



Florida Department of Environmental Protection

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February 16, 2018

Steven Cutshaw
Division of Recreation and Parks
Department of Environmental Protection
3900 Commonwealth Boulevard, MS 525
Tallahassee, Florida 32399-3000

**RE: Gamble Rogers Memorial State Recreation Area at Flagler Beach - Lease
No. 3618**

Dear Mr. Cutshaw:

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 **Gamble Rogers Memorial State Recreation Area at Flagler Beach** management plan. The next management plan update is due February 16, 2028.

Pursuant to s. 253.034(5)(a), F.S., each management plan is required to “describe both short-term and long-term management goals, and include measurable objectives to achieve those goals. Short-term goals shall be achievable within a 2-year planning period, and long-term goals shall be achievable within a 10-year planning period.” Upon completion of short-term goals, please submit a signed letter identifying categories, goals, and results with attached methodology to the Division of State Lands, Office of Environmental Services.

Pursuant to s. 259.032(8)(g), F.S., by July 1 of each year, each governmental agency and each private entity designated to manage lands shall report to the Secretary of Environmental Protection, via the Division of State Lands, on the progress of funding, staffing, and resource management of every project for which the agency or entity is responsible.

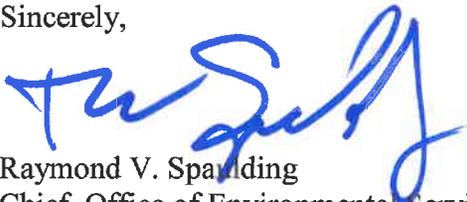
Pursuant to s. 259.032, F.S., and Chapter 18-2.021, F.A.C., management plans for areas less than 160 acres may be handled in accordance with the negative response process. This process requires small management plans and management plan amendments be submitted to the Division of State Lands for review, and the Acquisition and Restoration Council (ARC) for public notification. The Division of State Lands will approve these plans or plan amendments submitted for review through delegated authority unless three

or more ARC members request the division place the item on a future council meeting agenda for review. To create better efficiency, improve customer service, and assist members of the ARC, the Division of State Lands will notice negative response items on Thursdays except for weeks that have State or Federal holidays that fall on Thursday or Friday. The Division of State Lands will contact you on the appropriate Friday to inform you if the item is approved via delegated authority or if it will be placed on a future ARC agenda by request of the ARC members.

Pursuant to s. 259.036(2), F.S., management areas that exceed 1,000 acres in size, shall be scheduled for a land management review at least every 5 years.

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,



Raymond V. Spaulding
Chief, Office of Environmental Services
Division of State Lands
Department of Environmental Protection

Gamble Rogers Memorial State Recreation Area at Flagler Beach

Acquisition and Restoration Council Draft Unit Management Plan

**STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

**Division of Recreation and Parks
April 2018**



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INTRODUCTION

Gamble Rogers Memorial State Recreation Area at Flagler Beach (Gamble Rogers) is located in Flagler County (see Vicinity Map). Access to the park is from Interstate 95, exit 284 (State Road 100) east to A1A, south to the park (see Reference Map). The Vicinity Map also reflects significant land and water resources existing near the park.

Gamble Rogers was initially acquired October 4, 1954 from the United States of America. Currently, the park comprises 134 acres. The Board of Trustees of the Internal Improvement Trust Fund (Trustees) hold deed to the park and on January 23, 1968, the Trustees leased (Lease Number 3618) the property to DRP under a 99-year lease. The current lease will expire on January 22, 2067.

Gamble Rogers is designated single-use to provide public outdoor recreation and other park-related uses. There are no legislative or executive directives that constrain the use of this property (see Addendum 1).

Purpose and Significance of the Park

The purpose of Gamble Rogers is to provide exceptional resource-based public outdoor recreation opportunities to Florida residents and visitors while ensuring the conservation and protection of valuable natural resources, including imperiled species and unique ecosystems, as well as preserving cultural resources.

Park Significance

- The park is an important nesting site for the loggerhead sea turtle (*Caretta caretta*), green sea turtle (*Chelonia mydas*), and leatherback sea turtle (*Dermochelys coriacea*). The park also provides important resting and feeding habitat for migratory bird species.
- Within a portion of the barrier island between the Intracoastal Waterway and the Atlantic Ocean, the park protects a variety of coastal plant communities such as salt marsh, scrub, maritime hammock, beach dune, and coastal strand.
- The state park is a memorialization of folk singer and local hero James Gamble Rogers and is also a popular destination for residents and visitors to enjoy miles of beautiful beach, as well as many other resource-based recreational activities such as hiking and biking, boating, paddling, fishing and waterfront camping.
- The park provides numerous interpretive opportunities based on a long, rich history ranging from the prehistoric St. Johns period (700 B.C. – A.D. 1500) to a rescue and shelter station for shipwreck victims (1886 – 1915) that later served as a Coast Guard Station and finally as a lookout post during WWII.

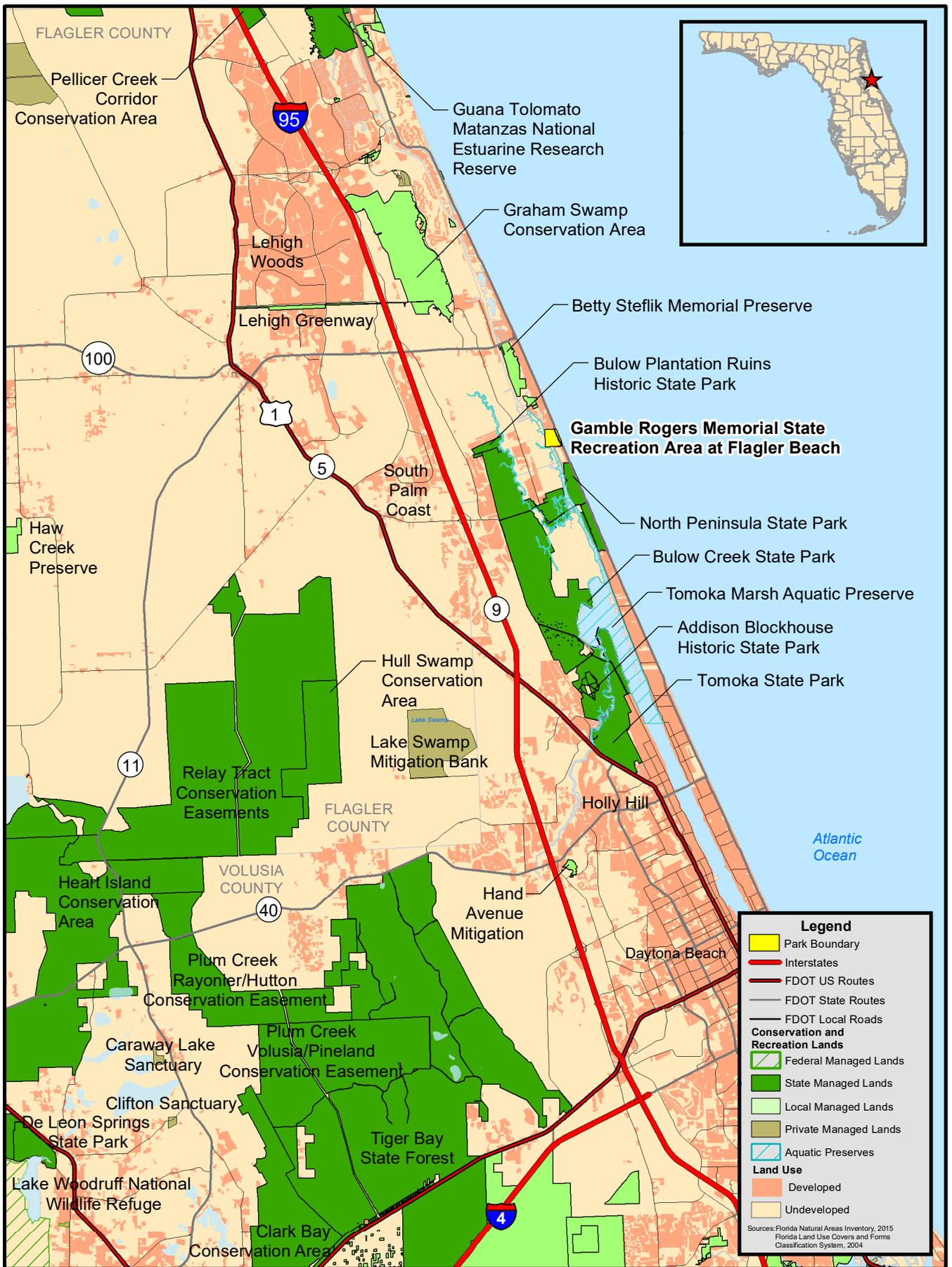
Gamble Rogers is classified as a state recreation area in the DRP's unit classification system. In the management of a state recreation area, major emphasis is placed on maximizing the recreational potential of the unit. However, preservation of the park's natural and cultural resources remains important. Depletion of a resource by any recreational activity is not permitted. In order to realize the park's recreational potential, the development of appropriate park facilities is undertaken with the goal to provide facilities that are accessible, convenient and safe, to support public recreational use or appreciation of the park's natural, aesthetic and educational attributes.

Purpose and Scope of the Plan

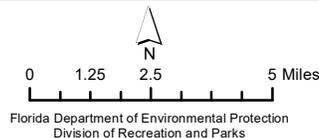
This plan serves as the basic statement of policy and direction for the management of Gamble Rogers State Park as a unit of Florida's state park system. It identifies the goals, objectives, actions and criteria or standards that guide each aspect of park administration, and sets forth the specific measures that will be implemented to meet management objectives and provide balanced public utilization. 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 2006 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, and current public uses and existing development, measurable objectives are set to achieve the desired allocation of the



**GAMBLE ROGERS MEMORIAL
STATE RECREATION AREA
AT FLAGLER BEACH**



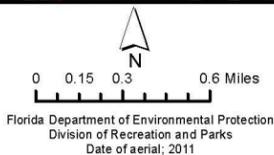
**VICINITY
MAP**



Legend

- - - - - Paddling Trail Opportunities
- FDOT Interstates
- CCCL
- Park_Boundary
- Managed Conservation Land
- Counties

**GAMBLE ROGERS MEMORIAL
STATE RECREATION AREA
AT FLAGLER BEACH**



REFERENCE MAP

physical space of the park. These objectives identify use areas and propose the types of facilities and programs as well as 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 the 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 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 the 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, storm water 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.

DRP may provide the services and facilities outlined in this plan either with its own funds and staff or through an outsourcing contract. Private contractors may provide assistance with natural resource management and restoration activities or a concessionaire may provide services to park visitors in order to enhance the visitor experience. For example, a concessionaire could be authorized to sell merchandise

and food and to rent recreational equipment for use in the park. A concessionaire may also be authorized to provide specialized services, such as interpretive tours, or overnight accommodations when the required capital investment exceeds that which DRP can elect to incur. Decisions regarding outsourcing, contracting with the private sector, the use of concessionaires, etc. are made on a case-by-case basis in accordance with the policies set forth in DRP's Operations Manual (OM).

Management Program Overview

Management Authority and Responsibility

In accordance with Chapter 258, Florida Statutes and Chapter 62D-2, Florida Administrative Code, the Division of Recreation and Parks (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 the 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. Where emergent wetland vegetation exists, the zone extends waterward 400 feet beyond the vegetation. The agreement is intended to provide additional protection to resources of the park and nearshore areas and to provide authority to manage activities that could adversely affect public recreational uses.

Many operating procedures are standardized system-wide and are set by internal direction. These procedures are outlined in the 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:

- Provide administrative support for all park functions.
- Protect water quality and quantity in the park, restore hydrology to the extent feasible and maintain the restored condition.
- Restore and maintain the natural communities/habitats of the park.
- Maintain, improve or restore imperiled species populations and habitats in the park.
- Remove exotic and invasive plants and animals from the park and conduct needed maintenance-control.
- Protect, preserve and maintain the cultural resources of the park.
- Provide public access and recreational opportunities in the park.
- 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 Department of Agriculture and Consumer Services (FDACS), Florida Forest Service (FFS), assists DRP staff in the development of wildfire emergency plans and provides the authorization required for prescribed burning. 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 Florida Department of Environmental Protection (DEP), Florida Coastal Office (FCO) aids staff in aquatic preserves management programs. The DEP, Bureau of Beaches and Coastal Systems aids staff in planning and construction activities seaward of the Coastal Construction Control Line (CCCL). 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 [INSERT Dates], respectively. Meeting notices were published in the Florida Administrative Register, [INSERT publication date, VOL/ISSUE], 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

Gamble Rogers is not within an Area of Critical State Concern as defined in Section 380.05, Florida Statutes, and it is not presently under study for such designation. The park is a component of the Florida Greenways and Trails System, administered by the Department's Office of Greenways and Trails.

All waters within the park have been designated as Outstanding Florida Waters, pursuant to Chapter 62-302, Florida Administrative Code. Surface waters in this park are also classified as Class III waters by the Department. This park is adjacent to Tomoka Marsh Aquatic Preserve 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 DRP's overall mission in natural systems management. Cited references are contained in Addendum 3.

The 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 the park values.

The 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.

Management Zone	Acreeage	Managed with Prescribed Fire	Contains Known Cultural Resources
GR-01	5.8	Y	Y
GR-02	48.04	N	N
GR-03	8.97	N	Y
GR-04	7.92	Y	N
GR-05	1.26	N	N
GR-06	18.76	N	N
GR-07	42.81	N	N

Resource Description and Assessment

Natural Resources

Topography

Gamble Rogers Memorial State Recreation Area at Flagler Beach is located on the Atlantic coast of Florida; most of the park is located on a barrier island bounded to the east by the Atlantic Ocean and to the west by the Intracoastal Waterway (Smith Creek). The southwestern portion of the property extends across the Intracoastal into the estuarine tidal marsh along the mainland. Elevations at the unit range from about 15 feet above mean sea level down to sea level along the coast.

This unit is found within the Eastern Flatwoods District (Brooks 1981a). Within this district, the unit is found in the St. Augustine-Edgewater Ridge subdivision of the Central Atlantic Coastal Strip physiographic division. This coastal strip was created or modified by shoreline processes during the Late Pleistocene when sea levels were at about 18 feet (6 to 8 feet above its present level). Specifically, the subdivision is characterized by a coquina ridge that extends from Anastasia Island southward to Cape Canaveral.

Geology

The unit is underlain by one geologic deposit, which consists of undifferentiated sand, shell, clay, marl, and peat that was laid down during the Holocene mostly less than 4,500 years before present (Brooks 1981b).

Soils

The Natural Resources Conservation Service (formerly the U.S. Soil Conservation Service) identified five soil types in Gamble Rogers Memorial State Recreation Area at Flagler Beach in the soil survey of Flagler County. The locations of these soil types within the unit are shown on the Soils Map. Addendum 4 contains detailed



ATLANTIC OCEAN

GR-01

GR-02

GR-04

GR-07

GR-03

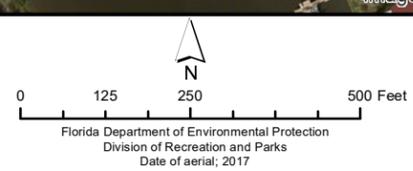
GR-06

GR-05

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GAMBLE ROGERS MEMORIAL STATE RECREATION AREA AT FLAGLER BEACH



MANAGEMENT ZONES MAP



ATLANTIC OCEAN

OCEAN SHORE BLVD

A1A

33

31

32

35

99

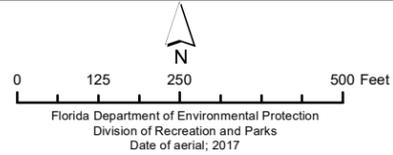
26

Legend

- | | |
|---|---|
|  26 - Turnbull |  33 - Beaches |
|  31 - Palm Beach |  35 - Quartzipsamments |
|  32 - Narcoossee |  99 - Water |



GAMBLE ROGERS MEMORIAL STATE RECREATION AREA AT FLAGLER BEACH



SOILS MAP

descriptions of the soil types within this unit.

