

## CHAPTER 2 – ALTERNATIVES, INCLUDING THE PREFERRED ALTERNATIVE

### INTRODUCTION

Many aspects of the desired future condition of Fort Matanzas National Monument are defined in the establishing legislation, the National Monument's purpose and significance statements, and the servicewide mandates and policies that were described earlier. Within these parameters, the NPS solicited input from the public, NPS staff, government agencies, and other organizations regarding issues and desired conditions for the park. Planning team members gathered information about existing visitor use and the condition of the National Monument's facilities and resources. They considered which areas of the National Monument attract visitors, and which areas have sensitive resources.

Using the above information the planning team developed a set of management prescriptions and two action alternatives to reflect the range of ideas proposed by the national park staff and the public.

This chapter describes the management zones and the alternatives for managing the National Monument for the next 20 years. The NPS planning process requires development of action alternatives (alternatives B, and C) for comparison with no change in current park management and trends (no-action, alternative A). The chapter includes tables that summarize the key differences between the alternatives and the key differences in the impacts that are expected from implementing each alternative. (The summary of impacts table is based on the analysis in Chapter 4, "Environmental Consequences.") This chapter also describes mitigative measures that would be used to lessen or avoid impacts, the future studies that would be needed, and the environmentally preferred alternative.

### FORMULATION OF ALTERNATIVES

The building blocks for reaching an approved plan for managing a national park system unit are the management zones and the alternatives. The alternatives in the GMP/EIS or EA must be consistent with the purpose of the park, its significance, its administrative and legal mandates, and its enabling legislation. They must be developed with the protection of the park's resources and values, including opportunities for visitor enjoyment, as the primary determinants. In other words, the alternatives should propose different approaches to achieving a park's purpose, while at the same time protecting or minimizing impacts to the park's resources and values. Management zones are descriptions of desired conditions for park resources and visitor experiences in different areas of the park. Management zones are determined for each national park system unit; however the management zones for one unit will likely not be the same for any other national park system unit (although some might be similar). The management zones identify the widest range of potential appropriate resource conditions, visitor experiences, and facilities for the park that fall within the scope of the park's purpose, significance, and special mandates. Five management zones have been identified for Fort Matanzas National Monument (see Table 3 later in this chapter).

The alternatives in this general management plan are the different futures that could be created with the management zones available. Each of the action alternatives has an overall management concept and a description of how different areas of the park would be managed. The concept for each alternative gives the NPS staff the idea for what the alternative is going to look like. For example, perhaps one management zone is called "natural resource" and another zone is called "recreation." An alternative whose concept is to keep most of the park in an undeveloped and natural/wild condition would have more of the natural resource than the recreation zone. Both zones might also be larger or

1 smaller and in different locations in different  
2 alternatives, depending on the overall concept  
3 for each alternative.

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5 The alternatives focus on *what* resource  
6 conditions and visitor uses and experiences/  
7 opportunities should be at the national park  
8 rather than on details of *how* these conditions  
9 and uses/ experiences should be achieved.  
10 Thus, the alternatives do not include many  
11 details on resource or visitor use  
12 management.

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14 More detailed plans or studies will be  
15 required before most conditions proposed in  
16 the alternatives are achieved. The  
17 implementation of any alternative also  
18 depends on future funding and staffing and  
19 environmental compliance.

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21 This *Final General Management*  
22 *Plan/Environmental Impact Statement*  
23 presents three alternatives, including the  
24 NPS's preferred alternative, for future  
25 management of Fort Matanzas National  
26 Monument. Alternative A, the "no-action"  
27 alternative that presents a continuation of  
28 existing management direction, is included as  
29 a baseline for comparing the consequences of  
30 implementing each alternative. The other  
31 "action" alternatives are alternative B (the  
32 NPS preferred alternative) and alternative C.  
33 The action alternatives present different ways  
34 to manage resources and visitor use and  
35 improve facilities and infrastructure at Fort  
36 Matanzas National Monument. The two  
37 action alternatives embody the range of what  
38 the public and the NPS want to see  
39 accomplished with regard to natural resource  
40 conditions, cultural resource conditions,  
41 visitor use and experience, the socioeconomic  
42 environment, transportation, and park  
43 operations. The National Park Service would  
44 continue to follow existing agreements and  
45 servicewide mandates, laws, and policies  
46 regardless of the alternatives considered in  
47 this plan. However, actions or desired  
48 conditions not mandated by policy, law, or  
49 agreements can differ among the alternatives.  
50 These alternative actions are discussed in this  
51 chapter.

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53 The approval of a general management plan  
54 does not guarantee that funding and staffing  
55 needed to implement the plan will be  
56 forthcoming. Funding for capital construction  
57 improvements is not currently shown in NPS  
58 construction programs. It is not likely that all  
59 potential capital improvements arising from  
60 this plan will be totally implemented during  
61 the life of the plan. Larger capital  
62 improvements may be phased over several  
63 years, and full implementation of the general  
64 management plan could be many years into  
65 the future. Additionally, the NPS is required  
66 to maintain all new or acquired assets in a  
67 good condition so they do not fall into  
68 disrepair. New and/or expanded assets will  
69 only be provided relative to the NPS's ability  
70 to maintain those facilities in good condition.

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## 72 **IDENTIFICATION OF THE** 73 **PREFERRED ALTERNATIVE**

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75 The alternatives were considered from a  
76 number of different perspectives, including  
77 comments received on the alternatives  
78 newsletter and during public meetings, and a  
79 preliminary analysis of potential impacts.  
80 With these and other elements in mind, the  
81 preferred alternative was chosen by the NPS  
82 through a process called Choosing by  
83 Advantages. Choosing by Advantages, or  
84 "CBA," is a logical, trackable, decision-  
85 making process that allows evaluation of the  
86 relationship between results and costs to  
87 identify the alternative with the greatest value  
88 in accomplishing NPS functional goals and  
89 objectives. Developed for use in the public  
90 agency decision-making environment, CBA  
91 focuses on the advantages between  
92 alternatives, and determines the importance of  
93 those advantages based on the park's purpose  
94 and the agency's mission. Cost is then  
95 introduced to the evaluation process,  
96 establishing an importance-to-cost ratio. This  
97 allows a planning team to identify which  
98 alternative or components of alternatives  
99 provide the greatest benefit for each dollar  
100 spent.

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102 This process evaluated alternatives by  
103 identifying and comparing the relative  
104 advantages of each according to a set of  
105 criteria or factors. The alternatives were rated

on how well they addressed the following factors and to what extent each had an advantage over the others in addressing each of the following factors:

1. Protection of natural resources
2. Protection of cultural resources
3. Creation or enhancement of educational and interpretive opportunities
4. Creation or enhancement of recreational opportunities for fishing, birding, walking, etc.
5. Providing for public health, safety, and welfare

Based on an evaluation of these factors and the preliminary costs estimates for the different alternatives for one year (including one time capital expenditures), Alternative B was determined to be the NPS preferred alternative.

## **USER (CARRYING) CAPACITY**

General management plans for national park system units must address user capacity management. The National Park Service defines user capacity as the type and extent of use that can be accommodated while sustaining the quality of a park unit's resources and visitor experiences consistent with the park unit's purpose.

User capacity management involves establishing desired conditions, monitoring, and taking actions to ensure the park unit's values are protected. The premise is that with any visitor use comes some level of impact that must be accepted; therefore, it is the responsibility of the NPS to decide what level of impact is acceptable and what management actions are needed to keep impacts within acceptable limits.

Instead of just tracking and controlling the number of visitors, NPS staff manages the levels, types, and patterns of visitor use as needed to preserve the condition of the resources and quality of the visitor

experience. The monitoring component of this process helps NPS staff evaluate the effectiveness of management actions and provides a basis for informed management of visitor use.

The foundation for user capacity decision making is the qualitative descriptions of desired resource conditions, visitor experience opportunities, and general levels of development and management described in the management zones. Based on these desired conditions, indicators and standards are identified. An indicator is a measurable variable that can be used to track changes in resource and social conditions related to human activity, so that existing conditions can be compared to desired conditions. A standard is the minimum acceptable condition for an indicator.

User capacity decision making is a continuous process; decisions are adjusted based on monitoring the indicators and standards. Management actions are taken to minimize impacts when needed. The indicators and standards included in this management plan would generally not change in the future. However, as monitoring of the park's conditions continues, managers may decide to modify, add, or delete indicators if better ways are found to measure important changes in resource and social conditions. Information on the NPS' monitoring efforts, related visitor use management actions, and any changes to the indicators and standards would be available to the public.

