe of saw grass and

other low salt tolerant species around the southern half of the lakeshore indicate an overall trend towards fresh water. No aquatic (submergent) vegetation was observed.

From the south, the coastal dune lake is entirely hidden from view by the surrounding coastal grassland and a thin, encircling fringe of woody shrubs. The lake is nearly hidden from the north as well. It is just visible beyond the high salt marsh from the highest dunes along the adjacent stretch of sound-side beach.

Animal species observed included, mosquito fish (*Gambusia sp.)*, red-winged blackbird and great blue heron (*Ardea Herodias*).

General Management Measures: Management measures will focus on community and water quality protection. Adjacent vegetation will be allowed to burn in association with adjacent coastal grassland communities during relatively infrequent prescribed burns.

Estuarine Unconsolidated Substrate

Desired Future Condition: Will consist of expansive unvegetated, open areas of mineral-based substrate composed of sand and shell beaches. Desired conditions include preventing soil compaction, dredging activities and disturbances such as the accumulation of pollutants.

Description and Assessment: This community consists of the Sound side sandy beach. It generally lacks vegetation, aside from a few widely scattered, salt tolerant plants located above the mean high tide or wrack line. It is an important foraging and resting site for a variety of shorebirds and wading birds as this community hosts numerous infaunal organisms and abundant estuarine aquatic species within the near shore shallows.

General Management Measures: Management measures will include habitat protection, imperiled species monitoring (winter piping plover surveys) and removal of tide bourn flotsam/trash as necessary.

Marine Unconsolidated Substrate

Desired Future Condition: Will consist of expansive unvegetated, open areas of mineral-based substrate composed primarily of sand and shell. Desired conditions include preventing soil compaction, dredging activities and disturbances such as the accumulation of pollutants.

Description and Assessment: This community consists of the Gulf side sandy beach. It generally lacks vegetation, aside from a few widely scattered, salt tolerant plants located well above the mean high tide line near the fore dunes. Species such as sea rocket (*Cakile constricta*), beach morning glory and beach grass are among the sparing vegetation. It is an important foraging and resting site for a variety of shorebirds and wading birds as this community hosts numerous infaunal organisms

and abundant marine species within the near shore shallows. Sand and smaller shell particles move laterally within the littoral zone aided by wave action and longshore drift. Along with aeolian/wind blown sand, it is the primary mode for movement of beach building sediments along the greater coastline over extended time.

The roughly nine miles of dark Gulf beach provide excellent nesting habitat for sea turtles. The park has the second highest occurrence of sea turtle nesting of all the State Parks along the northwest Florida Gulf Coast.

General Management Measures: Management measures will include habitat protection, imperiled species monitoring, non-indigenous predator removal and removal of tide bourn flotsam/trash as necessary.

Imperiled Species

Imperiled species are those that are (1) tracked by FNAI as critically imperiled (G1, S1) or imperiled (G2, S2); or (2) listed by the U.S. Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FWC) or the Florida Department of Agriculture and Consumer Services (FDACS) as endangered, threatened or of special concern.

St. George Island State Park is home to a number of imperiled species, many of which are highly adapted to and dependent on unaltered coastal natural communities. The park has the second highest density of sea turtle nesting of all State Parks along the northwest Florida Gulf Coast. Loggerhead *Caretta caretta* and green *Chelonia mydas* sea turtles regularly use the beaches for nesting each year. There is anecdotal evidence that leatherback sea turtles (*Dermochelys coriacea*) have occasionally nested along the park's beaches, and more recent nesting attempts in the 1990s have been documented. Average nesting for Loggerheads and Green sea turtles ranges from 30 to 60 nests per year. Kemps Ridley *Lepidochelys kempii* sea turtles can be found in nearshore waters, although no nesting activity for this species has been observed and/or recorded. Nest predation, chiefly by coyotes *Canis latrans* has been the most significant threat to nesting success at the park. Coyotes have become well established on the barrier island, particularly in the State Park within the last decade.

The park is home to a number of imperiled shorebirds including overwintering species. The park has the most diverse shorebird nesting of all the State Parks along the northwest Florida Gulf Coast. Nesting species, include Southeastern Snowy Plover *Charadrius nivosus,* Wilson's Plover *Charadrius wilsonia*, Least tern *Sterna antillarum*, American Oystercatcher *Haematopus palliatus* and Black Skimmer *Rynchops niger* among others. Nesting/fledging success in recent years has been low for all of the mentioned species. It is often difficult to determine the cause for loss of chicks, however, experienced shorebird biologists have observed clear evidence of coyote predation, in addition to native predation by ghost crabs *Ocypode quadrata*, gull-billed terns *Sterna nilotica* and laughing gulls *Larus atricilla*. Evidence of coyote predation is conclusive for all of the imperiled shorebird species mentioned above.

Plover chicks have frequently been observed crossing portions of the park road, near the oyster boat display (SG-02) and along the east end road (SG-14). It is difficult to determine how they are being impacted by routine park traffic.

Overwintering Piping Plovers *Charadrius melodus* are found in greater abundance at the park, than anywhere else along the northwest Florida Gulf Coast. Monitoring efforts include the coordinated, annual winter piping plover survey.

Additionally, the red knot was recently federally listed as Threatened. Red knots primarily use the park during the fall and spring migrations and typically forage along the swash zone and at tidal pools on the Gulf shore. A small number of red knots overwinter and based on individuals that are individually marked, move around sites in the panhandle.

The DRP will seek a balanced approach to minimize visitor impacts to shorebirds and the park's sensitive coastal habitats, while managing resource-based recreational activities. In collaboration with the FWC, other government agencies, local non-governmental organizations and volunteers, park staff will identify and delineate habitats and educate the public about shorebird protection. Management decisions will be informed by analysis of data on habitat use in the park during prior nesting seasons. This analysis will suggest areas of importance where focused management actions are needed. These actions will typically include:

- Demarcating potential shorebird habitat by enclosing the perimeter of the habitat and buffer area with appropriate fencing and signage.
- Encouraging and focusing visitor activities into areas less suitable for shorebird nesting habitat.
- Monitoring during the nesting season to identify and protect new breeding sites.
- Providing interpretive and educational outreach to the public prior to and during the nesting season to encourage visitor use that protects shorebirds and their habitat.
- When the same breeding sites are used year after year, posting the protected area will occur prior to the season (pre-posting).
- When new breeding sites are indicated, appropriate measures will be implemented, including demarcating new protected areas and expanding or initiating interpretive programs.
- Coordinating with the FWC and local law enforcement agencies to ensure compliance with park rules and shorebird protection, as needed.

When it is necessary to limit recreational activities or visitor access to protect nesting habitat, park staff or volunteers will provide onsite interpretation to educate visitors about the management of imperiled shorebird habitat and identify suitable recreational areas. These outreach programs will commence prior to nesting seasons and prior to placing limits on access to recreational areas. Pre-posting the

identified habitat areas combined with early public notification regarding the park's shorebird protection program will improve visitor compliance with park rules and promote broad-based public stewardship of shorebird nesting, resting, and foraging habitats in the park.

The park is home to several species of herons and egrets, many of which routinely nest in the tall pine trees within the wet flatwoods areas of the Gap Point Peninsula. The large salt marsh at the southwest end of MZ-05 is a primary foraging area for these wading birds.

The brown pelican utilizes the park for foraging and loafing. The large seabirds are frequently observed gliding in formations along the surf line in search of bait fish, or loafing at the east end of the island. The nearest breeding site is on a narrow island east of Carrabelle, just off shore from Lanark. This is a relatively recent brown pelican breeding site, established in the 1990s, most likely by dispersers from Bird Island in St. Andrews Bay to the west.

St. George Island State Park is a major area associated with the spring and fall migration of neotropical birds and raptors. Notable raptor species that are routinely observed during the migratory periods include, Peregrine Falcon *Falco peregrinus*, Merlin *Falco columbarius*, Cooper's Hawk *Accipiter cooperii*, Sharp-shinned Hawk *Accipiter striatus*, Northern Harrier *Circus cyaneus* and Bald Eagle *Haliaeetus leucocephalus*.

Table 2 contains a list of all known imperiled species within the park and identifies their status as defined by various entities. It also identifies the types of management actions that are currently being taken by DRP staff or others, and identifies the current level of monitoring effort. The codes used under the column headings for management actions and monitoring level are defined following the table. Explanations for federal and state status as well as FNAI global and state rank are provided in Addendum 6.

Table 2: Imperiled Species Inventory

Common and Scientific Name	Imperiled Species Status				Management Actions	Monitoring Level
	FWC	USFWS	FDACS	FNAI		
PLANTS						
REPTILES						
Loggerhead Sea Turtle *Caretta caretta*		LT		S3	8,9,10, 12	Tier 2

Green Sea Turtle *Chelonia mydas*		LE		S2	8,9,10,12	Tier 2
Leatherback Sea Turtle *Dermochelys coriacea*		LE		S2	8,9,10,12	Tier 2
Kemp's Ridley Sea Turtle *Lepidochelys kempii*		LE		S1	8,9,10,12	Tier 2
BIRDS						
Red Knot *Calidris canutus rufa*	ST	FT		S2N	8,10,13	Tier 3
Snowy Plover *Charadrius nivosus*	ST	N		G3,S1	8,10,13	Tier 4
Piping Plover *Charadrius melodus*		FT		G3,S2	8,10,13	Tier 3
Wilson's Plover *Charadrius wilsonia*	N	N		G5,S2	8,10,13	Tier 4
Little Blue Heron *Egretta caerulea*	ST	N		G5,S4	4	Tier 1
Reddish Egret *Egretta rufescens*	ST	N		G4,S2	4	Tier 1
Tricolored Heron *Egretta tricolor*	ST	N		G5,S4	4	Tier 1
Merlin *Falco columbarius*	N	N		G5,S2	14	Tier 1
Peregrine Falcon *Falco peregrinus*	N	N		G4,S2	14	Tier 1
American Oystercatcher *Haematopus palliatus*	ST	N		G5,S2	8,10,13	Tier 4
Black Skimmer *Rynchops niger*	ST	N		G5,S3	8,10,13	Tier 3
Least Tern *Sternula antillarum*	ST	N		G4,S3	8,10,13	Tier 3
Sandwich Tern *Thalasseus sandvicensis*	N	N		G5,S2	10,13	Tier 1

Management Actions:

1. Prescribed Fire
2. Exotic Plant Removal
3. Population Translocation/Augmentation/Restocking
4. Hydrological Maintenance/Restoration
5. Nest Boxes/Artificial Cavities
6. Hardwood Removal
7. Mechanical Treatment
8. Predator Control
9. Erosion Control
10. Protection from visitor impacts (establish buffers)/law enforcement
11. Decoys (shorebirds)
12. Vegetation planting
13. Outreach and Education
14. Other

Monitoring Level:

Tier 1. Non-Targeted Observation/Documentation: includes documentation of species presence through casual/passive observation during routine park activities (i.e. not conducting species-specific searches). Documentation may be in the form of Wildlife Observation Forms, or other district specific methods used to communicate observations.

Tier 2. Targeted Presence/Absence: includes monitoring methods/activities that are specifically intended to document presence/absence of a particular species or suite of species.

Tier 3. Population Estimate/Index: an approximation of the true population size or population index based on a widely accepted method of sampling.

Tier 4. Population Census: A complete count of an entire population with demographic analysis, including mortality, reproduction, emigration, and immigration.

Tier 5. Other: may include habitat assessments for a particular species or suite of species or any other specific methods used as indicators to gather information about a particular species.

Detailed management goals, objectives and actions for imperiled species in this park are discussed in the Resource Management Program section of this component and the Implementation Component of this plan.

Exotic and Nuisance Species

Exotic species are plants or animals not native to Florida. Invasive exotic species are able to out-compete, displace or destroy native species and their habitats, often because they have been released from the natural controls of their native range, such as diseases, predatory insects, etc. If left unchecked, invasive exotic plants and animals alter the character, productivity and conservation values of the natural areas they invade.

The only invasive exotic plant to have occurred on the park was torpedo grass *Panicum repens.* It's record of occurrence was an isolated patch associated with fill material along the shop access road.

Table 3 contains a list of the Florida Exotic Pest Plant Council (FLEPPC) Category I and II invasive, exotic plant species found within the park (FLEPPC, 2013). The table also identifies relative distribution for each species and the management zones in which they are known to occur. An explanation of the codes is provided following the table. For an inventory of all exotic species found within the park, see Addendum 5.

Table 3: Inventory of FLEPPC Category I and II Exotic Plant Species

Common and Scientific Name	FLEPPC Category	Distribution	Management Zone (s)
PLANTS			
Torpedo Grass *Panicum repens*	I	0	SG-08

Distribution Categories:

0 No current infestation: All known sites have been treated and no plants are currently evident.

1 Single plant or clump: One individual plant or one small clump of a single species.

2 Scattered plants or clumps: Multiple individual plants or small clumps of a single species scattered within the gross area infested.

3 Scattered dense patches: Dense patches of a single species scattered within the gross area infested.

4 Dominant cover: Multiple plants or clumps of a single species that occupy a majority of the gross area infested.
5 Dense monoculture: Generally, a dense stand of a single dominant species that not only occupies more than a majority of the gross area infested, but also covers/excludes other plants.
6 Linearly scattered: Plants or clumps of a single species generally scattered along a linear feature, such as a road, trail, property line, ditch, ridge, slough, etc. within the gross area infested.

Exotic animal species include non-native wildlife species, free ranging domesticated pets or livestock, and feral animals. Because of the negative impacts to natural systems attributed to exotic animals, DRP actively removes exotic animals from state parks, with priority being given to those species causing the greatest ecological damage.

In some cases, native wildlife may also pose management problems or nuisances within state parks. A nuisance animal is an individual native animal whose presence or activities create special management problems. Examples of animal species from which nuisance cases may arise include raccoons, venomous snakes and alligators that are in public areas. Nuisance animals are dealt with on a case-by-case basis in accordance with DRP's Nuisance and Exotic Animal Removal Standard.

Detailed management goals, objectives and actions for management of invasive exotic plants and exotic and nuisance animals are discussed in the Resource Management Program section of this component.

Special Natural Features

There are no special natural features, that are not already identified and described elsewhere within this management plan.

Cultural Resources

This section addresses the cultural resources present in the park that may include archaeological sites, historic buildings and structures, cultural landscapes and collections. The Florida Department of State (FDOS) maintains the master inventory of such resources through the Florida Master Site File (FMSF). State law requires that all state agencies locate, inventory and evaluate cultural resources that appear to be eligible for listing in the National Register of Historic Places. Addendum 7 contains the FDOS, Division of Historical Resources (DHR) management procedures for archaeological and historical sites and properties on state-owned or controlled properties; the criteria used for evaluating eligibility for listing in the National Register of Historic Places, and the Secretary of Interior's definitions for the various preservation treatments (restoration, rehabilitation, stabilization and preservation). For the purposes of this plan, significant archaeological site, significant structure and significant landscape means those cultural resources listed or eligible for listing in the National Register of Historic Places. The terms archaeological site, historic structure or historic landscape refer to all resources that will become 50 years old during the term of this plan.

Condition Assessment

Evaluating the condition of cultural resources is accomplished using a three-part evaluation scale, expressed as good, fair and poor. These terms describe the present condition, rather than comparing what exists to the ideal condition. 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 assessment is usually a cause for concern. Poor describes an unstable condition where there is palpable, accelerating decline, and physical integrity is being compromised quickly. A resource in poor condition suffers obvious declines in physical integrity from year to year. A poor condition suggests immediate action is needed to reestablish physical stability.

Level of Significance

Applying the criteria for listing in the National Register of Historic Places involves the use of contexts as well as an evaluation of integrity of the site. A cultural resource's significance derives from its historical, architectural, ethnographic or archaeological context. Evaluation of cultural resources will result in a designation of NRL (National Register or National Landmark Listed or located in an NR district), NR (National Register eligible), NE (not evaluated) or NS (not significant) as indicated in the table at the end of this section.

There are no criteria for use in determining the significance of collections or archival material. Usually, significance of a collection is based on what or whom it may represent. For instance, a collection of furniture from a single family and a particular era in connection with a significant historic site would be considered highly significant. In the same way, a high quality collection of artifacts from a significant archaeological site would be of important significance. A large herbarium collected from a specific park over many decades could be valuable to resource management efforts. Archival records are most significant as a research source. Any records depicting critical events in the park's history, including construction and resource management efforts, would all be significant. The following is a summary of the FMSF inventory. In addition, this inventory contains the evaluation of significance.

Prehistoric and Historic Archaeological Sites

Desired Future Condition: All significant archaeological sites within the park that represent Florida's cultural periods or significant historic events or persons are preserved in good condition in perpetuity, protected from physical threats and interpreted to the public.

Description: Field work in northwest Florida completed by the University of South Florida has included extensive surface collections along the St. George Island Sound side beach. Most diagnostic materials recovered have been identified with the Ft. Walton Culture. This roughly coincides with the approximate geologic age of St. George Island in its current configuration. Native Americans from the Deptford, Santa Rosa-Swift Creek, Weeden Island and Fort Walton periods inhabited many nearby coastal areas, and would likely have spent time on the barrier islands in order to access plentiful marine and estuarine resources. Permanent settlements on St. George Island were probably unlikely, due to a relative lack of fresh water resources.

More recently, the Apalachee and later Creek, were known to inhabit the vicinity. On September 17-18, 1799 the HMS Fox a British Schooner under the command of Lt. James T Wooldridge, sank off the eastern tip of the island during a storm. The ship ran aground while attempting to negotiate the middle pass that divides St. George Island and Dog Island. 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 on the Gap Point Peninsula (SG-03, SG-04, SG-05 and SG-06) to produce turpentine, still evidenced by the very high density of “cat faced” trees in this area of the park. The US Army used the eastern portion of the island extensively during the 1940s, as an air to ground gunnery range, aerial gunnery range, bombing range and for amphibious training operations.

The FMSF lists eight recorded archaeological sites within or partially within the park boundary. The Pre-Historic sites include FR840, FR845 and FR846. All three are shell middens. Recorded artifacts from the middens include ceramics, stone tools, animal bones and shell. Investigation of the FR-840 Rattlesnake Cove Site included two shovel tests, yielding 91 artifacts. By far, animal bone dominated the assemblage. Grit-tempered and sand tempered sherds as well as unworked shell made up the remaining assemblage of recovered artifacts. The presence of this relatively undisturbed 80 by 30 meter midden, and the high-density of artifacts collected from it, suggests a high research potential for the site.

FR-1146, FR-1147, FR-1148, FR-1149 and FR-1150 are expansive historic archaeological sites associated with circa 1940s military training. All sites contain the remains of practice bombs and/or .50 cal bullets and casings. The FR-1146 St. George Island Bomb Range #1 was a practice bombing range intended to train pilots and crewman from Marianna Army Air Field (AAF), Apalachicola AAF and Tyndall Field in conventional high altitude bombing runs. The M38A2 100 lbs practice bomb along with the M1A1 fitted spotting charge was primarily used.

The Archaeological Resource Sensitivity Model developed for St. George Island State Park correlates site potential with elevation.

Condition Assessment: Two of the prehistoric archaeological sites (FR-840 and FR-846) are relatively undisturbed and are considered to be in good condition. There are no signs of looting, and significant erosion is not evident. Both sites are considered stable. The third site (FR-845) has begun to erode towards the Sound side shoreline with storm surge events during recent hurricanes. Moderate erosion has been noted across the western side of the site following storm surge events. The first documentation of erosion at this site is from 1995 following Hurricane Opal when a concentration of shell and stone was observed scattered along the ground

to the edge of the beach. There are no apparent signs of digging or vandalism. The site is considered to be in fair condition, despite periodic erosion.

The five historic archaeological sites associated with US Army Air Corps training are all former bombing and/or gunnery practice areas that were used extensively from 1942 - 1947. All five sites are considered to be in good condition.