A moderate amount of soil erosion occurs along the shoreline of the Intracoastal Waterway due to wakes from passing boats. Management activities will follow generally accepted best management practices to prevent soil erosion and conserve soil and water resources on site.

Minerals

No deposits of commercially valuable minerals are evident.

Hydrology

Gamble Rogers Memorial State Recreation Area at Flagler Beach is located within the Upper East Coast Basin, which is comprised of a strip of coastal ridge extending from Jacksonville south to New Smyrna Beach and a narrow lagoon system (Intracoastal Waterway) that separates the Atlantic Ocean from the mainland (Hand et al. 1996). The Intracoastal Waterway, which at this section is called Smith Creek, cuts through the southeastern portion of the unit. The portion of the Intracoastal that passes through the unit is designated as an Outstanding Florida Water.

There are several mosquito control ditches throughout the marsh on the west side of the Intracoastal. Another ditch occurs on the south side of and connecting into the boat basin.

Two aquifers are found in the region of the unit (Hyde 1965). The Floridan aquifer along the east coast is highly mineralized and is thus not an important water source in this area. Recharge to the Floridan in the area is minimal (Fernald and Patton 1984). The shallow aquifer, which is non-artesian, is the major water source in the area. It consists primarily of Pleistocene and recent deposits of sand and shell, but in some areas, it extends down to Miocene or Pliocene deposits. This shallow aquifer recharges mainly from local rainfall.

Natural Communities

This section of the management plan describes and assesses each of the natural communities found in the state park. It also describes of 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 (and population restoration) 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 that link natural communities across the landscape.

The park contains five distinct natural communities as well as altered landcover types (see Natural Communities Map). A list of known plants and animals occurring in the park is contained in Addendum 5.

Beach Dune

Desired Future Condition: Vegetation will consist of herbaceous dune-forming grass species such as sea oats (*Uniola paniculata*) and saltmeadow cordgrass (*Spartina patens*). Other typical species may include sea rocket (*Cakile* spp.), railroad vine (*Ipomea pes-caprae*), seashore paspalum (*Paspalum vaginatum*), beach morning glory (*Ipomea imperati*), and beach sunflower (*Helianthus debilis* ssp. *debilis*).

Description and Assessment: The beach dune is located exclusively in the eastern portion of the park, on the east side of State Road A1A. This community is located within management zones GR-01 and GR-04. This community is considered to be in fair condition due to the impacts of erosion. The primary dune at this unit is characterized by a steep foredune that slopes down to the beach. The vegetative cover of the crest and foredune of this community is largely undisturbed except for the footprint of the dune crossovers. The dominant vegetation on the foredune is sea oats. Other plants include east coast dune sunflower (*Helianthus debilis* ssp. *debilis*) beach croton (*Croton punctatus*), prickly-pear cactus (*Opuntia stricta*), saw palmetto (*Serenoa repens*), firewheel (*Gaillardia pulchella*), and railroad vine (*Ipomoea pes-caprae*). As is typical for this type of habitat, nearshore sand and primary dune sand are extremely mobile. High-energy waves striking the shoreline, north to south littoral drift, and wind movement of dry sand along beachfront and dune profiles all



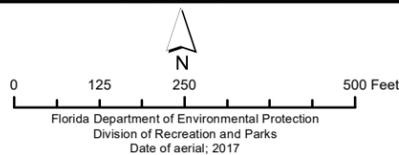
Legend

	BD - Beach Dune 3.58 ac.
	CB - Coastal Berm 0.44 ac.
	CS - Coastal Strand 8.03 ac.
	MAH - Maritime Hammock 27.44 ac.
	SAM - Salt Marsh 30.61 ac.
	MUS - Marine Unconsolidated Substrate 2.55 ac.
	CL - Clearing/Regeneration 2.37 ac.
	DV - Developed 17.81 ac.
	SA - Spoil Area 9.56 ac.
	UC - Utility Corridor 0.41 ac.
	WA - Water* 30.92 ac.

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GAMBLE ROGERS MEMORIAL STATE
RECREATION AREA AT FLAGLER BEACH



NATURAL COMMUNITIES
MAP

contribute to this effect. The past construction of pedestrian dune crossover has helped prevent erosion due to foot traffic. Much of the back-dune areas of this community were destroyed by the development of the campground. Beach dune is ranked by the Florida Natural Areas Inventory (FNAI) as G3, S2 indicating that it is either very rare and local throughout its range, found locally in a restricted range, or vulnerable to extinction from other factors; in addition, it is imperiled in Florida because of rarity or because of vulnerability to extinction due to some natural or man-made factor.

General Management Measures: Periodic surveys to detect and remove any new exotic plant species will continue. If necessary, enforcement of people crossing over to the beach outside designated walkways should also occur.

Coastal berm

Desired Future Condition: A short forest or shrub thicket found on long narrow storm-deposited ridges of loose sediment formed by a mixture of coarse shell fragments and other coastal debris. These ridges parallel the shore and may be found on the seaward edge or landward edge of the mangroves or further inland depending on the height of the storm surge that formed them. They range in height from 1 to 10 feet. Structure and composition of the vegetation is variable depending on height and time since the last storm event. Characteristic tall shrub and short tree species include Spanish stopper (*Eugenia foetida*), hog plum (*Ximenia americana*), and white indigoberry (*Randia aculeata*). More seaward berms or those more recently affected by storm deposition may support a suite of plants similar to beaches, including shoreline seapurslane (*Sesuvium portulacastrum*), saltgrass (*Distichlis spicata*), and seashore dropseed (*Sporobolus virginicus*) or scattered to dense shrub thickets with buttonwood (*Conocarpus erectus*), stunted black, red, and white mangroves (*Avicennia germinans*, *Rhizophora mangle*, and *Laguncularia racemosa*), and bushy seaside oxeye (*Borrichia frutescens*).

Description and Assessment: Coastal berm is located exclusively within management zone GR-07, in the northwestern side of the park. It is surrounded by water and provides resting and foraging habitat for shorebirds

General Management Measures: This natural community is in a maintenance state requiring little management. Conduct periodic surveys for exotic species and protection from visitor impacts.

Coastal Strand

Desired Future Condition: Characterized by stabilized, wind-deposited coastal dunes that are thickly vegetated with evergreen salt-tolerant shrubs. This is a community that generally lies between the beach dune and maritime hammock, scrub or tidal swamp. Coastal strand dunes contain deep, well-drained sands that are generally quite stable but become susceptible to severe damage if the vegetation is significantly disturbed. Temperate plant species dominate including saw palmetto (*Serenoa repens*), dwarfed cabbage palms (*Sabal palmetto*), tough bully (*Sideroxylon tenax*), yaupon, holly (*Ilex vomitoria*), Hercules' club (*Zanthoxylum clava-herculis*), and dwarfed, shrubby forms of red bay (*Persea borbonia*) and live

oak (*Quercus virginiana*). Smooth-domed canopies develop as the taller vegetation is “pruned” by the windblown salt spray that kills the outer buds. This process is not as prevalent on the west coast of Florida or on the lee-side of islands due to prevailing easterly winds.

Description and Assessment: The coastal strand is located exclusively on the eastern portion of the park, within management zones GR-01, GR-02, GR-03, and GR-04, inland of the beach dune community. The campground, beach facilities, and State Road A1A were placed in coastal strand. The construction of State Road A1A on the ecotone between the coastal strand and coastal scrub communities resulted in direct habitat loss to both communities. The presence of the road also results in roadkills of numerous wildlife species, such as gopher tortoises (*Gopherus polyphemus*). This community has a dense midstory of sand live oak (*Quercus geminata*), Chapman’s oak (*Q. chapmanii*), myrtle oak (*Q. myrtifolia*), saw palmetto, tough bully (*Sideroxylon tenax*), and snowberry (*Chiococca alba*), with scattered cabbage palm (*Sabal palmetto*) and is considered to be in good condition. Historically, Florida scrub-jays (*Aphelocoma coerulescens*) were found at Gamble Rogers in this community, but with increasing site fragmentation, loss of prescribed fire, and loss of suitable habitat on nearby private lands, the park became increasingly unsuitable for scrub-jays and no families currently occur at the park. Occasionally, scrub jays from North Peninsula State Park or other remnant populations do visit the park but have not attempted to establish home ranges due to the lack of enough suitable habitat.

Significant debate exists on the relative occurrence of natural fires compared to inland pyric communities. The DRP Fire Management Standard estimates that the appropriate fire return interval to be between four and 15 years. However, variability outside this range may occur based on site-specific conditions and management goals. Coastal strand is ranked by FNAI as G3, S2 indicating that it is either very rare and local throughout its range, found locally in a restricted range, or vulnerable to extinction from other factors; in addition, it is imperiled in Florida because of rarity or because of vulnerability to extinction due to some natural or man-made factor.

General Management Measures: An exotic plant removal project was funded by the Florida Fish and Wildlife Conservation Commission’s Upland Invasive Plant Management Program (FFWCC UIPM) in fiscal year 2014-2015 and targeted invasive grasses on the perimeter of the coastal strand community. The remaining infestations of exotic vegetation should be removed and prescribed burning should be continued. Removal of the debris from the dumpsite should be pursued.

Marine Unconsolidated Substrate

Desired Future Condition: Will consist of expansive, unvegetated, open areas of mineral-based substrate composed of shell, coralgall, marl, mud, and/or sand (sand beaches).

Description and Assessment: This community consists of the portion of the beach lying seaward of the beach dune community. It is largely devoid of rooted plant species. This community provides critical habitat for shorebirds (for breeding, resting, loafing, and feeding) and nesting and hatchling sea turtles.

General Management Measures: This natural community is in a maintenance state requiring little management other than protection from visitor impacts. Desired conditions include preventing soil compaction, dredging activities, and disturbances such as the accumulation of pollutants.

Maritime Hammock

Desired Future Condition: A coastal evergreen hardwood forest occurring in narrow bands along stabilized coastal dunes. Canopy species will typically consist of live oak (*Quercus virginiana*), red bay (*Persea borbonia*), and cabbage palm (*Sabal palmetto*). The canopy is typically dense and often salt-spray pruned. Understory species may consist of yaupon holly (*Ilex vomitoria*), saw palmetto (*Serenoa repens*), and/or wax myrtle (*Myrica cerifera*). Very sparse or absent herbaceous groundcover will exist.

Description and Assessment: The maritime hammock community of the park is in good condition. This community is composed of an overstory of live oak (*Q. virginiana*), southern magnolia (*Magnolia grandiflora*), silkbay (*Persea humilis*), and red cedar (*Juniperus virginiana*), and a midstory of tallowwood (*Ximenia americana*), yaupon (*Ilex vomitoria*), American holly (*I. opaca*), redberry stopper (*Eugenia confusa*), tough bully, and Hercules-club (*Zanthoxylum clava-herculis*). The ground layer is sparse, with scattered coontie (*Zamia pumila*) and other herbaceous species represented. Brazilian pepper (*Schinus terebinthifolius*) can be found in or adjacent to where ground disturbance occurs. A remnant of a spoil deposition site occurs on the northwest portion of the park, south of a residential community; it is undergoing succession to the surrounding maritime hammock community. The ground layer is composed of a sparse collection of native plants, including various asters, prickly-pear cactus, sand cordgrass, hairawn muhly (*Muhlenbergia capillaris*), and broomsedge (*Andropogon* spp.). Park roads and facilities fragment the maritime hammock.

General Management Measures: Monitoring and treatment of exotic plants will continue for this community.

Salt Marsh

Desired Future Condition: Salt marsh is 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 will have distinct zones of vegetation based on water depth and tidal fluctuations. Saltmarsh cordgrass (*Spartina alterniflora*) will dominate the seaward edge-the areas most frequently inundated by tides. Needle rush (*Juncus roemerianus*) will dominate the higher, less frequently flooded areas. Other characteristic species include Carolina sea lavender (*Limonium carolinianum*), perennial saltmarsh aster (*Symphyotrichum tenuifolium*), wand loosestrife (*Lythrum lineare*), marsh fimbry (*Fimbristylis spadicea*), and shoreline seapurslane (*Sesuvium portulacastrum*). 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.

Description and Assessment: Salt marsh can be found in GR-02, GR-06, and GR-07 along the Intracoastal Waterway and on the south side of the boat basin. The part of the park on the west side of the Intracoastal Waterway is composed entirely of this community. The marsh is tidally inundated and supports plant species such as saltmarsh cordgrass, saltgrass (*Distichlis spicata*), needle rush, black mangrove (*Avicennia germinans*), bushy seaside oxeye (*Borrichia frutescens*), Carolina sea lavender, saltwort (*Batis maritima*), annual glasswort (*Salicornia bigelovii*) and perennial glasswort (*S. virginica*). Numerous canals and mosquito ditches fragment this community on the western side of GR-07 and extend out of the park.

In 2006, a ten-acre salt marsh restoration project was initiated in GR-06 as part of required mitigation for an off-site development project; it was completed in 2007. This area was identified on historic aerials and maps as a salt marsh; it had been utilized for years as a spoil deposition site during dredging projects for the park boat basin as well as the Intracoastal Waterway. The restoration was very successful; the restored salt marsh is used by a diverse and representative group of vertebrates and invertebrates.

General Management Measures: It will be necessary to monitor for and treat exotic plants along the perimeter of the restoration area.

Altered Landcover Types

Canal/Ditch

Desired Future Condition: The ditches will have exotic plant infestations removed along their edges.

Description and Assessment: Isolated mosquito control ditches are present on the west side of GR-07 in the salt marsh community.

General Management Measures: Staff will continue to monitor and treat exotic plants as they are detected. Opportunities to restore the ditches should be pursued.

Spoil Area

Desired Future Condition: The spoil areas should be investigated for opportunities to restore them back to their original condition, to the greatest extent possible.

Description and Assessment: Isolated areas of spoil can be found in GR-02 and GR-05. In GR-02, a spoil deposition site occurs on the northwest portion of the zone, south of a residential community; it is undergoing succession to the surrounding maritime hammock community. The ground layer is composed of a sparse collection of native plants, including various asters, prickly-pear cactus, sand cordgrass, hairawn muhly (*Muhlenbergia capillaris*), and broomsedge (*Andropogon* spp.). Exotic plant species such as rose Natalgrass (*Melinis repens*) and Brazilian pepper have become established.

The spoil area in GR-05 surrounds a water tower site. There is evidence that it receives occasional disturbance, likely from mowing. A diverse assemblage of

herbaceous plant species including firewheel and sandbur (*Cenchrus* spp.) can be found.

General Management Measures: Staff will continue to monitor the spoil areas and control exotic plant species.

Developed Areas

Description and Assessment: Developed areas include the beachside camping area in GR-04 and the west side camping area in GR-02, the beachside parking lot and facilities in GR-01, the picnic and boat launching area in GR-02, and the park shop and residences in GR-06.

Desired future conditions: The developed areas within the park will be managed to minimize the effect of the developed areas on adjacent natural areas. Priority invasive exotic plant species (FLEPPC Category I and II species) will be removed from developed areas. Other management measures include proper stormwater management and development guidelines that are compatible with resource management in adjacent natural areas.

General Management Measures: Staff will continue to control invasive exotic plant species in developed areas of the park.

Utility Corridor

Description and Assessment: In addition to the utility corridor along State Road A1A, there is a utility corridor located in GR-03.

General Management Measures: Staff will continue to monitor the area and treat exotic plant species as they are detected.

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.