This *General Management Plan* addresses user capacity in the following ways:

- The management zones described earlier in this chapter provide the basis for managing user capacity. Each zone prescribes desired resource conditions, visitor experiences, and recreational opportunities for different areas of the park. The zones also prescribe the types and levels of developments necessary to support these conditions, experiences, and opportunities. This element of the framework is the most important to long-term user capacity

- 1 management in that it directs the NPS  
2 on how to best protect resources and  
3 visitor experiences while offering a  
4 diversity of visitor opportunities.
- 5
- 6 • A description of the park's most  
7 pressing use-related resource and  
8 visitor experience concerns, existing  
9 and potential, given the park's purpose,  
10 related desired conditions, and the  
11 vulnerability of specific resources and  
12 values. This helps NPS managers focus  
13 limited resources on the most  
14 significant indicators.
- 15
- 16
- 17 • Identification of indicators and  
18 standards that will be monitored in the  
19 future to determine if desired  
20 conditions are not being met due to  
21 unacceptable impacts from visitor use.
- 22
- 23 • Representative examples of  
24 management strategies that might be  
25 used to avoid or minimize unacceptable  
26 impacts from visitor use.
- 27
- 28 • Priorities for monitoring attention, if  
29 appropriate.
- 30
- 31 The following tables are the results of the  
32 user capacity analysis for Fort Matanzas.



**Fort Matanzas Interior Room**

**TABLE 2. INDICATORS AND STANDARDS**

Indicator	Applicable Zone	Standard	Management Strategies
<b>Indicator Topic: Impacts to threatened and endangered species, species of concern, and important habitats</b>			
Number of incidental takes*  *Incidental take is defined by the Endangered Species Act as an otherwise legal action that results in death, harm, habitat damage, or the disruption of the feeding, breeding, and sheltering behavior of protected species.	Natural Resource Zone and Recreation Zone	Incidental take not exceeded as authorized	<ul style="list-style-type: none"> <li>• Protect or increase the size of the protected area</li> <li>• Monitor area</li> <li>• Visitor education</li> <li>• Assistance from visitors in monitoring areas</li> <li>• Control of domestic and feral nuisance animals</li> </ul>
Number of unauthorized (user-created) trails	Natural Resource Zone and Recreation Zone	No unauthorized trails	<ul style="list-style-type: none"> <li>• Signage</li> <li>• Provide restrooms (to eliminate need for trail)</li> <li>• Visitor education</li> <li>• Provide authorized trail</li> <li>• Enforcement</li> <li>• Barricade existing unauthorized trails</li> </ul>
<b>Indicator Topic: Park-wide vehicle hazards to visitors including pedestrians</b>			
Average number of incidents per 5-year anywhere in park	All zones	Not to exceed 5-year average of vehicle/pedestrian incidents	<ul style="list-style-type: none"> <li>• Visitor education</li> <li>• Coordinate with DOT to add crosswalks, lights, decrease speeds, etc...</li> <li>• Close beach to driving</li> <li>• Separate pedestrian and vehicular traffic on beach</li> <li>• Enforce speed limit on beach</li> </ul>
<b>Indicator Topic: Car clouting</b>			
Number of car clouting incidents	Visitor Services Zone & Recreation Zone	Zero incidents	<ul style="list-style-type: none"> <li>• Visitor education regarding leaving valuables in view in vehicle</li> <li>• Enforcement tools (cameras, staff presence, etc.)</li> <li>• Cooperative efforts with other agencies for prevention and investigation</li> </ul>
<b>Indicator Topic: Trash/Litter (River shore, boardwalks, etc.)</b>			
Amount of litter	All zones	When litter detracts from visitor experience and resources are impacted as determined by any visitor complaints and staff observations	<ul style="list-style-type: none"> <li>• Visitor education</li> <li>• Signage</li> <li>• Provide additional trash receptacles and increased pick-up</li> <li>• Extra efforts to keep areas clear of litter to deter others from littering</li> <li>• Enforcement</li> <li>• Community and staff volunteer pick-up efforts</li> </ul>
<b>Indicator Topic: Visitor crowding related to VISITOR CENTER and fort visitation (visitor center, dock/fort, video room)</b>			
Number of people in the book store/visitor center at one time	Visitor Services Zone and Historic Resource Zone	No more than 6 people in the bookstore at one time*  *based on current	<ul style="list-style-type: none"> <li>• Redirect people to other nearby activities (video room, nature trail, viewing fort and scene from dock, view interpretive panels)</li> </ul>

Indicator	Applicable Zone	Standard	Management Strategies
		building configuration	<ul style="list-style-type: none"> <li>• Provide additional self-guided or park lead interpretive activities outside the visitor center</li> </ul>
Number of people in video room at one time	Visitor Services Zone and Historic Resource Zone	No more than 15 people in the video room at one time*  *based on current building configuration	<ul style="list-style-type: none"> <li>• Provide additional self-guided or park lead interpretive activities outside the video room</li> <li>• Divide groups and rotate them in shifts</li> <li>• Explore new technological options (podcasts, video kiosk, add monitor in other location)</li> </ul>
Number of people waiting for boat to fort	Visitor Services Zone	No more than 70 people waiting	<ul style="list-style-type: none"> <li>• More frequent trips with less time for visitors at the fort</li> <li>• Additional interpretive programming</li> <li>• Hand out turn-away tickets</li> </ul>
<b>Indicator Topic: Inadequate/crowded parking, maneuvering</b>			
Number of vehicles parking outside designated areas	Visitor Services Zone	No vehicles parking outside designated areas	<ul style="list-style-type: none"> <li>• Issue tickets</li> <li>• Tow</li> <li>• Additional signage</li> <li>• Redirect to other lots not filled to capacity</li> <li>• Explore additional lots or expanded lots</li> <li>• Close lots when full</li> </ul>

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## 1 **MANAGEMENT ZONES FOR FORT** 2 **MATANZAS NATIONAL MONUMENT**

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4 Management zones are descriptions of desired  
5 conditions for park resources and visitor  
6 experiences in different areas of the park.  
7 Management zones are determined for each  
8 national park system unit; however, the  
9 management zones for one unit will likely not be  
10 the same for any other national park system unit  
11 (although some might be similar). The  
12 management zones identify the widest range of  
13 potential appropriate resource conditions, visitor  
14 experiences, and facilities for the park that fall  
15 within the scope of the park's purpose,  
16 significance, and special mandates. Five

17 management zones have been developed for Fort  
18 Matanzas National Monument: Visitor Services,  
19 Park Services, Historic\* Resource, Natural\*  
20 Resource, and Recreation.

21 \*The use of the terms *Historic* and *Natural* in this context  
22 should be understood to mean that either natural or  
23 historic resources may occur in both zones and that both  
24 will be protected and preserved in either zone.  
25

26 In formulating the action alternatives (alternatives  
27 B & C), management zones were placed in  
28 different locations or configurations on a map of  
29 the park according to the overall intent (concept)  
30 of each of the alternatives. (Because Alternative A  
31 represents existing conditions, and there are no  
32 existing management zones, the Alternative A  
33 map does not show the management zones.)



**Wood Stork on Rattlesnake Island**

**TABLE 3. MANAGEMENT ZONE DESCRIPTIONS AT FORT MATANZAS NATIONAL MONUMENT**

	VISITOR SERVICES ZONE	PARK SERVICES ZONE	HISTORIC RESOURCE ZONE	NATURAL RESOURCE ZONE	RECREATION ZONE
<b>APPROPRIATE KINDS &amp; LEVELS OF VISITOR ACTIVITIES</b>	<ul style="list-style-type: none"> <li>• Visitor activities could include entering the National Monument grounds, paying fees, and receiving orientation to the resources and programs of the National Monument.</li> </ul>	<ul style="list-style-type: none"> <li>• Visitors would not typically enter this zone except to obtain information or assistance.</li> </ul>	<ul style="list-style-type: none"> <li>• Typical visitor activities in this zone could include participating in interpretive programs, viewing resources and interpretive displays, photography, and appropriate recreational pursuits.</li> </ul>	<ul style="list-style-type: none"> <li>• Visitor activities would be limited to low-impact activities such as kayaking/canoeing, bird watching, photography and recreational fishing and shellfish harvesting.</li> <li>• Use levels would likely remain low and would be monitored to assure achievement of zone objectives.</li> </ul>	<ul style="list-style-type: none"> <li>• Appropriate visitor activities could include sightseeing, picnicking, bird watching, fishing, hiking, swimming, etc.</li> <li>• Visitor activities might be self-directed or they might use interpretive services to plan their activities.</li> </ul>
<b>DESIRED RESOURCE CONDITIONS</b>	<ul style="list-style-type: none"> <li>• Necessary visitor facilities in this zone would be placed as unobtrusively as possible in an appropriate setting.</li> <li>• The area would be modified for visitor access and park operations in a way that aesthetically blends with the natural and cultural environment.</li> </ul>	<ul style="list-style-type: none"> <li>• Non-historic elements such as maintenance facilities, administrative offices, and facilities of cooperating partners, would predominate in this type of zone.</li> <li>• Minimizing the impacts of these facilities on the natural and cultural resources of the National Monument would be a high priority.</li> </ul>	<ul style="list-style-type: none"> <li>• Cultural resources in this zone could accommodate expanded visitor use, while maintaining historic resource integrity and while representing the period of significance to the greatest degree feasible.</li> <li>• Some resources would be stabilized at the existing condition.</li> <li>• Maintain the cultural landscape while screening for modern intrusions.</li> <li>• There would be minimum tolerance for adverse visitor impact.</li> </ul>	<ul style="list-style-type: none"> <li>• This zone would constitute natural habitats subject to little or no direct human disturbance.</li> <li>• Its primary function is to support the diversity of native flora and fauna within those habitats.</li> <li>• Resources in this zone would be carefully protected from degradation.</li> <li>• Some modification of the natural environment could occur to prevent resource degradation.</li> <li>• Generally, the area would exhibit the free play of natural forces and natural ecosystem succession.</li> </ul>	<ul style="list-style-type: none"> <li>• This zone supports both recreation and natural resource functions and values.</li> <li>• Within this zone, coexistence between recreational users and natural resources would be emphasized.</li> <li>• Sounds and sights of human activity would be apparent.</li> <li>• Balanced management would likely result in minor resource impacts.</li> </ul>