Level of Significance: The park's archaeological sites have not been evaluated for level of significance. Based on initial investigations, the three pre-historic sites may have high research potential.

General Management Measures: No immediate management actions are deemed necessary, for the park's eight recorded sites, other than periodic monitoring and protection. It is recommended that the periodic, storm surge related erosion to site FR-845 be monitored. If the erosion continues, park and District staff should consult with DHR and DRP's Bureau of Natural and Cultural Resources (BNCR) to determine if stabilization measures are appropriate for this site.

Historic Structures

Desired Future Condition: All significant historic structures and landscapes that represent Florida's cultural periods or significant historic events or persons are preserved in good condition in perpetuity, protected from physical threats and interpreted to the public.

Description: There are no historic structures located on the park.

Collections

Description: The park does not maintain extensive collections of archaeological artifacts. If artifacts are recovered they are forwarded to the Bureau of Archaeological Resources as per DRP procedure. Any artifacts maintained at the park for interpretive purposes, must first be forwarded to BAR, before being requested to be returned to the park for display.

Table 4: Cultural Sites Listed in the Florida Master Site File

Site Name and FMSF #	Culture/Period	Description	Significance	Condition	Treatment	Management Zone
Rattlesnake Cove FR-840	Ft. Walton	Shell Midden	NE	G	P	SG-07B
Rattlesnake Cove #1 FR-845	Ft. Walton	Shell Midden	NE	F	P	SG-07B

Rattlesnake Cove #2 FR-846	Ft. Walton	Shell Midden	NE	G	P	SG-07B
St. George Island Bomb Range #1 FR-1146	Historic/WWII	Practice Bombing Range	NE	G	P	SG-14
St. George Island Skip Bombing Range FR-1147	Historic/WWII	Practice Skip Bombing Range	NE	G	P	SG-14 and 15
St. George Island Strafing Range FR-1148	Historic/WWII	Air To Ground Gunnery Range	NE	G	P	SG-14 and 15
St. George Island Bomb Range #2 FR-1149	Historic/WWII	Practice Bombing Range	NE	G	P	SG-08,09,10
St. George Island Pursuit Curve Range FR-1150	Historic/WWII	Position Firing and Air To Ground Gunnery Range	NE	G	P	SG-01,02,03,06,12,13

Significance:
NRL National Register listed
NR National Register eligible
NE not evaluated
NS not significant

Condition:
G Good
F Fair
P Poor
NA Not accessible
NE Not evaluated

Recommended Treatment:
RS Restoration
RH Rehabilitation
ST Stabilization
P Preservation
R Removal
N/A Not applicable

Resource Management Program

Management Goals, Objectives and Actions

Measurable objectives and actions have been identified for each of DRP's management goals for St. George Island State Park. Please refer to the

Implementation Schedule and Cost Estimates in the Implementation Component of this plan for a consolidated spreadsheet of the recommended actions, measures of progress, target year for completion and estimated costs to fulfill the management goals and objectives of this park.

While, DRP utilizes the ten-year management plan to serve as the basic statement of policy and future direction for each park, a number of annual work plans provide more specific guidance for DRP staff to accomplish many of the resource management goals and objectives of the park. Where such detailed planning is appropriate to the character and scale of the park's natural resources, annual work plans are developed for prescribed fire management, exotic plant management and imperiled species management. Annual or longer- term work plans are developed for natural community restoration and hydrological restoration. The work plans provide DRP with crucial flexibility in its efforts to generate and implement adaptive resource management practices in the state park system.

The work plans are reviewed and updated annually. Through this process, DRP's resource management strategies are systematically evaluated to determine their effectiveness. The process and the information collected is used to refine techniques, methodologies and strategies, and ensures that each park's prescribed management actions are monitored and reported as required by Chapters 253.034 and 259.037, Florida Statutes.

The goals, objectives and actions identified in this management plan will serve as the basis for developing annual work plans for the park. The ten-year management plan is based on conditions that exist at the time the plan is developed, and the annual work provide the flexibility needed to adapt to future conditions as they change during the ten-year management planning cycle. As the park's annual work plans are implemented through the ten-year cycle, it may become necessary to adjust the management plan's priority schedules and cost estimates to reflect these changing conditions.

Natural Resource Management

Hydrological Management

Goal: Protect water quality and quantity in the park, restore hydrology to the extent feasible and maintain the restored condition.

The natural hydrology of most state parks has been impaired prior to acquisition to one degree or another. Florida's native habitats are precisely adapted to natural drainage patterns and seasonal water level fluctuations, and variations in these factors frequently determine the types of natural communities that occur on a particular site. Even minor changes to natural hydrology can result in the loss of plant and animal species from a landscape. Restoring state park lands to original natural conditions often depends on returning natural hydrological processes and conditions to the park. This is done primarily by filling or plugging ditches,

removing obstructions to surface water “sheet flow,” installing culverts or low-water crossings on roads, and installing water control structures to manage water levels.

The park’s hydrology has been and continues to be shaped and influenced by natural processes associated with the dynamic environment of barrier islands. Given the porosity of the overlying sands, drainage within the park is almost exclusively subsurface, precluding the need for drainage or retention structures to accommodate past land uses. There are no significant man made alterations or disruptions to the movement of surficial waters related to past land use within the park, aside from the creation of the two borrow pit ponds associated with the initial development of the campground. There is not a need to conduct a detailed assessment of the park’s hydrological restoration needs at this time. Likewise, there are currently no hydrological restoration needs that would enhance or restore natural process, without removing long established visitor service infrastructure.

Park Service staff should continue to protect the park’s wetlands from any future activities that may alter natural hydrological process. This should include, avoiding permanent construction of additional roads / fire lines and limiting usage of existing “back country” service roads to infrequent resource management activities. Any future park development should avoid impacts to significant wetland resources.

Natural Communities Management

Goal: Restore and maintain the natural communities / habitats of the park.

As discussed above, DRP practices natural systems management. In most cases, this entails returning fire to its natural role in fire-dependent natural communities. Other methods to implement this goal include large-scale restoration projects as well as smaller scale natural communities’ improvements. Following are the natural community management objectives and actions recommended for the state park.

Prescribed Fire Management

Prescribed fire is used to mimic natural lightning-set fires, which are one of the primary natural forces that shaped Florida’s ecosystem. Prescribed burning increases the abundance and health of many wildlife species. A large number of Florida’s imperiled species of plants and animals are dependent on periodic fire for their continued existence. Fire-dependent natural communities gradually accumulate flammable vegetation; therefore, prescribed fire reduces wildfire hazards by reducing these wild land fuels.

All prescribed burns in the Florida state park system are conducted with authorization from the FDACS, Florida Forest Service (FFS). Wildfire suppression activities in the park are coordinated with the FFS.

Objective: Within ten years, have 800 acres of the park maintained within the optimum fire return interval.

Table 5 contains a list of all fire-dependent natural communities found within the park, their associated acreage and optimal fire return interval, and the annual average target for acres to be burned.

Table 5: Prescribed Fire Management		
Natural Community	Acres	Optimal Fire Return Interval (Years)
Scrubby Flatwoods	362	5-15
Coastal Grassland	252	3-10
Wet Flatwoods	255	3-8
Basin Marsh	21	3-10
Annual Target Acreage*	80-241	
*Annual Target Acreage Range is based on the fire return interval assigned to each burn zone. Each burn zone may include multiple natural communities.		

The park is partitioned into management zones including those designated as burn zones (see Management Zones Table and Map). Prescribed fire is planned for each burn zone on the appropriate interval. The park's burn plan is updated annually because fire management is a dynamic process. To provide adaptive responses to changing conditions, fire management requires careful planning based on annual and very specific burn objectives. Each annual burn plan is developed to support and implement the broader objectives and actions outlined in this ten-year management plan.

The park's flatwoods, freshwater marshes and coastal grasslands are maintained with prescribed fire. It is the intent, that routine prescribed burning, in accordance with recommended fire return intervals, will maintain lower fuel loads, allowing for cooler fires with a resulting mosaic of burned vs. unburned areas. Additional objectives include reestablishing and maintaining plant species proper proportions within wet flatwoods and basin marsh communities, where the propensity for single species dominance accompanies long term fire exclusion. Prescribed burning of coastal grassland should be conducted during the winter dormant season, as to avoid possible impacts to nesting shorebirds.

Most of the park's management zones are delineated by well established resource management roads, main roads or permanent natural breaks such as estuarine water bodies and dune fields. Where necessary, temporary firebreaks or access trails are established in order to provide for fire containment and burn crew safety.

Fire type communities, located in coastal areas, tend to burn very well, even with light to moderate fuel loading. All burns since reintroducing prescribed fire in 2008, have been conducted with southerly winds. Accompanying relative humidity values are nearly always more moderate, resulting in lower fire intensity and, in general, a more predictable and controllable fire. Risk of major wind shifts associated with local sea breeze is greatly reduced as well.

Burn zones should be monitored via photo points. Photo points should be established within representative areas of a given burn zone. Photo points within the Gap Point Peninsula burn zones should include representative areas of scrubby

flatwoods with high occurrence of dune rosemary, in order to determine long term fire effects on this signature vegetative component. Appropriate length FRIs (Fire Return Intervals) for individual management zones will continue to be refined, in order to remain sensitive to less fire tolerant native, on-site species.

In order to track fire management activities, DRP maintains a statewide burn database. The database allows staff to track various aspects of each park's fire management program including individual burn zone histories and fire return intervals, staff training/ experience, backlog, if burn objectives have been met, etc. The database is also used for annual burn planning which allows DRP to document fire management goals and objectives on an annual basis. Each quarter the database is updated and reports are produced that track progress towards meeting annual burn objectives.

Natural Communities Restoration/Improvement

In some cases, the reintroduction and maintenance of natural processes is not enough to reach the natural community desired future conditions in the park, and active restoration programs are required. Restoration of altered natural communities to healthy, fully functioning natural landscapes often requires substantial efforts that may include mechanical treatment of vegetation or soils and reintroduction or augmentation of native plants and animals. Natural communities improvements are similar to restoration but on a smaller, less intense scale.

Currently there is not a need for natural community restoration at this park, and all natural community improvements can be accomplished with routine resource management practices such as prescribed burning. Restoration measures for the beach dune community may become necessary at some point in response to future storm events.

Imperiled Species Management

Goal: Maintain, improve or restore imperiled species populations and habitats in the park.

DRP strives to maintain and restore viable populations of imperiled plant and animal species primarily by implementing effective management of natural systems. Single species management is appropriate in state parks when the maintenance, recovery or restoration of a species or population is complicated due to constraints associated with long-term restoration efforts, unnaturally high mortality or insufficient habitat. Single species management should be compatible with the maintenance and restoration of natural processes, and should not imperil other native species or seriously compromise park values.

In the preparation of this management plan, DRP staff consulted with staff of the FWC's Imperiled Species Management or that agency's Regional Biologist and other appropriate federal, state and local agencies for assistance in developing imperiled animal species management objectives and actions. Likewise, for imperiled plant species, DRP staff consulted with FDACS. Data collected by the USFWS, FWC, FDACS and FNAI as part of their ongoing research and monitoring programs will be

reviewed by park staff periodically to inform management of decisions that may have an impact on imperiled species at the park.

Ongoing inventory and monitoring of imperiled species in the state park system is necessary to meet DRP's mission. Long-term monitoring is also essential to ensure the effectiveness of resource management programs. Monitoring efforts must be prioritized so that the data collected provides information that can be used to improve or confirm the effectiveness of management actions on conservation priorities. Monitoring intensity must at least be at a level that provides the minimum data needed to make informed decisions to meet conservation goals. Not all imperiled species require intensive monitoring efforts on a regular interval. Priority must be given to those species that can provide valuable data to guide adaptive management practices. Those species selected for specific management action and those that will provide management guidance through regular monitoring are addressed in the objectives below.

Objective: Update baseline imperiled species occurrence inventory lists for plants and animals.

Objective: Monitor and document 10 selected imperiled animal species in the park.

A well established monitoring protocol is in place, that applies to all species of sea turtles. The FWC has established a marine turtle program to monitor nesting activity, document mortalities statewide, conduct research on the biology of the various species and provide data for managing and evaluating coastal development effects. The Statewide Nesting Beach Survey (SNBS) program was initiated in 1979 under a cooperative agreement between the FWC and the U.S. Fish and Wildlife Service. Its purpose is to document the total distribution, seasonality and abundance of sea turtle nesting in Florida. Three species of sea turtles, the loggerhead (*Caretta caretta*), the green turtle (*Chelonia mydas*), and the leatherback (*Dermochelys coriacea*), nest regularly on Florida's beaches. Two other species, the hawksbill (*Eretmochelys imbricata*) and Kemp's ridley (*Lepidochelys kempii*), nest infrequently. All five species are listed as either threatened or endangered under the Endangered Species Act. The Index Nesting Beach Survey (INBS) is a detailed monitoring program in conjunction with SNBS. This program was established to measure seasonal productivity, allowing comparisons between beaches and between years. Currently St. George Island State Park is not an Index Beach. The nearest Index Beach is St. Joseph Peninsula State Park to the west.

As part of the SNBS, sea turtle nesting surveys are conducted at the park each morning during the nesting season (May 15st – October 31st). Loggerhead and Green sea turtles commonly nest along the park's Gulf beach, however nesting attempts and crawls by Leatherbacks have been reported, as well as very near shore sightings of Kemp's Ridleys. All monitoring, nest marking activities and data reporting are done in accordance with the FWC marine turtle program SNBS.

Established State and Federal monitoring protocol for shorebird nesting is currently followed at St. George Island State Park in coordination with the FWC. All shorebird nesting habitats are protected from visitor impacts, with documented nesting sites

for imperiled species, delineated, signed and roped off during the nesting season (April – August) Species monitored at the Tier 2 level include snowy plover, Wilson's plover, piping plover (over wintering survey only), American oystercatcher, black skimmer and least tern. Monitoring involves locating and marking all imperiled shorebird nests via GPS and accurate determination of fledging success. This requires a level and continuity of monitoring that is best met by well trained and specialized staff, with primary focus on shorebird management. Species specific Imperiled Species Management Plans are currently being developed by the FWC for shorebirds.

Exotic Species Management

Goal: Remove exotic and invasive plants and animals from the park and conduct needed maintenance control.

DRP actively removes invasive exotic species from state parks, with priority being given to those causing the ecological damage. Removal techniques may include mechanical treatment, herbicides or biocontrol agents.

There has only been one occurrence of a FLEPPC listed exotic species at the park. One very small, isolated occurrence of torpedo grass was removed along the shop access road. The grass appeared to have been inadvertently transported to the location with fill material. The grass was treated with herbicide and the area is periodically monitored.

If invasive exotic plants are discovered at any time in the future, removal efforts will be coordinated with appropriate District 1 biological staff.

Objective: Implement control measures on 1 nuisance and exotic animal species in the park.

As previously stated, in the Imperiled Species description portion of this plan, Coyotes are present on the park. The animals are considered a non-indigenous predator, and have severely impacted the nesting success for both imperiled sea turtles and shorebirds at this park. All shorebirds, regardless of colonial vs. solitary nesters, have been very heavily depredated. On going coyote removal efforts are necessary at this park in order to successfully manage for both sea turtles and shorebirds. In the interest of avoiding "trap wise" conditioning and reducing overall liability, US Department of Agriculture, Wildlife Services contractual services is the preferred method of removal for coyotes. Other methods of removal should only be considered if USDA Services are unavailable. If other nuisance or exotic animals come into conflict with imperiled species, they will be considered for removal as well via park staff or contractual services.

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 DRP'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 those communities specifically managed as early successional.

During the development of this plan, an analysis was made regarding the feasibility of timber management activities in the park. It was determined that the primary management objectives of the unit could be met without conducting timber management activities for this management plan cycle.

Coastal/Beach Management

DRP manages over 100 miles of sandy beach, which represents one-eighth of Florida's total sandy beach shoreline. Approximately one-quarter of Florida's state parks are beach-oriented parks and account for more than 50 percent of statewide park visitation and revenue. The management and maintenance of beaches and their associated systems and processes is complicated by the presence of inlets and various structures (jetties, groins, breakwaters) all along the coast. As a result, beach restoration and nourishment have become increasingly necessary and costly procedures for protecting valuable infrastructure. All of these practices affect beaches for long distances on either side of a particular project. DRP staff needs to be aware of and participate in the planning, design and implementation of these projects to ensure that park resources and recreational use are adequately considered and protected.

St. George Island State Park has a total of roughly 25 miles of shoreline. Nine of those miles are Gulf beach front stretching from the park's western boundary to the far eastern tip of the island. A 4.5 mile segment of the Gulf beach front is considered Critically Eroded by the Bureau of Beaches and Coastal Systems. The critically eroded segment occurs from the western boundary (R-106) to Sugar Hill (R-128.5). Assisted recovery of the dune system within the most eroded areas was conducted following Hurricanes Elena, Kate, Opal and Earl. In 1986 and 1996, the park road was reconstructed following damages caused by Hurricanes Elena and Kate (1985) and Opal (1995). Following Opal, a portion of the roadway (from R-110 to R-127.6) was relocated 200 to 400 feet landward, where access around wetland areas was available. Hurricane Dennis (2005) severely impacted the State Park, resulting in the entire developed segment of the park shoreline being designated critically eroded (4.5 mile segment previously stated). From July 2005 through the summer of 2006, park restoration proceeded including repairing the roads and beach accesses, reconstructing park buildings and large scale sea oat replanting in order to begin recovery of the primary dunes. Additional sea oat plantings occurred in 2010.

The most significant management concern along the park's beachfront is protecting nesting habitat for imperiled sea turtles, as well as nesting, resting and foraging habitats for imperiled shorebirds. The park constitutes a major portion of the available, quality shorebird nesting habitat along the northern Gulf Coast, east of

Cape San Blas. Any proposed development, restoration or nourishment projects will need to be compatible with and sensitive to both sea turtle and shorebird management.

The Trustees have granted management authority of certain sovereign submerged lands to the DRP under Management Agreement MA 68-086 (as amended January 19, 1988). Management of St. George Island State Park includes certain activities within the management zone of sovereign submerged land along the entire shoreline, beginning at the mean high water or ordinary high water line, or from the edge of emergent vegetation and extending waterward for 150 feet. This area comprises the marine unconsolidated substrates of the park. The submerged resources within the buffer zone significantly increase the species diversity within the park and offers additional recreational opportunities for park visitors. Visitors are able to access this community either from the beach or from a boat. Management actions occurring within the buffer zone are educational outreach, removal of trash, litter and other debris, public safety and emergency response activities, protection of listed species (including but not limited to sea turtles and shorebirds) and the monitoring and inventory of natural and cultural resources.

All waters along the park's remaining 16 miles of estuarine shoreline are designated as shellfish harvest area. The entire Apalachicola Bay, including the park's nearshore areas of the St. George Sound, are Class II Waters, with all management/regulatory authority resting with the FWC.

Arthropod Control Plan

All DRP lands are designated as "environmentally sensitive and biologically highly productive" in accordance with Ch. 388 and Ch. 388.4111 Florida Statutes. If a local mosquito control district proposes a treatment plan, the DRP works with the local mosquito control district to achieve consensus. By policy of DEP since 1987, aerial adulticiding is not allowed, but larviciding and ground adulticiding (truck spraying in public use areas) is typically allowed. The DRP does not authorize new physical alterations of marshes through ditching or water control structures. Mosquito control plans temporarily may be set aside under declared threats to public or animal health, or during a Governor's Emergency Proclamation.

An arthropod control plan has been developed for St. George Island State Park, in accordance with the FDACS, Division of Agricultural Environmental Services (DAES). This plan identifies very specific treatment areas involving highly targeted application methods and pesticides. An electronic copy of the plan is kept at the Florida Park Service, District 1 Administrative Office in Panama City, FL and is available upon request.