Gamble Rogers State Recreation Area at Flagler Beach is involved in the statewide marine turtle-monitoring program. Three species of marine turtles-loggerhead (*Caretta caretta*), green (*Chelonia mydas*) and leatherback (*Dermochelys coriacea*)-use the beach within the park for nesting. During the nesting season, park staff conduct daily surveys of the beach recording the previous night's activities including number of crawls, false crawls, species identification, and number of nests. The data collected from the park are used by state and federal agencies to formulate policy on nesting marine turtles.

The population of nesting marine turtles is stable but tends to follow statewide trends. For example, if the population of nesting loggerhead turtles is in decline

around the state, this trend is also reflected in the regional population nesting at the park. Since 2009, 223 sea turtle nests have been documented and monitored by park staff; this total includes 204 loggerheads, 18 greens, and one leatherback.

The major threats to nesting marine turtles, their nests, and turtle hatchlings are predation from natural and introduced predators. At Gamble Rogers, loss of nests and/or hatchlings has occurred due to erosion from storms and predation from ghost crabs (*Ocypode quadrata*) and fire ants (*Solenopsis* sp.). Any lighting that is currently in or will be added to the park will be "turtle-friendly" as recommended by the FWC Marine Turtle Lighting guidelines to avoid the possibility of disorientation events.

The gopher tortoise population at the park is stable and has no major threats other than impacts from vehicular traffic on SR A1A and interior park roads. Two eastern indigo snakes (*Drymarchon corais couperi*) have been observed at the park in the past. Management activities such as prescribed burning and exotic species removal will be beneficial to the continued persistence of both gopher tortoises and eastern indigo snakes at Gamble Rogers.

There are no known imperiled plant species at Gamble Rogers. Plant surveys to document the biodiversity of plant species at the park are ongoing.

Florida manatee are occasionally seen in the Intracoastal Waterway and other waters associated with the park. The population tends to follow regional and local trends. The major threat to manatees is collisions with boats. Signage for boaters (such as those designating no-wake zones) are posted and maintained by Florida Fish and Wildlife Conservation Commission.

Least terns (*Sternula antillarum*) utilize the beach for resting, loafing, and feeding during the late spring and summer months. Many of the imperiled bird species are not residents of the park but have been observed using the natural resources of the park. Florida scrub jays were once found at Gamble Rogers but have not had established home ranges there since the early 1980s. Several families of scrub jays are found about a mile south of the park at North Peninsula. Habitat destruction, habitat fragmentation, and fire suppression are reasons for the decline of the Florida scrub jay throughout its range.

Staff at Gamble Rogers will continue to implement a systems management approach that involves managing the resources as a complete system. This strategy will provide for the resources needed to assist in the recovery and stabilization of the imperiled species that use the park.

While not on the list, the pallid beach mouse (*Peromyscus polionotus decoloratus*) is most notable because of its presumed extinction. The historic range of this subspecies included Gamble Rogers Memorial State Recreation Area at Flagler Beach and North Peninsula State Park. Surveys for this small mammal were conducted between 1959 and 1979, with exhaustive searches performed in the 1970s (Humphrey 1992). Based on these surveys, Humphrey and Barbour (1981)

declared the pallid beach mouse to be extinct. Although the cause of extinction is undocumented, habitat loss, predation from feral or domestic house cats, and competition from house mice (*Mus musculus*) directly contribution to the extinction of this small mammal (Humphrey 1992).

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						
Coast mock vervain <i>Glandularia maritima</i>			LE	G3, S3	1,2,6,7,10,13	Tier 1
Giant Orchid <i>Pteroglossaspis Ecristata</i>	LT			S2	10	Tier 1
REPTILES						
Loggerhead sea turtle <i>Caretta</i>	LT	LT		G3,S3	8,10,13	Tier 3

Table 2. Imperiled Species Inventory						
Common and Scientific Name	Imperiled Species Status				Management Actions	Monitoring Level
	FWC	USFWS	FDACS	FNAI		
Green sea turtle <i>Chelonia mydas</i>	LE	LE		G3,S2S3	8,10,13	Tier 3
Leatherback sea turtle <i>Dermochelys coriacea</i>	LE	LE		G2,S2	8,10,13	Tier 3
Eastern indigo snake <i>Drymarchon corais couperi</i>	LT	LT		G3,S3	1,2,6,10,13	Tier 1
Gopher tortoise <i>Gopherus polyphemus</i>	LT	C		G3,S3	1,2,6,8,10,13	Tier 1, Tier 2
BIRDS						
Reddish Egret <i>Egretta rufescens</i>	SSC			G4, S2	4, 10	Tier 1
Snowy egret <i>Egretta thula</i>	SSC			G5,S3	4	Tier 1
Tricolored heron <i>Egretta tricolor</i>	SSC			G5,S4	4	Tier 1
White ibis <i>Eudocimus albus</i>	SSC			G5,S4	4	Tier 1
Wood stork <i>Mycteria americana</i>	LT	LT		G4,S2	2,4,8,10,13	Tier 1
Brown pelican <i>Pelecanus occidentalis</i>	SSC			G4,S3	2,8,10,13	Tier 1
Roseate spoonbill <i>Platalea ajaja</i>	SSC			G5,S2	4	Tier 1

Table 2. Imperiled Species Inventory						
Common and Scientific Name	Imperiled Species Status				Management Actions	Monitoring Level
	FWC	USFWS	FDACS	FNAI		
Black Skimmer <i>Rhynchops niger</i>	SSC			G5,S3	10, 13	Tier 3
Least tern <i>Sternula antillarum</i>	LT			G4,S3	8,10,13	Tier 2
MAMMALS						
North Atlantic right whale <i>Eubalaena glacialis</i>	LE				13	Tier 2
Florida manatee <i>Trichechus manatus</i>	LE	LE		G2,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.

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, the 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 venomous snakes or raccoons and alligators that are in public areas. Nuisance animals are dealt with on a case-by-case basis in accordance with the 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.

Exotic plant removal efforts by park and district staff and volunteers as well as contractual labor are ongoing at Gamble Rogers. Periodic surveys are conducted by park and district staff to identify and treat new and existing infestations of exotic plants.

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, the DRP actively removes exotic animals from state parks, with priority being given to those species causing the greatest ecological damage.

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 2015). 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			
Sisal hemp <i>Agave sisalana</i>	II	2	GR- 01, 04, 05
Sprenger's asparagus-fern <i>Asparagus aethiopicus</i>	I	6	GR-02
Durban crowfootgrass <i>Dactyloctenium aegyptium</i>	II	3	GR- 02, 03
Air-potato <i>Dioscorea bulbifera</i>	I	6	GR-06
Rose Natal grass <i>Melinis repens</i>	I	2	GR-02
		3	GR-02
Tuberous sword fern <i>Nephrolepis cordifolia</i>	I	1	GR-02,06
Torpedo grass <i>Panicum repens</i>	I	3	GR-06
		6	GR-01
Brazilian pepper <i>Schinus terebinthifolius</i>	I	2	GR-02, GR-03, GR-06
		3	GR-02
Twoleaf nightshade <i>Solanum diphyllum</i>	II	1	GR-02, 06

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.

Special Natural Features

For its size, Gamble Rogers has a relatively large number of designated species that utilize it. The location of the park along the Atlantic Flyway, coupled with the proximity of other nearby protected lands such as North Peninsula State Park, Tomoka State Park, Bulow Creek State Park, Washington Oaks Gardens State Park, and Tomoka Marsh Aquatic Preserve, contribute to the diversity of wildlife within this park.

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 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.

An archaeological predictive model has been completed for the park (Collins et al. 2010). The model predicts areas of high, medium, and low probability of historical and/or cultural resources. This model was created for terrestrial site sensitivity only, although off-shore and near-shore modeling for the occurrence of historic shipwrecks is possible with different developed matrix values and corresponding data such as bathymetry and other remote sensing data. Approximately 57% of the park falls in a high to medium sensitivity area. The terrestrial site model, when verified using the Florida Master Site File site location data, captured all of the recorded sites known at the time in the designated high and medium sensitivity areas.

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: The Florida Master Site File currently lists two recorded archaeological sites within Gamble Rogers State Park: FL00263 and FL00897, and one recorded resource group (FL00286). Gamble Rogers falls within the East and Central Lake Archaeological Region (Milanich and Fairbanks 1980). The area around the park was occupied and utilized by Native Americans during the full sequence of Pre-Columbian cultural periods, beginning with the Paleo-Indian and continuing through the Archaic, Mount Taylor, Orange, Transitional, and St. Johns Period. One of the sites within the park is of prehistoric origin (surface scatter) and one is of more recent (19th century) origin (the Lifeguard Station aka House of Refuge). State Road A1A is a recorded resource group (FL00286); A1A was designated as a Florida State Scenic Highway in 2000 and a National Scenic Byway in 2002.

Condition Assessment: All of the prehistoric and historic sites within the park are in fair to poor condition, due primarily to human impacts such as park development; for example, the park's camping area and associated facilities were built on the site of the Lifeguard Station (FL00263). State Road A1A is in good condition.

General Management Measures: In order to ensure that the cultural sites within the park are preserved in good condition in perpetuity, protected from physical threats and interpreted to the public, regular site inspections will be continued. Where and when necessary, stabilization techniques such as backfilling and removal of large trees may be utilized. An increased presence by law enforcement personnel should be requested if active looting is discovered.

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 known historic structures or landscapes located at Gamble Rogers.

Condition Assessment: There are no known historic structures or landscapes located at Gamble Rogers.

General Management Measures: There are no known historic structures or landscapes located at Gamble Rogers.

Collections

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

Description: The park has a number of items in its natural history collection that are used for interpretive purposes. These range from taxidermied specimens of wildlife to a limited number of sea turtle shells.

Condition Assessment: Almost all the collected items are in good condition; a few are in fair condition. Factors such as age and/or the condition that the item was in when it was acquired by the park play a large role in the current condition. Some of the items are displayed in the ranger station lobby; the remainder are in the staff break room where they can be easily accessed for interpretive programs. Security, climate control, and pest control are all adequate at both the ranger station and the shop.

General Management Measures: The park maintains an inventory of items in the collection; the park currently does not have a Scope of Collections Statement for

the natural history collection, but one will be developed. A formal collection management assessment has not been made to date.

Detailed management goals, objectives and actions for the management of cultural resources in this park are discussed in the Cultural Resource Management Program section of this component. Table 4 contains the name, reference number, culture or period, and brief description of all the cultural sites within the park that are listed in the Florida Master Site File. The table also summarizes each site's level of significance, existing condition and recommended management treatment. An explanation of the codes is provided following the table.

Table 4. Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	Culture/Period	Description	Significance	Condition	Treatment
FL00263 Lifeguard Station	Historic/Unspecified	Archaeological Site	NE	P	P
FL00286 A1A (roadway)	Historic/Unspecified	Resource Group	NR	G	P
FL00897 No Name	Historic/Unspecified	Archaeological Site	NE	F	P

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 the DRP's management goals for Gamble Rogers Memorial State Recreation Area at Flagler Beach. 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, the 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 the 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, the 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 Sections 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. The annual work plans 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.

Objective A: Conduct/obtain an assessment of the park's hydrological restoration needs.

Action 1 Work with staff from other agencies to develop an assessment.

Park staff will continue to monitor the hydrological functions within the park and assess the park's natural communities for future restoration needs. Park staff will continue to work cooperatively with staff from St. Johns River Water Management District and will explore funding opportunities to further study the area's hydrology to identify best management practices for the park's hydrological resources.

Objective B: Restore natural hydrological conditions and functions to approximately three acres of salt marsh natural community

Park staff will continue to work with staff from St. Johns River Water Management District and other entities to identify areas of the salt marsh community that can be restored, primarily in GR-07, and facilitate restoration projects to accomplish this objective.

Natural Communities Management

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

The 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 A: Within 10 years, have five acres of the park maintained within the optimum fire return interval.

- Action 1 Develop/update annual burn plan
- Action 2 Manage fire influenced communities by burning between 0.52 - 3.9 acres annually.

Table 5 contains a list of all fire-influenced 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)
Coastal strand	8.29	3-7
Annual Target Acreage	0.52-3.94	

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 fire-influenced community at Gamble Rogers is coastal strand, located in GR-03, and GR-04. The only prescribed burns that have occurred at Gamble Rogers have been in the coastal strand community in GR-04, around some of the campsites. Firebreaks around each zone are adequate to allow for the safe and effective use of prescribed fire and will be maintained yearly if not more frequently.

Prescribed fire is the primary tool to manage the coastal strand community for fire-dependent wildlife, especially gopher tortoises and Florida scrub jays. Both species benefit from and are dependent upon a frequent fire return interval. In both cases, fire can create openings in the vegetation where food plants can grow (in the case of gopher tortoises) and Florida scrub jays can cache acorns and find insects to consume. Frequent fire also reduces the structure of the vegetation to a height preferred for nesting, roosting, and home range defense for scrub jays.

In order to track fire management activities, the 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 and experience, backlog, etc. The database is also used for annual burn planning which allows the 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 Community Restoration: In some cases, the reintroduction and maintenance of natural processes is not enough to reach the desired future conditions for natural communities 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. For the purposes of this management plan, restoration is defined as the process of assisting the recovery and natural functioning of degraded natural communities to desired future condition, including the re-establishment of biodiversity, ecological processes, vegetation structure and physical characters.

Examples that would qualify as natural community restoration, requiring annual restoration plans, include large mitigation projects, large-scale hardwood removal

and timbering activities, roller-chopping and other large-scale vegetative modifications. The key concept is that restoration projects will go beyond management activities routinely done as standard operating procedures such as routine mowing, the reintroduction of fire as a natural process, spot treatments of exotic plants, and small-scale vegetation management.

Following are the natural community/habitat restoration and maintenance actions recommended to create the desired future conditions in the salt marsh and coastal scrub communities.

Objective B: Conduct habitat/natural community restoration activities on three acres of salt marsh natural community and approximately 8 acres of coastal scrub community

- Action 1 Develop/update site specific restoration plans
- Action 2 Implement restoration plan

Park staff will continue to work with staff from St. Johns River Water Management District and other entities to identify areas of the salt marsh community that can be restored, primarily in GR-07, and facilitate restoration projects to accomplish this objective.

Natural Community Improvement: Improvements are similar to restoration but on a smaller, less intense scale. This typically includes small-scale vegetative management activities or minor habitat manipulation. Currently there are no natural community improvement projects planned at the park.

Imperiled Species Management

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

The 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 the 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 A: Develop/Update baseline imperiled species occurrence inventory lists for plants and animals.

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

- Action 1 Implement monitoring protocols for three imperiled animal species.

Gamble Rogers is an active participant in the statewide marine turtle monitoring program. Monitoring protocols have been established by FWC. Three species of marine turtles-loggerhead, green, and leatherbacks-use the beach for nesting. The park serves as a state index and survey beach for nesting marine turtles. During the nesting season, park staff conduct daily surveys of the beach recording the previous night's activities including number of crawls, false crawls, species identification, and number of nests. In addition to the daily surveys, park staff also participate in the state's marine turtle stranding and salvage program that collects data on stranded, injured, or dead marine turtles. The data collected from the park are used by state and federal agencies to formulate policy on nesting marine turtles.

Exotic Species Management

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

The 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.

Objective A: Annually treat two acres of exotic plant species in the park.

- Action 1 Annually develop/update exotic plant management work plan.
- Action 2 Implement annual work plan by treating two acres in the park, annually, and continuing maintenance and follow-up treatments, as needed.

Park staff will conduct exotic removal treatments at the park for all Category I and II invasive exotics, as well as exotic species identified that are currently not listed under the FLEPPC listing. The goal will be to treat exotic species that either have resprouted or have recruited into natural communities following previous exotic removal treatments. All communities, including ruderal and developed, will be targeted. Continuous monitoring and maintenance activities to control re-growth and new infestations will be implemented by park staff. Vegetative surveys will continue to be conducted to ascertain the presence of new exotic species.