	VISITOR SERVICES ZONE	PARK SERVICES ZONE	HISTORIC RESOURCE ZONE	NATURAL RESOURCE ZONE	RECREATION ZONE
<b>DESIRED VISITOR EXPERIENCE</b>	<ul style="list-style-type: none"> <li>This area would provide for a high level of visitor activity and administrative operations.</li> <li>In this zone, visitors would enter the National Monument and they would have opportunities to receive orientation and information, interact with park staff and other visitors, and experience and learn about the monument's physical resources and interpretive themes.</li> </ul>	<ul style="list-style-type: none"> <li>Visitors would not typically enter this zone.</li> <li>Should they enter, either unintentionally or to obtain information or assistance, they might encounter maintenance or administrative buildings, equipment, machinery in operation, loud sounds, and park staff.</li> </ul>	<ul style="list-style-type: none"> <li>Observation, education, reflection, and learning would be the primary visitor experiences desired.</li> <li>Living history demonstrations and interpretive programs could occur in this zone type.</li> <li>Visitors could also find the opportunity for solitary, individual exploration and discovery, quiet, and reflective experiences.</li> <li>Appropriate recreational activities such as participating in interpretive programs, viewing historic structures and exhibits, and photography would be permitted.</li> </ul>	<ul style="list-style-type: none"> <li>The visitor would perceive the area to be undisturbed and essentially natural.</li> <li>Visitors would appreciate the beauty of the area and gain new understanding of the forces of nature in the coastal environment.</li> <li>Access would be limited to waterways and designated trails.</li> <li>The probability of seeing or encountering other visitors or park staff would be low most of the time.</li> </ul>	<ul style="list-style-type: none"> <li>Visitors would have a variety of opportunities to participate in recreational activities and interpretive programs.</li> <li>Providing opportunities for people to interact with the resources in this area would be important.</li> <li>The probability of seeing or encountering other visitors or park staff would range from low to moderate most of the time.</li> </ul>
<b>APPROPRIATE KINDS &amp; LEVELS OF DEVELOPMENT</b>	<ul style="list-style-type: none"> <li>A visitor center with restrooms, drinking water fountains, museum, fee-collection facility, roads, parking, and walkways are the types of facilities found in this zone.</li> </ul>	<ul style="list-style-type: none"> <li>The facilities found in this zone could include maintenance buildings, vehicle storage facilities, park offices, roads, parking areas, utilities, and artifact storage buildings as well as facilities, park housing, and equipment storage structures of cooperating partners.</li> </ul>	<ul style="list-style-type: none"> <li>The minimum development necessary for visitor access, safety, resource protection, and interpretive purposes would occur in this zone.</li> <li>Development could include signage, trails, pathways, benches, or other appropriate facilities.</li> <li>Adaptive use of some cultural resources would also be permitted in this zone.</li> </ul>	<ul style="list-style-type: none"> <li>There would be no buildings, comfort stations, or other structures in this zone.</li> <li>Some trails or interpretive markers would be possible in less environmentally sensitive areas.</li> </ul>	<ul style="list-style-type: none"> <li>There could be specialized recreational facilities or structures compatible with natural resource uses in this zone.</li> <li>There could be trails, campground, parking areas, or comfort stations in this zone where compatible with the environmental conditions of the site.</li> <li>Additions to the landscape, including signs, markers, fishing piers, and accessibility features might be used to enhance visitor experience and public safety as well as to protect resources.</li> </ul>

	VISITOR SERVICES ZONE	PARK SERVICES ZONE	HISTORIC RESOURCE ZONE	NATURAL RESOURCE ZONE	RECREATION ZONE
<b>APPROPRIATE KINDS &amp; LEVELS OF MANAGEMENT ACTIVITIES</b>	<ul style="list-style-type: none"> <li>• Management activities could include regular maintenance of both the structural and landscape elements in the zone, fee collection, interpretive services, and law enforcement.</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate to intensive management in this zone would be directed toward maintenance of its buildings and grounds as well as staging and preparation for maintenance and resource protection activities in other zones.</li> </ul>	<ul style="list-style-type: none"> <li>• Management activities that could occur in this zone include interpretation, grounds maintenance, preservation, rehabilitation, restoration, stabilization, visitor protection and law enforcement, and archeological investigations.</li> </ul>	<ul style="list-style-type: none"> <li>• Management/data collection activities in this zone would be minimal, only as necessary to maintain natural processes and/or protect resources from degradation, protect areas from negative visitor impact and occasionally remove invasive, nuisance, and exotic species to promote health of the natural ecology.</li> <li>• Cooperation with other entities having jurisdiction over natural resources would be an important aspect of management in this zone.</li> </ul>	<ul style="list-style-type: none"> <li>• Management actions would focus on enhancing visitor experience and safety, protecting resources, minimizing impacts from visitor use.</li> <li>• Appropriate management actions could include: <ul style="list-style-type: none"> <li>• Determining types and levels of use;</li> <li>• Managing access; and</li> <li>• Conducting research and restoring and stabilizing resources.</li> </ul> </li> </ul>

## **ACTIONS COMMON TO ALL ALTERNATIVES**

### **Protecting Coastal Resources**

It is an objective of this plan under all alternatives to enhance the ability of the park to monitor and protect coastal resources on the Atlantic Ocean side of Anastasia Island. This area is divided in ownership between the State of Florida (from the mean high tide line eastward into the territorial waters of the State) and the NPS (from the mean high tide line westward to the right-of-way for State Route A1A). To accomplish this, the park would work cooperatively with St. Johns County, which manages the state lands.

Other ongoing actions common to all alternatives include the following:

- The NPS Inventory & Monitoring (I&M) program for the Southeast Coastal Network has begun and would continue to collect data on coastal shoreline change, salt marsh accretion or subsidence, and trends in plant communities. The I&M program is also planning to develop a protocol and analyze data to determine the status and trends of groundwater levels in existing groundwater wells and identify potential relationships between changes in groundwater dynamics and changes in landscape dynamics for the park.
- The State of Florida is conducting vegetation classification and mapping of the park.
- The NPS continues to monitor and treat the National Monument for a variety of exotic invasive plants.
- Removal of exotics, nuisance, and invasive species would continue.
- Fort stabilization work would be ongoing.

## **ALTERNATIVE A: THE NO-ACTION ALTERNATIVE**

### **Concept**

The primary purpose of the no-action alternative, required by NEPA, is to serve as a baseline for comparing the effects of the action alternatives to the effects of the status quo. The no-action alternative is the continuation of current management actions and direction into the future, i.e., continuing with the present course of action until that action is changed. “No action” does not mean that the park does nothing. Rather, the no-action alternative presents how the park would continue to manage natural resources, cultural resources, and visitor use and experience if a new GMP was not approved and implemented.

The no-action alternative is a viable course of action and must be presented as an objective and realistic representation of continuing the current park management direction otherwise it will not be an accurate baseline against which to compare action alternatives and their potential impacts.

The park’s enabling legislation and NPS management policies would provide guidance for all of the alternatives. The park would continue to be managed as it is today, with no major change in management direction. Visitors would enjoy a quiet, reflective experience on the west side of Anastasia Island and on Rattlesnake Island. The experience on the east side of Anastasia Island would be that of a natural coastal beach environment in which driving private vehicles within the National Monument boundary is prohibited in accord with Presidential Executive Orders and NPS regulations. Park managers would preserve and maintain both the natural environment and the park’s principal cultural resources to the fullest extent according to applicable laws and policies, standards and guidelines.

### **Natural Resources**

- NPS would preserve and maintain the natural environment to the fullest extent possible according to applicable laws and policies, standards and guidelines.
- The NPS Inventory & Monitoring program for the Southeast Coastal Network has begun the process of collecting data on salt marsh accretion or subsidence.