Sea Level Rise

Potential sea level rise is now under study and will be addressed by Florida's residents and governments in the future. The DRP will stay current on existing research and predictive models, in coordination with other DEP programs and

federal, state and local agencies. The DRP will continue to observe and document the changes that occur to the park's shorelines, natural features, imperiled species populations and cultural resources. This ongoing data collection and analysis will inform the Division's adaptive management response to future conditions, including the effects of sea level rise, as they develop.

Cultural Resource Management

Cultural Resource Management

Cultural resources are individually unique, and collectively, very challenging for the public land manager whose goal is to preserve and protect them in perpetuity. DRP is implementing the following goals, objectives and actions, as funding becomes available, to preserve the cultural resources found in St. George Island State Park.

Goal: Protect, preserve and maintain the cultural resources of the park.

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. All activities related to land clearing, ground disturbing activities, major repairs or additions to historic structures listed or eligible for listing in the National Register of Historic Places and collections care must be submitted to the FDOS, Division of Historical Resources (DHR) for review and comment prior to undertaking the proposed project. Recommendations may include, but are not limited to concurrence with the project as submitted, monitoring of the project by a certified archaeological monitor, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effect. In addition, any demolition or substantial alteration to any historic structure or resource must be submitted to DHR for consultation and DRP must demonstrate that there is no feasible alternative to removal and must provide a strategy for documentation or salvage of the resource. Florida law further requires that DRP consider the reuse of historic buildings in the park in lieu of new construction and must undertake a cost comparison of new development versus rehabilitation of a building before electing to construct a new or replacement building. This comparison must be accomplished with the assistance of DHR.

Objective: Assess and evaluate 3 of 8 recorded cultural resources in the park.

Assessments/evaluations of the three Rattlesnake Cove prehistoric archaeological sites (FR-840, FR-845 and FR-846) will be conducted. Assessments should include an examination of each site with a discussion of any threats to the site's condition such as natural erosion; vehicular damage or pedestrian damage; looting; construction including damage from firebreak construction; animal damage; plant or root damage or other factors that might cause deterioration of the site. These evaluations should attempt to compare the current condition with any previous evaluations using photo points or high resolution scanning or similar techniques. The park will prioritize preservation and stabilization projects identified by assessment/evaluations.

The historic military training sites will not be systematically monitored due to the nature of these large, scattered areas. Trained park staff will continue to document new findings, as they occur, and update the appropriate site files.

Objective: Compile reliable documentation for all recorded historic and archaeological resources.

Archaeological Resource Sensitivity Modeling for District 1 parks has been conducted by the University of South Florida, Alliance for Integrated Spatial Technologies. A Level 1 Archaeological Survey should be conducted utilizing the Archaeological Resource Sensitivity Model developed for St. George Island State Park.

Park staff will update the park's data in the FMSF as new archaeological sites are discovered, or new information on currently recorded sites is revealed via assessments/evaluations or approved archaeological investigation.

Utilize the policy outlined in the Division's current OM for accepting artifacts and other probable cultural materials recovered and turned over by visitors and for forwarding them to the Bureau.
Review all potential ground disturbance activities according to the DHR matrix of disturbance. Coordinate any anticipated, major ground disturbance events through the DHR.

Objective: Bring 8 of 8 recorded cultural resources into good condition.

Seven of the sites are already in good condition. The eighth site FR-845 is considered to be in fair condition due to periodic storm surge erosion. The park should monitor the three prehistoric sites annually to determine if maintenance or management measures are needed. Photo points will be set up at each of the three prehistoric sites and taken every other year and post storm event for monitoring purposes. If management measures are needed the park should implement those measures to preserve the sites. No preservation projects are needed at the park presently.

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 located in the Implementation Component of this management plan.

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 are being managed for the purposes for which they were acquired and in accordance with their approved land management plans. The managing agency shall consider the findings and recommendations of the land management review team in finalizing the required update of its management plan (see Addendum 8).

St. George Island State Park was subject to a land management review on Sept 15, 2011**.** The review team made the following determinations:

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

LAND USE COMPONENT

Introduction

Land use planning and park development decisions for the state park system are based on the dual responsibilities of the Florida Department of Environmental Protection (DEP), Division of Recreation and Parks (DRP). 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, DRP objective is to provide quality development for resource-based recreation throughout the state with a high level of sensitivity to the natural and cultural resources at each park.

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

External Conditions

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

Dr. Julian Bruce St. George Island State Park is located within Franklin County, about 10 miles southeast of the town of Eastpoint in the northwest part of the state. Significant resource-based recreation opportunities exist on conservation lands and waters in the vicinity of the park including Apalachicola National Forest, Tate’s Hell State Forest, Apalachicola National Estuarine Research Reserve, Apalachicola Bay Aquatic Preserve, Apalachicola River Wildlife Management Area, Dog Island Preserve, Cape St. George State Reserve, St. Vincent Wildlife Refuge, John S. Phipps Preserve, and Bald Point State Park. Facilities in these areas support a full range of recreational activities including

hiking, biking, horseback riding, fishing, paddling, boating, swimming, camping, wildlife observation, and nature study.

Over the last decade, the region suffered a number of setbacks that have affected the park. Hurricanes in 2004 and 2005 changed coastal habitat, damaged infrastructure and disrupted park operations. In addition to storm damage, a depressed economic climate from 2008 through the end of the decade led to slowed development, tourism and population growth in the area. There has also been a decline in the region's major industries of timbering, fishing, and seafood processing. Despite these setbacks, Dr. Julian G. Bruce St. George Island State Park remains a very popular beach destination in the region. It is one of the closest beach parks to the population center of Tallahassee and Leon County and is particularly popular with the many college students in that area. The park is also designated as a destination on the Big Bend Scenic Byway.

Existing Use of Adjacent Lands

Franklin County is largely rural, with development clustered within the coastal communities of Apalachicola, Eastpoint and Carrabelle. State Road 300 and the St. George Island 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 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.

Planned Use of Adjacent Lands

Franklin County is one of the least densely populated counties in the state. The estimated 2010 population is 11,549, a 17.5 percent increase from 2000. The majority of this growth is largely the result of residential development and the establishment of vacation rental units. A depressed economic climate from 2008 to the present resulted in a slowed rate of development. It is expected that development will increase relative to the improvement in economic conditions. As of 2010, 17 percent of the residents in the county were in the 0-17 age group, 23 percent in the 18-34 group, 28 percent in the 35-54 group, 14 percent in the 55-64 group and 18 percent in the 65 and older group (BEBR, 2011).

The Future Land Use designation of lands adjacent to the park is residential. No significant land use changes are anticipated. However, it will still be important for Division staff to participate in the review of all Comprehensive Plan amendments, proposed zoning changes and development plans within the vicinity of the park to ensure that protection of park resources is given due consideration.

Property Analysis

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

Recreation Resource Elements

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

Land Area

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 topography of the park is relatively flat with the exception of undulating dunes along the Gulf shoreline some reaching 25 feet or more. The widest and generally highest section of the park, between the mouth of East Slough and the Sugar Hill Beach Area, is vegetated mostly in scrubby flatwoods. This area is generally suited for activities such as family camping, primitive camping, hiking, and wildlife observation. The eastern end of the island is accreting with a low and very dynamic topography. This area is not well suited for the development of recreational facilities but can accommodate passive activities such as hiking and shoreline fishing.

Water Area

The park provides access to two substantial bodies of water: Apalachicaola/St. George Sound, one of the state's most significant estuarine systems, and the Gulf of Mexico. Both provide significant opportunities for saltwater recreation including swimming, boating, paddling, and fishing.

Shoreline

The park is bounded by the Gulf of Mexico on the south and Apalachicola Bay/St. George Sound to the north. The primary recreational resources of the park are its shorelines – approximately nine miles on the Gulf of Mexico and over 13 miles on the bay side. The gulf side provides opportunities for beach activities such as swimming picknicking, and surf fishing. Opportunities for paddling and shoreline fishing are provided on the bay side.

Natural Scenery

The abundance of scenic views over the Gulf of Mexico and Apalachicola Bay/St. George Sound are exceptional visual resources at the park. The beach, in

particular, provides visitors an ideal vantage point for enjoying panoramic views over the Gulf. By contrast, visitors can also view the natural environment from a more intimate vantage point along the bay-side hiking trail where the pinelands provide filtered views of Apalachicola Bay.

Significant Habitat
The upland natural communities of this park include beach dune, scrubby flatwoods, and coastal grasslands. The wetland communities include wet flatwoods, basin marsh, salt marsh, coastal dune lake and estuarine and marine unconsolidated substrate. These features and communities provide a broad array of recreational and educational opportunities for park visitors including exceptional opportunities for wildlife viewing and nature study.
This region of Florida is one of the State's richest in terms of rare and endangered wildlife and the park's mosaic of high-quality upland and wetland natural communities provides significant habitat for a number of listed 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 migration area for neotropical birds and raptors.

Natural Features
The most significant natural feature in the park is the nine mile stretch of undeveloped coastline. Ranked as one of the top ten in America, the beach provides visitors with exceptional beach-oriented recreational opportunities.

Archaeological and Historical Features
Cultural sites in the park range from the prehistoric period up to the 20th century. Three prehistoric midden sites and five sites associated with WWII military training operations provide unique opportunities for interpretive programming.

Assessment of Use

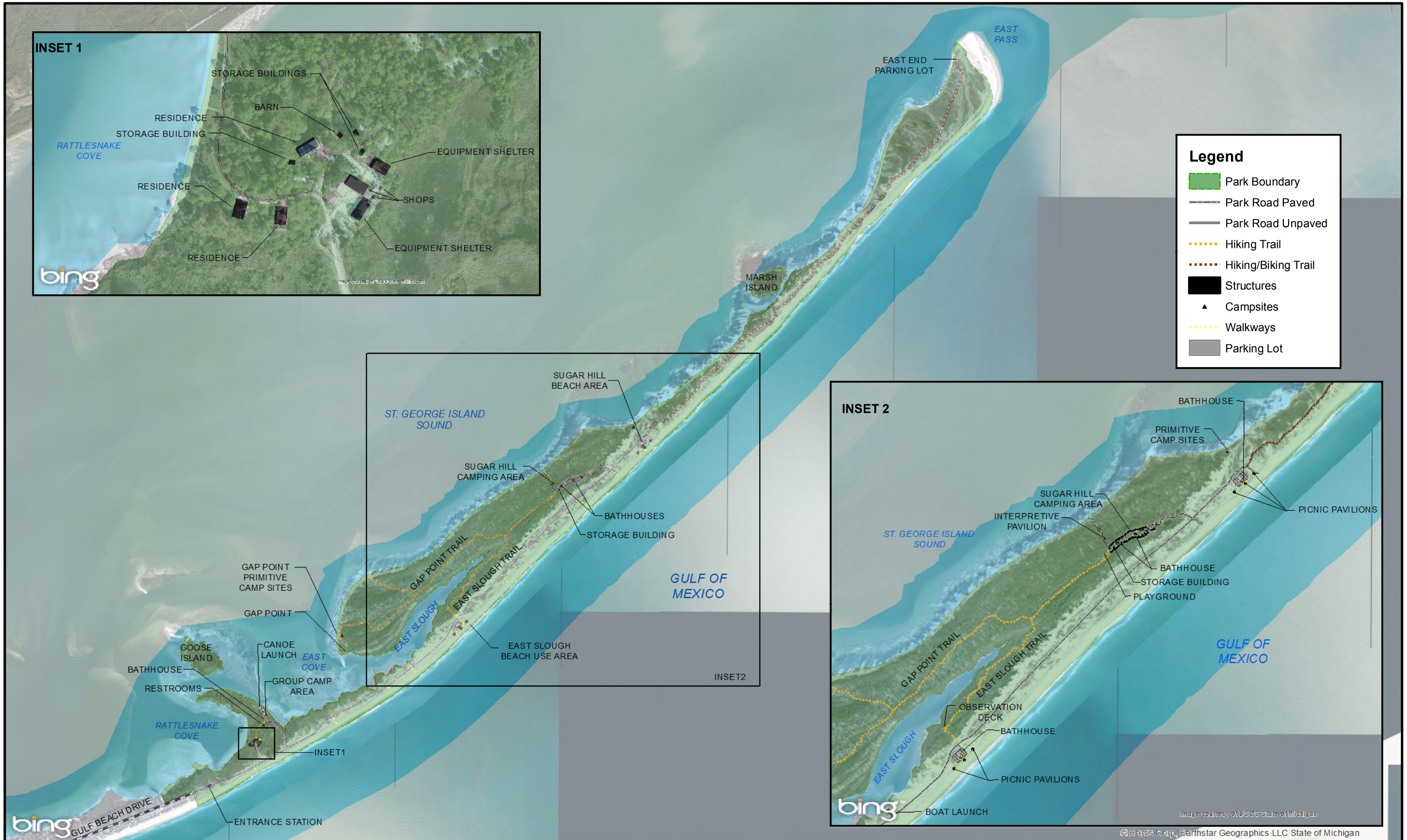
All legal boundaries, significant natural features, structures, facilities, roads and trails existing in the unit are delineated on the base map (see Base Map). Specific uses made of the unit are briefly described in the following sections.

Past Uses

The island has been used by humans well over 3,000 years. Early hunting and gathering cultures used the island to access plentiful marine and estuarine resources. During the early 1900s the island was used for cattle ranching and turpentining. The U.S. Army used the island for training operations during WWII.

Future Land Use and Zoning

DRP works with local governments to establish designations that provide both consistency between comprehensive plans and zoning codes and permit typical



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

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Florida Department Environmental Protection
Divison of Recreation and Parks
Date of Aerial: 2011

BASE MAP

state park uses and facilities necessary for the provision of resource-based recreation opportunities.

The current FLU designation for the park is Conservation (Franklin County2012). This designation covers the whole park and provides for the long-term management and protection of land for wildlife management, environmental protection and resource-based recreation. Residential uses are prohibited except for those necessary for the supervision of the resource. The zoning designation is P-2 Recreational District with the intent of protecting natural systems so that resource-based recreational activities can be maintained at their current levels. This designation also prohibits residential uses except for the supervision of the resource.

Current Recreational Use and Visitor Programs

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 are popular activities in the waters surrounding the park. Kayaks and canoe rentals are available through the Ranger Station. 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.

Dr. Julian G. Bruce St. George Island State Park recorded 290,212 visitors in FY 2014/2015. By DRP estimates, the FY 2014/2015 visitors contributed $25,277,757 million in direct economic impact and the equivalent of 404 jobs to the local economy (Florida Department of Environmental Protection 2015).

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 wetlands communities, coastal grasslands, beach dune and scrubby flatwoods communities have been designated as protected zones as delineated on the Conceptual Land Use Plan.

Existing Facilities

Recreation Facilities

The most popular recreation areas are East Slough and Sugar Hill Beach Areas. Each is equipped with a bathhouse, picnic pavilions and boardwalk access to the beach. Additional access to the beach is provided by eight pulloffs along the main park drive. From the trailhead at the edge of the East Slough Beach Area parking lot, a boardwalk provides access to a scenic overlook on East Slough. A trail connector from the overlook links to the main hiking trail between the family camping area and a primitive camping area on East Cove. A second primitive camping area was established on the bay across from Sugar Hill Beach to serve paddlers on the Florida Circumnavigational Saltwater Paddling Trail. There are two boat launches in the park, one near the group camping area on East Cove and another on East Slough. Limited access is provided to the East End Fishing Area via a five mile, unpaved road terminating at a small parking area.

Support Facilities

Park operations are supported by a ranger station that includes the park's administrative offices, a shop area with a 4-bay shop, equipments shelters, and storage sheds, a residence area with three staff residences, the park entrance drive and several service roads. All support facilities are in good condition. The following is a listed of recreation and support facilities at the park:

Group Camping/Boat Access Area
Restrooms
Bathhouse
Paved parking (35 spaces)
Boat ramp with stabilized parking

East Slough Boat Access Area
Boat ramp
Stabilized parking

East Slough Beach Area
Large picnic shelters (3)
Boardwalk (850 LF)
Bathhouse (1)
Paved parking (175 spaces)

East Slough Trailhead Area
Kiosks (1)
Hiking Trail (3.5 mi.)
Boardwalks (1350 LF)
Scenic overlook
Interpretive signs (10)

Sugar Hill Family Camping Area
60 sites w/utilities
Playground
Amphitheater
Screened interpretive building
Bathhouse (2)

Campground Trailhead Area
Kiosk (1)
Hiking Trail (2.5)
Stabilized trailhead parking (up to 8 vehicles)

Primitive Camping Area (Gap Point)
Primitive camping area (4 tent sites)

Primitive Camping Area (Sugar Hill)
Primitive camping area for paddlers

Sugar Hill Beach Area
Large picnic shelters (3)

Boardwalk (850 LF)
Bathhouse (1)
Paved parking (176 spaces)

East End Fishing Area
Stabilized parking area (up to 20 vehicles)
Stabilized service road (5 mi.)

Support Facilities
4-bay shop building (3)
Ranger station
Residences (3)
Service roads (0.25 mi.)
Park drive (8 mi.)

Conceptual Land Use Plan

The following narrative represents the current conceptual land use proposal for this park. The conceptual land use plan is the long-term, optimal development plan for the park, based on current conditions and knowledge of the park's resources, landscape and social setting (see Conceptual Land Use Plan). The conceptual land use plan will be reassessed during the next update of the park management plan. 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 as needed. 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 conceptual land use plan, DRP assessed the potential impacts of proposed uses or development on the park resources and applied that analysis to decisions for the future physical plan of the park as well as the scale and character of proposed development. Potential impacts are more thoroughly identified and assessed as part of the site planning process once funding is available for facility development. At that stage, design elements (such as existing topography and vegetation, sewage disposal and stormwater management) and design constraints (such as imperiled species or cultural site locations) are more thoroughly investigated. Municipal sewer connections, 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 limit and avoid resource impacts. Federal, state and local permit and regulatory requirements are addressed during facility development. 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

Public Access and Recreational Opportunities

Goal: Provide public access and recreational opportunities in the park.

The existing recreational activities and programs of this state park are appropriate to the natural and cultural resources contained in the park and should be continued. New and/or improved activities and programs are also recommended and discussed below.

Objective: Maintain the park's current recreational carrying capacity of 3300 users per day.

The park will continue to provide opportunities for beach activities, saltwater swimming, shoreline fishing, picnicking, camping, hiking, nature observation, canoeing, kayaking, and boating. Interpretive programs and special events will continue to be offered.

Objective: Expand the park's recreational carrying capacity by 332 users per day.

Florida's Statewide Comprehensive Outdoor Recreation Plan (SCORP) indicates that resident participation rates for camping in this region are higher than the state average with demand for camp sites increasing through 2020. To address this need, camping opportunities will be expanded with the addition of standard campsites and walk-in tent camp sites within the family camping area. Primitive camping will be expanded with the addition of another primitive camping area on the bay side of the park. Bicycling opportunities in the park will be enhanced with roadway improvements to increase bicycle and pedestrian safety. Paddling opportunities will be enhanced with the addition of paddling facilities on the bay near the Sugar Hill Beach Area. Shoreline fishing and paddling opportunities will be expanded on the East End with the addition of two parking areas to provide access to the bay in vicinity of Marsh Island.

Objective: Continue to provide the current repertoire of 5 interpretive, educational and recreational programs on a regular basis.

The park hosts several different themed interpretive talks between December and March during the "Coffee in the Campground" series. Guided walks along the beach and nature trails featuring sea turtle or birding interpretive programs are available upon request. There are a number of interpretive signs on the nature trails and at trailhead kiosks for self-guided nature walks . There is a turpentining display at the campground and a shell display at the beach.

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

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Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial: 2011

CONCEPTUAL LAND USE PLAN

Occasionally, the park hosts special events such as 5K races, fishing clinics and geo-caching challenges.