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

Action 1 Implement control measures on at least one nuisance and exotic animal species (nine-banded armadillos) in the park, with continued follow-up as necessary.

Control measures will focus on maintaining predation levels on marine turtle nests at or below those levels established by the FWC for State Index Nesting Beaches. Raccoons (*Procyon lotor*) and feral hogs (*Sus scrofa*) are the primary predators that may be removed from the beach as needed. Nine-banded armadillos, while infrequent, cause great damage to natural and cultural resources and should be removed whenever encountered.

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. The DRP will implement the following goals, objectives and actions, as funding becomes available, to preserve the cultural resources found in Gamble Rogers Memorial State Recreation Area at Flagler Beach.

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 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, pre-testing of the project site by a certified archaeological monitor, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effect. In addition, any demolition or substantial alteration to any historic structure or resource must be submitted to the DHR for consultation and the 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 the 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 the DHR.

Objective A: Assess and evaluate two of three recorded cultural resources in the park.

Action 1 Complete two assessments/evaluations of archaeological sites.

All recorded cultural sites should be assessed and evaluated at least once a year. During each evaluation, the entire site should be examined and threats such as erosion, pedestrian or bicycle damage, looting, damage from construction (e.g., firebreak construction), animal damage, plant or root damage or other factors that may cause deterioration of the site. As part of the assessments, the need for preservation and stabilization projects should be evaluated and determined.

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

Action 1 Ensure all known sites are recorded or updated in the Florida Master Site File.

Action 2 Develop a Scope of Collections Statement.

Action 3 Conduct oral history interviews.

As more information about cultural sites within the park is gathered, evaluations will need to be updated in the FMSF. Management should develop and implement a routine monitoring program that enables personnel to report on the location and condition of the recorded the park's prehistoric and historic cultural resources. Any additional artifacts found should be recorded and updated in the FMSF as needed. Efforts should be made to conduct oral history interviews for the park and surrounding areas to help further guide cultural management decisions.

Objective C: Bring one of two recorded cultural resources into good condition.

Action 1 Design and implement regular monitoring programs for nine cultural sites

Action 2 Create and implement a cyclical maintenance program for each cultural resource.

It would be possible to bring one cultural site-FL00897-into good condition; park staff should consult with district and BNCR staff on the appropriate techniques to utilize. Staff should continue to perform assessments and evaluations at least yearly and let management know if a maintenance program is needed for the individual sites. Sites should be prioritized based on their condition and the efficacy of restoration, rehabilitation, stabilization, or preservation activities. Prevention of looting and/or other direct impacts from visitors and park operations may be the only other activities needed.

Special Management Considerations

Timber Management Analysis

Chapters 253 and 259, Florida Statutes, require an assessment of the feasibility of managing timber in land management plans for parcels greater than 1,000 acres if the lead agency determines that timber management is not in conflict with the primary management objectives of the land. The feasibility of harvesting timber at this park during the period covered by this plan was considered in context of the 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.

A timber management analysis was not conducted for this park since its total acreage is below the 1,000-acre threshold established by statute. Timber management will be re-evaluated during the next revision of this management plan.

Coastal/Beach Management

The 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 60 percent of statewide park visitation. 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. Beach and inlet management 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.

Gamble Rogers has 1.1 miles of beach within the park. Erosion is not a significant issue along the beach within the park, and no critically eroded areas are currently designated. No prior beach re-nourishment projects have taken place, and there are none planned. There are three imperiled species of marine turtles that use the beach for nesting. The park serves as a state index and survey beach for nesting marine turtles. Park staff conduct daily surveys during nesting season and these data are used by state and federal agencies to implement sea turtle protocols. Public access to the beach is at a designated walkway leading to the beach from the parking area.

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 established for this park.

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.

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 considered recommendations of the land management review team and updated this plan accordingly.

This park has not been subjected to a land management review.

LAND USE COMPONENT

Introduction

Land use planning and park development decisions for the state park system are based on the dual responsibilities of the 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. Additional input is received through public workshops, and through environmental and recreational-user groups. With this approach, the 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 expressed 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

Gamble Rogers Memorial State Recreation Area at Flagler Beach (Gamble Rogers) is located within Flagler County, about 18 miles north of Daytona Beach and 35 miles south of St. Augustine in the northeastern part of the state.

According to the U.S. Census Data (2015), approximately 16% of residents in Flagler County identify as black, Hispanic or Latino, or another minority group. 40% of residents in Flagler County can be described as youth or seniors (U.S. Census 2010). 58% of the population in Flagler County are of working age (16 to 65) (U.S. Census Bureau 2010). Flagler County's per capita personal income was \$36,748 in 2014 (U.S. Bureau of Economic Analysis 2014).

The table below identifies significant resource-based recreation opportunities within 15 miles of Gamble Rogers.

Table 6. Resource-Based Recreational Opportunities Near Gamble Rogers Memorial State Recreation Area at Flagler Beach										
Name	Biking	Hiking	Swim/ Beach Access	Boating/ Paddling	Fishing	Wildlife Viewing	Picnicking	Overnight Stay	Hunting	Equestrian Facilities
North Peninsula State Park (FDEP)	✓	✓	✓	✓	✓	✓	✓			
Graham Swamp Conservation Area (SJRWMD)	✓	✓			✓	✓				
Leigh Greenway Rail Trail (Flagler County)	✓	✓								
Betty Steflik Memorial Preserve (Flagler County)	✓	✓			✓	✓	✓			
Bulow Plantation Ruins Historic State Park (FDEP)	✓	✓		✓		✓	✓			
Bulow Creek State Park (FDEP)	✓	✓		✓		✓	✓			
Tomoka Marsh Aquatic Preserve (FDEP)				✓	✓	✓				
Addison Blockhouse Historic State Park (FDEP)		✓				✓				
Tomoka State Park (FDEP)	✓	✓		✓	✓	✓	✓	✓		
Haw Creek Preserve (Flagler County)		✓		✓	✓	✓	✓	✓		
Heart Island Conservation Area (SJRWMD)	✓	✓			✓	✓		✓	✓	✓
De Leon Springs State Park (FDEP)	✓	✓	✓	✓	✓	✓	✓			
Pellicer Creek Conservation Area (SJRWMD)	✓	✓			✓	✓				✓
Lake Woodruff National Wildlife Refuge (USFWS)	✓	✓		✓	✓	✓			✓	✓
Clark Bay Conservation Area (SJRWMD)	✓	✓				✓			✓	✓
Tiger Bay State Forest (FFS)	✓	✓		✓	✓	✓	✓		✓	✓

The park is located in the Northeast Vacation Region, which includes Baker, Clay, Duval, Flagler, Nassau, Putnam, and St. Johns counties (Visit Florida 2014). According to the 2014 Florida Visitor Survey, approximately 7.1% of domestic visitors to Florida visited this region. Roughly 91% visitors to the region traveled to the Northeast for leisure purposes. The top activities for domestic visitors were beach/waterfront, followed by shopping, culinary experiences, and visiting friends or relatives. Summer was the most popular travel season. Most visitors traveled by non-air (84%), reporting an average of 3.2 nights and spending an average of \$131 per person per day including transportation (Visit Florida 2014).

Florida's Statewide Comprehensive Outdoor Recreation Plan (SCORP) indicates that participation rates in this region for saltwater beach activities, freshwater fishing, freshwater boat-ramp use, visiting archaeological and historic sites, wildlife viewing, bicycle riding, hiking, and camping are higher than the state average with demand for additional facilities increasing through 2020 (FDEP 2013).

Existing Use of Adjacent Lands

To the west of the park is a large area currently zoned for Planning Unit Development. To the north of the park is a medium density residential neighborhood, and a commercial district. To the south is more medium density residential but also recreation and high density residential.

Planned Use of Adjacent Lands

The future land use surrounding the park to the west is largely agriculture and timberland with some conservation and a small amount of low density residential. To the north of the park on the Intracoastal Waterway side of A1A is medium density residential with commercial on the eastern side of A1A. To the south of the park is more medium density residential, a golf course, and high density residential. The golf course has the chance to impact the park due to the environmental concerns with golf course maintenance.

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.

Recreational Resource Elements

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

Land Area

Gamble Rogers is not a large park, but it supports a number of resource-based recreation activities. A variety of land based activities are supported such as hiking and biking, wildlife viewing, camping, and picnicking.

Water Area

Along the Intracoastal Waterway, the western boundary of Gamble Rogers provides multiple resource-based recreation opportunities such as fishing, paddling, boating, and wildlife viewing. These opportunities vary slightly from the shoreline activities by observing different natural communities and having different experiences in boating, fishing, and wildlife viewing.

Shoreline

Gamble Rogers has approximately half a mile of beautiful sandy beaches on the Atlantic Ocean to provide ample recreation opportunities for visitors. These activities include surfing, sunbathing, swimming, fishing, and wildlife viewing.

Natural Scenery

Gamble Rogers has contrasting scenery due to the coastal aspects of the beach but also the Intracoastal and the wetlands and marshes associated with it. This provides visitors with unique vistas and to learn and experience multiple portions of Florida's various wetland and coastal ecosystems.

Significant Habitat

Among the many natural communities at the park, salt marsh along the western side of the park on the Intracoastal is among the most significant due to a large restoration project conducted in 2006. This restoration provided visitors with unique interpretive opportunities over the last ten years of witnessing what it takes to restore a damaged ecosystem. The wildlife viewing and interpretive opportunities related to this community and the restoration efforts is important to the visitor experience.

Natural Features

Gamble Rogers is home to many different natural community types and can support a number of resource-based recreation activities due to this. Paddling in the ocean is not ideal except under calm conditions, but the park also has access to the Intracoastal Waterway and several paddling trails which are much more suitable to paddlers. The varying natural features of the communities attract different species and can provide differing experiences for the same activity across the park. Fishing, for example, can have varied experiences depending on beach fishing or fishing in the Intracoastal.

The park has been listed as a site on the Great Florida Birding Trail. The Great Florida Birding Trail is a program of the Florida Fish and Wildlife Conservation Commission, supported in part by the Florida Department of Transportation and the Fish and Wildlife Foundation of Florida.

Archaeological and Historical Features

Gamble Rogers has a unique and rich history associated with multiple time periods. While structures have not sustained, the history is used greatly in interpretive programming associated with major event such as the death of Gamble Rogers, and the area's involvement with the military and wartime eras.

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

A historical site within the park is the location of a House of Refuge for Shipwreck survivors in 1869. In the mid-1880s that area was the site of a U.S. Life Service Saving Station, and in 1942 it was used as an Air Warning Site due to the threats posed by submarines.

Future Land Use and Zoning

The DRP works with local governments to establish designations that provide both consistency between comprehensive plans and zoning codes and permit typical state park uses and facilities necessary for the provision of resource-based recreation.

The park is zoned for recreation and is classified as park space in the future land use map. This is consistent with the uses of the park and no issues should arise from the zoning or future land use designation.

Current Recreational Use and Visitor Programs

The park offers a variety of recreational activities such as camping, beach access, paddling, fishing, and picnicking. The park also has extensive interpretive programming and events with the citizen support organization. For example, the CSO hosted a crabbing event in which visitors learned about crabbing and try it out for themselves. The park is well known for its popular beachside campground which is suited for both tent camping and RV camping. Gamble Rogers State Park also offers a newly constructed riverside campground and bathhouse which are popular year-long. Picnic pavilions on the Intracoastal Waterway side of the park provide popular spots for visitors to enjoy a meal. Gamble Rogers State Park also offers kayaks, canoes and bicycle rentals. Current issues involve limited space and a shortage of visitor parking.

Gamble Rogers recorded 149,663 visitors in FY 2014/2015. By DRP estimates, the FY 2014/2015 visitors contributed \$15,211,511 million in direct economic impact, the equivalent of adding 243 jobs to the local economy (FDEP 2015).

Other Uses

Gamble Rogers Memorial State Recreation Area at Flagler Beach has no other uses.

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 Gamble Rogers Memorial State Recreation Area at Flagler Beach all wetlands and floodplain as well as beach dune, coastal strand, maritime hammock, salt marsh, and known imperiled species habitat have been designated as protected zones. The park's current protected zone is delineated on the Conceptual Land Use Plan.

Existing Facilities

Gamble Rogers contains extensive facilities for resource-based recreation as well as support facilities. The park has two campgrounds, multiple day use areas, and water and beach access points. The support facilities are appropriate for the park but some specific facilities are still needed. (see Base Map)



FLAGLER COUNTY A1A BIKE PATH

OCEAN SHORE BLVD
A1A

ATLANTIC OCEAN

CAMPSITE AREA

JOE KENNER NATURE TRAIL

RESTROOM

MATANZAS RIVER
SMITH CREEK
INTRACOASTAL WATERWAY

ENTRANCE STATION

CAMPSITE AREA

PICNIC PAVILIONS

BATHHOUSE

CONCESSION

RESTROOM

BOAT RAMP

CAMPSITE AREA

VOLUNTEER SITES

RESIDENCE AREA

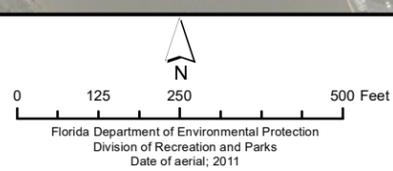
SHOP & STORAGE AREA

RESIDENCE

Legend

- Park Boundary
- State Road
- Park Road Paved
- Park Road Stabilized
- Park Road Unstabilized
- Walkways
- Nature Trail
- Camping Sites
- Structures
- Parking Lots

GAMBLE ROGERS MEMORIAL STATE RECREATION AREA AT FLAGLER BEACH



BASE MAP

Recreation Facilities

Picnic Area

Pavilions (7)

Restroom

Riverside Camping Area

Standard Sites (30)

Tent Sites (4)

Bathhouse

Boat Ramp Area

Boat Ramp

Boat Trailer Parking

Beach Use Area

Parking (20)

Restroom/Picnic Shelter

Dune Crossover

Beach Overlook

Beachside Camping Area

Bathhouse

Standard Sites (34)

Dune Crossover (2)

Beach Overlook (2)

Support Facilities

Residences (2)

Resident Volunteer RV/Trailer sites (2)

Employee owned RV/Trailer site (1)

3-bay Garage

Enclosed building for shop, break room and small office

Storage shed

Open bay storage area

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 is modified or amended, as additional information becomes available regarding the park's natural and cultural resources or trends in recreational uses, in order to adapt to changing conditions. Additionally, the acquisition of new parkland may provide opportunities for alternative or expanded land uses. The DRP develops a detailed development plan for the park and a site plan for specific facilities based on this conceptual land use plan, as funding becomes available.

During the development of the conceptual land use plan, the DRP assessed the potential impact of proposed uses or development on the park resources and applied that analysis to determine the future physical plan of the park as well as the scale and character of proposed development. Potential resource impacts are also 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 investigated in greater detail. Municipal sewer connections, advanced wastewater treatment or best available technology systems are applied for on-site sewage disposal. Creation of impervious surfaces is minimized to the greatest extent feasible in order to limit the need for stormwater management systems, 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, 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 3,754 users per day.

The current facilities and recreation opportunities for the park are appropriate for the natural resources and should continue. The activities offered are important and appreciated by the community and visitors to the park.

Objective: Expand the park's recreational carrying capacity by 5 users per day.

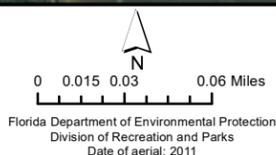
There is not significant new development within the park but improvements to existing facilities and the few proposed facilities will allow for more visitors to enjoy the park and experience enhanced recreation opportunities related to natural resources.

Objective: Continue to provide the current repertoire of 8-15 interpretive, educational and recreational programs on a regular basis.

There are many interpretive, recreational, and educational programs offered at the park on a regular basis. Some of the most popular and most frequent are outlined below.