- The NPS Inventory & Monitoring program for the Southeast Coastal Network is planning to develop a protocol and analyze data to determine the status and trends of groundwater levels in existing groundwater wells and identify potential relationships between changes in groundwater dynamics and changes in landscape dynamics for the park.
- NPS continues to monitor and treat the National Monument for a variety of exotic, invasive, and nuisance plants.
- The University of North Florida is conducting research into the dispersion of invasive Green Mussels, *Perna viridis*.
- The University of North Florida is conducting research using the river system around the park as a model for comparing the effects of nutrient loads for estuaries.

## Cultural Resources

- NPS would preserve the park's principal cultural resources according to applicable laws and policies, standards and guidelines.
- Use of the New Deal era structures would continue as a visitor center and park offices.
- The park's museum collections would continue to be stored in a multi-park facility in Jacksonville, Florida. The collections would continue to be available for research and educational purposes within the framework of NPS Management Policies 2006, Chapter 5.3.5.5 and the park's approved scope of collection statement.
- Archeological resources – continue current protection measures and investigations according to regulations.

## Visitor Uses and Experiences

- Visitors would enjoy a quiet, reflective experience on west side of Anastasia Island and Rattlesnake Island.

- Visitors would enjoy a natural coastal beach environment on east side of Highway A1A.
- Visitors would receive information about the fort at the Anastasia Island visitor center by means of a short film, books and pamphlets, and programs presented at the amphitheater nearby.
- Weather permitting, visitors would board the ferry at the dock behind the visitor center for a short trip to Rattlesnake Island and the historic fort. Visitors would be free to explore the fort on their own or participate in interpretive programs on the lower level of the structure.

## Vehicular Beach Access

Driving off established park roads and parking lots would continue to be prohibited in accord with existing legal authorities, Presidential Executive Orders, Regulations and NPS policy.

## Interpretation

Interpretive programs at Fort Matanzas would continue to consist of an 8-minute orientation film at the visitor center and a program presented either on the boat or at the fort for each fort visitor. Nature programs and bird walks are presented on the park trails and/or beach twice each month. The first Saturday of each month is "Living History Day" with re-enactors portraying Spanish soldiers of the 1740s on duty at the fort with cannon and sometimes musket demonstrations. Musket demonstrations would continue to be presented most Saturdays as staffing allows. In addition, evening "Torchlight Living History Tours" would continue to be presented usually three evenings each year. Curriculum-based education programs would continue to be presented at the amphitheater next to the visitor center. Occasionally, off-site programs would be presented at local schools or for organizations. In Fiscal Year 2012, 66,189 people attended ranger programs and 24,032 watched the film. These figures represent 3.8 % and 21 % increases respectively, over the Fiscal Year 2008 numbers.

## **Parking**

- The park has implemented design changes to address unsafe conditions with existing parking lots.
- There would be two bus parking spaces added to the visitor center parking lot. This project would be accomplished through restriping and no new ground disturbance, paving, or construction.

## **Visitor Center**

No new visitor center would be constructed and there would be no major renovations to existing visitor center.

Finally, Fort Matanzas National Monument exists entirely within the Atlantic coastal plain of the State of Florida and predominantly within a 100-year flood plain. The historic coquina watchtower on Rattlesnake Island as well as the entire historic visitor center complex, the Johnson house, the maintenance facility, and beach access parking lots are all vulnerable to ongoing sea-level rise, hurricanes and other storms and associated and storm surge. While the action alternatives propose a range of facility expansions and adaptations to address visitor experience concerns and visitor services (e.g. availability of parking), NPS will evaluate proposed facility investments prior to project approvals using a variety of climate change mitigation strategies that can be found near the end of Chapter 2 to ensure the long-term sustainability of these investments. Due to the park's location and potential vulnerabilities, it is feasible that the NPS may conclude, following analysis of the best scientific information available, that such financial investments would be unwise and that other options would be considered or the project would not be pursued. Additional adaptation strategies will be developed relevant to climate change projections and scenarios as part of GMP implementation.

## **ALTERNATIVE B (The NPS Preferred Alternative)**

### **Concept**

This concept envisions managing the National Monument in tune with its history as a small military outpost within a sometimes harsh, but beautiful and rich natural environment.

- There would be minimal development of new facilities, which would consist of some expanded parking.
- The primary interpretive themes of the park would continue to be the fort, its construction from locally available coquina stone, and its strategic location relative to the defense of St. Augustine. However, there would be increased interpretation of the natural environment as well.
- Low-impact recreational activities would be emphasized.

## **Natural Resources**

Alternative B, like Alternative A, would preserve and maintain natural environment to the fullest extent possible according to applicable laws and policies, standards and guidelines. It would also include the same inventory and monitoring, vegetation classification and mapping, and exotic species removal activities and practices that are elements of Alternative A plus:

There would be minimal modification of the natural environment such as natural surface trails, boardwalks in wet areas to protect sensitive plants, and interpretive signs and wayside exhibits. The extent and type of these modifications would vary by management zone and within each zone according to the specific site conditions proposed for such modifications. There would also be some expansion of off-beach parking to compensate for the loss of on-beach parking. Additional environmental impact analysis and public review would take place when specific projects are proposed.

## **Cultural Resources**

- Fort stabilization work would be ongoing.
- The park's museum collections would continue to be stored in a multi-park facility in Jacksonville, Florida. The collections



would continue to be available for research and educational purposes within the framework of NPS Management Policies 2006, Chapter 5.3.5.5 and the park's approved scope of collection statement.

- Archeological resources –current protection measures and investigations would continue according to regulations.
- Explore adaptive reuse of the existing New Deal era visitor center, minimizing changes to the natural environment. Because this structure and the adjacent building as well as the surrounding landscape, roads, drives, and parking areas have been included in the National Register of Historic Places, all future planning regarding the use of these structures and facilities will incorporate compliance with Section 106 of the NHPA.

## Visitor Use and Experience

- Visitors would enjoy a quiet, reflective experience on the west side of A1A and Rattlesnake Island.
- Visitors would enjoy a natural coastal beach environment on the east side of Highway A1A.
- There would be an expanded emphasis on interpretation of the natural environment.
- Driving off established park roads and parking lots would continue to be prohibited in accord with existing Presidential Executive Orders, Regulations, and NPS policy.
- Interpretation of cultural resources would remain the same as in Alternative A.

## Vehicular Beach Access

Driving off established park roads and parking lots would continue to be prohibited in accord with existing legal authorities, Presidential Executive Orders, Regulations and NPS policy.

## Interpretation

- There would be an expanded emphasis on interpretation of the natural environment.
- Interpretation of cultural resources would remain the same as Alternative A.