Objective: Develop 3 new interpretive, educational and recreational programs.

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. During the next planning period, the park will develop three new recreational programs to teach visitors the basics of camping, saltwater fishing, and kayaking.

Proposed Facilities

Capital Facilities and Infrastructure

Goal: Develop and maintain the capital facilities and infrastructure necessary to implement the recommendations of the management plan.

Active hurricane seasons in 2004 and 2005 changed coastal habitat, damaged infrastructure and disrupted park operations. The majority of the primary dune line, particularly at the east side of the park, was over-washed by storm surge and displaced landward as a series of washover fans. In many areas, these washover fans buried park facilities and the main access road. Because of the damage, the park's ranger station was replaced and the restrooms at each beach area were replaced with raised bathhouses. The beach area parking lots were also reconfigured during this time. Artificial dunes were created adjacent to facilities and roadways where sand was removed by heavy equipment. The park's primary dunes have experienced very good recovery, since Hurricane Dennis, due largely to major, sea oat planting projects intended to encourage dune growth.

The existing facilities of this state park are appropriate to the natural and cultural resources contained in the park and should be maintained. New construction, as discussed further below, is recommended to improve the quality and safety of the recreational opportunities, to improve the protection of park resources, and to streamline the efficiency of park operations. The following is a summary of improved or renovated and/or new facilities needed to implement the conceptual land use plan for Dr. Julian G. Bruce St. George Island State Park.

Objective: Maintain all public and support facilities in the park.

All capital facilities, trails and roads within the park will be kept in proper condition through the daily or regular work of park staff and/or contracted help.

Objective: Improve/repair 8 existing facilities and 8 miles of road.

Major repair projects for park facilities may be accomplished within the ten-year term of this management plan, if funding is made available. These include the modification of existing park facilities to bring them into compliance with the Americans with Disabilities Act (a top priority for all facilities maintained by DRP). The following discussion of other recommended improvements and repairs are organized by use area within the park.

Group Camping/Boat Access: It is recommended that the boat launching area and associated parking lot be stabilized to reduce erosion and sedimentation into East Slough. This area has become a popular launch site for paddlers so it is recommended that the parking lot be reconfigured and expanded to accommodate up to 20 vehicles.

East Slough Boat Access Area: It is recommended that the edges of the parking area and driveway be stabilized with fencing and planting to prevent the accumulation of blowing sand. The area should also be reconfigured for better traffic circulation and more efficient parking.

East Slough Beach and Sugar Hill Beach Areas: The beach areas are appropriate locations for concession operations. The park may consider establishing concessions at each of the beach areas if the opportunity arises in the future. Future concession services should be provided using mobile units and could include recreational equipment rentals, snack foods, beverages and various sundry items. Mobile concession units should be located adjacent to the bathhouses to facilitate access to utilities.

Circumnavigational Trail Primitive Camping Area: A canoe/kayak launch is recommended for this area to provide access to the primitive camping area and to enhance paddling opportunities on the bay. A dock to provide universal accessibility to the canoe/kayak launch may be included if needed depending on site conditions.

Sugar Hill Family Camping Area: The family camping area will be expanded with the addition of a camping loop with up to 30 standard campsites. This area will include a paved or stabilized road, stabilized camping pads, a bathhouse, picnic tables and grills, and connections for water and electrical service. At least 12 of the sites will be dedicated to tent-only camping.

East End Fishing Area: Currently, permitted visitors are not allowed to stop along the 4 mile access road to the East End Fishing Area. To provide additional fishing and paddling access to the East End, it is recommended that two parking areas be provided along the access road, each with paths to the beach and shoreline of the bay. Each parking area should accommodate up to four vehicles.

Residence Area: To provide affordable housing options for park staff and volunteers, it is recommended that up to two RV campsites be provided in the residence area.

Parkwide: To provide a more enjoyable and safer biking experience for visitors, it is recommended that roadway improvements be added along the main park drive. Protection of sensitive park resources and avoidance of existing infrastructure will be a critical component of the project and proposed improvements may need to include a range of design options. Roadway signage, lane markings, and traffic calming are to be utilized depending on site conditions. The existing waterline between the Group Camping Area and the East Slough Beach Area needs to be replaced. The new waterline will be located along the north side of the new park drive.

Objective: Construct 1 new facility.

Primitive Camping Area: Due to the significant increase in primitive camping in recent years, it is recommended that an additional primitive camping area be developed on the bay side of the park. The new site will accommodate up to 12 campers at one time.

Facilities Development

Preliminary cost estimates for these recommended facilities and improvements are provided in the Ten-Year Implementation Schedule and Cost Estimates (Table 6) located in the Implementation Component of this plan. These cost estimates are based on the most cost-effective construction standards available at this time. The preliminary estimates are provided to assist DRP in budgeting future park improvements, and may be revised as more information is collected through the planning and design processes. New facilities and improvements to existing facilities recommended by the plan include:

Group Camping / Boat Access Area
Stabilized and reconfigured parking
Stabilized boat ramp

East Slough Boat Access Area
Stabilized and reconfigured parking

Sugar Hill Family Camping Area
Standard camping loop (30 sites)

Primitive Camping Area
Primitive camping area (1)

Circumnavigational Trail Primitive Camping Area
Dock with canoe/kayak launch

East End Fishing Area
Parking pulloff- 4 vehicle (2)

Support Facilities
Volunteer campsites (2)
Small storage buildings in residential area (2)

Parkwide
Bicycle safety improvements
Boardwalk improvements at park drive parking pulloffs (2)
Waterline from Group Camping Area to East Slough Beach Area

Recreational Carrying Capacity

Carrying capacity is an estimate of the number of users a recreation resource or facility can accommodate and still provide a high quality recreational experience and preserve the natural values of the site. The carrying capacity of a unit is determined by identifying the land and water requirements for each recreation activity at the unit, and then applying these requirements to the unit's land and water base. Next, guidelines are applied which estimate the physical capacity of the unit's natural communities to withstand recreational uses without significant degradation. This analysis identifies a range within which the carrying capacity most appropriate to the specific activity, the activity site and the unit's classification is selected (see Table 6).

The recreational carrying capacity for this park is a preliminary estimate of the number of users the unit could accommodate after the current conceptual development program has been implemented. When developed, the proposed new facilities would approximately increase the unit's carrying capacity as shown in Table 6.

Table 6--Recreational Carrying Capacity

	Existing Capacity*		Proposed Additional Capacity		Estimated Recreational Capacity	
Activity/Facility	One Time	Daily	One Time	Daily	One Time	Daily
Trails						
Hiking/Nature	35	140			35	140
Picnicking/Swimming	983	1966			983	1966
Fishing						
Shoreline	220	440			220	440
Boating						
Canoe/Kayak	24	48	16	32	40	80
Motorized	48	48			48	48
Camping						
Standard	480	480	240	240	720	720
Primitive	28	28	12	12	40	40
Group	30	30			30	30
East End Fishing	40	120	16	48	56	168
TOTAL	**1888**	**3300**	**284**	**332**	**2172**	**3632**

*Existing capacity revised from approved plan to better DRP guidelines.

Optimum Boundary

The optimum boundary map reflects lands that have been identified as desirable for direct management by DRP as part of the state park. These parcels may include public as well as privately owned lands that improve the continuity of existing parklands, provide the most efficient boundary configuration, improve access to the park, provide additional natural and cultural resource protection or allow for future expansion of recreational activities. The map also identifies lands that are potentially surplus to the management needs of DRP. As additional needs are identified through park use, development, or research, and changes to land use on adjacent private property occurs, modification of the park's optimum boundary may be necessary.

At this time, no additional lands have been identified for management as part of the park. No lands are considered surplus to the needs of the park.

IMPLEMENTATION COMPONENT

The resource management and land use components of this management plan provide a thorough inventory of the park's natural, cultural and recreational resources. They outline the park's management needs and problems, and recommend both short and long-term objectives and actions to meet those needs. The implementation component addresses the administrative goal for the park and reports on the Division of Recreation and Parks (DRP) progress toward achieving resource management, operational goals and objectives since approval of the previous management plan for this park. This component also compiles the management goals, objectives and actions expressed in the separate parts of this management plan for easy review. Estimated costs for the ten-year period of this plan are provided for each action and and capital improvement objective, and the costs are summarized under standard categories of land management activities.

Management Progress

Since the approval of the last management plan for Dr. Julian G. Bruce St. George Island State Park in 2003, significant work has been accomplished and progress made towards meeting the DRP's management objectives for the park. These accomplishments fall within three of the five general categories that encompass the mission of the park and the DRP.

Resource Management

Natural Resources

- Prescribed fire activities were reintroduced in 2008. Since then, 11 zones have been burned with 800 acres treated. Fire holding/suppression equipment, consisting of two 100 gal slide-in pumper units, was acquired by the park in 2008 as well.
- Continued removal of exotic or nuisance animals including feral cats, opossum, raccoons, and coyote.
- Erected a fence at the Sugar Hill area to help with coyote trapping efforts and to prevent visitors from driving around a locked gate and damaging native plant communities.
- Continued monitoring of shorebird nesting activities, including detailed surveys to locate all nests and determine hatch rates. Additionally, snowy plover, Wilson's plover and American oystercatcher fledglings are banded in order to determine longer term survival and population trends. Increased signage and interpretation have aided these efforts.
- Continued monitoring of sea turtle nesting activities. Average of 60 nests per year. Screening of the nests have helped to deter predators such as opossum, raccoons, and coyotes.
- Over 1.3 million sea oats were planted between 2007 and 2009.
- Two harvests of sea oats seeds

- Exotic plants continue to not be an issue, although Brazilian Pepper plants were found outside of the park and this is closely monitored due to the large amount of birds that migrate through the park.
-
- Turtle-friendly lighting was included at the beach use area restrooms.
- Wireless weather system installed to provide both daily reporting and long term drought monitoring for prescribed fire efforts.
- A resource management evaluation was completed in 2007.

Cultural Resources

- Five additional sites were added to the Florida Master Site File in concurrence with a survey done by the Army Corps of Engineers site study of bombing ranges and the presence of unexploded ordinances. These sites are scattered throughout the park with a concentration on the east end of the park near Marsh Island.

Recreation and Visitor Services

- Regularly participate in local and national events such as Estuaries Day, National Public Land's Day, International Coastal Cleanups, Apalachicola Seafood Festival, Oyster Festival, Literacy Events.
- Continuation of Coffee in the Campground interpretive series during the fall and winter annually.
- Hosted three 5K races.
- The East End Road was stabilized using geo-webbing and crushed oyster shell to make the road two-wheel drive accessible. Pull-offs were added approximately every 1,000 feet to allow for vehicle passing along the single lane road. This improvement of the road has led to less people leaving the footprint of the road to find harder ground, which in turn has protected the sensitive vegetation and bird nesting activities.
- A playground was erected in the back of the campground in 2004.
- Three hammock camping spots were made in the campground in 2012.
- A second kayak camping spot was made near the Sugar Hill Beach Use Area in 2009.
- Extra kayaks and canoes were purchased by the CSO to bring the total to ten kayaks and two canoes available for rent.
- The Friends of St. George Island State Park has now become the Friends of Franklin County State Parks. This CSO provides resale items such as T-shirts and magnets, firewood and ice, vending machines at the beach use areas and campground. They also maintain the Beach Scoot electric mobility device, kayaks and canoes and have purchased other mobility assistance devices.

Park Facilities

The park was hit by Hurricane Dennis in July 2005. The park was largely closed until October 2006. A new Ranger Station was already being built before the storm. The old Ranger Station sustained major damage and was unable to be used after the storm. The park received major damage. This includes the main park drive asphalt road, both beach use area restroom facilities, boardwalks and ramps

at the beach use areas, flooding of the downstairs storage areas at the APM and PM residences, flooding of the campground, flooding at all three shop compound buildings, and flooding of several park vehicles and equipment.

- New Ranger Station completed 2006.
- Two new beach use area restrooms.
- New boardwalks and ramps at the beach use area that leads to the beach.
- New electric and plumbing in the campground.
- New main park drive
- Campground interpretive building built.
- An extra ½ mile of nature trail was added onto the existing East Slough Overlook Trail. This now connects to the Gap Point Trail that leads to the campground and primitive camping site. Raised boardwalks and footbridges make this trail accessible. Two trailhead kiosks are found at the beginning of the trails at East Slough Beach Use Area and in the campground. This project was accomplished through the park and the CSO with a grant.
- A mobile home site was erected on stilts for a ranger residence.
- All aluminum metal roofing put onto APM and PM residences in 2012.
- Hi-band radio repeater system installed.
- Replacement of elevators at the beach use areas with compliant ramps that lead to the second floor restrooms.
- Replacement of ramps at each campground restroom.
- Total remodeling of interior of each campground restroom.
- Replacement of ramp at the Youth Camp restroom.
- Remodeling of Youth Camp restrooms.
- Added ADA compliant camping space in the Youth Camp area
- Added six ADA compliant concrete paved camping sites in the family campground.
- Both nature trails, East Slough Overlook and Gap Point, were evaluated using the Universal Trail Assessment Process.
- Added an additional beach wheelchair, an electric mobility device, and a floating wheelchair to be used by visitors.

Management Plan Implementation

This management plan is written for a timeframe of ten years, as required by Section 253.034 Florida Statutes. The Ten-Year Implementation Schedule and Cost Estimates (Table 7) summarizes the management goals, objectives and actions that are recommended for implementation over this period, and beyond. Measures are identified for assessing progress toward completing each objective and action. A time frame for completing each objective and action is provided. Preliminary cost estimates for each action are provided and the estimated total costs to complete each objective are computed. Finally, all costs are consolidated under the following five standard land management categories: Resource Management, Administration and Support, Capital Improvements, Recreation Visitor Services and Law Enforcement.

Many of the actions identified in the plan can be implemented using existing staff and funding. However, a number of continuing activities and new activities with measurable quantity targets and projected completion dates are identified that cannot be completed during the life of this plan unless additional resources for these purposes are provided. The plan's recommended actions, time frames and cost estimates will guide the DRP's planning and budgeting activities over the period of this plan. It must be noted that these recommendations are based on the information that exists at the time the plan was prepared. A high degree of adaptability and flexibility must be built into this process to ensure that the DRP can adjust to changes in the availability of funds, improved understanding of the park's natural and cultural resources, and changes in statewide land management issues, priorities and policies.

Statewide priorities for all aspects of land management are evaluated each year as part of the process for developing the DRP's annual legislative budget requests. When preparing these annual requests, the DRP considers the needs and priorities of the entire state park system and the projected availability of funding from all sources during the upcoming fiscal year. In addition to annual legislative appropriations, the DRP pursues supplemental sources of funds and staff resources wherever possible, including grants, volunteers and partnerships with other entities. The DRP's ability to accomplish the specific actions identified in the plan will be determined largely by the availability of funds and staff for these purposes, which may vary from year to year. Consequently, the target schedules and estimated costs identified in Table 7 may need to be adjusted during the ten-year management planning cycle.

Table 7
Dr. Julian G. Bruce St. George Island State Park Ten-Year Implementation Schedule and Cost Estimates
Sheet 1 of 3

NOTE: THE DIVISION'S ABILITY TO COMPLETE THE OBJECTIVES OUTLINED BY THE MANAGEMENT PLAN IS CONTINGENT ON THE AVAILABILITY OF FUNDING AND OTHER RESOURCES FOR THESE PURPOSES.				
Goal I: Provide administrative support for all park functions.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Continue day-to-day administrative support at current levels.**	Administrative support ongoing	C	**$180,000**
Objective B	**Expand administrative support as new lands are acquired, new facilities are developed, or as other needs arise.**	Administrative support expanded	UFN	**$10,000**
Goal II: Restore and maintain the natural communities/habitats of the park.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Within 10 years have 800 acres of the park maintained within optimal fire return interval.**	# Acres within fire return interval target	LT	**$122,000**
Action 1	Develop/update annual burn plan.	Plan updated	C	$16,000
Action 2	Manage fire dependent communities for ecosystem function, structure and processes by burning between 80 - 240 acres annually, as identified by the annual burn plan.	Average # acres burned annually	C	$106,000
Goal III: Maintain, improve or restore imperiled species populations and habitats in the park.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Update baseline imperiled species occurrence inventory lists for plants and animals, as needed.**	List updated	C	**$2,000**
Objective B	**Monitor and document 10 selected imperiled animal species in the park.**	# Species monitored	C	**$156,000**
Action 1	Implement monitoring protocols for 10 imperiled animal species including 4 species of sea turtles and 6 species of shorebirds.	# Species monitored	C	$156,000
Goal IV: Remove exotic and invasive plants and animals from the park and conduct needed maintenance-control.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective B	**Implement control measures on 1 exotic and nuisance animal specie in the park.**	# Species for which control measures implemented	C	**$50,000**
Action 1	Continue control activities on coyotes.	# Species for which control measures implemented	C	$50,000

* 2015 Dollars
ST = actions within 2 years
LT = actions within 10 years
C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

Table 7
Dr. Julian G. Bruce St. George Island State Park Ten-Year Implementation Schedule and Cost Estimates
Sheet 2 of 3

NOTE: THE DIVISION'S ABILITY TO COMPLETE THE OBJECTIVES OUTLINED BY THE MANAGEMENT PLAN IS CONTINGENT ON THE AVAILABILITY OF FUNDING AND OTHER RESOURCES FOR THESE PURPOSES.

Goal V: Protect, preserve and maintain the cultural resources of the park.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Assess and evaluate 3 of 8 recorded cultural resources in the park.**	Documentation complete	LT	**$1,500**
Action 1	Complete 3 assessments/evaluations of archaeological sites. Prioritize preservation and stabilization projects.	Assessments complete	LT	$1,500
Objective B	**Compile reliable documentation for all recorded historic and archaeological sites.**	Documentation complete	LT	**$14,500**
Action 1	Ensure all known sites are recorded or updated in the Florida Master Site File.	# Sites recorded or updated	ST	$2,500
Action 2	Conduct Level 1 archeological survey for priority areas identified by the predictive model.	Survey completed	UFN	$12,000
Objective C	**Bring 8 of 8 recorded cultural resources into good condition.**	# Sites in good condition	C	**$10,000**
Action 1	Design and implement regular monitoring programs for 8 cultural sites.	# Sites monitored	C	$10,000

Goal VI: Provide public access and recreational opportunities in the park.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Maintain the park's current recreational carrying capacity of 3,300 users per day.**	# Recreation/visitor	C	**$3,850,000**
Objective B	**Expand the park's recreational carrying capacity by 680 users per day.**	# Recreation/visitor	UFN	**$145,000**
Objective C	**Continue to provide the current repertoire of 5 interpretive, educational and recreational programs on a regular basis.**	# Interpretive/education programs	C	**$50,000**
Objective D	**Develop 3 new interpretive, educational and recreational programs.**	# Interpretive/education programs	LT	**$20,000**

Goal VII: Develop and maintain the capital facilities and infrastructure necessary to meet the goals and objectives of this management plan.		**Measure**	**Planning Period**	**Estimated Manpower and Expense Cost* (10-years)**
Objective A	**Maintain all public and support facilities in the park.**	Facilities maintained	C	**$1,480,000**
Objective B	**Continue to implement the park's transition plan to ensure facilities are accessible in accordance with the American with Disabilities Act of 1990.**	Plan implemented	LT	**$50,000**
Objective C	**Improve and/or repair 8 existing facilites and 4 miles of road as identified in the Land Use Component.**	# Facilities/Miles of Trail/Miles of Road	UFN	**$3,000,000**
Objective D	**Construct 1 new facility as identified in the Land Use Component.**	# Facilities/Miles of Trail/Miles of Road	UFN	**$304,000**
Objective E	**Expand maintenance activities as existing facilities are improved and new facilities are developed.**	Facilities maintained	C	**$500,000**

* 2015 Dollars
ST = actions within 2 years
LT = actions within 10 years
C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

Table 7
Dr. Julian G. Bruce St. George Island State Park Ten-Year Implementation Schedule and Cost Estimates
Sheet 3 of 3

NOTE: THE DIVISION'S ABILITY TO COMPLETE THE OBJECTIVES OUTLINED BY THE MANAGEMENT PLAN IS CONTINGENT ON THE AVAILABILITY OF FUNDING AND OTHER RESOURCES FOR THESE PURPOSES.