**GAMBLE ROGERS MEMORIAL
STATE RECREATION AREA
AT FLAGLER BEACH**



CONCEPTUAL LAND USE PLAN DRAFT

- Moonrise at the beach – program held on the full moon each month. Join us for an informative talk about the moon and our coastal ecosystem. Bring binoculars for a spectacular view and camera for beautiful photo opportunities;
- Morning Beach Exploration Walk - explore the beach with a Florida Master Naturalist. Learn about native plants, nesting sea turtles and the park's geology.
- Nature walks with different themes – guided walks focused on a theme such as shore birds, or plants held 3-6 times per year.
- Gamble Jam - Musicians of all levels are invited to bring their instruments and a chair for a casual acoustic jam session. Meet other musicians, practice or just have fun listening! Monthly every 2nd & 4th Saturday
- Crabbing Basics: making it *Delicious*, keeping it *Sustainable* -Learn to catch these tasty crustaceans in a one-hour hands-on program, appropriate for adults and families.
- CSO/FROGRS Special Events – 4-6 programs per year led by the CSO designed to explore local natural, historical and cultural attractions and promote the CSO.
- Turtle Talk: A sea turtle's journey – programs held during sea turtle nesting season. Discusses the types of turtles nesting on our beach, how to best share the beach, explains how we monitor the beach during nesting season
- North Atlantic Right Whales: How you can help! - author and speaker Frank Gromling from Ocean Books & Art gives an educational talk about the endangered North Atlantic right whales.

Objective: Develop 7 new interpretive, educational and recreational programs.

Several new programs are proposed for this plan cycle. These programs are outlined below.

- Tortoise Talk: the ambassador for reptiles – a glimpse into the world of the gopher tortoises and other reptiles that live in our park
- Junior ranger program (possible summer, school vacation or ongoing) – have hands on activities that go along with the Junior ranger program.
- Cast netting program
- Wildlife tracks children's program – show kids the different clues animals leave behind which include animal tracks, nests, feathers, bones, scat, etc.
- Microplastics and you – the who, what, where, who and how of microplastics
- The clues of the past: learning the basic of archaeology and the history in our parks
- Star seekers: learning key constellation in the night sky

Proposed Facilities

Capital Facilities and Infrastructure

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

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 and/or new facilities needed to implement the conceptual land use plan for Gamble Rogers Memorial State Recreation Area at Flagler Beach:

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 7 existing facilities and .2 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.

Day Use Area

The Day Use Area is the main beach access point for the park. This is where visitor park and cross over the dunes to reach the beautiful sandy beaches. However, additional parking is needed to better accommodate the number of visitors to the park and the beach access point. The parking lot should be expanded northward slightly but an archaeological survey is needed to ensure cultural resources are properly handled or avoided prior to construction.

Beachside Camping Area

The beachside camping area is very popular among visitors. The dump station at the campground will need replacing over the life of this plan. It is heavily used and the wear and tear shows. Additionally, the campsites need to be refurbished as do the campground roads to reduce erosion caused by poor stormwater management and infrastructure issues.

Riverside Camping Area

This campground is very new and also very popular for visitors. This campground, located on the Intracoastal side of A1A is a little more secluded. To provide additional interpretive opportunities, an observation deck should be constructed over the Intracoastal Waterway to enhance wildlife viewing. An accessible route from the campground to the observation deck should be constructed in the southwest corner of the campground. This path and observation deck may also discourage visitors from forging alternative paths through the natural community and disturbing the sensitive ecosystem.

Picnic Area

This area provides for multiple recreational activities including picnicking, interpretive programs, boating and trail access. A fishing platform and small parking area should be constructed on the north side of the picnic area. This area is already cleared for a service road access point and heavily used by visitors for a fishing spot. This will formalize these practices and may mitigate erosion and natural community disturbance in the area. Along the southern end of the picnic area at the boat basin, a playground should be constructed to replace the playground previously at the park. A small restroom is also needed in this use area. Additionally, to accommodate potential concessionaire use, the Killdeer pavilion should be enclosed.

Boat Basin Area

The boat basin should be dredged to better accommodate boater access. The sea wall should also be monitored and replaced as needed.

Boat Ramp Area

The boat ramp should be improved, and the boat trailer parking area should be expanded to allow for more parking spaces. The current boat trailer parking needs improvements. Due to constant high use, expanding the boat ramp area is proposed to accommodate more trailers.

Support Area

The park is in need of administrative office space. It is proposed to either construct a small office building in the support area, or renovate one of the large shop buildings to have a second floor to support the offices. The water supply infrastructure needs replacing, and the support facilities should be connected to the sewer system. A flammable storage shed is needed in this area as the current storage system is not sufficient.

Entrance Areas

The entrance to both sides of the park and sections of A1A are undergoing major improvements. Improvements include turn lane improvements along A1A and accommodate multiple entrance lanes. The entrance to the beachside campground will include a roundabout for better access for campers and RVs. A roundabout will also be constructed near the ranger station. Parking near the ranger station will be improved to accommodate more staff and camper check-in parking.

Facilities Development

Preliminary cost estimates for these recommended facilities and improvements are provided in the Ten-Year Implementation Schedule and Cost Estimates (Table 7) 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:

Recreation Facilities

Picnic Area

- Restroom
- Playground
- Fishing Platform
- Parking Area

Camping Area

- Observation Deck

Boat Ramp Area

- Boat Ramp Improvements
- Boat Trailer Parking Improvements

Boat Basin Area

- Dredge Basin
- Replace Seawalls

Day Use Area

- Parking

Beachside Camping Area

- Dump Station
- Campsite and Camp Road Improvements
- Electrical Upgrades

Entrance Areas

- Turn Lane Improvements
- Multiple Entrance Lanes
- Parking Reconfiguration
- Roundabouts (2)

Support Facilities

- Water Supply Infrastructure Replacements
- Sewer System Connection
- Flammable Storage Shed
- Administrative Offices

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 7).

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 7.

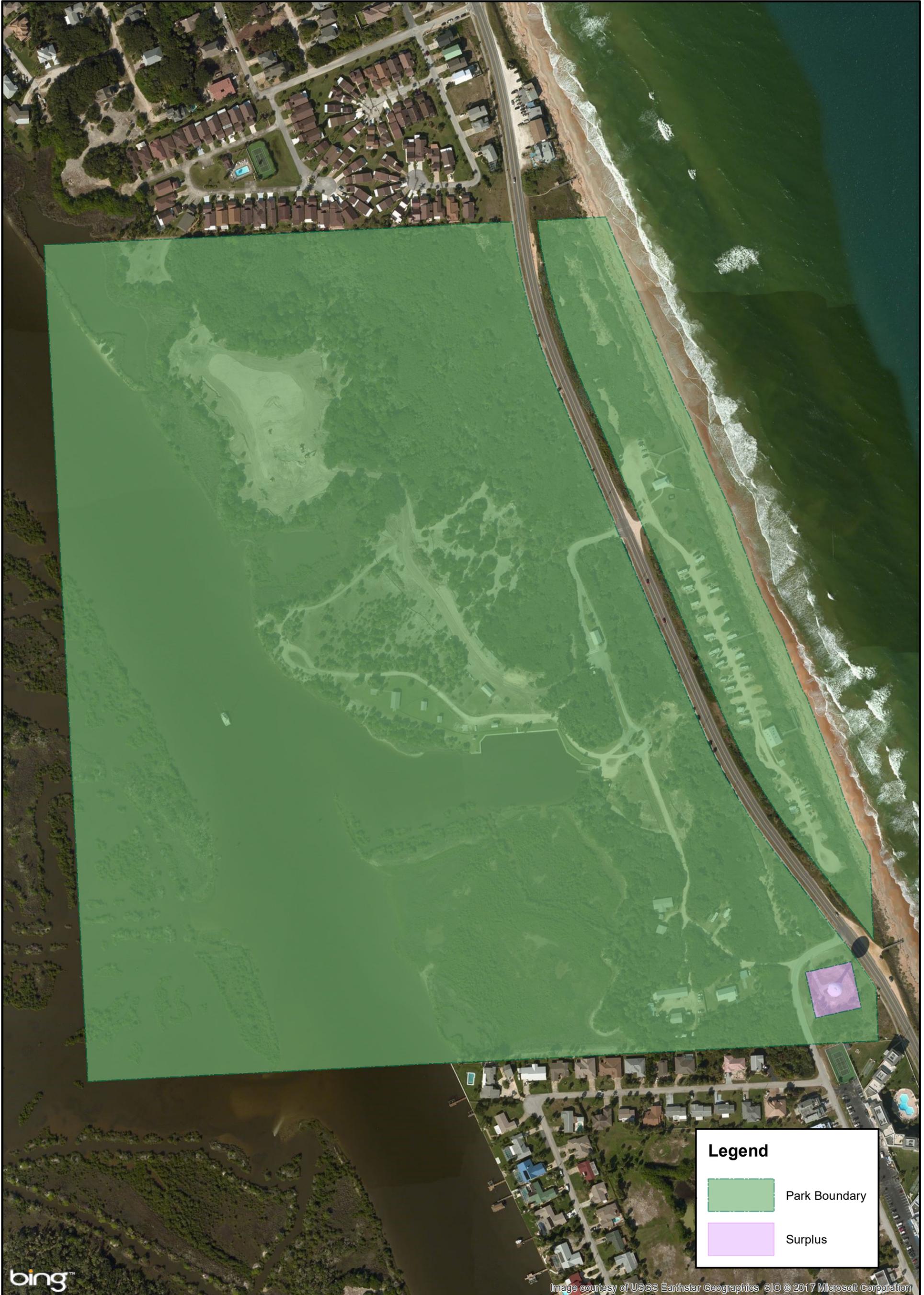
Activity/Facility	Existing		Proposed		Estimated	
	One Time	Daily	One Time	Daily	One Time	Daily
Trails						
Nature Trail	30	120			30	120
Shared Use	10	40			10	40
Picnicking	168	336			138	336
Camping						
Standard Facility	512	512			512	512
Tent Camping	32	32			32	32
Swimming	1122	2244			1122	2244
Surfing	66	132			66	132
Fishing						
Shoreline	132	264			132	264
Pier			2.5	5	2.5	5
Boating						
Canoeing/Kayaking	8	16			8	16
Kayak Rentals	25	50			25	50
Boating	8	8			8	8
TOTAL	2113	3754	2.5	5	2086	3759
*Existing capacity revised from approved plan according to DRP guidelines.						

Optimum Boundary

The optimum boundary map reflects lands considered desirable for direct management by the DRP as part of the state park. These parcels may include public or privately-owned land that would 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. Parklands that are potentially surplus to the management needs of DRP are also identified. As additional needs are identified through park use, development, and research, and as land use changes on adjacent property, modification of the park's optimum boundary may be necessary.

Identification of parcels on the optimum boundary map is intended solely for planning purposes. It is not to be used in connection with any regulatory purposes. Any party or governmental entity should not use a property's identification on the optimum boundary map to reduce or restrict the lawful rights of private landowners. Identification on the map does not empower or suggest that any government entity should impose additional or more restrictive environmental land use or zoning regulations. Identification should not be used as the basis for permit denial or the imposition of permit conditions.

A small parcel on the southeast corner of the park supports a water tower owned by the county. The park property around the tower is considered surplus to the management needs of the park.



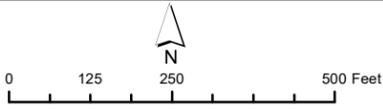
Legend

- Park Boundary
- Surplus

bing™

Image courtesy of USGS Earthstar Geographics SIO © 2017 Microsoft Corporation

GAMBLE ROGERS MEMORIAL STATE RECREATION AREA AT FLAGLER BEACH



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

OPTIMUM BOUNDARY MAP

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 and capital improvement 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 objective, and the costs are summarized under standard categories of land management activities.

MANAGEMENT PROGRESS

Since the approval of the last management plan for Gamble Rogers Memorial State Recreation Area at Flagler Beach in 2006, 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

- More than 133 acres of invasive exotic plants were treated between fiscal years 08-09 and 16-17.
- Between fiscal years 08-09 and 16-17, 12 nine-banded armadillos were removed.
- Park staff continue to be involved in the statewide marine turtle-monitoring program. Since 2009, 304 nests have been documented and monitored with staff effort covering 825 days.
- 10 acres of dredge spoil restored to saltmarsh

Cultural Resources

- Staff continue to conduct assessments and evaluations of all known cultural sites within the park.

Recreation and Visitor Services

- Initiated a park operated canoe, kayak and bike concession
- Significantly increased interpretive programming
- Installed interpretive kiosks on Joe Kenner Nature Trail
- Conducted two Gamble Rogers Memorial Music Celebration Events (2009 & 2010)
- The park established and holds the Gamble Jam twice a month
- Provided full moon walk programs monthly since 2010
- FROGRS conducted 4 Surf Fishing 101 programs as fundraisers

- The park was listed as a site on the Great Florida Birding Trail
- Held 5 annual Jack's Trail 25K & 50K Races
- FROGRS presented "Protect Oceans, Protect Life" lecture series in partnership with Ocean Books and Art

Park Facilities

- Constructed new 'Riverside Camping Area' with 34 campsites
- Replaced metal power pedestals at the beachside camping area with composite pedestals
- Replaced metal doorframes and doors on beachside restrooms with wood and fiberglass to prevent deterioration from salt prone
- Installed Thermal Protective Coating over the beachside day use and camp area metal restroom roofs
- Installed new modular home residence for park manager
- Reroofed all park buildings
- Dune crossover replacement project provided 3 beach access points and 2 observation platforms - 2010
- Installed two garbage tanks at beachside dump station

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
 Gamble Rogers Memorial State Recreation Area at Flagler Beach
 Ten-Year Implementation Schedule and Cost Estimates
 Sheet 1 of 4

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	\$46,476
Objective B	Expand administrative support as new lands are acquired, new facilities are developed, or as other needs arise.	Administrative support expanded	C	\$46,538
Goal II: Protect water quality and quantity in the park, restore hydrology to the extent feasible, and maintain the restored condition.		Measure	Planning Period	Estimated Manpower and Expense Cost* (10-years)
Objective A	Conduct/obtain an assessment of the park's hydrological needs.	Assessment conducted	ST or LT	\$7,000
Objective B	Restore natural hydrological conditions and function to approximately 3 acres of salt marsh natural community.	# Acres restored or with restoration underway	UFN	\$60,000
Goal III: 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 5 acres of the park maintained within optimal fire return interval.	# Acres within fire return interval target	LT	\$10,000
Action 1	Develop/update annual burn plan.	Plan updated	C	\$1,000
Action 2	Manage fire dependent communities for ecosystem function, structure and processes by burning between 0.52 - 3.9 acres annually, as identified by the annual burn plan.	Average # acres burned annually	C	\$9,000
Objective B	Conduct habitat/natural community restoration activities on 3 acres of salt marsh community and 8 acres of coastal scrub community.	# Acres restored or with restoration underway	ST or LT	\$121,000
Action 1	Develop/update site specific restoration plan	Plan developed/updated	ST	\$1,000
Action 2	Implement restoration plan	# Acres with restoration underway	LT	\$120,000

* 2017 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
Gamble Rogers Memorial State Recreation Area at Flagler Beach
Ten-Year Implementation Schedule and Cost Estimates
Sheet 2 of 4