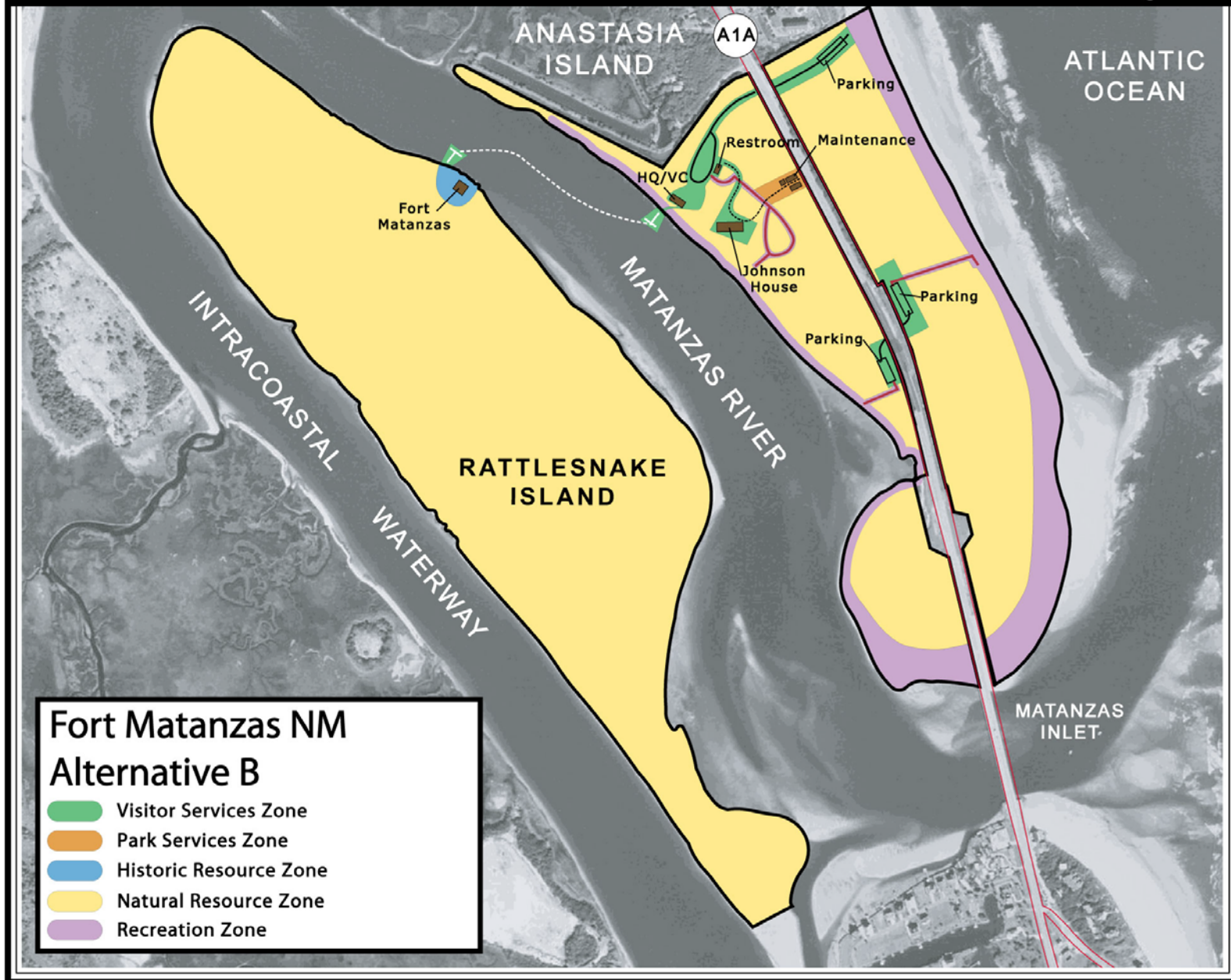
## Parking

- The existing visitor center parking would remain with the possible addition of spaces within the existing footprint through redesign, reorientation, and/or restriping. The footprint of the parking area would not be expanded.
- Expansion of other parking lots could occur if adverse resource (including threatened and endangered species) impacts could be avoided. Visitor Center

Visitation at the park has increased through the years to the extent that the 1937 visitor center is too small to provide adequate space for orientation and interpretive programs and displays. Meeting the needs of increased visitation and increased local population, especially school-age population, would be accomplished through adaptive re-use of existing structures on the west side of SR A1A (Johnson House and New Deal era structures).

# Fort Matanzas National Monument General Management Plan

National Park Service  
U.S. Department of the Interior



## 1 **ALTERNATIVE C**

### 3 **Concept**

5 This vision of Fort Matanzas combines the history  
6 of the Rattlesnake Island fortified outpost with its  
7 establishment as a National Monument and the  
8 further development and evolution of the park to  
9 its present day configuration.

- 11 • Interpretive programs and media would  
12 begin in time with the massacre of French  
13 Huguenots by Spanish soldiers, the event  
14 which gave the fort and the river their  
15 names, continue through the construction  
16 and operation of the fort and ultimately the  
17 establishment of the National Monument  
18 and expansion of the park's boundary and  
19 mission.
- 21 • The north end of the Anastasia Island part  
22 of the park that is west of Highway A1A  
23 would be maintained in its present  
24 condition, which is largely unchanged since  
25 its initial development in the mid-1930s.  
26 Therefore, the two buildings, the  
27 surrounding landscape including the  
28 entrance road and parking area would serve  
29 as an exhibit that commemorates and  
30 interprets the efforts of local citizens to  
31 create a permanent monument to the  
32 Spanish history of the site with New Deal  
33 funding. Wayside exhibits and interpretive  
34 media and programs would be used to tell  
35 these stories.
- 37 • The donations of land by local citizens that  
38 expanded the boundaries to include most of  
39 the southern 1 mile of Anastasia Island  
40 would also be interpreted through various  
41 media, wayside exhibits, and ranger-led  
42 programs.

### 44 **Natural Resources**

46 Same as Alternative A except:

48 There would be some modification of the natural  
49 environment to accommodate new trails,  
50 expanded parking lots, and visitor circulation  
51 patterns.

## 53 **Cultural Resources**

- 55 • Fort stabilization work would be ongoing.
- 57 • The park's museum collections would  
58 continue to be stored in a multi-park facility  
59 in Jacksonville, Florida. The collections  
60 would continue to be available for research  
61 and educational purposes within the  
62 framework of NPS Management Policies  
63 2006, Chapter 5.3.5.5 and the park's  
64 approved scope of collection statement.
- 66 • Archeological resources –current protection  
67 measures and investigations would  
68 continue according to regulations.

## 70 **Visitor Uses and Experience**

- 72 • There would be enhanced opportunities  
73 throughout the park for interpreting the  
74 park's evolution and development.
- 76 • There would be more interpretive emphasis  
77 on the cultural history than the natural  
78 history of the site.
- 80 • Visitors could have motorized vehicular  
81 access to the beach by the promulgation of  
82 a special regulation followed by an Off  
83 Road Vehicle (ORV) Plan and  
84 Environmental Impact Statement (EIS) that  
85 demonstrates no impairment of resources.
- 87 • There would be a focus on the north end of  
88 the Anastasia Island (west of A1A) section  
89 of the park with the New Deal era visitor  
90 center and interpretation of the land  
91 donations and other activities of St.  
92 Augustine organizations to restore and  
93 commemorate the Fort for local residents  
94 and tourists.

## 96 **Vehicular Beach Access**

98 Driving off established park roads and parking  
99 lots would continue to be prohibited in accord  
100 with existing legal authorities, Presidential  
101 Executive Orders, Regulations, and NPS policy.

102 However, upon final approval of the GMP, NPS  
103 would:

- Seek authority to permit driving on the Anastasia Island beach within the Fort Matanzas boundary through the promulgation of a Special Regulation followed by the preparation of an ORV Plan and an EIS. Both the rulemaking process and the ORV planning process involve public notice and review and comment phases.
- Beach driving access and the boundaries/geographical limits within which beach driving would be permitted would be based on the environmental impacts analysis.

## **Interpretation**

- There would be enhanced opportunities throughout the park for interpreting the park's evolution and development.
- There would be more interpretive emphasis on the cultural history than the natural history of the site
- There would be a focus on the north end of the Anastasia Island (west of A1A) section of the park with the New Deal era visitor center and interpretation of the land donations and other activities of St. Augustine organizations to restore and commemorate the Fort for local residents and tourists.

## **Parking**

- There could be minimal expansion of following parking areas: beach ramp and both parking areas at south end of Anastasia Island.
- The current visitor center parking lot expansion would be limited to accommodate bus/RV parking and possible small vehicle parking within the existing footprint through redesign, reorientation, and/or restriping. There would be no expansion of the existing parking area footprint.

## **Visitor Center**

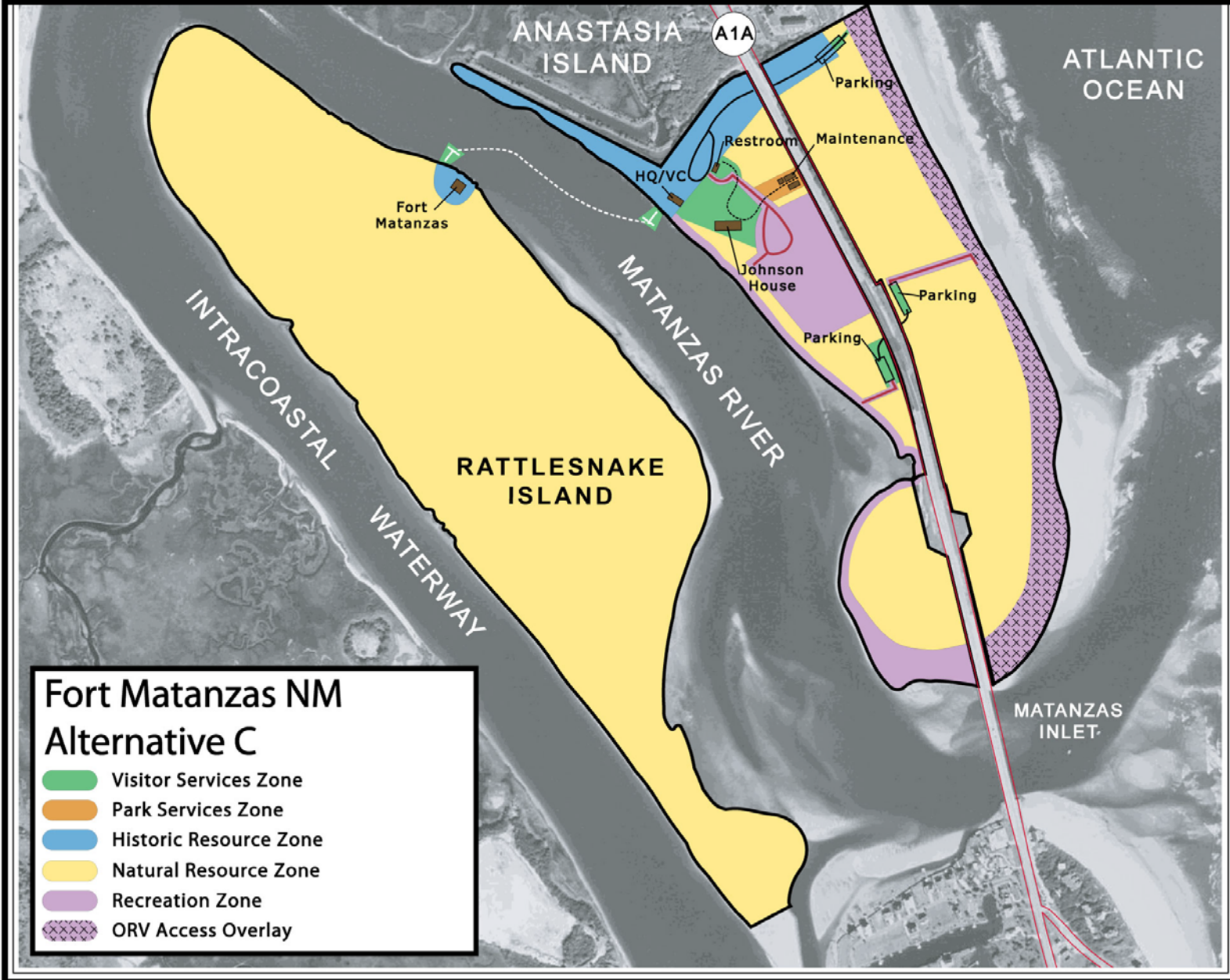
Same as Alternative B plus:

The 1937 visitor center and park headquarters, having been approved for listing on the National Register of Historic Places in 2008, would be interpreted along with contributing elements such as the entrance road, parking area, and the Matanzas Ramp as part of the story of the development and evolution of the National Monument, especially the contributions of local citizens to the effort.



# Fort Matanzas National Monument General Management Plan

National Park Service  
U.S. Department of the Interior





## 1 **DEVELOPMENT OF COST ESTIMATES**

2  
3 NPS decision makers and the public must  
4 consider an overall picture of the complete costs  
5 and advantages of various alternatives, including  
6 the no-action alternative, to make wise planning  
7 and management decisions for the park. Such  
8 consideration can shed light on the cost of the no-  
9 action alternative and make possible a more  
10 legitimate comparison to the action alternatives.

11  
12 Class C estimates are used which are rough,  
13 order-of-magnitude estimates based on NPS and  
14 industry standards to the extent available. These  
15 figures are not to be used for budgetary purposes  
16 or implementation funding requests. It is  
17 important that the cost estimates contain the same  
18 elements and that they be developed with the  
19 same general assumptions so that there can be  
20 consistency and comparability among  
21 alternatives. The main components of these cost  
22 estimates are as follows:

### 23 **Initial One-Time Costs**

- 24 • New development (including infrastructure
- 25 costs)
- 26 • Major rehabilitation or restoration of
- 27 existing facilities
- 28 • Interpretive media (audiovisual materials,
- 29 exhibits, waysides, and publications)
- 30 • Resource management and visitor service
- 31 costs (resource and visitor inventories,
- 32 implementation planning, compliance)
- 33
- 34
- 35

### 36 **Annual Costs**

- 37
- 38 • Annual park operating costs (staff salary
- 39 and benefits, maintenance, utilities,
- 40 monitoring, contract services)
- 41 • Ongoing repair and rehabilitation of
- 42 facilities
- 43

### 44 **NPS Facilities Model**

45  
46 The National Park Service has developed facility  
47 models for several types of facilities, such as  
48 visitor centers and maintenance facilities, based  
49 on a number of factors unique to each national  
50 park system unit. This model was used in  
51 estimating the costs for adapting existing facilities  
52 for new uses.

## 53 **Implementation**

54  
55  
56 The cost figures shown here and throughout the  
57 plan are intended only to provide an estimate of  
58 the relative costs of alternatives. NPS and industry  
59 cost estimating guidelines were used to develop  
60 the costs (in 2008 dollars) to the extent possible,  
61 but the estimates should not be used for budgeting  
62 purposes. Specific costs will be determined in  
63 subsequent, more detailed planning and design  
64 exercises, and considering the design of facilities,  
65 identification of detailed resource protection  
66 needs, and changing visitor expectations. Actual  
67 costs to the NPS will vary depending on if and  
68 when the actions are implemented, and on  
69 contributions by partners and volunteers.

70  
71 The implementation of the approved plan, no  
72 matter which alternative is selected, will depend  
73 on future NPS funding levels and servicewide  
74 priorities, and on partnership funds, time, and  
75 effort. The approval of a GMP does not guarantee  
76 that funding and staffing needed to implement the  
77 plan will be forthcoming. Full implementation of  
78 the plan could be many years in the future.

**TABLE 4. COSTS OF ALTERNATIVES**

ITEM	ALTERNATIVES		
	Alt. A	Alt. B	Alt. C
<b>Annual Operating Costs (ONPS) <sup>(1)</sup></b>	<b>\$577,693</b>	<b>\$853,598</b>	<b>\$993,223</b>
<b>Staffing - FTE <sup>(2)</sup></b>	<b>9.6</b>	<b>11.6</b>	<b>13.6</b>
<b>Total One-Time Costs</b>	<b>\$17,317</b>	<b>\$1,889,952</b>	<b>\$2,380,572</b>
<b>One-Time Facility Costs <sup>(3)</sup></b>	<b>\$17,317</b>	<b>\$1,889,952</b>	<b>\$2,380,572</b>
<b>One-Time Non-Facility Costs <sup>(4)</sup></b>	<b>\$0</b>	<b>\$0</b>	<b>\$750,000</b>

(1) Annual operating costs are the total costs per year for maintenance and operations associated with each alternative, including utilities, supplies, staff salaries and benefits, leasing, and other materials. Cost and staffing estimates assume that the alternative is fully implemented as described in the narrative.

(2) The total number of FTEs is the number of person-years of staff required to maintain the assets of the park at a good level, provide acceptable visitor services, protect resources, and generally support the park's operations. The FTE number indicates ONPS-funded NPS staff only, not volunteer positions or positions funded by partners. FTE salaries and benefits are included in the annual operating costs. The proposed increases in total FTEs would be for law enforcement and protection rangers related to patrol and enforcement of the ban on beach driving, interpretation and education specialists for increased emphasis on the natural environment and the New Deal era development and expansion of the park, and facility maintenance staff related to expanded parking areas and additional trails.

(3) One-time facility costs include those for the design, construction, rehabilitation, or adaptive reuse of visitor centers, roads, parking areas, administrative facilities, comfort stations, educational facilities, entrance stations, fire stations, maintenance facilities, museum collection facilities, and other visitor facilities. For Alternative A facility costs would consist of an additional 2 bus parking spaces in the visitor center parking lot. For Alternative B, facility costs would include the 2 bus parking spaces for the visitor center, expanded parking on the east and west sides of Highway A1A and the beach ramp parking lot, adaptation of existing structures for visitor services and administrative needs, and interpretive signs. For Alternative C, facility costs would include most of the same items that are included in Alternative B plus 2500 linear feet of trails on the west side of Highway A1A.

(4) One-time non-facility costs include actions for the preservation of cultural or natural resources not related to facilities, the development of visitor use tools not related to facilities, and other park management activities that would require substantial funding above park annual operating costs. Examples include preparing historic structures reports and an historic resource study. For Alternative C one-time non-facility costs include the writing, analysis, and economic analysis associated with the promulgation of a special rule and an Off-Road Vehicle Plan and Environmental Impact Statement.

The following applies to costs presented throughout this GMP:

- ☐ The costs are presented as estimates and are not appropriate for budgeting purposes.
- ☐ The costs presented have been developed using NPS and industry standards to the extent available.
- ☐ Specific costs will be determined at a later date, considering the design of facilities, identification of detailed resource protection needs and changing visitor expectations.
- ☐ Actual costs to the NPS will vary depending on if and when the actions are implemented, and on contributions by partners and volunteers.
- ☐ Approval of the GMP does not guarantee that funding or staffing for proposed actions will be available.
- ☐ The implementation of the approved plan, no matter which alternative, will depend on future NPS funding levels and Service- wide priorities, and on partnership funds, time, and effort.

## SUMMARY COMPARISON OF THE ALTERNATIVES

Table 5 beginning on the next page, provides a comparison of the major features of the alternatives. The comparison is based on the major issue categories that were developed during public scoping of the general management plan. The comparison also provides a summary for each alternative of how that alternative addresses visitor experience, natural resource conditions and cultural resource conditions. The alternatives were designed to address the major issues. The last column in the table discusses the differences between alternatives for each issue topic.