Summary of Estimated Costs

Management Categories		Total Estimated Manpower and Expense Cost* (10-years)
Resource Management		**$356,000**
Administration and Support		**$190,000**
Capital Improvements		**$3,354,000**
Recreation Visitor Services		**$6,045,000**
Law Enforcement Activities[1]		
	1Law enforcement activities in Florida State Parks are conducted by the FWC Division of Law Enforcement and by local law enforcement agencies.	

* 2015 Dollars
ST = actions within 2 years
LT = actions within 10 years
C = long term or short term actions that are continuous or cyclical
UFN = currently unfunded need

Addendum 1—Acquisition History

Purpose of Acquisition:

The initial acquisition of Dr. Julian G. Bruce St. George Island State Park took place on April 17, 1963, as a result of a 318.08-acer property donation from St. George Island Gulf Beaches, Inc. to the Trustees of the Internal Improvement Fund, now known as the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida (Trustees). This property was donated to the Trustees for use for public purpose only.

Sequence of Acquisition:
On July 3, 1968, the Florida Outdoor Recreational Development Council asked the Trustees to lease the 318.08-acre property it had acquired to the Florida Board of Parks and Historic Memorials (FBPHM), predecessor in interest to the State of Florida Department of Environmental Protection (DEP), Division of Recreation and Parks (DRP), to develop the property as a state park. Eventually, the Trustees leased the property to DRP on June 8, 1971, under a 99 (ninety-nine)-year lease, Lease No. 2535.

Since the 1963 donation of the 318.08-acre property, the Trustees has acquired several parcels through a donation and using funds from Land Acquisition Trust Fund (LATF), Environmentally Endangered Lands (EEL), Land and Water Conservation Fund (LWCF) and Preservation 2000 Conservation and Recreation Lands (P2000/CARL) programs and added them to Dr. Julian G. Bruce St. George Island State Park. The current area of the park is approximately 2024 acres.

Designation:
In April of 1972, the Legislature of the State of Florida enacted a law which required DRP to name the 318.08-acre property it had leased from the Trustees, located at the east end of St. George Island, Dr. Julian G. Bruce State Park. The legislature honored Dr. Julian G. Bruce with this designation because by then, Dr. Bruce had served (1) the city of Apalachicola as an outstanding dentist for nearly half a century, (2) the Apalachicola Chamber of Commerce as its president, (3) the Masonic Lodge of Apalachicola for fifty years, (4) Franklin County as a commissioner for twenty-two years, seven years of which he served as commission chairman, (5) the armed forces of the United States as a Second Lieutenant during World War I, and (6) as a charter member of the W.R. Marks post of the American Legion and its post commander for two years.

Management Leases:
On June 8, 1971, the Trustees leased the 318.08-acre initial area of Dr. Julian G. Bruce St. George State Park to DRP under lease No. 2535. Later on, the Trustee purchased other parts of St. George Island and leased them to DRP under a different lease, Lease No. 2992. Until November 17, 1988, DRP managed different parts of St. George Island under two different leases: Lease No. 2535 and Lease No. 2992.

On November 17, 1988, DRP relinquished its leasehold interest in Lease No. 2535 and amended the released parcels to Lease No. 2992. Lease No. 2992 was

originally entered into between the State of Florida Department of Natural Resources (DNR), predecessor in interest to DEP and the Trustees on August 23, 1977. This lease is for a period of ninety-nine (99) years, which will expire on August 22, 2076.

According to Lease No. 2992, DRP manages Dr. Julian G. Bruce St. George State Park for the purpose of preserving, developing, improving, operating, maintaining and otherwise managing said lands for public outdoor recreational, park, conservation and related purposes.

Title Interest

The Trustees holds 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 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 are not consistent with the purpose for which DRP manages this park and they are not allowed in the park. However, these activities are reviewed and approved in the park's Unit Management Plan, they are allowed.

Outstanding Reservations

Following is a listing of outstanding rights that apply to Dr. Julian G. Bruce St. George Island State Park**.**

Type of Instrument:	Easement
Grantor:	DNR/DRP
Grantee:	Florida Power Corporation
Beginning Date:	April 11, 1984
Ending Date:	Coterminous with the term of Lease No. 2992.
Outstanding Rights:	This easement allows Florida Power Corporation to use a 10-foot wide strip of land within Dr. Julian G. Bruce State Park to construct, repair, and maintain a distribution system for electrical transmission to serve the park.

Type of Instrument:	Easement
Grantor:	DNR/DRP
Grantee:	St. George Island Utilities Company
Beginning Date:	December 7, 1978
Ending Date:	Coterminous with the term of Lease No. 2992.
Outstanding Rights:	This easement allows St. George Island Utilities to use a 5-foot wide strip of land within Dr. Julian G. Bruce St. George Island State Park to construct,

	operate and maintain a water line and water main to serve the park.
Type of Instrument:	Easement
Grantor:	DNR/DRP
Grantee:	Florida Power Corporation
Beginning Date:	July 21, 1978
Ending Date:	Coterminous with the term of Lease No. 2992
Outstanding Rights:	This easement allows the Florida Power Corporation to use a 10-foot wide strip of land within Dr. Julian G. Bruce St. George State Park to construct, operate and maintain an electrical distribution system to serve the park.

Addendum 2—Advisory Group Members and Report

Elected Officials

Brenda Ash, City Commissioner
City of Apalachicola

The Honorable Cheryl K. Sanders, Chair
Franklin County Board of County Commissioners

Agency Representatives

Joshua Hodson, Park Manager
Dr. Julian G. Bruce St. George Island State Park

Justin Davis, Species Conservation Biologist
Florida Fish and Wildlife Conservation Commission

Devon McFall, Senior Forester
Florida Forest Service

Lesley Cox
Franklin Soil and Water Conservation District

Jennifer Harper, Manager
Apalachicola National Estuarine Research Reserve

Tourism / Economic Development Representative

Curt Blair, Administrator
Franklin County Tourist Development Council

Environmental Groups

Ann Bruce
Apalachee Audubon Society

David Roddenberry, President
Sarracenia Chapter
Florida Native Plant Society

Recreational User Groups

Tom Herzog
Region B Director
Florida Paddling Trail Association

Curt Spangler

Citizens Support Organization

Tom Daly
Friends of Franklin County State Parks

Adjacent Landowner

Ms. Dottye Thornburg

The Advisory Group meeting for Dr. Julian G. Bruce St. George Island State Park was held at the St. George Island Volunteer Department on St. George Island, Florida on November 19, 2014. Mark Curenton represented Commissioner Cheryl Sanders, Kim Wren represented Jennifer Harper and Katherine Gilbert represented David Roddenberry. All other Advisory Group members were in attendance. Ann Bruce submitted written comments after the meeting. Attending staff were Tony Tindell, John McKenzie, Josh Hodson, Bob Soderholm, Lew Scruggs, and David Copps.

Mr. Copps began the meeting by explaining the purpose of the Advisory Group, reviewing the meeting agenda, and summarizing the comments from public workshop that was held the previous evening. Mr. Copps then asked each member of the Advisory Group to express his or her comments on the draft plan.

Summary of Advisory Group Comments

Curt Spangler (Recreational User) said that agrees with adding two parking spaces to each of the beach side pull-off parking areas. He stated that he opposes the proposed boat dock area but thinks the site is good for adding paddling related facilities. Mr. Spangler supports the addition of cabins as there is no other housing on the island that can provide that unique experience.

Curt Blair (Franklin County Tourist Development Council) said that the park is an integral part of Franklin County's tourism brand and that passive recreation and environmental diversity are important for attracting tourist to the county. He asked what the process and timeframe is for DRP to make a decision on the proposed facilities. Lew Scruggs said that a staff report will be prepared and submitted to the Advisory Group for review after which it goes to the DRP Director for a final decision. Mr. Blair asked how the annual visitation rate is calculated and if the economic impact stated in the plan serves as a basis for proposed actions. Josh Hodson explained how visitors are calculated and Lew Scruggs explained that the economic figures are used for system-wide decisions. He asked if DRP collected information about the depth/bathymetry of the proposed boat dock channel. Lew Scruggs answered that the design of the proposed boat camping area is conceptual and that bathymetric studies have not been done. Mr. Blair stated that the boat camping area is problematic for several reasons. He said that the location is too shallow for sailboats and would require more services for power boats than proposed in the plan. Mr. Blair stated that the level of service required for power boaters would change the passive character of the park and wouldn't be consistent with the park's brand/market. He expressed opposition to the boat camping area but support for the land-based camping opportunities and the cabins.

Brenda Ash (City of Apalachicola) said that she did not receive the plan before the meeting but would review the plan after the meeting and submit written comments if need be.

Devon McFall (Florida Forest Service) asked if a timber assessment has been conducted on the property. John McKenzie said no timber assessment has been conducted since there is no planted pine. Mr. McFall asked for clarification on the overstocked timber that is mentioned in the plan. John McKenzie said that overstocking is limited and relates to some dense natural regeneration in a particular low spot. Mr. McFall stated that the FFS is willing to consult on a timber assessment and timber thinning in the park. Mr. McFall said that FFS is not in favor of thermal thinning and that a timber sale is a better way to go. John McKenzie said that the areas proposed for thermal thinning are too small for a timber harvest and sale. Tom Daly mentioned that timber harvests in the past have been problematic due to machine gun bullets that are lodged in some trees as a result WWII gunnery practice. Mr. McFall recommended that more specific descriptors such as basal area be added in the future desired conditions for flatwoods. He stated that the flatwoods burn interval of three to eight years as stated in the plan seems too long. John McKenzie said that the trees are not as vigorous as those on the mainland and don't grow as fast in the coastal environment. Mr. McFall asked if there are any longleaf pine in the park. John McKenzie said there is no historical evidence of longleaf pine as they can't tolerate the saltwater. Mr. McFall asked if the park needed any additional equipment for burning. John McKenzie said the park is pretty well equipped. Josh Hodson said that a Type 6 engine can be borrowed from the adjacent state forest if needed. Mr. McFall pointed out a discrepancy where the burnable acres stated in Table 5 of the RMC do not match the acreages stated on the Natural Communities map. He suggested that the plan should mention the area in burn maintenance condition. John McKenzie stated that the figure would quickly become obsolete in the ten year plan and that the Florida Park Service uses a statewide burn database to track acres in burn maintenance condition. Mr. McFall asked is there is baseline data on coyote trapping and what the status of that program is. John McKenzie said the coyote trapping program has improved with some successes but expects this predator to be a continuing problem due to their ability to successfully spread into new territory. Mr. McFall recommended that staffing needs be included in the plan.

Mark Curenton (representing the Franklin County Board of County Commissioners) said that providing boat camping is a concern due to the possible negative impacts on oyster habitat. He said that the county would consider the boat camping area a marina and shut down oystering within a certain radius. He said that the proposed primitive camping area on the bay is of concern because of possible water quality impacts from human waste. Lew Scruggs said there is an access road to the site so the provision of portable toilets may be possible. Mr. Curenton said that the proposed cabins are in a flood zone and would have to be raised 13 to 15 feet which would require a significant length of access ramp.

Tom Herzog (Florida Paddling Trail Association) expressed concern about human waste at paddling campsites and recommended toilets at those locations. He stated opposition to the boat camping area and approval for the proposed campground expansion, primitive camping area, and cabins. He stated that he would like to include St. George Island on future Apalachicola Bay paddling routes.

Lesley Cox (Franklin Soil and Water Conservation District) stated opposition to the boat camping area due to the possibility that dredging will be required. She also stated opposition to the proposed fish cleaning station as the one in Carrabelle has been problematic. She thanked the park for the natural community restoration efforts including burning and sea oats planting and is very much in favor of continuing these activities. She approved of cabins if they can be constructed to meet the flood zone requirements. Ms. Cox suggested that the park consider providing a type of portable cabin that could be hauled out before significant weather event. She expressed support for the bike lanes.

Katherine Gilbert (Sarracenia Chapter, Florida Native Plant Society) said that FNPS would prefer to see fewer visitors in the park but understands the demand for expansion. She said that attracting more people can be good as long as they come to passively enjoy nature. Ms. Gilbert said that she was happy to see prescribed fire goals that are tailored to coastal habitats and said that such standards are needed for the rest of the state. She said that red mangroves are historically important and should be included in the plant inventory. Ms. Gilbert noticed some spelling errors for plants and animals listed in the plan and recommended a complete spell check. She expressed opposition to the boat camping area due to possible impacts to oyster habitat and the passive park experience.

Tom Daly (Friends of Franklin County State Parks) stated that he is in agreement with providing cabins as it provides an additional type of user experience and increased revenues. He said that any development should carefully consider the possible negative impacts to nesting birds and other wildlife. He said the park does a good job of accommodating a high volume of visitors while protecting the uncrowded outdoor experience. He expressed opposition to the boat camping area.

Ann Bruce (Apalachee Audubon Society) provided the following quote by Aldo Leopold: "The first rule of intelligent tinkering is to save all the parts. Anyone who has taken something apart and then tried to reassemble it knows this to be true. If a part is lost, the machine will not work very well—if it works at all. And as mechanisms become more complex, the individual parts generally become more and more critical. If this is true for machines—if a missing cog or belt can render a car's engine useless—how much more might a missing organism affect the health of an ecosystem whose complexity is overwhelming? If this is true for machines—if a missing cog or belt can render a car's engine useless—how much more might a missing organism affect the health of an ecosystem whose complexity is overwhelming? Conservation of the earth's biodiversity must be a primary concern for all people, for when biodiversity is destroyed—at any of its levels—tune-ups and replacement parts are not available." She stated that the developments proposed in the plan are starting to jeopardize the parts of the system.

Dottye Thornburg (adjacent landowner) said that she is not against improving and maintaining the existing facilities but does not want to see the park over-improved as this is place where people bring their children to see Florida the way it

used to be. She expressed opposition to the boat camping area due to the fragile nature of the bay. Regarding bike lanes, she agrees that bikers should have a little more room but she's not sure about the proposed lanes on both sides of the park drive. She expressed opposition to cabins if they have to be elevated to flood zone requirements but would support them is they could be constructed close to grade. Ms. Thornburg said that 30 additional standard campsites may be too many. She recommended installing 15 sites initially and an additional 15 later on if needed. She stated that she does not agree with installing the fish cleaning station. Ms. Thornburg agreed with the proposed beach access boardwalk improvements. She requested that the park improve the traffic turnaround at the front gate and include signage to keep nighttime visitors from turning around in her driveway. Ms. Thornburg noted that the park removed screening vegetation along the boundary line a couple of years ago and she doesn't like the more open, exposed conditions.

Justin Davis (Florida Fish and Wildlife Conservation Commission) noted that the park has the highest diversity of nesting shorebirds on the northwest Gulf coast. He said that the mudflats on the bayside are very important for feeding and the beach area is important for nesting. He recommended that the nesting season listed on page 46 be adjusted to February 15 to September 1. Mr. Davis said he likes the winter burn regime to decrease impacts to nesting birds. He agreed with the proposed improvements to the boat access parking areas and the beach access boardwalks. He said he was impressed with the park's interpretive outreach. He stated that he approves of the coyote trapping program and acknowledged that this will be a long term maintenance situation as this predator is here to stay. He said that the Tier Two monitoring of imperiled species is good. Mr. Davis expressed concern that the expansion of the recreation carrying capacity as proposed in the plan will degrade the park. He said the low impact experience provided at the park should be protected. Mr. Davis noted that no additional staff are proposed in the plan. He said that additional visitors and facilities will put an additional burden on FWC law enforcement which is already stretched thin. He recommended providing for more staff in the plan. Mr. Davis said that increasing the number of park visitors will have an impact on potable water supplies. He recommended that the oyster bars offshore from the youth group camping area boat launch be protected as they are very important shorebird habitat. He stated disapproval of installing a fish cleaning station because it will attract predators. Mr. Davis said that he agrees with the adding campsites in the Sugar Hill Campground. He requested that the shorebird survey be consulted before installing the primitive camping area to avoid shorebird hotspots. He said that he generally agrees with constructing the cabins but he does have concerns about how they could interfere with coyote trapping. He is also concerned about predators that could be attracted to the cabin area by the mismanagement of garbage. He noted that any spit of sand along the bay could provide important foraging habitat and should be protected. Mr. Davis noted that bald eagles do nest on the island and that the appropriate avoidance buffers should be applied. He agreed with providing the support facilities described in the plan. He stated opposition to the proposed boat camping area due to the potential for pollution and trash and disturbance of foraging habitat on adjacent mudflats. Mr. Davis said that great care must be taken when the proposed parking pull-offs are

installed along the drive to the East End Fishing Area. Any clearing for parking and for trails will attract nesting shorebirds. He said this will require more monitoring and the posting of nesting areas. He said that trail fencing and boardwalks will be needed to keep people in a single track and avoid fanning out which will only attract more nesting. Overall, he said he prefers that these parking pull-offs not be installed. Mr. Davis said that shorebird chicks like road edges and warned that the addition of bike lanes may actually encourage traffic to speed up resulting in more dead birds. He said he has no problem with the addition of parking spaces along the park drive. He said the proposed beach access boardwalk improvements are good but the work should be done outside of nesting season and visitors should be funneled to the beach with fencing to keep them from fanning out. Mr. Davis noted that the optimum boundary map does not cover the entire beach. Lew Scruggs said this is a map illustration issue and that that the boundary will indeed extend from the mean high water line out 150 feet. Mr. Davis concluded by stating that this park is very important habitat for shorebirds and other wildlife and the more passive the experience the better.

Kim Wren (Apalachicola National Estuarine Research Reserve) stated her approval of improvements proposed for existing facilities but expressed opposition to the boat camping area due to potential impacts to wildlife habitat. She agreed with providing an additional primitive camping area and stated that she is not in opposition to the cabins as long as they can be constructed in an environmentally sensitive manner. Ms. Wren recommended that staffing needs for the proposed plan improvements should be addressed in the plan. She requested that black mangroves be added to the list of monitored species. She also requested a description of red mangroves and how they may spread in the park in the future.

Summary of Written Comments

Ann Bruce (Apalachee Audubon Society) provided the written Aldo Leopold quote that she provided at the Advisory Group meeting. She stated the changes proposed in the ten year plan update will begin to take things apart without saving all the parts and that once we have lost all the parts there will be no going back. She stated that Apalachee Audubon Society deeply opposes damaging the park and that they want to see the park and all of its diverse ecosystems preserved for future generations.

Staff Recommendations

Suggestions received from the Advisory Group meeting resulted in the following modifications to the draft management plan:

- Modify the conceptual land use plan to remove the proposed boat camping and cabin areas as well as locations for additional parking at beach access areas along the main park drive.
- Modify the conceptual land use plan to add a dock with a canoe/kayak launch near the primitive campsite north of the Sugar Hill Beach Area.

- Modify the conceptual land use plan to include an additional 30-site campground that will include standard RV campsites and an appropriate number of tent-only campsites.
- In lieu of separate bike lanes along the park drive, the plan language will include improvements to park drive that will enhance bicycle travel/safety.

Additional revisions were made throughout the document to address editorial corrections and consistency of spellings and notations.

With these modifications, DRP staff recommends approval of the proposed management plan for Dr. Julian G. Bruce St. George Island State Park.