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 IV: 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 3 selected imperiled animal species in the park.	# Species monitored	C	\$3,000
Action 1	Implement monitoring protocols for 3 imperiled animal species-sea turtles (loggerhead, green, and leatherback).	# Species monitored	C	\$3,000
Goal V: 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 A	Annually treat 2 acres of exotic plant species in the park.	# Acres treated	C	\$4,000
Action 1	Annually develop/update exotic plant management work plan.	Plan developed/updated	C	\$1,000
Action 2	Implement annual work plan by treating 2 acres in park, annually, and continuing maintenance and follow-up treatments, as needed.	Plan implemented		\$3,000
Objective B	Implement control measures on 1 exotic and nuisance animal species in the park.	# Species for which control measures implemented	C	\$500
Goal VI: 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 2 of 3 recorded cultural resources in the park.	Documentation complete	LT	\$500
Action 1	Complete 2 assessments/evaluations of archaeological sites. Prioritize preservation and stabilization	Assessments complete	LT, ST	\$500
Objective B	Compile reliable documentation for all recorded historic and archaeological sites.	Documentation complete	LT	\$10,500
Action 1	Ensure all known sites are recorded or updated in the Florida Master Site File.	# Sites recorded or	ST	\$500
Action 2	Conduct Level 1 archaeological survey for 1 priority area identified by the archaeological predictive model.	Survey completed	LT	\$10,000

* 2017 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
Gamble Rogers Memorial State Recreation Area at Flagler Beach
Ten-Year Implementation Schedule and Cost Estimates
Sheet 3 of 4

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.				
Objective C	Bring 2 of 3 recorded cultural resources into good condition.	# Sites in good condition	LT	\$7,000
Action 1	Design and implement regular monitoring programs for 2 cultural sites.	# Sites monitored	C	\$1,000
Action 2	Create and implement a cyclical maintenance program for each cultural resource.	Programs implemented	C	\$1,000
Action 3	Bring 2 of 3 recorded cultural resources into good condition.	Projects completed	LT, ST	\$5,000
Goal VII: 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 3754 users per day.	# Recreation/visitor	C	\$3,392,755
Objective B	Expand the park's recreational carrying capacity by 3759 users per day.	# Recreation/visitor	ST or LT	\$3,397,274
Objective C	Continue to provide the current repertoire of 15 interpretive, educational and recreational programs on a regular basis.	# Interpretive/education programs	C	\$75,000
Objective D	Develop 7 new interpretive, educational and recreational programs.	# Interpretive/education programs	ST or LT	\$49,000
Goal VIII: 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	\$1,022,474
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	ST or LT	\$5,000
Objective C	Improve and/or repair 7 existing facilities and 0.2 miles of road as identified in the Land Use Component.	# Facilities/Miles of Trail/Miles of Road	LT	\$3,240,964
Objective D	Expand maintenance activities as existing facilities are improved and new facilities are developed.	Facilities maintained	C	\$1,023,836

* 2017 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
Gamble Rogers Memorial State Recreation Area at Flagler Beach
Ten-Year Implementation Schedule and Cost Estimates
Sheet 4 of 4

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		\$225,500
	Administration and Support		\$93,014
	Capital Improvements		\$4,264,800
	Recreation Visitor Services		\$6,790,029
	Law Enforcement Activities	Note: Law enforcement activities in Florida State Parks are conducted by the FWC Division of Law Enforcement and by local law enforcement agencies.	

* 2017 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

Gamble Rogers Memorial State Recreation Area at Flagler Beach Acquisition History

LAND ACQUISITION HISTORY REPORT					
Park Name	Gamble Rogers Memorial State Recreation Area at Flagler Beach				
Date Updated	8/15/2016				
County	Flagler County				
Trustees Lease Number	Lease No. 3618 (Originally Lease No.2324)				
Current Park Size	134 acres				
Purpose of Acquisition	The state of Florida acquired Gamble Rogers Memorial State Recreation Area at Flagler Beach for park and recreation purposes.				
Acquisition History					
Parcel Name or Parcel DM-ID	Date Acquired	Initial Seller	Initial Purchaser	Size in acres	Instrument Type
MDID366057	6/17/1954	United States of America	The State of Florida	138.394	Deed
Management Lease					
Parcel Name or Lease Number	Date Leased	Initial Lessor	Initial Lessee	Current Term	Expiration Date
Lease No. 3618 (originally Lease No. 2324)	1/23/1968	Trustees of the Internal Improvement Trust Fund of the State of Florida	The Florida Board of Parks and Historic Memorials	99 years	1/22/2067
Outstanding Issue					
Type of Instrument	Brief Description of the Outstanding Issue			Term of the Outstanding Issue	
Reverter	Deed	If the subject land is not used for park and recreational purposes for five consecutive years or if all the property or any portion of it is used for anything other than park and Recreation, it shall revert to the grantor, which is the United States of America.			Forever

**Gamble Rogers Memorial State Recreation Area at Flagler Beach
Acquisition History**

Addendum 2- Advisory Group Members and Report

**Gamble Rogers State Recreation Area at Flagler Beach
& North Peninsula State Park
Advisory Group Members**

Local Government Representative

The Honorable Linda Provencher,
Mayor of Flagler Beach

The Honorable Peter Kouracos,
Chair Flagler County

Heather Post, District 4
Representative
Volusia County Council

David Sullivan, District 3
Representative
Flagler County Council

Agency Representatives

Anthony Petellat, District Manager
Florida Forest Service

Alex Kropp, Biologist
Florida Fish and Wildlife

Scott Dack, Regional Commander
Florida Fish and Wildlife

Julia Duggins, Archeology Supervisor
Bureau of Archaeological Research

Barbara Howell, Environmental
Specialist
Tomoka Marshes Aquatic Preserve

Dawn Zattau,
U.S. Fish and Wildlife Service

**Environmental and Conservation
Group Representative**

Sonya Guidry, Chapter Representative
FNPS Pawpaw Chapter

Melissa Lammers
Halifax River Audubon

Local Private Property Owners

Andy Block
Adjacent Property Owner

**Recreational User Group
Representatives**

Tim Baylie, Director
Volusia County Department of Parks

Christine Nejame, Owner
Kayaks of Flagler Beach

Roy Mattson, Owner
Ocean Pier Bait and Tackle

**Tourism and Economic
Development Representative**

Matt Dunn, Tourism Director
Flagler County TDC

Citizen Support Organization

Paul Haydt, President
Friends of Gamble Rogers

**Gamble Rogers State Recreation Area at Flagler Beach
& North Peninsula State Park
Advisory Group Summary Report**

The Advisory Group meeting to review the proposed land management plan for Gamble Rogers State Recreation Area at Flagler Beach and North Peninsula State Park was held at Tomoka State Park on December 14, 2017.

Melissa Lammers represented David Hartgrove. Marge Rooyakkers represented Jason Giraulo. Linda Provencher, Peter Kouracos, Anthony Petellat, Alex Kropp, Scott Dack, Andy Block, Matt Dunn, Dawn Zattau, David Sullivan, Heather Post, Jane Mealy, Tim Baylie, Bill Partington, Christine NeJame and Roy Mattson were not in attendance. All other appointed Advisory Group members were present as well as Warren Reynolds. Attending staff were Matt Bledsoe, Lynne Flannery, Alice Bard, Tyler Maldonado, Robert Yero, Larry Fooks and Mariana Schwabacher.

Ms. Schwabacher began the meeting by explaining the purpose of the Advisory Group and reviewing the meeting agenda. She provided a brief overview of the Division's planning process and summarized public comments received during the previous evening's public workshop. She then asked each member of the advisory group to express his or her comments on the plans. After all the comments were shared, Ms. Schwabacher described next steps for drafting the plans and the meeting was adjourned.

Summary of Advisory Group Comments

Ms. Howell (Tomoka Marsh Aquatic Preserve) voiced that she was pleased with the educational component of both plans. She mentioned the importance of including turtle excluder devices in crab traps to ensure that turtles are not being harmed from the crab traps in the area. She mentioned the need for an editorial revision of the plans.

Ms. Lammers (Halifax River Audubon) mentioned the importance and uniqueness of North Peninsula State park as it is still a largely undeveloped piece of land with a very diverse set of natural communities for its size and location. She voiced her organization's desire to keep the park as undeveloped as possible. She also mentioned the importance of engaging younger generations in outdoor recreation and conservation, and suggested the development of educational programs at both parks to cater to younger visitors. She suggested the addition of potable water to North Peninsula State Park due to the heavy use from cyclists and also mentioned the addition of a board walk to the beginning of the North Peninsula hiking trail because that section often becomes too wet for walking. She mentioned the importance of protecting dune habitat and was overall pleased with the draft unit management plan.

Ms. Guidry (FNPS Pawpaw Chapter) expressed concern over maintaining imperiled habitat, the importance of both parks as suitable environment for the Florida scrub-jays and her wishes to maintain that natural habitat as intact as possible. She was assured by Alice Bard that park staff was committed and working with other agencies to do their best to maintain scrub-jay habitat. She voiced her appreciation of the FNPS mission-friendly marsh restoration project at North Peninsula State

**Gamble Rogers State Recreation Area at Flagler Beach
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Advisory Group Summary Report**

Park and voiced support for the land use proposals at both parks

Mr. Haydt (Friends of Gamble Rogers) voiced support for the park improvements included in the Gamble Rogers plan. He mentioned that currently there is no meeting office or suitable meeting space anywhere in the park and that it would be useful to add the creation of one to the unit management plan. He also voiced the need for a solid and consistent CSO membership at Gamble Rogers. He expressed his concern for the lack of staff office space and believes staff facilities should be expanded. He voiced support for more restoration projects and that the plan should address flooding issues in the northern part of North Peninsula State Park. He also suggested the addition of an observation platform at the end of the hiking trail at North Peninsula State Park to increase destination interest. He expressed his appreciation for staff and the incredible job they do with the limited resources they have. He expressed the importance of developing partnerships with other organizations in order to increase resources available to benefit the park. He also voiced the need to revamp biology staff for both parks in order to take proper care of natural resources.

Ms. Rooyackers (Flagler Audubon) expressed overall approval of both plans and specifically supported the addition of an official meeting space at Gamble Rogers. She also expressed concern over dune habitat and the need for restoration projects. She mentioned that beach walkovers at both parks need repairing and expressed that she is looking forward to the new tortoise program.

Summary of Written Comments from Advisory Group Members

Ms. Duggins (FL Bureau of Archaeological Research) expressed support for the management plan and how it addresses historical resources. She mentioned the need for consistency when it comes to classifying the condition of the archaeological sites. She provided updates on the time period for archaeological sites to substitute "unclassified" categories, along with the addition of other important archaeological details.

Summary of Public Comments

Mr. Wilson expressed that it is important to maximize the use of living shoreline technology rather than hard seawall because it is adaptable to sea level rise, it encourages natural oyster recruitment, it is less expensive and resilient to storms as well as more cost-effective. He would like to see more living shoreline technology used in our parks system

**Gamble Rogers State Recreation Area at Flagler Beach
& North Peninsula State Park
Advisory Group Summary Report**

Staff Recommendations

The staff recommends approval of the proposed management plans for Gamble Rogers State Recreation Area at Flagler Beach and North Peninsula State Park as presented, with the following significant changes:

- The removal of the southern access point from the Conceptual Land Use Plan in North Peninsula State Park's UMP.
- The addition of a multi-use office space to the Gamble Rogers' Conceptual Land Use Plan
- The Historical Resources section of the Resource Management Component will be revised to include updated information provided by the Bureau of Archaeological Research.

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. The Division'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 Division of Recreation and Parks staff.

**Gamble Rogers State Recreation Area at Flagler Beach
& North Peninsula State Park
Advisory Group Written Comments**



FLORIDA DEPARTMENT OF STATE

RICK SCOTT
Governor

KEN DETZNER
Secretary of State

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December 29, 2017

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Ms. Schwabacher:

The Division of Historical Resources has completed its review of the draft unit management plan for North Peninsula State Park, in coordination with the Management Advisory Group conducted earlier this month. Thank you for offering DHR the opportunity to comment. Overall, the plan does a good job of addressing cultural resources, and we have only a few specific suggestions for improvement.

- 1) Please consider changing "Pre-Historic" to "prehistoric," or in some contexts, "Pre-Columbian." Changing "Paleo-Indian" to "Paleoindian" would be more consistent with current usage.
- 2) Most of the information in Table 4 on page 38 is in agreement with our records in the Florida Master Site File. We show the same site numbers and names, the same significance, and the same site type/descriptions. The table correctly shows that VO7315 is Historic, but the site file shows that there is also a prehistoric component, so we recommend updating the table to reflect the site as multi-component.

Division of Historical Resources
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- 3) It is good to see that the plan stresses the importance of bringing historical resources into good condition, and page 35 accurately summarizes the condition assessment guidelines. But, the table on page 38 and the narrative on page 37 describe all sites as being in fair or poor condition due to past harm. If the threats are no longer actively deteriorating the site, and if no future threats are anticipated, the sites are likely in good condition.
- 4) We are pleased to see the park is monitoring all sites on an annual basis. On page 37 the plan mentions that “most of the other sites show evidence of looting.” If looting is active, please contact BAR’s Law Enforcement Liaison, [Paulette McFadden](#) for assistance.
- 5) The plan does not appear to describe public interpretation of cultural resources. If you need help with language for interpretive signage or if you would like to host archaeology education events at the park, please contact our partners at the [Florida Public Archaeology Network](#) in St. Augustine.

Again, thanks for inviting us to the Management Advisory Group meeting and providing the opportunity to participate in the planning process for North Peninsula State Park. Please contact me with any questions regarding DHR’s comments on the plan.

Sincerely,



Julie B. Duggins

CC:
Jason O’Donoghue
Mary Glowacki

Addendum 3—References Cited

**Gamble Rogers Memorial State Recreation Area at Flagler Beach
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Gamble Rogers Memorial State Recreation Area at Flagler Beach

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Gamble Rogers Memorial State Recreation Area at Flagler Beach
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Addendum 4—Soil Descriptions

Gamble Rogers Memorial State Recreation Area at Flagler Beach Soil Descriptions

Turnbull and Pellicer soils, tidal (26). - This map unit is very deep, nearly level, and very poorly drained soil type that is found in tidal marsh areas. These soils do not occur in a regular and repeating pattern. They are frequently flooded. Generally, the mapped areas are about 52 percent Turnbull and similar soils and about 43 percent Pellicer and similar soils, although the relative proportion of each soil varies.

These soils are continuously saturated with the water table at 2 feet above the surface in the Turnbull soil and at 0 to 6 inches in the Pellicer soil. The permeability is very slow in both soils and the available water capacity is moderate to high in the Turnbull soil and high in the Pellicer soil.

Most areas of this mapped unit have natural vegetation. This usually consists of black needlerush, seashore salt grass, smooth cordgrass, bushy seaweed, marshhay cordgrass, glasswort, and bigleaf swampweed. The native vegetation and fauna are important links in the food chain for many sport and commercial finfish and shellfish. Many species of duck, wading birds, and shorebirds use this map unit for food, shelter, and nesting.

Palm Beach gravelly sand, 0 to 8 percent slopes (31). - This soil very deep, nearly level to sloping, well drained to excessively drained and found on primary dune ridges parallel to the Atlantic Coast. Individual areas are irregular to elongated in shape and slopes are convex ranging from 0 to 8 percent.

In most years, a seasonal high water is at a depth of more than 80 inches. Permeability is very rapid and available water capacity is very low.

The natural vegetation usually consists of sand live oak and red cedar with an understory of runner oak, prickly pear cactus, sea oats, saw palmetto, and wax myrtle. If the natural protective vegetation is disturbed, this soil is subject to severe wind erosion.

Narcoossee, shell substratum - Welaka complex, 0 to 5 percent slopes (32). - This soil complex occurs on the coastal strand between the Atlantic Ocean and the Intracoastal Waterway. The Narcoossee soil is very deep, nearly level, somewhat poorly drained, and is found in the swales between sand dunes and on low knolls between dunes and the salt marshes. The Welaka soil is very deep, well drained, gently sloping and is found on the lower back slopes of primary sand dunes, on the lower relic secondary and tertiary dunes, and on high knolls in between the dunes and the salt marshes.