**Fort Matanzas Tour Boat**

**TABLE 5. COMPARISON OF ALTERNATIVES**

Topic	Alternative A	Alternative B	Alternative C	Differences Between B & C
<b>General Theme</b>	Continue current management policies and practices into the foreseeable future. For NEPA purposes, this is known as the No-Action alternative.	<ul style="list-style-type: none"> <li>• This concept envisions managing the National Monument in tune with its history as a small military outpost within a sometimes harsh, but beautiful and rich natural environment.</li> <li>• There would be minimal development of new facilities.</li> <li>• The primary interpretive mission of the park would continue to be the fort, its construction from locally available coquina stone, and its strategic location relative to the defense of St. Augustine. However, there would be increased interpretation of the natural environment as well.</li> <li>• Low-impact recreational activities would be emphasized.</li> </ul>	<ul style="list-style-type: none"> <li>• This vision of Fort Matanzas combines the history of the Rattlesnake Island fortified outpost with its establishment as a National Monument and the further development and evolution of the park to its present day configuration.</li> <li>• Interpretive programs and media would begin in time with the massacre of French Huguenots by Spanish soldiers, the event which gave the fort and the river their names, continue through the construction and operation of the fort and ultimately the establishment of the National Monument and expansion of the park's boundary and mission.</li> <li>• The north end of the Anastasia Island part of the park that is west of Highway A1A would be maintained in its present condition and interpreted as an exhibit that commemorates the efforts of the PWA and local citizens to create a permanent monument to the Spanish history of the site.</li> <li>• The donations of land by local citizens that expanded the boundaries to include most of the southern 1 mile of Anastasia Island would also be interpreted through various media and programs.</li> </ul>	<ul style="list-style-type: none"> <li>• B has more emphasis on protecting natural resources by continuing the prohibition of beach driving and by limiting development of new facilities. In addition, environmental education and natural resource interpretation could be increased.</li> <li>• C expands the interpretation of history to include the creation, development, and evolution of the park, including efforts, donations, and other contributions of local citizens.</li> </ul>

Topic	Alternative A	Alternative B	Alternative C	Differences Between B & C
<b>Visitor Experience</b> <ul style="list-style-type: none"> <li>Rattlesnake Island</li> <li>Anastasia Island west of Highway A1A (including west of the Matanzas inlet Bridge)</li> <li>Anastasia Island east of Highway A1A</li> </ul>	<ul style="list-style-type: none"> <li>Quiet, reflective experience on west side of Anastasia Island and Rattlesnake Island.</li> <li>Enjoyment of a natural coastal beach environment on east side of Highway A1A. Driving private vehicles within the National Monument boundary is prohibited in accord with Presidential Executive Orders and NPS regulations.</li> <li>Visitors receive information about the fort at the Anastasia Island visitor center by means of a short film, books and pamphlets, and programs presented at the amphitheater nearby.</li> <li>Weather permitting, visitors board the ferry at the dock behind the visitor center for a short trip to Rattlesnake Island and the historic fort. Visitors are free to explore the fort on their own or participate in interpretive programs on the lower level of the structure.</li> </ul>	<ul style="list-style-type: none"> <li>Quiet, reflective experience on west side of A1A and Rattlesnake Island.</li> <li>Enjoyment of a natural coastal beach environment on east side of Highway A1A.</li> <li>Expanded interpretive emphasis of natural environment.</li> <li>Driving off established park roads would be prohibited in accord with existing Presidential Executive Orders and NPS policy.</li> <li>Interpretation of cultural resources would remain the same as Alternative A.</li> </ul>	<ul style="list-style-type: none"> <li>Enhanced opportunities throughout the park interpreting the park's evolution and development.</li> <li>More interpretive emphasis on the cultural history than the natural history of the site.</li> <li>Visitors may obtain personal vehicular access to the beach if a special regulation is approved that is preceded by an Off Road Vehicle Plan and Environmental Impact Statement that demonstrates no impairment of resources.</li> <li>There would be a focus on the north end of the Anastasia Island (west of A1A) section of the park with the New Deal era visitor center and interpretation of the land donations and other activities of St. Augustine organizations to restore and commemorate the Fort for local residents and tourists.</li> </ul>	<ul style="list-style-type: none"> <li>B provides a visitor experience that emphasizes the natural environment by limiting facility development and by increasing interpretation of natural resources.</li> <li>C provides a visitor experience that emphasizes the cultural history and evolution of the park and expands some recreational trail/boardwalk opportunities.</li> </ul>
<b>Natural Resource Conditions</b> <ul style="list-style-type: none"> <li>Dune System</li> <li>T &amp; E Animals</li> <li>T &amp; E Plants</li> <li>Exotics and invasives</li> <li>Other</li> </ul>	<ul style="list-style-type: none"> <li>Preserve and maintain natural environment to the fullest extent possible according to applicable laws and policies, standards and guidelines.</li> <li>NPS Inventory &amp; Monitoring program for the Southeast Coastal Network has begun the process of collecting data on coastal shoreline change.</li> <li>NPS Inventory &amp; Monitoring</li> </ul>	<p>Same as Alternative A except:</p> <ul style="list-style-type: none"> <li>Minimal modification of the natural environment.</li> </ul>	<p>Same as Alternative A except:</p> <ul style="list-style-type: none"> <li>Some modification of natural environment to accommodate new trails, expanded parking lots, and visitor circulation patterns.</li> </ul>	<ul style="list-style-type: none"> <li>B provides the highest level of preservation to the natural environment due to increased interpretive emphasis, prohibition of beach driving, and minimal facility development.</li> <li>C allows a level of beach driving (only after promulgation of a special regulation and completion of an ORV plan with an EIS) which does not impair resources.</li> </ul>



Topic	Alternative A	Alternative B	Alternative C	Differences Between B & C
	<p>program for the Southeast Coastal Network has begun the process of collecting data on salt marsh accretion or subsidence.</p> <ul style="list-style-type: none"> <li>• NPS Inventory &amp; Monitoring program for the Southeast Coastal Network has begun the process of collecting data on trends in plant communities.</li> <li>• State of Florida is conducting vegetation classification and mapping of the park.</li> <li>• NPS Inventory &amp; Monitoring program for the Southeast Coastal Network is planning to develop a protocol and analyze data to determine the status and trends of groundwater levels in existing groundwater wells and identify potential relationships between changes in groundwater dynamics and changes in landscape dynamics for the park.</li> <li>• NPS continues to monitor and treat the National Monument for a variety of exotic invasive plants.</li> <li>• University of North Florida is conducting research into the dispersion of invasive green mussels, <i>Perna viridis</i>.</li> <li>• University of North Florida is conducting research using the river system around the park as a model for comparing the effects of nutrient loads for estuaries</li> <li>• Removal of exotic, nuisance, and</li> </ul>			<ul style="list-style-type: none"> <li>• B does not permit off-road (beach) driving.</li> </ul>

Topic	Alternative A	Alternative B	Alternative C	Differences Between B & C
	invasive species would continue.			
<b>Cultural Resource Conditions</b> <ul style="list-style-type: none"> <li>Coquina Watchtower</li> <li>New Deal era Visitor Contact Facility</li> <li>Museum Collections</li> <li>Archeological Resources</li> <li>Ethnographic Resources</li> <li>Cultural Landscapes</li> </ul>	<ul style="list-style-type: none"> <li>Preserve the park's principal cultural resources according to applicable laws and policies, standards and guidelines.</li> <li>Fort stabilization work would be ongoing.</li> <li>Use of the New Deal era structure would continue as a visitor center and temporary quarters for park staff.</li> <li>The park's museum collections would continue to be stored in a multi-park facility in Jacksonville, Florida. The collections would continue to be available for research and educational purposes within the framework of NPS Management Policies 2006, Chapter 5.3.5.5 and the park's approved scope of collection statement.</li> <li>Archeological resources – continue current protection measures and investigations according to regulations.</li> </ul>	<p>Same as Alternative A except:</p> <ul style="list-style-type: none"> <li>Explore adaptive reuse of existing New Deal era VC minimizing changes to the natural environment.</li> </ul>	<p>Same as Alternative A except:</p> <ul style="list-style-type: none"> <li>First floor of current VC would be used for visitor interpretation and exhibits pertaining to the New Deal era structure itself.</li> </ul>	<ul style="list-style-type: none"> <li>B includes the possibility of adaptive reuse of the entire VC structure and/or the Johnson House for visitor services.</li> <li>C retains the historic character of the visitor center/park headquarters area while adapting the interiors for more effective visitor services and administrative purposes.</li> <li>Because the visitor center, the adjacent structure to the north and the surrounding roads, parking area, and landscape are included in the National Register of Historic Places, all proposed adaptive reuse of these areas would have to be submitted to the Florida SHPO for the Section 106 (National Historic Preservation Act) review.</li> </ul>
<b>Visitor Center</b>	<ul style="list-style-type: none"> <li>No new visitor center would be constructed and there would be no major renovations to existing visitor center.</li> </ul>	<ul style="list-style-type: none"> <li>Visitation at the park has increased through the years to the extent that the 1937 visitor center is too small to provide adequate space for orientation and interpretive programs and displays.</li> <li>Meeting the needs of increased visitation and increased local population, especially school-age</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alternative B plus:</li> </ul> <p>The 1937 VC and park HQ would be interpreted as a National Register site. These structures and the internal roads, parking areas, as well as the Matanzas Ramp and parking (access to the Atlantic Ocean beach) were listed in the National Register of Historic Places on December 31, 2008.</p>	<ul style="list-style-type: none"> <li>B &amp; C preserve and maintain the historic character of existing buildings within their existing footprints and adapt them to achieve desired visitor experience and administrative goals.</li> </ul>