Notes on Composition of the Advisory Group

Florida Statutes Chapter 259.032 Paragraph 10(b) establishes a requirement that all state land management plans for properties greater than 160 acres will be reviewed by an advisory group:

"Individual management plans required by s. 253.034(5), for parcels over 160 acres, shall be developed with input from an advisory group. Members of this advisory group shall include, at a minimum, representatives of the lead land managing agency, co-managing entities, local private property owners, the appropriate soil and water conservation district, a local conservation organization, and a local elected official."

Advisory groups that are composed in compliance with these requirements complete the review of State park management plans. Additional members may be appointed to the groups, such as a representative of the park's Citizen Support Organization (if one exists), representatives of the recreational activities that exist in or are planned for the park, or representatives of any agency with an ownership interest in the property. Special issues or conditions that require a broader representation for adequate review of the management plan may require the appointment of additional members. DRP's intent in making these appointments is to create a group that represents a balanced cross-section of the park's stakeholders. Decisions on appointments are made on a case-by-case basis by DRP staff.

Addendum 3—References Cited

Bureau of Economic and Business Research (BEBR), Warrington College of Business Administration, University of Florida. 2011. Florida Statistical Abstract.

Franklin County. 2012. Franklin County Comprehensive Plan 2012. Franklin County Florida.

Florida Department of Environmental Protection. 2013. Florida State Park System Economic Impact Assessment for Fiscal Year 2012/2013. Tallahassee, Florida.

Florida Department of Environmental Protection. 2003. Dr. Julian G. Bruce St. George Island State Park Unit Plan. Tallahassee, Florida.

Florida Department of State. 2012. Florida Master Site File. Tallahassee, Florida.

FLEPPC 2013. Florida Exotic Pest Plant Council's 2013 List of Invasive Plant Species. Internet: http://www.fleppc.org/list/list.htm.

Florida Natural Areas Inventory (FNAI). 2010. Guide to the natural communities of Florida. 2010 edition. Florida Natural Areas Inventory, Tallahassee, FL.

University of South Florida (USF). 2010. Archaeological Resource Sensitivity Modeling in Florida State Parks, District 1.

U.S. Department of Agriculture, Soil Conservation Service. 1994. Soil Survey, Franklin County, Florida. Washington, D.C.

Addendum 4—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 0 to 2% Individual areas are elongated and range from 5 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.

The natural vegetation on the Duckston soil consists of slash pine, gallberry and saltmeadow cordgrass, Natural vegetation on the Corolla soil consists of sand live oak, myrtle oak and dune rosemary. Natural vegetation on the Rutlege soil consists of willow, sawgrass, cabbage palm, slash pine and St. John's wort.

(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.

(39) Scranton sand, slough – This very poorly drained, nearly level soil is generally in broad sloughs. Slopes are generally less than 2 percent. Individual areas are blocky or irregularly shaped and range from less than an acre to more than 2,000 acres in size.

Typically, the surface layer is very dark gray sand about 8 inches thick. The subsurface layer is coarsely mixed very dark gray, dark grayish brown, and light gray sand about 13 inches thick. The next 11 inches is light gray sand. Below this to a depth of 80 inches or more is mixed light gray and grayish brown sand.

Included with this soil in maping are small areas of Lynn Haven, Meadowbrook, Plummer, and Rutlege soils are areas of Scranton soils that are poorly drained. The poorly drained Lynn Haven, Meadowbrook, Plummer, and Scranton soils are in the slightly higher areas in the flatwoods. The very poorly drained Rutlege soils are in low, broad depressions. Also included are soils that are similar to the Scranton soil but have a dark surface layer less than 6 inches thick. These soils are in landscape positions similar to those of the Scranton soil.

The Scranton soil has a seasonal high water table within a depth of 6 inches for 3 to 6 months in most years. The water table is within a depth of 30 inches for the rest of most years, but it recedes to a depth of more than 30 inches during extended dry periods. After periods of heavy rainfall, the surface is covered by shallow, slowly moving water for as long as 3 weeks.

The available water capacity is low. Permeability is rapid. The content of organic matter is moderate in the surface layer and low in the rest of the profile. Natural fertility is low. Most of these mapped areas in the county are used for the production of pine trees. The natural vegetation consists of scattered cypress, sweetbay, black titi, swamp cyrilla, water-tolerant grasses/sedges and St. John's wort.

Addendum 5—Plant And Animal List

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

PTERIDOPHYTES

Southern clubmoss ..... *Lycopodiella appressa*
Royal fern..... *Osmunda regalis*
Resurrection fern..... *Polypodium polypodioides*
Bracken..... *Pteridium aquilinum*
Marsh fern..... *Thelypteris palustris*
Virginia chain fern..... *Woodwardia virginica*

GYMNOSPERMS

CUPRESSACEAE
Southern red cedar ..... *Juniperus virginiana*

PINACEAE
Sand pine..... *Pinus clausa*
Slash pine ..... *Pinus elliottii*

ANGIOSPERMS: MONOCOTS

AGAVACEAE
Spanish bayonet..... *Yucca aloifolia*

ALISMATACEAE
Bulltongue arrowhead ..... *Sagittaria lancifolia*

ALLIACEAE
Wild onion ..... *Allium canadense*

ARECACEAE
Cabbage palm ..... *Sabal palmetto*
Saw palmetto..... *Serenoa repens*

COMMELINACEAE
Common dayflower ..... *Commelina diffusa*
Whitemouth dayflower ..... *Commelina erecta*
Common spiderwort..... *Tradescantia ohiensis*

CYPERACEAE
Sedge ..... *Bulbostylis ciliatifolia*
Long's sedge..... *Carex longii*
Sawgrass ..... *Cladium jamaicense*
Poorland flat-sedge..... *Cyperus compressus*
Swamp flat-sedge..... *Cyperus distinctus*
Yellow nut-grass..... *Cyperus esculentus*

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

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Soft-stem flat-sedge	*Cyperus haspan*	
Leconte's flat-sedge	*Cyperus lecontei*	
Nash's flat-sedge	*Cyperus nashii*	
Manyspike flat-sedge	*Cyperus polystachyos*	
Nut-grass	*Cyperus rotundus*	
Tropical flat-sedge	*Cyperus surinamensis*	
Roadgrass	*Eleocharis baldwinii*	
Gulf Coast Spike-rush	*Eleocharis cellulosa*	
Canada spike-rush	*Eleocharis geniculata*	
Sand spike-rush	*Eleocharis montevidensis*	
Carolina fimbry	*Fimbristylis caroliniana*	
Fringerush	*Fimbristylis castanea*	
Umbrella-sedge	*Fuirena scirpoidea*	
Bald-rush	*Psilocarya nitens*	
Star-rush, White-top sedge	*Rhynchospora colorata*	
Spreading beak-rush	*Rhynchospora divergens*	
Fascicled beak-rush	*Rhynchospora fascicularis*	
Sandyfield beak-sedge	*Rhynchospora megalocarpa*	
Southern beak-sedge	*Rhynchospora microcarpa*	
Sweet beak-sedge	*Rhynchospora odorata*	
Horned-rush	*Rhynchospora tracyi*	
Giant white-top sedge	*Rhynchospora latifolia*	
Three-square	*Scirpus pungens*	
Salt-marsh bulrush	*Scirpus robustus*	
Fringed nut-rush	*Scleria ciliata* var. *ciliata*	
Nut-rush	*Scleria ciliata* var. *glabra*	
Fewflower nut-rush	*Scleria pauciflora*	
Netted nut-rush	*Scleria reticularis*	
HYDROCHARITACEAE		
Turtle-grass	*Thalassia testudinum*	
HYPOXIDACEAE		
Hypoxis wrightii	*Yellow stargrass*	
IRIDACEAE		
Narrowleaf blue-eyed grass	*Sisyrinchium angustifolium*	
Nash's blue-eyed grass	*Sisyrinchium nashii*	
JUNCACEAE		
Forked rush	*Juncus dichotomus*	
Large-headed rush	*Juncus megacephalus*	
Needlerush	*Juncus roemerianus*	
Globe rush	*Juncus scirpoides*	

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
POACEAE		
Spring bentgrass	*Agrostis hiemalis*	
Blue maiden cane	*Amphicarpum muhlenbergianum*	
Bushy beardgrass	*Andropogon glomeratus*	
Chalky bluestem	*Andropogon virginicus* var. *glaucus*	
Broomsedge bluestem	*Andropogon virginicus* var. *virginicus*	
Arrow-feather	*Aristida purpurescens* var. *purpurescens*	
Arrow-feather	*Aristida purpurescens* var. *virgata*	
Bottlebrush threeawn	*Aristida spiciformis*	
Coast sandspur, burgrass	*Cenchrus incertus*	
Dune sandspur	*Cenchrus tribuloides*	
Bermuda grass	*Cynodon dactylon*	
Crowfoot grass	*Dactyloctenium aegypticum*	
Narrow-leaved panicgrass	*Dichanthelium aciculare*	
Forked panicgrass	*Dichanthelium dichotomum*	
Panicgrass	*Dichanthelium portoricense*	
Velvet witchgrass	*Dichanthelium scoparium*	
Slender panicgrass	*Dichanthelium tenue*	
Southern crab-grass	*Digitaria ciliaris*	
Saltgrass	*Distichlis spicata*	
Junglegrass	*Echinochloa colonum*	
Barnyard grass	*Echinochloa crus-galli*	
Coastal cockspur, watergrass	*Echinochloa walteri*	
Goosegrass	*Eleusine indica*	
Pan-American balsamscale	*Elyonurus tripsacoides*	
Elliott lovegrass	*Eragrostis elliottii*	
Coastal lovegrass	*Eragrostis refracta*	
Red lovegrass	*Eragrostis secundiflora*	
Centipede grass	*Eremochloa ophiuroides*	
Sugarcane plumegrass	*Erianthus giganteus*	
Fingergrass	*Eustachys petraea*	
Little barley	*Hordeum pusillum*	
English ryegrass	*Lolium perenne*	
Muhly grass	*Muhlenbergia capillaris* var. *capillaris*	
Muhly grass	*Muhlenbergia capillaris* var. *filipes*	
Beachgrass	*Panicum amarum* var. *amarulum*	
Bitter panicgrass	*Panicum amarum* var. *amarum*	
Fall panicum	*Panicum dichotomiflorum*	
Torpedo grass	*Panicum repens*	
Redtop panicgrass	*Panicum rigidulum*	
Warty panicgrass	*Panicum verrucosum*	
Switchgrass	*Panicum virgatum*	
Bull paspalum	*Paspalum boscianum*	
Knotgrass	*Paspalum distichum*	
Bahia grass	*Paspalum notatum*	

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Barestem paspalum	*Paspalum setaceum* var. *longepedunculatum*	
Thin paspalum	*Paspalum setaceum* var. *setaceum*	
Vaseygrass	*Paspalum urvillei*	
Seashore paspalum	*Paspalum vaginatum*	
Common reed	*Phragmites australis*	
Annual bluegrass	*Poa annua*	
Rabbitfoot grass	*Polypgon monspeliensis*	
American cupscale	*Sacciolepis striata*	
Bluestem	*Schizachyrium maritimum*	
Knotroot foxtail	*Setaria parviflora*	
Saltmarsh cordgrass	*Spartina alterniflora*	
Saltmeadow cordgrass	*Spartina patens*	
Gulf cordgrass	*Spartina spartinae*	
Prairie wedgescale	*Sphenopholis obtusata*	
Coastal dropseed	*Sporobolus virginicus*	
St. Augustine grass	*Stenotaphrum secundatum*	
Perennial sandgrass	*Triplasis Americana*	
Purple sandgrass	*Triplasis purpurea*	
Sea oats	*Uniola paniculata*	
Texas signalgrass	*Urochloa texanum*	
Common six-weeks grass	*Vulpia octoflora*	
RUPPIACEAE		
Widgeon-grass	*Ruppia maritima*	
SMILACACEAE		
Greenbrier, Wild bamboo	*Smilax auriculata*	
Bamboo-vine, catbrier	*Smilax laurifolia*	
TYPHACEAE		
Southern cattail	*Typha domingensis*	
XYRIDACEAE		
Yellow-eyed grass	*Xyris caroliniana*	

ANGIOSPERMS: DICOTS

ACERACEAE		
Red maple	*Acer rubrum*	
AIZOACEAE		
Sea purslane	*Sesuvium portulacastrum*	
AMARANTHACEAE		
Southern water hemp	*Amaranthus australis*	

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Pigweed, Redroot	*Amaranthus viridis*	
Cottonweed	*Froelichia floridana*	
ANACARDIACEAE		
Winged sumac	*Rhus copallina*	
Poison ivy	*Toxicodendron radicans*	
APIACEAE		
Wild celery	*Apium graveolens*	
Marsh parsley	*Apium leptophyllum*	
Centella	*Centella erecta*	
Wild chervil	*Chaerophyllum tainturieri*	
Beach umbrellas	*Hydrocotyle bonariensis*	
Marsh pennywort	*Hydrocotyle umbellata*	
Lilaeopsis	*Lilaeopsis chinensis*	
Mock Bishop's-weed	*Ptilimnium capillaceum*	
Scale-seed	*Spermolepis divaricata*	
Scale-seed	*Spermolepis echinata*	
AQUIFOLIACEAE		
Gallberry	*Ilex glabra*	
Yaupon holly	*Ilex vomitoria*	
ASCLEPIADACEAE		
Sand-vine	*Cynanchum angustifolium*	
ASTERACEAE		
Common ragweed	*Ambrosia artemisiifolia*	
Perennial salt marsh aster	*Aster tenuifolius* var. *tenuifolius*	
False willow	*Baccharis angustifolia*	
Groundsel tree	*Baccharis glomeruliflora*	
Salt bush, sea myrtle	*Baccharis halimifolia*	
Beggar ticks	*Bidens alba* var. *radiata*	
Sea oxeye	*Borrichia frutescens*	
Deer's tongue, Vanilla plant	*Carphephorus odoratissimus*	
Bush goldenrod	*Chrysoma pauciflosculosa*	
Yellow thistle	*Cirsium horridulum*	
Mist flower	*Conoclinium coelestinum*	
Horseweed	*Conyza Canadensis*	
Coreopsis	*Coreopsis lanceolata*	
Eclipta	*Eclipta prostrata*	
Boneset	*Eupatorium anomalum*	
Dog fennel	*Eupatorium capillifolium*	
Dog fennel	*Eupatorium compositifolium*	
Semaphore Eupatorium	*Eupatorium mikanioides*	

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Boneset	*Eupatorium mohrii*	
Boneset	*Eupatorium perfoliatum*	
Flat-top goldenrod	*Euthamia leptocephala*	
Small bush goldenrod	*Euthamia minor*	
Flat-top goldenrod	*Euthamia tenuifolia*	
Cudweed	*Gnaphalium falcatum*	
Purple cudweed	*Gnaphalium purpureum*	
Bitterweed	*Helenium amarum*	
Golden aster	*Heterotheca subaxillaris*	
Marsh elder	*Iva frutescens*	
False dandelion	*Krigia cespitosa*	
Dwarf dandelion	*Krigia virginica*	
Blazing star	*Liatris chapmanii*	
Climbing hempweed	*Mikania scandens*	
Rosy camphorweed	*Pluchea baccharis*	
Blackroot	*Pterocaulon pycnostachyum*	
False dandelion	*Pyrrhopappus carolinianus*	
Goldenrod	*Solidago Canadensis* var. *scabra*	
Swamp goldenrod	*Solidago fistulosa*	
Seaside goldenrod	*Solidago sempervirens* var. *Mexicana*	
Goldenrod	*Solidago stricta*	
Common sow thistle	*Sonchus oleraceus*	
Cocklebur	*Xanthium strumarium*	
BATACEAE		
Saltwort	*Batis maritima*	
BORAGINACEAE		
Seaside heliotrope	*Heliotropium curassavicum*	
BRASSICACEAE		
Sea rocket	*Cakile constricta*	
Tansy mustard	*Descurainia pinnata*	
Peppergrass	*Lepidium virginicum*	
Wild radish	*Raphanus raphanistrum*	
CACTACEAE		
Cockspur pricklypear	*Opuntia pusilla*	
CAMPANULACEAE		
Venus' looking-glass	*Triodanus biflora*	
Triodanus	*Triodanus perfoliata*	
CARYOPHYLLACEAE		
Thyme-leaved sandwort	*Arenaria serpyllifolia*	

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Mouse-ear chickweed	*Cerastium glomeratum*	
Sand-squares	*Paronychia erecta*	
Pearlwort	*Sagina decumbens*	
Sleepy catchfly	*Silene antirrhina*	
Chickweed	*Stellaria media*	
Pineland scalypink	*Stipulicida setacea*	
CHENOPODIACEAE		
Beach orach	*Atriplex pentandra*	
Mexican tea	*Chenopodium ambrosioides*	
Pitseed goosefoot	*Chenopodium berlandieri* var. *boscianum*	
Perennial glasswort	*Salicornia virginica*	
Russian thistle	*Salsola kali*	
Southern sea blite	*Suaeda linearis*	
CISTACEAE		
Rockrose	*Helianthemum corymbosum*	
Hairy pinweed	*Lechea mucronata*	
Leggett's pinweed	*Lechea pulchella*	
Piedmont pinweed	*Lechea torreyi*	
CLUSIACEAE		
Roundpod St. John's-wort	*Hypericum cistifolium*	
Pineweed	*Hypericum gentianoides*	
Atlantic St. John's-wort	*Hypericum tenuifolium*	
CONVOLVULACEAE		
Field dodder	*Cuscuta campestris*	
Pony-foot	*Dichondra carolinenses*	
Tievine	*Ipomoea cordatotriloba*	
Beach morning-glory	*Ipomoea imperata*	
Railroad vine	*Ipomoea pes-caprae*	
Cypress vine	*Ipomoea quamoclit*	
Marsh morning glory	*Ipomoea sagittata*	
Jacquemontia	*Jacquemontia tamnifolia*	
DROSERACEAE		
Dwarf sundew	*Drosera brevifolia*	
Pink sundew	*Drosera capillaris*	
EBENACEAE		
Persimmon	*Diospyros virginiana*	
EMPETRACEAE		
Dune rosemary	*Ceratiola ericoides*	

* Non-native Species

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

ERICACEAE
Fetterbush ..... *Lyonia lucida*
Sparkleberry ..... *Vaccinium arboretum*
High bush blueberry ..... *Vaccinium darrowi*
Shiny blueberry ..... *Vaccinium myrsinites*

EUPHORBIACEAE
Three-seeded mercury ..... *Acalypha gracilens*
Sand-dune spurge ..... *Chamaesyce ammannioides*
Eyebane ..... *Chamaesyce hyssopifolia*
Milk purselane ..... *Chamaesyce maculata*
Tread softly, Stinging nettle ..... *Cnidoscolus stimulosus*
Wooly croton ..... *Croton capitatus*

FABACEAE
Indian jointvetch ..... *Aeschynomene indica*
Alyce clover, Moneywort ..... *Alysicarpus ovalifolium*
Amorpha ..... *Amorpha herbacea*
Partridge-pea ..... *Chamaecrista fasciculata*
Butterfly-pea ..... *Clitoria mariana*
Rattle-box ..... *Crotalaria lanceolata*
Rabbit-bells ..... *Crotalaria rotundifolia*
Big Rattle-box ..... *Crotalaria spectabilis*
Beggar's lice ..... *Desmodium paniculatum*
Coral bean ..... *Erythrina herbacea*
Milk pea ..... *Galactia volubilis*
Black medick ..... *Medicago lupulina*
Bur medick ..... *Medicago minima*
Bur clover ..... *Medicago polymorpha*
White sweet clover ..... *Melilotus alba*
Yellow sweet clover, Sour clover *Melilotus indica*
Sicklepod, Coffee weed ..... *Senna obtusifolia*
Danglepod ..... *Sesbania herbacea*
Purple bladderpod ..... *Sesbania punicea*
Sand bean, Fuzzy bean ..... *Strophostyles helvola*
Small sand bean ..... *Strophostyles leiosperma*
Hop clover, Field clover ..... *Trifolium campestre*
Carolina clover ..... *Trifolium carolinianum*
Low hop clover ..... *Trifolium dubium*
Crimson clover ..... *Trifolium incarnatum*
White clover ..... *Trifolium repens*
Arrowleaf clover ..... *Trifolium vesiculosum*
Sand vetch ..... *Vicia acutifolia*
Common vetch ..... *Vicia angustifolia*