In most years, the seasonal high-water table in the Narcoossee soil is at a depth of 24 to 42 inches for 4 to 6 months. During dry periods, the water table recedes to more than 42 inches. The seasonal high-water table in the Welaka soil is generally at a depth of more than 80 inches. Permeability is very rapid in the Welaka soil and rapid and very rapid in the Narcoossee soil. The available water capacity is low in the Narcoossee soil and very low in the Welaka soil.

Gamble Rogers Memorial State Recreation Area at Flagler Beach Soil Descriptions

The natural vegetation usually found on the Narcoossee soil consists of sand live oak, longleaf pine, and slash pine with an understory of yaupon holly, saw palmetto, bluestem, panicum, wax myrtle, and wiregrass. The Welaka soil usually has a natural vegetation consisting of sand pine, dwarf live oak, and scrub oaks, with scattered areas of rosemary, saw palmetto, and wiregrass. In some areas of this soil complex periodic salt spray from the ocean limits plant growth. The map unit contains good nesting sites for songbirds and shorebirds, and provides cover and food for various mammals including rabbits, raccoon, and armadillos.

Beaches (33). - This map unit consists of nearly level to sloping, narrow strips of tide- and surf-washed areas that are adjacent to the Atlantic Ocean. These areas are commonly a mixture of moderately alkaline sand and shell fragments. Slopes range from 1 to 3 percent. Beaches range in width from less than 100 feet to about 200 feet. About 50 percent of the beach area can be flooded by daily high tides, and all the beach can be flooded by storm tides.

The depth of the seasonal high-water table is highly variable depending upon the regularly changing topography, ranging from 0 to 72 inches. Available water capacity is very low and permeability is rapid or very rapid.

Beaches are generally devoid of vegetation, although a sparse growth of sea oats, fiddleleaf morning-glory, spartina, and other salt-tolerant plants can grow down from the dune or from the inland edge. Erosion is often a severe hazard during strong storms.

Quartzipsamments (35). - This map unit contains nearly level, somewhat poorly drained, stratified soil material that was derived from the hydraulic dredging of the Intracoastal Waterway and was deposited on the adjacent landscape. The soil and geologic material is composed mostly of sand that is stratified with loamy, clayey, and organic fragments, with shells, and with coquina limestone cobbles.

The water table varies with the position and thickness of the overburden but generally varies from a depth of 18 to 36 inches during wet seasons. The permeability varies, but is mostly rapid and very rapid. Available water capacity also varies depending on the stratified soil material, but it is mostly very low or low.

The existing vegetation may consist of a few areas of slash pine, southern red cedar, cabbage palm, and wax myrtle. The understory can consist of prickly pear, dog fennel, and assorted weeds.

Addendum 5—Plant and Animal List

**Gamble Rogers Memorial State Recreation Area at Flagler Beach
Plants**

Common Name	Scientific Name	Primary Habitat Codes (For imperiled species)
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LICHENS

Old-man's-beard *Usnea* sp.

PTERIDOPHYTES

Golden polypody *Phlebodium aureum*
 Bracken fern..... *Pteridium aquilinum*
 Tuberos sword fern* *Nephrolepis cordifolia*

GYMNOSPERMS

Red cedar *Juniperus silicicola*
 Sand pine *Pinus clausa*
 Slash pine *Pinus elliotii*
 Longleaf pine..... *Pinus palustris*
 Florida arrowroot; coontie *Zamia pumila*

ANGIOSPERMS

MONOCOTS

Bluestem *Andropogon* sp.
 Chalky bluestem *Andropogon virginicus* var. *glaucus*
 Sprenger's asparagus-fern* *Asparagus aethiopicus*
 Common asparagus-fern* *Asparagus setaceus*
 Sedge..... *Carex* sp.
 Sandbur..... *Cenchrus* sp.
 Whitemouth dayflower..... *Commelina erecta*
 Bermudagrass *..... *Cynodon dactylon*
 Flatsedge *Cyperus* sp.
 Durban crowfootgrass* *Dactyloctenium aegyptium*
 Witchgrass *Dichanthelium* sp.
 Air-potato* *Dioscorea bulbifera*
 Saltgrass *Distichlis spicata*
 Lovegrass *Eragrostis* sp.
 Red lovegrass..... *Eragrostis secundiflora* spp. *oxylepis*
 Centipedegrass* *Eremochloa ophiuroides*
 Needle rush; needlegrass rush.. *Juncus roemerianus*
 Rose natalgrass* *Melinis repens*
 Muhly grass..... *Muhlenbergia capillaris*
 Woodsgrass; basketgrass..... *Oplismenus hirtellus*
 Golden polypody *Phlebodium aureum*
 Narrowleaf silkgrass *Pityopsis graminifolia*
 Cabbage palm *Sabal palmetto*
 Saw palmetto *Serenoa repens*
 Saltmarsh cordgrass;

* Non-Native Species

**Gamble Rogers Memorial State Recreation Area at Flagler Beach
Plants**

Common Name	Scientific Name	Primary Habitat Codes (For imperiled species)
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smooth cordgrass.....	<i>Spartina alterniflora</i>	
Sand cordgrass.....	<i>Spartina bakeri</i>	
Marshhay cordgrass;		
Saltmeadow cordgrass.....	<i>Spartina patens</i>	
Smutgrass*.....	<i>Sporobolus indicus</i>	
St. Augustinegrass*.....	<i>Stenotaphrum secundatum</i>	
Seaoads.....	<i>Uniola paniculata</i>	
Spanish bayonet; aloe yucca	<i>Yucca aloifolia</i>	
Adam's needle.....	<i>Yucca filamentosa</i>	

DICOTS

Red maple.....	<i>Acer rubrum</i>	
Common ragweed.....	<i>Ambrosia artemisiifolia</i>	
Peppervine.....	<i>Ampelopsis arborea</i>	
Florida Indian plantain.....	<i>Arnoglossum floridanum</i>	
Largeflower milkweed.....	<i>Asclepias connivens</i>	
Black mangrove.....	<i>Avicennia germinans</i>	
Saltwater falsewillow.....	<i>Baccharis angustifolia</i>	
Groundsel tree; sea myrtle.....	<i>Baccharis halimifolia</i>	
Saltwort; turtleweed.....	<i>Batis maritima</i>	
Beggarticks; romerillo.....	<i>Bidens alba</i>	
Bushy seaside oxeye.....	<i>Borrichia frutescens</i>	
American beautyberry.....	<i>Callicarpa americana</i>	
Partridge pea.....	<i>Chamaechrista fasciculata</i>	
Sandmat.....	<i>Chamaesyce</i> sp.	
Snowberry; milkberry.....	<i>Chiococca alba</i>	
Tread-softly; finger-rot.....	<i>Cnidoscolus stimulosus</i>	
Seagrape.....	<i>Coccoloba uvifera</i>	
Rabbitbells.....	<i>Crotalaria rotundifolia</i>	
Silver croton; healing croton	<i>Croton argyranthemus</i>	
Carolina ponysfoot.....	<i>Dichondra caroliniensis</i>	
Varnishleaf; Florida hopbush	<i>Dodonaea viscosa</i>	
Coralbean; Cherokee bean.....	<i>Erythrina herbacea</i>	
Redberry stopper.....	<i>Eugenia confusa</i>	
Firewheel.....	<i>Gaillardia pulchella</i>	
Southern beeblossom.....	<i>Gaura angustifolia</i>	
Coastal mock vervain.....	<i>Glandularia maritima</i>	
East coast dune sunflower.....	<i>Helianthus debilis</i> ssp. <i>debilis</i>	
Camphorweed.....	<i>Heterotheca subaxillaris</i>	
Marshpennywort.....	<i>Hydrocotyle</i> sp.	
St. John's-wort.....	<i>Hypericum</i> sp.	
Yaupon.....	<i>Ilex vomitoria</i>	
Trailing indigo*.....	<i>Indigofera spicata</i>	
Beach morningglory.....	<i>Ipomoea imperati</i>	
Railroadvine; bayhops.....	<i>Ipomoea pes-caprae</i>	
Standingcypress;		

* Non-Native Species

**Gamble Rogers Memorial State Recreation Area at Flagler Beach
Plants**

Common Name	Scientific Name	Primary Habitat Codes (For imperiled species)
Spanish larkspur	<i>Ipomopsis rubra</i>	
Bigleaf sumpweed	<i>Iva frutescens</i>	
Lantana; shrubverbena*	<i>Lantana camara</i>	
Carolina sealavender	<i>Limonium carolinianum</i>	
Creeping cucumber	<i>Melothria pendula</i>	
Climbing hempvine.....	<i>Mikania scandens</i>	
Spotted beebalm.....	<i>Monarda punctata</i>	
Indianpipe.....	<i>Monotropa uniflora</i>	
Southern bayberry; wax myrtle	<i>Myrica cerifera</i>	
Beach eveningprimrose*	<i>Oenothera drummondii</i>	
Seabeach eveningprimrose.....	<i>Oenothera humifusa</i>	
Cochineal cactus*	<i>Opuntia cochenillifera</i>	
Erect pricklypear	<i>Opuntia stricta</i>	
Common yellow woodsorrel;		
Creeping woodsorrel.....	<i>Oxalis corniculata</i>	
Virginia creeper; woodbine.....	<i>Parthenocissus quinquefolia</i>	
Purple passionflower.....	<i>Passiflora incarnata</i>	
Silk bay; scrub bay	<i>Persea borbonia</i> var. <i>humilis</i>	
Turkey tangle fogfruit; capeweed	<i>Phyla nodiflora</i>	
Mascarene Island leafflower*	<i>Phyllanthus tenellus</i>	
American pokeweed	<i>Phytolacca americana</i>	
Fiddler's spurge; Mexican fireplant	<i>Poinsettia heterophylla</i>	
Rustweed; juniperleaf.....	<i>Polypremum procumbens</i>	
Chapman's oak	<i>Quercus chapmanii</i>	
Sand live oak.....	<i>Quercus geminata</i>	
Laurel oak; diamond oak.....	<i>Quercus laurifolia</i>	
Myrtle oak.....	<i>Quercus myrtifolia</i>	
Virginia live oak	<i>Quercus virginiana</i>	
Winged sumac	<i>Rhus copallinum</i>	
Britton's wild petunia*	<i>Ruellia tweediana</i>	
Annual glasswort;		
dwarf glasswort	<i>Salicornia bigelovii</i>	
Perennial glasswort;		
Virginia glasswort.....	<i>Salicornia virginica</i>	
Carolina willow;		
coastalplain willow	<i>Salix caroliniana</i>	
Brazilian pepper *	<i>Schinus terebinthifolius</i>	
Tough bully	<i>Sideroxylon tenax</i>	
Saw greenbrier	<i>Smilax bona-nox</i>	
Twoleaf nightshade	<i>Solanum diphyllum</i>	
Seaside goldenrod.....	<i>Solidago sempervirens</i>	
Sowthistle*	<i>Sonchus</i> sp.	
Florida hedge nettle;		
Florida betony	<i>Stachys floridana</i>	
Eastern poison ivy.....	<i>Toxicodendron radicans</i>	
Bluejacket;		

* Non-Native Species

**Gamble Rogers Memorial State Recreation Area at Flagler Beach
Plants**

Common Name	<i>Scientific Name</i>	Primary Habitat Codes (For imperiled species)
Ohio spiderwort	<i>Tradescantia ohiensis</i>	
Forked blue curls	<i>Trichostema dichotomum</i>	
Giant ironweed	<i>Vernonia gigantea</i>	
Hairy pod cowpea	<i>Vigna luteola</i>	
Summer grape	<i>Vitis aestivalis</i>	
Muscadine	<i>Vitis rotundifolia</i>	
Oriental false hawksbeard*	<i>Youngia japonica</i>	
Hercules'-club.....	<i>Zanthoxylum clava-herculis</i>	

Taxonomy follows Wunderlin and Hansen (2011).

Gamble Rogers Memorial State Recreation Area at Flagler Beach

Animals

Common Name	Scientific Name	Primary Habitat Codes (For imperiled species)
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INVERTEBRATES

Crustaceans

Blue crab *Callinectes sapidus*
 Ghost crab *Ocypode quadrata*

Insects

Luna moth *Actias luna*
 Gulf fritillary *Agraulis vanillae nigrilor*
 White peacock *Anartia jatrophae quantana*
 Great southern white *Ascia monuste*
 Monarch or milkweed butterfly.. *Danaus plexippus*
 Blue dragonlet *Erythrodiplox connata minuscula*
 Zebra longwing butterfly *Heliconius charitonius tuckeri*
 Common buckeye *Junonia coenia*
 Periodical cicada *Magicicada* sp.
 Palamedes swallowtail *Papilio palamedes*
 Eastern amberwing *Perithemis tenera*
 Cloudless sulphur butterfly *Phoebis sennae eubule*
 Phaon crescent butterfly *Phyciodes phaon*
 European cabbage butterfly..... *Pieris rapae*
 Harvester ant *Pogonomyrmex* sp.
 Buckeye butterfly *Precis coenia*
 Giant root borer *Prionus* sp.
 Southern lubber grasshopper.... *Romalea microptera*
 Oleander moth..... *Syntomeida jucundissima*
 Long-tailed skipper..... *Urbanus proteus*

FISH

Lined sole *Achirus lineatus*
 Striped anchovy..... *Anchoa hepsetus*
 Bay anchovy..... *Anchoa mitchilli*
 Sheepshead *Archosargus probatocephalus*
 Sea catfish *Arius felis*
 Gafftopsail catfish *Bagre marinus*
 Silver perch..... *Bairdiella chrysoura*
 Frillfin goby *Bathygobius soporator*
 Atlantic menhaden *Brevoortia tyrannus*
 Crevalle jack *Caranx hippos*
 Black sea bass *Centropristis striata*
 Basking shark..... *Cetorhinus maximus*
 Atlantic spadefish..... *Chaetodipterus faber*
 Florida blenny..... *Chasmodes saburrae*
 Striped burrfish *Chilomycterus schoepfi*
 Bay whiff *Citharichthys spilopterus*

Gamble Rogers Memorial State Recreation Area at Flagler Beach

Animals

Common Name	Scientific Name	Primary Habitat Codes (For imperiled species)
Spotted seatrout	<i>Cynoscion nebulosus</i>	
Weakfish	<i>Cynoscion regalis</i>	
Sheepshead minnow	<i>Cyprinodon variegatus variegatus</i>	
Atlantic stingray	<i>Dasyatis sabina</i>	
Irish pompano	<i>Diapterus auratus</i>	
Ladyfish	<i>Elops saurus</i>	
Silver jenny	<i>Eucinostomus gula</i>	
Tidewater mojarra	<i>Eucinostomus harengulus</i>	
Mojarra	<i>Eucinostomus spp.</i>	
Gulf killifish	<i>Fundulus grandis</i>	
Striped/longnose killifish	<i>Fundulus majalis</i>	
Darter goby	<i>Gobionellus boleosoma</i>	
Highfin goby	<i>Gobionellus oceanicus</i>	
Naked goby	<i>Gobiosoma bosc</i>	
Code goby	<i>Gobiosoma robustum</i>	
Pinfish	<i>Lagodon rhomboides</i>	
Spot	<i>Leiostomus xanthurus</i>	
Gray snapper	<i>Lutjanus griseus</i>	
Lane snapper	<i>Lutjanus synagris</i>	
Silverside	<i>Menidia spp.</i>	
Whiting; southern kingfish	<i>Menticirrhus americanus</i>	
Clown goby	<i>Microgobius gulosus</i>	
Atlantic croaker	<i>Micropogonias undulatus</i>	
Planehead filefish	<i>Monacanthus hispidus</i>	
Striped mullet	<i>Mugil cephalus</i>	
White mullet	<i>Mugil curema</i>	
Mullet	<i>Mugil spp.</i>	
Leatherjack	<i>Oligoplites saurus</i>	
Oyster toadfish	<i>Opsanus tau</i>	
Pigfish	<i>Orthopristis chrysoptera</i>	
Gulf flounder	<i>Paralichthys albigutta</i>	
Southern flounder	<i>Paralichthys lethostigma</i>	
Blackdrum	<i>Pogonias cromis</i>	
Leopard searobin	<i>Prionotus scitulus</i>	
Bighead searobin	<i>Prionotus tribulus</i>	
Red drum	<i>Sciaenops ocellatus</i>	
Lookdown	<i>Selene vomer</i>	
Southern puffer	<i>Sphoeroides nephelus</i>	
Star drum	<i>Stellifer lanceolatus</i>	
Atlantic needlefish	<i>Strongylura marina</i>	
Redfin needlefish	<i>Strongylura notata</i>	
Timucu	<i>Strongylura timucu</i>	
Blackcheek tonguefish	<i>Symphurus plagiusa</i>	
Chain pipefish	<i>Syngnathus louisianae</i>	
Gulf pipefish	<i>Syngnathus scovelli</i>	
Inshore lizardfish	<i>Synodus foetens</i>	

Gamble Rogers Memorial State Recreation Area at Flagler Beach

Animals

Common Name	Scientific Name	Primary Habitat Codes (For imperiled species)
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Florida pompano	<i>Trachinotus carolinus</i>	
Permit	<i>Trachinotus falcatus</i>	

AMPHIBIANS

Southern toad	<i>Bufo terrestris</i>	
Squirrel treefrog	<i>Hyla squirella</i>	

REPTILES

American alligator	<i>Alligator mississippiensis</i>	
Green anole	<i>Anolis carolinensis</i>	
Brown anole*	<i>Anolis sagrei sagrei</i>	
Loggerhead sea turtle.....	<i>Caretta caretta</i>	BD
Green sea turtle.....	<i>Chelonia mydas</i>	BD
Six-lined racerunner	<i>Cnemidophorus sexlineatus sexlineatus</i>	
Southern black racer	<i>Coluber constrictor priapus</i>	
Eastern diamondback rattlesnake.....	<i>Crotalus adamanteus</i>	
Leatherback turtle.....	<i>Dermochelys coriacea coriacea</i>	BD
Southern ringneck snake	<i>Diadophis punctatus punctatus</i>	
Eastern indigo snake	<i>Drymarchon corais couperi</i>	BD,CS,MH,S
Corn snake.....	<i>Elaphe guttata guttata</i>	
Broad-headed skink	<i>Eumeces laticeps</i>	
Gopher tortoise.....	<i>Gopherus polyphemus</i>	BD,CS,SC
Indo-Pacific gecko*	<i>Hemidactylus garnotii</i>	
Striped mud turtle.....	<i>Kinosternon bauri</i>	
Eastern coachwhip	<i>Masticophis flagellum flagellum</i>	
Rough green snake	<i>Opheodrys aestivus</i>	
Florida worm lizard.....	<i>Rhineura floridana</i>	
Florida box turtle	<i>Terrapene carolina bauri</i>	
Eastern garter snake	<i>Thamnophis sirtalis sirtal</i>	

BIRDS

Cooper's Hawk.....	<i>Accipiter cooperii</i>
Sharp-shinned Hawk	<i>Accipiter striatus</i>
Spotted Sandpiper	<i>Actitis macularia</i>
Red-winged Blackbird	<i>Agelaius phoeniceus</i>
Ruby-throated Hummingbird	<i>Archilochus colubris</i>
Great Egret	<i>Ardea alba</i>
Great Blue Heron	<i>Ardea herodias</i>
Ruddy Turnstone.....	<i>Arenaria interpres</i>
Tufted Titmouse.....	<i>Baeolophus bicolor</i>
Cedar Waxwing.....	<i>Bombycilla cedrorum</i>

**Gamble Rogers Memorial State Recreation Area at Flagler Beach
Animals**

Common Name	Scientific Name	Primary Habitat Codes (For imperiled species)
Great Horned Owl	<i>Bubo virginianus</i>	
Cattle Egret*	<i>Bubulcus ibis</i>	
Red-shouldered Hawk.....	<i>Buteo lineatus</i>	
Green Heron.....	<i>Butorides virescens</i>	
Sanderling	<i>Calidris alba</i>	
Dunlin	<i>Calidris alpina</i>	
Red Knot.....	<i>Calidris canutus</i>	
Pectoral Sandpiper	<i>Calidris melanotos</i>	
Least Sandpiper.....	<i>Calidris minutilla</i>	
Northern Cardinal	<i>Cardinalis cardinalis</i>	
American Goldfinch	<i>Carduelis tristis</i>	
Turkey Vulture.....	<i>Cathartes aura</i>	
Hermit Thrush	<i>Catharus guttatus</i>	
Willet.....	<i>Catoptrophorus semipalmatus</i>	
Chimney Swift	<i>Chaetura pelagica</i>	
Killdeer	<i>Charadrius vociferus</i>	
Northern Bobwhite	<i>Colinus virginianus</i>	
Rock Dove *	<i>Columba livia</i>	
Common Ground-Dove	<i>Columbina passerina</i>	
Black Vulture	<i>Coragyps atratus</i>	
Fish Crow.....	<i>Corvus ossifragus</i>	
Blue Jay.....	<i>Cyanocitta cristata</i>	
Yellow-rumped Warbler.....	<i>Dendroica coronata</i>	
Palm Warbler.....	<i>Dendroica palmarum</i>	
Gray Catbird.....	<i>Dumetella carolinensis</i>	
Reddish Egret.....	<i>Egretta refuscens</i>	
Snowy Egret.....	<i>Egretta thula</i>	SM
Tricolored Heron	<i>Egretta tricolor</i>	SM
Swallow-tailed Kite.....	<i>Elanoides forficatus</i>	CS,MH,SC,SM
White Ibis	<i>Eudocimus albus</i>	SM
Merlin	<i>Falco columbarius</i>	CS,MH,SC,SM
American Kestrel.....	<i>Falco sparverius</i>	
Wilson's Snipe	<i>Gallinago delicata</i>	
Common Loon	<i>Gavia immer</i>	
Common Yellowthroat.....	<i>Geothlypis trichas</i>	
Bald Eagle.....	<i>Haliaeetus leucocephalus</i>	
Cliff Swallow.....	<i>Hirundo pyrrhonota</i>	
Barn Swallow.....	<i>Hirundo rustica</i>	
Loggerhead Shrike	<i>Lanius ludovicianus</i>	
Herring Gull.....	<i>Larus argentatus</i>	
Ring-billed Gull	<i>Larus delawarensis</i>	
Laughing Gull	<i>Leucophaeus atricilla</i>	
Hooded Merganser	<i>Lophodytes cucullatus</i>	
Belted Kingfisher.....	<i>Megaceryle alcyon</i>	
Eastern Screech Owl.....	<i>Megascops asio</i>	
Red-bellied Woodpecker.....	<i>Melanerpes carolinus</i>	

**Gamble Rogers Memorial State Recreation Area at Flagler Beach
Animals**

Common Name	Scientific Name	Primary Habitat Codes (For imperiled species)
Black scoter	<i>Melanitta americana</i>	
Northern Mockingbird	<i>Mimus polyglottos</i>	
Northern Gannet	<i>Morus bassanus</i>	
Wood Stork	<i>Mycteria americana</i>	SM
Great Crested Flycatcher.....	<i>Myiarchus crinitus</i>	
Yellow-crowned Night-Heron	<i>Nyctanassa violacea</i>	
Eastern Screech-Owl	<i>Otus asio</i>	
Osprey	<i>Pandion haliaetus</i>	
Northern Parula	<i>Parula americana</i>	
Savannah Sparrow	<i>Passerculus sandwichensis</i>	
Painted Bunting	<i>Passerina ciris</i>	
Indigo Bunting	<i>Passerina cyanea</i>	
American White Pelican.....	<i>Pelecanus erythrorhynchos</i>	
Brown Pelican.....	<i>Pelecanus occidentalis</i>	BD,SM
Cliff Swallow.....	<i>Petrochelidon pyrrhonota</i>	
Double-crested Cormorant	<i>Phalacrocorax auritus</i>	
Eastern Towhee	<i>Pipilo erythrophthalmus</i>	
Roseate Spoonbill	<i>Platalea ajaja</i>	SM
Glossy Ibis	<i>Plegadis falcinellus</i>	
Black-bellied Plover	<i>Pluvialis squatarola</i>	
Pied-billed Grebe	<i>Podilymbus podiceps</i>	
Blue-gray Gnatcatcher.....	<i>Polioptila caerulea</i>	
Purple Martin.....	<i>Progne subis</i>	
Boat-tailed Grackle.....	<i>Quiscalus major</i>	
Clapper Rail.....	<i>Rallus longirostris</i>	
Ruby-crowned Kinglet.....	<i>Regulus calendula</i>	
Bank Swallow	<i>Riparia riparia</i>	
Black Skimmer	<i>Rynchos nigra</i>	
Eastern Phoebe.....	<i>Sayornis phoebe</i>	
Northern Rough-Winged Swallow	<i>Stelgidopteryx serripennis</i>	
Forster's Tern.....	<i>Sterna forsteri</i>	
Least Tern.....	<i>Sternula antillarum</i>	SM
Swallow	<i>Stelgidopteryx serripennis</i>	
Eurasian Collared-Dove*	<i>Streptopelia decaocto</i>	
European Starling *	<i>Sturnus vulgaris</i>	
Tree Swallow	<i>Tachycineta bicolor</i>	
Carolina Wren.....	<i>Thryothorus ludovicianus</i>	
Brown Thrasher	<i>Toxostoma rufum</i>	
Lesser Yellowlegs	<i>Tringa flavipes</i>	
Greater Yellowlegs	<i>Tringa melanoleuca</i>	
Willet.....	<i>Tringa semipalmata</i>	
House Wren*	<i>Troglodytes aedon</i>	
American Robin	<i>Turdus migratorius</i>	
Orange-crowned Warbler	<i>Vermivora celata</i>	
White-eyed Vireo	<i>Vireo griseus</i>	
Mourning Dove	<i>Zenaida macroura</i>	

**Gamble Rogers Memorial State Recreation Area at Flagler Beach
Animals**

Common Name	<i>Scientific Name</i>	Primary Habitat Codes (For imperiled species)
MAMMALS		
North Atlantic right whale	<i>Balaena glacialis glacialis</i>	
Nine-banded armadillo*	<i>Dasypus novemcinctus</i>	
Virginia opossum	<i>Didelphis virginiana</i>	
Feral cat*	<i>Felis catus</i>	
Bobcat	<i>Felis rufus</i>	
Southern flying squirrel	<i>Glaucomys volans</i>	
River otter	<i>Lutra canadensis</i>	
White-tailed deer	<i>Odocoileus virginianus</i>	
Marsh rice rat	<i>Oryzomys palustris</i>	
Cotton mouse	<i>Peromyscus gossypinus</i>	
Raccoon	<i>Procyon lotor</i>	
Black rat*	<i>Rattus rattus</i>	
Eastern mole	<i>Scalopus aquaticus</i>	
Gray squirrel	<i>Sciurus carolinensis</i>	
Hispid cotton rat	<i>Sigmodon hispidus</i>	
Southeastern shrew	<i>Sorex longirostris longirostris</i>	
Eastern spotted skunk	<i>Spilogale putorius</i>	
Eastern cottontail	<i>Sylvilagus floridanus</i>	
Marsh rabbit	<i>Sylvilagus palustris</i>	
Florida manatee	<i>Trichechus manatus</i>	SM
Atlantic bottle-nosed dolphin	<i>Tursiops truncatus</i>	
Gray fox	<i>Urocyon cinereoargenteus</i>	
Red fox*	<i>Vulpes vulpes</i>	

Primary Habitat Codes

TERRESTRIAL

Beach Dune.....	BD
Coastal Berm.....	CB
Coastal Grassland	CG
Coastal Strand.....	CS
Dry Prairie	DP
Keys Cactus Barren	KCB
Limestone Outcrop	LO
Maritime Hammock	MAH
Mesic Flatwoods.....	MF
Mesic Hammock.....	MEH
Pine Rockland.....	PR
Rockland Hammock.....	RH
Sandhill	SH
Scrub	SC
Scrubby Flatwoods	SCF
Shell Mound	SHM
Sinkhole	SK
Slope Forest	SPF
Upland Glade.....	UG
Upland Hardwood Forest	UHF
Upland Mixed Woodland.....	UMW
Upland Pine.....	UP
Wet Flatwoods	WF
Xeric Hammock	XH

PALUSTRINE

Alluvial Forest.....	AF
Basin Marsh	BM
Basin Swamp.....	BS
Baygall	BG
Bottomland Forest.....	BF
Coastal Interdunal Swale	CIS
Depression Marsh	DM
Dome Swamp.....	DS
Floodplain Marsh.....	FM
Floodplain Swamp.....	FS
Glades Marsh.....	GM
Hydric Hammock.....	HH
Keys Tidal Rock Barren	KTRB
Mangrove Swamp	MS
Marl Prairie.....	MP
Salt Marsh.....	SAM
Seepage Slope.....	SSL
Shrub Bog.....	SHB
Slough.....	SLO
Slough Marsh	SLM
Strand Swamp.....	STS
Wet Prairie	WP

Primary Habitat Codes

LACUSTRINE

Clastic Upland Lake	CULK
Coastal Dune Lake	CDLK
Coastal Rockland Lake	CRLK
Flatwoods/Prairie	FPLK
Marsh Lake	MLK
River Floodplain Lake.....	RFLK
Sandhill Upland Lake	SULK
Sinkhole Lake	SKLK
Swamp Lake.....	SWLK

RIVERINE

Alluvial Stream	AST
Blackwater Stream.....	BST
Seepage Stream	SST
Spring-run Stream	SRST

SUBTERRANEAN

Aquatic Cave	ACV
Terrestrial Cave	TCV

ESTUARINE

Algal Bed	EAB
Composite Substrate	ECPS
Consolidated Substrate	ECNS
Coral Reef	ECR
Mollusk Reef.....	EMR
Octocoral Bed.....	EOB
Seagrass Bed	ESGB
Sponge Bed.....	ESPB
Unconsolidated Substrate.....	EUS
Worm Reef.....	EWR

MARINE

Algal Bed	MAB
Composite Substrate	MCPS
Consolidated Substrate	MCNS
Coral Reef	MCR
Mollusk Reef.....	MMR
Octocoral Bed.....	MOB
Seagrass Bed	MSGB
Sponge Bed.....	MSPB
Unconsolidated Substrate.....	MUS
Worm Reef.....	MWR

ALTERED LANDCOVER TYPES

Abandoned field.....	ABF
Abandoned pasture	ABP

Primary Habitat Codes

Agriculture	AG
Canal/ditch	CD
Clearcut pine plantation	CPP
Clearing	CL
Developed	DV
Impoundment/artificial pond	IAP
Invasive exotic monoculture	IEM
Pasture - improved	PI
Pasture - semi-improved	PSI
Pine plantation	PP
Road	RD
Spoil area	SA
Successional hardwood forest ...	SHF
Utility corridor	UC

MISCELLANEOUS

Many Types of Communities	MTC
Overflying	OF

Addendum 6—Imperiled Species Ranking Definitions

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.

FNAL 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)

Imperiled Species Ranking Definitions

- 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.

Imperiled Species Ranking Definitions

- 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.

Imperiled Species Ranking Definitions

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

Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties (revised March 2013)

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.

Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties (revised March 2013)

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

Eligibility Criteria for National Register of Historic Places

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

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- 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.

Preservation Treatments as Defined by Secretary of Interior's Standards and Guidelines

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.

Preservation Treatments as Defined by Secretary of Interior's Standards and Guidelines