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Lentil-tare	*Vicia tetrasperma*	
Hairypod cowpea	*Vigna luteola*	
FAGACEAE		
Chapman oak	*Quercus champanii*	
Sand-live oak	*Quercus geminata*	
Laurel oak	*Quercus hemisphaerica*	
Sand-post oak	*Quercus margaretta*	
Myrtle oak	*Quercus myrtifolia*	
Post oak	*Quercus stellata*	
Live oak	*Quercus virginiana*	
GENTIANACEAE		
Marsh pink	*Sabatia grandiflora*	
Rose-of-Plymouth	*Sabatia stellaris*	
GERANIACEAE		
Cranesbill	*Geranium carolinianum*	
HALORAGACEAE		
Marsh mermaid-weed	*Proserpinaca palustris*	
Combleaf mermaid-weed	*Proserpinaca pectinata*	
LAMIACEAE		
Scrub rosemary	*Conradina canescens*	
Henbit	*Lamium amplexicaule*	
Wood sage	*Teucrium canadense*	
LENTIBULARIACEAE		
Horned bladderwort	*Utricularia cornuta*	
Humped bladderwort	*Utricularia gibba*	
Zigzag bladderwort	*Utricularia subulata*	
LINACEAE		
Yellow flax	*Linum medium*	
LOGANIACEAE		
Rustweed, Copperweed	*Polypremum procumbens*	
LYTHRACEAE		
Toothcups	*Ammannia latifolia*	
Coastal loosestrife	*Lythrum lineare*	
MAGNOLIACEAE		
Southern magnolia	*Magnolia grandiflora*	

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Sweetbay	*Magnolia virginiana*	
MALVACEAE		
Rose mallow, swamp mallow	*Hibiscus moscheutos*	
Flower of an hour	*Hibiscus trionum*	
Seashore mallow	*Kosteletzkya pentacarpos*	
Threelobe false mallow	*Malvastrum coromandelianum*	
Carolina bristlemallow	*Modiola caroliniana*	
Indian hemp	*Sida rhombifolia*	
MELASTOMATACEAE		
West Indian meadow beauty	*Rhexia cubensis*	
Maid Marian	*Rhexia nashii*	
MYRICACEAE		
Wax myrtle, Southern bayberry	*Myrica cerifera*	
NYMPHAEACEAE		
White water lily	*Nymphaea odorata*	
OLEACEAE		
Wild olive, Devilwood	*Osmanthus americanus*	
ONAGRACEAE		
Southern Bee blossom	*Gaura angustifolia*	
Winged primrose willow	*Ludwigia alata*	
Southeastern primrose willow	*Ludwigia linifolia*	
Mexican primrose willow	*Ludwigia octovalvis*	
Seaside evening primrose	*Ludwigia humifusa*	
OXALIDACEAE		
Yellow wood sorrel	*Oxalis corniculata*	
PASSIFLORACEAE		
Maypops, Passion flower	*Passiflora incarnata*	
PHYTOLACCACEAE		
Pokeweed	*Phytolacca Americana*	
PLANTAGINACEAE		
Broad-leaved plantain	*Plantago major*	
Hoary plantain	*Plantago virginica*	
PLUMBACINACEAE		
Narrow-leaved sea lavender	*Limonium angustatum*	

*** Non-native Species**

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Sea lavender	*Limonium carolinianum*	
POLYGALACEAE		
White bachelor's button	*Polygala balduinii*	
Procession flower	*Polygala incarnata*	
Orange milkwort	*Polygala lutea*	
Dwarf milkwort	*Polygala nana*	
POLYGONACEAE		
October flower	*Polygonella polygama*	
Dotted smartweed	*Polygonum puncatatum*	
Curled dock	*Rumex crispus*	
Sour dock	*Rumex hastatulus*	
Paraguayan dock	*Rumex parguayensis*	
Swamp dock	*Rumex verticillatus*	
PRIMULACEAE		
Chaffweed	*Anagallis minima*	
Water pimpernel	*Samolus ebracteatus*	
Pineland pimpernel	*Samolus valerandi*	
RHAMNACEAE		
Mock Buckthorn	*Sageretia minutiflora*	
ROSACEAE		
Red chokeberry	*Photinia pyrifolia*	
Sand blackberry	*Rubus cuneifolius*	
Dewberry	*Rubus trivialis*	
RUBIACEAE		
Buttonbush	*Cephalanthus occidentalis*	
Poor Joe	*Diodia teres*	
Buttonweed	*Diodia virginiana*	
Goosegrass, Spring Cleavers	*Galium aparine*	
Bedstraw	*Galium hispidulum*	
Innocence	*Houstonia procumbens*	
Flattop mill grains	*Oldenlandia corymbosa*	
Clustered mill grains	*Oldenlandia uniflora*	
SALICACEAE		
Coastal plain willow	*Salix caroliniana*	
Black willow	*Salix nigra*	
SAPOTACEAE		
Black-haw, Gum bumelia	*Sideroxylon lanuginosum*	

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
SCROPHULARIACEAE		
Beach false foxglove	*Agalinis fasciculata*	
Harper's false foxglove	*Agalinis harperi*	
Water hyssop	*Bacopa monnieri*	
Rough hedge-hyssop	*Gratiola hispida*	
Blue toad-flax	*Linaria Canadensis*	
Apalachicola toad-flax	*Linaria floridana*	
False pimpernel	*Lindernia anagallidea*	
Sweet broom	*Scoparia dulcis*	
Black senna	*Seymeria cassioides*	
Neckweek, Purslane speedwell	*Veronica peregrina* var. *peregrina*	
Veronica	*Veronica peregrina* var. *xalapensis*	
SLOANACEAE		
Christmas berry	*Lycium carolinianum*	
Beach ground cherry	*Physalis angustifolia*	
Black nightshade	*Solanum americanum*	
STERCULIACEAE		
Chocolate weed	*Melochia corchorifolia*	
URTICACEAE		
False nettle, Bog hemp	*Boehmeria cylindrica*	
VALERIANACEAE		
Corn salad	*Valerianella radiate*	
VERBENACEAE		
Capeweed, Frog's fruit	*Phyla nodiflora*	
Purpletop vervain	*Verbena bonariensis*	
VITACEAE		
Virginia creeper, Woodbine	*Parthenocissus quinquefolia*	
Scuppernong, Muscadine grape	*Vitis rotundifolia*	

*** Non-native Species**

FISH

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Scrawled cowfish	*Acanthostroacium quadricornis*	Gulf, Bay
Striped anchovy	*Anchoa hepsetus*	Gulf, Bay
Bay anchovy	*Anchoa mitchilli*	Gulf, Bay
Finetooth shark	*Aprionodon isodon*	Gulf
Sheepshead	*Archosargus probatocephalus*	Gulf, Bay
Sea catfish	*Arius felis*	Gulf
Gafftopsail catfish	*Bagre marinus*	Gulf
Silver perch	*Bairdiella chrysura*	Bay
Gulf Menhaden	*Brevoortia patronus*	Gulf
Blue runner	*Caranx fusus*	Gulf
Common jack	*Caranx hippos*	Gulf
Blacknose shark	*Carcharhinus acronotus*	Gulf
Bull shark	*Carcharhinus leucas*	Gulf, Bay
Blacktip shark	*Carcharhinus limbatus*	Gulf
Gulf black sea bass	*Centropristis striata*	Gulf
Angelfish	*Chaetodipterus faber*	Gulf
Striped burrfish	*Chilomycterus schoepfi*	Gulf,Bay
Sand sea trout	*Cynoscion arenarius*	Gulf, Bay
Spotted sea trout	*Cynoscion nebulosus*	Gulf, Bay
Southern stingray	*Dasyatis americana*	Gulf, Bay
Sand perch	*Diplectrum formosum*	Gulf, Bay
Shark sucker	*Echeneis naucrates*	Gulf
Ladyfish	*Elops saurus*	Gulf, Bay
Mojarra species	*Eucinostomus sp.*	Gulf, Bay
Killifish species	*Fundulus sp.*	Gulf, Bay
Mosquitofish	*Gambusia affinis*	Gulf, Bay
Lined seahorse	*Hippocampus erectus*	Bay
Pinfish	*Lagodon rhomboids*	Gulf, Bay
Rainwater killifish	*Luscania parva*	Bay
Gray snapper	*Lutjanus griseus*	Gulf, Bay
Tarpon	*Megalops atlantica*	Gulf
Southern kingfish	*Menticirrhus americanus*	Gulf
Gulf whiting	*Menticirrhus littoralus*	Gulf
Planehead filefish	*Monacanthus hispidus*	Gulf
Striped mullet	*Mugil cephalus*	Gulf, Bay
Florida smoothhound	*Mustelus norrisi*	Gulf, Bay
Lemon shark	*Negaprion brevirostris*	Gulf
Sand shark	*Odontapsis Taurus*	Gulf
Thread herring	*Opisthonema oglinum*	Gulf
Gulf toadfish	*Opsansus beta*	Bay
Pigfish	*Orthopristis chrysoptera*	Bay
Southern flounder	*Paralichthys lethostigma*	Gulf, Bay
Gulf butterfish	*Peprilus burti*	Gulf, Bay

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Bluefish	*Pomatomus saltatrix*	Gulf
Bighead searobin	*Prinotus roseus*	Gulf, Bay
Cobia	*Rachycentron canadum*	Gulf, Bay
Clearnose skate	*Raja eglanteria*	Gulf, Bay
Remora	*Remora remora*	Gulf
Red drum	*sciaenops ocellata*	Gulf, Bay
King macherel	*Scomberomorus cavalla*	Gulf
Spanish mackerel	*Scomberomorus maculates*	Gulf, Bay
Spot	*Seiostomus xanthurus*	Gulf, Bay
Southern puffer	*Sphoeroides nephelus*	Gulf, Bay
Scalloped hammerhead	*Sphryna lewini*	Gulf
Great hammerhead	*Sphryna mokarran*	Gulf
Cuban dogfish	*Squalus cubensis*	Gulf
Atlantic needlefish	*Strongylura marina*	Gulf
Dusky pipefish	*Syngnathus floridae*	Gulf, Bay
Chain pipefish	*Syngnathus louisianae*	Gulf, Bay
Gulf pipefish	*Syngnathus scovelli*	Gulf, Bay
Inshore lizardfish	*Synodus foetens*	Bay
Florida pompano	*Trachinotus carolinus*	Gulf

AMPHIBIANS

Frogs and Toads

Florida cricket frog	*Acris gryllus*	BM
Southern toad	*Bufo terrestris*	MTC
Eastern narrow-mouthed toad	*Gastrophryne carolinensis*	BM, WF
Green treefrog	*Hyla cinerea*	MTC
Squirrel treefrog	*Hyla squirella*	MTC
Southern leopard frog	*Rana sphenocephala*	BM, RD

REPTILES

Eastern cottonmouth	*Agkistrodon piscivorus*	BM
Green anole	*Anolis carolinensis*	MTC
American alligator	*Alligator mississippiensis*	BM, RD
Loggerhead sea turtle	*Caretta caretta*	MUS
Scarlet snake	*Cemophora coccinea*	WF, SCF
Green sea turtle	*Chelonia mydas*	MUS
Six-lined racerunner	*Cnemidophorus sexlineatus*	BD, SCF
Black racer	*Coluber constrictor*	MTC
Eastern diamondback rattlesnake	*Crotalus adamanteus*	MTC
Leatherback sea turtle	*Dermochelys coriacea*	MUS

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Red rat snake	*Elaphe guttata*	MTC
Gray rat snake	*Elaphe obsolete spiloides*	MTC
Southeastern five-lined skink	*Eumeces inexpectatus*	MTC
Broad-headed skink	*Eumeces laticeps*	WF, SCF
Eastern mud turtle	*Kinosternon subrubrum*	BM
Kemp's Ridley sea turtle	*Lepidochelys kempii*	Gulf
Ornate diamondback terrapin	*Malaclemys terrapin*	SM
Coachwhip	*Masticophis flagellum*	BD, SCF
Gulf salt marsh snake	*Nerodia fasciata clarki*	SM
Banded water snake	*Nerodia fasciata fasciata*	BM, RD
Rough green snake	*Opheodrys aestivus*	WF
Island glass lizard	*Ophisaurus Compressus*	EUS, SM, SCF
Eastern glass lizard	*Ophisaurus ventralis*	MTC
Pine snake	*Pituophis melanoleucus*	WF, SCF
Fence lizard	*Sceloporus undulates hyacinthinus*	MTC
Ground skink	*Scincella laterale*	MTC
Dusky pigmy rattlesnake	*Sistrurus miliarius barbouri*	SCF
Gulf box turtle	*Terrapene Carolina*	BM, WF
Eastern ribbon snake	*Thamnophis sauritus*	WF
Eastern garter snake	*Thamnophis sirtalis*	MTC

*** Non-native Species**

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

BIRDS

Loons

Common loon	*Gavia immer*	Gulf
Red-throated loon	*Gavia stellata*	Gulf

Grebes

Pied-billed grebe	*Podilymbus podiceps*	BM, RD
Horned grebe	*Podiceps auritus*	BM, CL

Gannets, Pelicans and Allies

Anhinga	*Anhinga anhinga*	BM, OF
Magnificent frigatebird	*Fregata magnificens*	OF
Northern gannet	*Morus bassanus*	OF
American white pelican	*Pelecanus erythrorhynchos*	MUS, OF
Brown pelican	*Pelecanus occidentalis*	OF
Double-crested cormorant	*Phalacrocorax auritus*	MUS, EUS, SM, OF
Brown booby	*Sula leucogaster*	OF

Herons, Egrets and Allies

Great egret	*Ardea alba*	SM, BM CL
Great blue heron	*Ardea herodias herodias*	SM, BM, CL
Great white heron	*Ardea herodias occidentalis*	Vagrant/accidental
American bittern	*Botaurus lentiginosus*	SM
Cattle egret	*Bubulcus ibis*	MTC
Green heron	*Butorides virescens*	SM, BM
Little blue heron	*Egretta caerulea*	BM, SM
Reddish egret	*Egretta rufescens*	EUS, MUS, SM, BM
Snowy egret	*Egretta thula*	EUS, MUS, SM, BM
Tricolored heron	*Egretta tricolor*	EUS, MUS, SM, BM
Least bittern	*Ixobrychus exilis*	SM
Black-crowned night-heron	*Nycticorax nycticorax*	BM
Yellow-crowned night-heron	*Nyctanassa violacea*	BM

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Ibises, Spoonbills and Storks		
Roseate Spoonbill	*Ajaia ajaja*	rare occurrence
White ibis	*Eudocimus albus*	rare occurrence
Wood stork	*Mycteria americana*	occasional
Glossy Ibis	*Plegadis falcinellus*	occasional
Waterfowl		
Wood duck	*Aix sponsa*	BM
Northern pintail	*Anas acuta*	BM, SM
American wigeon	*Anas americana*	BM, SM, RD
Northern shoveler	*Anas clypeata*	BM, SM, RD
Green-winged teal	*Anas crecca*	BM, SM
Blue-winged teal	*Anas discors*	BM, SM
Mottled duck	*Anas fulvigula*	rare occurrence
Mallard	*Anas platyrhynchos*	BM, RD, CL
American black duck	*Anas rubripes*	BM, SM, EUS
Gadwall	*Anas strepera*	BM, SM, RD
Redhead	*Aythya americana*	BM, SM
Ring-necked duck	*Aythya collaris*	CIS
Lesser scaup	*Aythya affinis*	BM, OF
Greater scaup	*Aythya marila*	BM, SM
Canvasback	*Aythya valisineria*	BM, SM, RD
Canada goose	*Branta canadensis*	OF
Bufflehead	*Bucephala albeola*	Bay waters
Common goldeneye	*Bucephala clangula*	Occasional
Snow goose	*Chen caerulescens*	Occasional
Hooded merganser	*Lophodytes cucullatus*	Occasional
Black scoter	*Melanitta nigra*	Occasional
Surf scoter	*Melanitta perspicillata*	Occasional
Red-breasted merganser	*Mergus serrator*	Bay waters
Ruddy duck	*Oxyura jamaicensis*	Occasional
Vultures		
Turkey vulture	*Cathartes aura*	OF
Black vulture	*Coragyps atratus*	OF
Hawks, Eagles, Kites, Ospreys		
Cooper's hawk	*Accipiter cooperii*	OF
Sharp-shinned hawk	*Accipiter striatus*	OF
Golden eagle	*Aquila chrysaetos*	rare occurrence

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Red-tailed hawk	*Buteo jamaicensis*	OF
Red-shouldered hawk	*Buteo lineatus*	OF
Broad-winged hawk	*Buteo platypterus*	OF
Swainson's hawk	*Buteo swainsoni*	rare occurrence
Northern harrier	*Circus cyaneus*	OF (SM)
Swallow-tailed kite	*Elanoides forficatus*	OF
Bald eagle	*Haliaeetus leucocephalus*	SM, WF, OF
Mississippi kite	*Ictinia mississippiensis*	OF
Osprey	*Pandion haliaetus*	OF (SM)
Falcons		
Merlin	*Falco columbarius*	OF
Peregrine falcon	*Falco peregrinus*	OF
American kestrel	*Falco sparverius*	OF
Rails and Coots		
American coot	*Fulica americana*	BM, SM, RD, CL
Common moorhen	*Gallinula chloropus*	BM, SM, RD
Black rail	*Laterallus jamaicensis*	SM
Purple gallinule	*Porphyrula martinica*	BM, SM
Sora	*Porzana carolina*	occasional, SM
King rail	*Rallus elegans*	SM
Virginia rail	*Rallus limicola*	SM
Clapper rail	*Tallus longirostris*	SM

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Cranes		
Sandhill crane	*Grus canadensis*	rare occurrence
Plovers		
Snowy plover	*Charadrius alexandrinus*	MUS, BD
Piping plover	*Charadrius melodus*	MUS, BD
Semipalmated plover	*Charadrius semipalmatus*	MUS, BD
Killdeer	*Charadrius vociferus*	BD, RD
Wilson's plover	*Charadrius wilsonia*	MUS, BD
American golden plover	*Pluvialis dominica*	Rare during fall migration
Black-bellied Plover	*Pluvialis squatarola*	MUS, BD
Recurvirostrids		
Black-necked stilt	*Himantopus mexicanus*	BD, MUS, EUS
American avocet	*Recurvirostra americana*	BD, MUS, EUS
Snipes and Sandpipers		
Spotted sandpiper	*Actitis macularius*	MUS, EUS
Ruddy turnstone	*Arenaria interpres*	MUS
Sanderling	*Calidris alba*	MUS
Dunlin	*Calidris alpina*	MUS
Red knot	*Calidris canutus*	occasional MUS
White-rumped sandpiper	*Calidris fuscicollis*	occasional MUS
Western sandpiper	*Calidris mauri*	MUS
Pectoral sandpiper	*Calidris melanotos*	MUS
Least sandpiper	*Calidris minutilla*	MUS
Semipalmated sandpiper	*Calidris pusilla*	MUS
Wilson's snipe	*Gallinago delicata*	SM
American oystercatcher	*Haematopus palliates*	EUS, MUS, SM
Stilt sandpiper	*Calidris himantopus*	occasional EUS, MUS, SM
Short-billed dowitcher	*Limnodromus griseus*	EUS, SM
Long-billed dowitcher	*Limnodromus scolopaceus*	EUS, SM
Marbled godwit	*Limosa fedoa*	EUS, MUS, SM
Long-billed curlew	*Numenius americanus*	EUS, SM
Whimbrel	*Numenius phaeopus*	BD
Wilson's phalarope	*Phalaropus tricolor*	rare occurrence
American woodcock	*Scolopax minor*	WF
Lesser yellowlegs	*Tringa flavipes*	MUS
Greater yellowlegs	*Tringa melanoleuca*	MUS
Willet	*Tringa semipalmata*	MUS, EUS
Solitary sandpiper	*Tringa solitaria*	MUS
Gulls and Terns		
Black tern	*Chlidonias niger*	MUS
Bonaparte's gull	*Chroicocephalus philadelphia*	MUS

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Gull-billed tern	*Gelochelidon nilotica*	MUS
Caspian tern	*Hydroprogne caspia*	MUS
Laughing gull	*Leucophaeus atricilla*	MUS
Herring gull	*Larus argentatus*	MUS
Ring-billed gull	*Larus delawarensis*	MUS
Sooty tern	*Onychoprion fuscatus*	MUS
Black skimmer	*Rynchops niger*	MUS
Bridled tern	*Sterna anaethetus*	MUS
Least tern	*Sterna antillarum*	MUS
Common tern	*Sterna hirundo*	MUS
Forster's tern	*Sterna forsteri*	MUS
Royal tern	*Thalasseus maximus*	MUS
Sandwich tern	*Thalasseus sandvicensis*	MUS
Doves		
Rock dove	*Columba livia**	DV
Common ground-dove	*Columbina passerina*	BD, RD
Eurasian collared dove	*Streptopelia decaocto**	DV
White-winged dove	*Zenaida asiatica**	DV
Mourning dove	*Zenaida macroura*	MTC
Cuckoos		
Yellow-billed cuckoo	*Coccyzus americanus*	WF, SCF
Black-billed cuckoo	*Coccyzus erythropthalmus*	WF, SCF
Smooth-billed ani	*Crotophaga sulcirostris*	Rare Occurrence
Owls		
Short-eared owl	*Asio flammeus*	Rare Occurrence
Burrowing owl	*Athene cunicularia*	Rare Occurrence
Great horned owl	*Bubo virginianus*	MTC
Eastern screech-owl	*Megascops asio*	MTC
Snowy owl	*Nyctea scandiaca*	vagrant/accidental
Barred owl	*Strix varia*	MTC
Barn owl	*Tyto alba*	MTC
Goatsuckers		
Chuck-will's-widow	*Caprimulgus carolinensis*	WF, SCF
Whip-poor-will	*Caprimulgus vociferus*	WF, SCF
Lesser nighthawk	*Chordeiles acutipennis*	rare occurrence
Common nighthawk	*Chordeiles minor*	OF

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Swifts		
Chimney swift	*Chaetura pelagica*	OF
Hummingbirds		
Ruby-throated hummingbird	*Archilochus colubris*	MTC
Kingfishers		
Belted kingfisher	*Megaceryle alcyon*	SM
Woodpeckers		
Northern flicker	*Colaptes auratus*	WF, SCF
Pileated woodpecker	*Dryocopus pileatus*	WF, SCF
Red-bellied woodpecker	*Melanerpes carolinus*	WF, SCF
Red-headed woodpecker	*Melanerpes erythrocephalus*	WF, SCF
Red-cockaded woodpecker	*Picoides borealis*	vagrant/accidental
Downy woodpecker	*Picoides pubescens*	WF, SCF
Yellow-bellied sapsucker	*Sphyrapicus varius*	WF, SCF
Flycatchers and Kingbirds		
Eastern wood-Pewee	*Contopus virens*	MTC
Alder flycatcher	*Empidonax alnorum*	MTC
Yellow-bellied flycatcher	*Empidonax flaviventris*	MTC
Least flycatcher	*Empidonax minimus*	MTC
Willow flycatcher	*Empidonax traillii*	MTC
Acadian flycatcher	*Empidonax virescens*	MTC
Great-crested fycatcher	*Myiarchus crinitus*	MTC
Eastern phoebe	*Sayornis phoebe*	MTC
Gray kingbird	*Tyrannus dominicensis*	MTC
Scissor-tailed flycatcher	*Tyrannus forficatus*	MTC
Eastern kingbird	*Tyrannus tyrannus*	MTC
Western kingbird	*Tyrannus verticalis*	MTC
Shrikes		
Loggerhead shrike	*Lanius ludovicianus*	WF, SCF
Vireos		
Black-whiskered vireo	*Vireo altiloquus*	MTC
Yellow-throated vireo	*Vireo flavifrons*	MTC
Warbling vireo	*Vireo gilvus*	rare occurrence
White-eyed vireo	*Vireo griseus*	MTC
Red-eyed vireo	*Vireo olivaceus*	MTC
Philadelphia vireo	*Vireo philadelphicus*	MTC
Blue-headed vireo	*Vireo solitarius*	MTC
Jays and Crows		

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
American crow	*Corvus brachyrhynchos*	MTC
Fish crow	*Corvus ossifragus*	BD, DV
Blue jay	*Cyanocitta cristata*	MTC
Chickadees, Titmice		
Carolina chickadee	*Parus carolinensis*	MTC
Tufted titmouse	*Parus bicolor*	FW, SCF
Nuthatches		
Brown-headed nuthatch	*Sitta pusilla*	FW, SCF
Swallows and Martins		
Barn swallow	*Hirundo rustica*	BD
Cliff swallow	*Petrochelidon pyrrhonota*	OF
Cave swallow	*Petrochelidon fulva*	OF
Purple martin	*Progne subis*	OF
Bank swallow	*Riparia riparia*	OF
Northern rough-winged swallow	*Stelgidopteryx serripennis*	OF
Tree swallow	*Tachycineta bicolor*	OF
Wrens		
Sedge wren	*Cistothorus platensis*	WF, SCF
Marsh wren	*Cistothorus palustris*	SM
Bewick's wren	*Thryomanes bewickii*	vagrant/accidental
Carolina wren	*Thryothorus ludovicianus*	WF, SCF
House wren	*Troglodytes aedon*	MTC
Kinglets		
Ruby-crowned kinglet	*Regulus calendula*	WF,SCF
Golden-crowned kinglet	*Regulus satrapa*	WF, SCF
Gnatcatchers		
Blue-gray gnatcatcher	*Polioptila caerulea*	MTC
Thrushes		
Veery	*Catharus fuscescens*	WF,SCF
Hermit thrush	*Catharus guttatus*	WF, SCF
Gray-cheeked thrush	*Catharus minimus*	WF, SCF
Swainson's thrush	*Catharus ustulatus*	WF, SCF
Wood thrush	*Hylocichla mustelina*	WF, SCF
Eastern bluebird	*Sialia sialis*	WF, SCF
American robin	*Turdus migratorius*	MTC

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Thrashers		
Gray catbird	*Dumetella carolinensis*	MTC
Northern mockingbird	*Mimus polyglottos*	MTC
Brown thrasher	*Toxostoma rufum*	MTC
Pipits		
American pipit	*Anthus rubescens*	Occassional
Starlings		
European starling	*Sturnus vulgaris**	DV
Waxwings		
Cedar waxwing	*Bombycilla cedrorum*	WF, OF
Warblers		
Black-throated blue warbler	*Dendroica caerulescens*	MTC
Bay-breasted warbler	*Dendroica castanea*	MTC
Cerulean warbler	*Dendroica cerulean*	rare occurrence
Yellow-rumped warbler	*Dendroica coronata*	MTC
Prairie warbler	*Dendroica discolor*	MTC
Yellow-throated warbler	*Dendroica dominica*	MTC
Blackburnian warbler	*Dendroica fusca*	MTC
Magnolia warbler	*Dendroica magnolia*	MTC
Palm warbler	*Dendroica palmarum*	MTC
Chestnut-sided warbler	*Dendroica pensylvanica*	MTC
Yellow warbler	*Dendroica petechia*	MTC
Pine warbler	*Dendroica pinus*	WF, SCF
Blackpoll warbler	*Dendroica striata*	MTC
Cape May warbler	*Dendroica tigrina*	MTC
Black-throated green warbler	*Dendroica virens*	MTC
Common yellowthroat	*Geothlypis trichas*	MTC
Worm-eating warbler	*Helmitheros vermivorus*	MTC
Yellow-breasted chat	*Icteria virens*	MTC
Swainson's warbler	*Limnothlypis swainsonii*	rare occurrence
Black-and-white warbler	*Mniotilta varia*	MTC
Connecticut warbler	*Oporornis agilis*	rare occurrence
Kentucky warbler	*Oporornis formosus*	MTC
Mourning warbler	*Oporornis philadelphia*	rare occurrence
Northern parula	*Parula americana*	MTC
Prothonotary warbler	*Protonotaria citrea*	MTC
Ovenbird	*Seiurus aurocapilla*	MTC
Louisiana waterthrush	*Seiurus motacilla*	occasional
Northern waterthrush	*Seiurus noveboracensis*	occasional
American redstart	*Setophaga ruticilla*	MTC
Orange-crowned warbler	*Vermivora celata*	MTC

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Golden-winged warbler	*Vermivora chrysoptera*	MTC
Tennessee warbler	*Vermivora peregrina*	occasional
Blue-winged warbler	*Vermivora pinus*	MTC
Nashville warbler	*Vermivora ruficapilla*	occasional
Canada warbler	*Wilsonia canadensis*	rare occurrence
Hooded warbler	*Wilsonia citrina*	occasional
Wilson's warbler	*Wilsonia pusilla*	MTC
Sparrows		
Bachman's sparrow	*Aimophila aestivalis*	rare occurrence
Sharp-tailed sparrow	*Ammodramus caudacutus*	rare occurrence
Seaside sparrow	*Ammodramus maritimus*	CG
Nelson's sparrow	*Ammodramus nelsoni*	rare occurrence
Lark sparrow	*Chondestes grammacus*	rare occurrence
Dark-eyed junco	*Junco hyemalis*	occasional
Swamp sparrow	*Melospiza Georgiana*	BM, SM
Lincoln's sparrow	*Melospiza lincolnii*	rare occurrence
Song sparrow	*Melospiza melodia*	MTC
Savannah sparrow	*Passerculus sandwichensis*	CG
Fox sparrow	*Passerella iliaca*	rare occurrence
Eastern Towhee	*Pipilo erythrophthalmus*	MTC
Vesper sparrow	*Pooecetes gramineus*	CG, BD
Chipping sparrow	*Spizella passerina*	MTC
Clay-colored sparrow	*Spizella pallida*	vagrant/accidental
Field sparrow	*Spizella pusilla*	CG
White-throated sparrow	*Zonotrichia albicollis*	WF,SCF
White-crowned sparrow	*Zonotrichia leucophrys*	WF, SCF
Cardinals, Tanagers, Grosbeaks, and Buntings		
Northern cardinal	*Cardinalis cardinalis*	MTC
Blue grosbeak	*Guiraca caerulea*	WF, SCF
Painted bunting	*Passerina ciris*	WF, SCF
Indigo bunting	*Passerina cyanea*	WF, SCF
Rose-breasted grosbeak	*Pheucticus ludovicianus*	WF, SCF
Western tanager	*Piranga ludoviciana*	vagrant/accidental
Scarlet tanager	*Piranga olivacea*	WF, SCF
Summer tanager	*Piranga rubra*	WF, SCF
Snow bunting	*Plectrophenax nivalis*	vagrant/accidental
Meadowlarks, Blackbirds and Orioles		
Red-winged blackbird	*Agelaius phoeniceus*	BM
Bobolink	*Dolichonyx oryzivorus*	MTC
Baltimore oriole	*Icterus galbula*	occasional
Orchard oriole	*Icterus spurius*	WF, SCF

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Brown-headed cowbird	*Molothrus ater*	MTC
Shiny cowbird	*Molothrus bonariensis*	rare occurrence
Boat-tailed grackle	*Quiscalus major*	BD
Common grackle	*Quiscalus quiscula*	MTC
Eastern meadowlark	*Sturnella magna*	CG, WF
Western meadowlark	*Sturnella neglecta*	vagrant/accidental
Yellow-headed blackbird	*Xanthocephalus xanthocephalus*	occassional
Finches		
Lapland longspur	*Calcarius lapponicus*	rare occurrence
House finch	*Carpodacus mexicanus*	MTC
Purple finch	*Carpodacus purpureus*	rare occurrence
Pine siskin	*Spinus pinus*	WF, SCF
American goldfinch	*Spinus tristis*	MTC
MAMMALS		
Didelphids		
Virginia opossum	*Didelphis virginiana*	WF, SCF
Bats		
Unidentified bat species		OF
Rodents		
Cotton mouse	*Peromyscus gossypinus*	MTC
Eastern gray squirrel	*Sciurus carolinensis*	DV, MTC
Marsh rabbit	*Sylvilagus palustris*	MTC
Xenarthra		
Armadillo	*Dasypus novemcinctus**	MTC
Carnivores		
Coyote	*Canis latrans**	MTC
Domestic cat	*Felis catus **	MTC
Raccoon	*Procyon lotor*	MTC
Gray fox	*Urocyon cinereoargenteus*	MTC
Red fox	*Vulpes vulpes**	MTC
Cetaceans		
Bottle-nosed dolphin	*Tursiops truncatus*	Gulf/Bay

* Non-native Species

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

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

* Non-native Species

Addendum 6—Imperiled Species Ranking Definitions

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 Fish and Wildlife Conservation 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 fabricated 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 or 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 or local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of other factors.
S4..... apparently secure in Florida (may be rare in parts of range)
S5..... demonstrably secure in Florida
SH ..... of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker)
SX..... believed to be extinct throughout range
SA..... accidental in Florida, i.e., not part of the established biota
SE..... an exotic species established in Florida may be native elsewhere in North America
SN ..... regularly occurring but widely and unreliably distributed; sites for conservation hard to determine
SU ..... due to lack of information, no rank or range can be assigned (e.g., SUT2).
S?..... Not yet ranked (temporary)
N ..... Not currently listed, nor currently being considered for listing, by state or federal agencies.

LEGAL STATUS

FEDERAL

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

LE ..... Listed as Endangered Species in the List of Endangered and Threatened Wildlife and Plants under the provisions of the Endangered Species Act. Defined as any species that is in danger of extinction throughout all or a significant portion of its range.
PE ..... Proposed for addition to the List of Endangered and Threatened Wildlife and Plants as Endangered Species.
LT ..... Listed as Threatened Species. Defined as any species that is likely to become an endangered species within the near future throughout all or a significant portion of its range.

PT ..... Proposed for listing as Threatened Species.
C ..... Candidate Species for addition to the list of Endangered and Threatened Wildlife and Plants. Defined as those species for which the USFWS currently has on file sufficient information on biological vulnerability and threats to support proposing to list the species as endangered or threatened.
E(S/A) ..... Endangered due to similarity of appearance.
T(S/A) ..... Threatened due to similarity of appearance.
EXPE, XE..... Experimental essential population. A species listed as experimental and essential.
EXPN, XN .... Experimental non-essential population. A species listed as experimental and non-essential. Experimental, nonessential populations of endangered species are treated as threatened species on public land, for consultation purposes.

STATE

ANIMALS .. (Listed by the Florida Fish and Wildlife Conservation Commission - FWC)

FE ..... Federally-designated Endangered

FT ..... Federally-designated Threatened

FXN..... Federally-designated Threatened Nonessential Experimental Population

FT(S/A) ..... Federally-designated Threatened species due to similarity of appearance

ST..... Listed as Threatened Species by the FWC. 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 therefore is destined or very likely to become an endangered species within the near future.
SSC..... Listed as Species of Special Concern by the FWC. 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 that, in the near 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.

Addendum 7—Cultural Information

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

A. General Discussion

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

B. Agency Responsibilities

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

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

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

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

C. Statutory Authority

Statutory Authority and more in depth information can be found at:
http://www.flheritage.com/preservation/compliance/guidelines.cfm

D. Management Implementation

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

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

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

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

E. Minimum Review Documentation Requirements

In order to have a proposed project reviewed by the Division, certain information must be submitted for comments and recommendations. The minimum review documentation requirements can be found at: http://www.flheritage.com/preservation/compliance/docs/minimum_review_documentation_requirements.pdf .

* * *

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

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

Phone: (850) 245-6425

Toll Free: (800) 847-7278
Fax: (850) 245-6435

The criteria to be used for evaluating eligibility for listing in the National Register of Historic Places are as follows:

1) Districts, sites, buildings, structures, and objects may be considered to have significance in American history, architecture, archaeology, engineering, and/or culture if they possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- **a)** are associated with events that have made a significant contribution to the broad patterns of our history; and/or
- **b)** are associated with the lives of persons significant in our past; and/or
- **c)** embody the distinctive characteristics of type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; and/or
- **d)** have yielded, or may be likely to yield, information important in prehistory or history.

2) Ordinarily cemeteries, birthplaces, or graves of historical figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; properties primarily commemorative in nature; and properties that have achieved significance within the past 50 years shall not be considered eligible for the *National Register*. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- **a)** a religious property deriving its primary significance from architectural or artistic distinction or historical importance; or
- **b)** a building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or
- **c)** a birthplace or grave of an historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life; or
- **d)** a cemetery which derives its primary significance from graves of persons of transcendent importance, from age, distinctive design features, or association with historic events; or

e) a reconstructed building, when it is accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and no other building or structure with the same association has survived; or a property primarily commemorative in intent, if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or

f) a property achieving significance within the past 50 years, if it is of exceptional importance.

Restoration is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.

Rehabilitation is defined as the act or process of making possible a compatible use for a property through repair, alterations and additions while preserving those portions or features that convey its historical, cultural or architectural values.

Stabilization is defined as the act or process of applying measures designed to reestablish a weather resistant enclosure and the structural stability of an unsafe or deteriorated property while maintaining the essential form as it exists at present.

Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.

Addendum 8 —Land Management Review

Memorandum

Florida Department of
Environmental Protection

August 21, 2007

TO: Paula Allen, Program Administrator
Division of State Lands

FROM: Parks Small, Chief, Bureau of Natural and Cultural Resources
Division of Recreation and Parks

Albert Gregory, Chief, Office of Park Planning
Division of Recreation and Parks

SUBJECT: Response to Draft Land Management Review (LMR)
Dr. Julian G. Bruce St. George Island State Park

The Land Management Review draft report provided to DRP determined that management of Dr. Julian G. Bruce St. George Island State Park by the Division of Recreation and Parks met the two tests prescribed by law. Namely, the review team concluded that the land is being managed for the purposes for which it was acquired and in accordance with the land management plan.

Below are Additional Recommendations and Checklist Findings (items the LMR determined should be further addressed in the management plan update) of the draft LMR report, with our Manager's Response to each.

The responses were prepared via a coordinated effort of the park, district office, and our offices.

Recommendations

1. The team recommends that DRP implement prescribed fire in the pine flatwoods on an experimental basis to determine an appropriate fire regime for these island communities. The upcoming UMP should include a discussion of the findings. (VOTE: 5+, 0-) *DRP Response: We are implementing a prescribed fire program for the pine flatwoods at this park. We are beyond experimenting and consider prescribed fire necessary to maintain these resources.*

2. The team recommends the DRP continue monitoring shorebirds with respect to human activities in the park. (VOTE: 5+, 0-). *DRP Response: We have such a monitoring program in place.*

Checklist findings

1. **Discussion in the management plan of the need to improve roads and culverts. (p)** *DRP Response: We will assess the need for road improvements and culverts and discuss needs and actions in the plan.*

Thanks for your attention.

EDJ

CC: Danny Jones, Chief, Bureau of Parks District 1
Tony Tindell, Park Manager, Dr. Julian G. Bruce St. George Island State Park
John Bente, Environmental Specialist, Bureau of Parks District 1