Topic	Alternative A	Alternative B	Alternative C	Differences Between B & C
		children, would be accomplished through adaptive re-use of existing structures on the west side of SR A1A (Johnson House and New Deal era structures).		
<b>Parking</b>	<ul style="list-style-type: none"> <li>The park is currently exploring alternatives to address unsafe conditions with existing parking lots.</li> <li>There would be two bus parking spaces added to the visitor center parking lot by restriping the existing paved area.</li> </ul>	<ul style="list-style-type: none"> <li>Existing VC parking would remain with possible addition of one or two spaces for bus/RV parking. This would be accomplished by restriping the existing paved area.</li> <li>Expansion of other parking lots would occur if adverse resource impacts (including threatened and endangered species) can be avoided.</li> </ul>	<ul style="list-style-type: none"> <li>Potential minimal expansion of following parking areas: beach ramp, both parking areas at south end of Anastasia Island.</li> <li>Current VC lot expansion limited to accommodate bus/RV parking and possible small vehicle parking. This would be accomplished by restriping the existing paved area.</li> </ul>	<ul style="list-style-type: none"> <li>B expands the existing parking lots on the east and west sides of A1A to mitigate loss of parking on the beach.</li> <li>C expands parking on the east and west sides of A1A to a lesser degree than B to mitigate crowding and parking on shoulders at peak times.</li> </ul>
<b>Administrative HQ/Facilities</b>	<ul style="list-style-type: none"> <li>Administrative offices remain in the adapted structure next to the Visitor Center.</li> </ul>	<ul style="list-style-type: none"> <li>Explore adaptive reuse of existing park structures for administrative offices, minimizing changes to the natural environment.</li> </ul>	<ul style="list-style-type: none"> <li>The exterior of the Johnson House and the immediate site would be used partially for interpretation.</li> </ul>	<ul style="list-style-type: none"> <li>B and C locate administrative offices in an existing adapted structure.</li> </ul>

Topic	Alternative A	Alternative B	Alternative C	Differences Between B & C
<b>Vehicle Access</b>	<ul style="list-style-type: none"> <li>Driving off established park roads is prohibited in accord with existing legal authorities, Presidential Executive Orders and NPS policy.</li> </ul>	<ul style="list-style-type: none"> <li>Driving off established park roads remains prohibited in accord with existing legal authorities, Presidential Executive Orders and NPS policy.</li> </ul>	<p>Same as A &amp; B except:</p> <ul style="list-style-type: none"> <li>Beach driving would continue to be prohibited unless authorization to allow it is successfully established by the promulgation of a special regulation followed by completion of an ORV plan and environmental impact statement.</li> <li>If beach driving were authorized, the boundaries/geographical limits and other conditions such as nesting season closures, within which it would be permitted, would be based on an approved Off Road Vehicle plan and Environmental Impact Statement.</li> </ul>	<ul style="list-style-type: none"> <li>B does not allow beach driving.</li> <li>C would only provide for beach driving following promulgation and approval of a special regulation followed by preparation and approval of an ORV plan and environmental impact statement.</li> </ul>



**Fort Matanzas Boardwalk to Anastasia Island Ocean Beach**



**TABLE 6. SUMMARY OF IMPACTS**

<b>Impact Topic</b>	<b>Alternative A</b>	<b>Alternative B</b>	<b>Alternative C</b>
<b>CULTURAL RESOURCES</b>			
<b>Archeological Resources</b>	Under Alternative A, impacts on archeological resources would be permanent, negligible to minor, and adverse. The actions contained in Alternative A would contribute a negligible increment to this cumulative impact.	Under Alternative B, impacts on archeological resources would be permanent, negligible to minor, and adverse. Cumulative impacts would be permanent, minor, and adverse. The actions contained in Alternative B would contribute a negligible increment to this cumulative impact.	Under Alternative C, impacts on archeological resources would be permanent, negligible to minor, and adverse. Cumulative impacts would be permanent, minor to moderate, and adverse. The actions contained in Alternative C would contribute a negligible increment to this cumulative impact.
<b>Museum Collections</b>	Under Alternative A, impacts to museum collections would be permanent and beneficial. Cumulative impacts would be permanent, minor, and adverse. The actions contained in Alternative A would contribute a negligible increment to this cumulative impact.	Under Alternative B, impacts to museum collections would be permanent and beneficial. Cumulative impacts would be permanent, minor, and adverse. The actions contained in Alternative B would contribute a negligible increment to this cumulative impact.	Under Alternative C, impacts to museum collections would be permanent and beneficial. Cumulative impacts would be permanent, minor to moderate, and adverse. The actions contained in Alternative C would contribute a negligible increment to this cumulative impact.
<b>Historic Structures</b>	Under Alternative A, impacts to historic structures would be long-term, negligible to minor, and adverse, mostly due to normal wear and tear. Cumulative impacts would be moderate to major and adverse due to continued development in the local and regional area. The actions contained in Alternative A would constitute a negligible increment to this cumulative impact.	Under Alternative B, impacts to historic structures would be long-term, negligible to minor, and adverse, mostly due to normal wear and tear. Cumulative impacts would be moderate to major and adverse due to continued development in the local and regional area. The actions contained in Alternative B would constitute a negligible increment to this cumulative impact.	Under Alternative C, impacts to historic structures would be would for the most part be local, long-term, direct and indirect, moderate and beneficial. Some short-term, negligible to minor adverse impacts would occur, mostly due to normal wear and tear. Cumulative impacts would be minor to moderate and adverse due to continued development in the local and regional area. The beneficial actions contained in Alternative C would offset these cumulative adverse impacts to a negligible degree.
<b>Potential Cultural Landscapes</b>	Under Alternative A, there would be long-term, beneficial, and minor impacts on the potential cultural landscape due to a gradual reduction in non-native vegetation. Cumulative impacts would be long-term, minor to moderate, beneficial and adverse.	Under Alternative B, there would be long-term, beneficial, and minor to moderate adverse impacts on the potential cultural landscape due to the removal of exotic vegetation and the maintenance of native vegetation surrounding the historic structures of the park. Cumulative impacts would be long-term, moderate, and beneficial. Alternative B would	Under Alternative C, impacts would be local, long-term, direct and indirect and beneficial from the maintenance of the area as a potential cultural landscape. Cumulative impacts would be long-term, minor to moderate, and beneficial. Alternative C would contribute a moderate, beneficial increment to this cumulative impact.

Impact Topic	Alternative A	Alternative B	Alternative C
	Alternative A would contribute a minor increment to this cumulative impact.	contribute a minor increment to this cumulative impact.	
<b>NATURAL RESOURCES</b>			
<b>Geology and Soils</b>	Under Alternative A, impacts to soils and geologic resources would be long-term, negligible to minor, adverse, and localized. There would be a long-term, moderate to major, adverse cumulative impact on soils and geologic resources. The actions contained in Alternative A would contribute a negligible increment to this cumulative impact.	Under Alternative B, impacts to soils and geologic resources would be localized, long-term, minor, and adverse. There would be a long-term, moderate to major, adverse cumulative impact on soils and geologic resources. The actions contained in Alternative B would contribute a negligible increment to this cumulative impact.	Impacts would include those discussed under Alternative B, together with additional erosion from construction and use of new trails, other recreational facilities, and the potential for future use of ORVs if a regulation is pursued and approved. Impacts to soils would be local, short-term, moderate adverse and local, long-term, moderate adverse. There would be a long-term, moderate to major, adverse cumulative impact on soils and geologic resources. The actions contained in Alternative C would contribute a minor increment to this cumulative impact.
<b>Plant Communities and Vegetation (including Exotic/Non-native Plants)</b>	Under Alternative A, impacts on plant communities and vegetation would be long-term, adverse, negligible to minor, and localized. There could be long-term, moderate to major, and adverse cumulative impacts to vegetation and plant communities in the surrounding region. The actions contained in Alternative A would contribute a negligible increment to this cumulative impact. Under Alternative A, impacts from exotic plants and nonnative vegetation would be long-term, adverse, and moderate. There could be a long-term, moderate to major, adverse cumulative impacts on native natural processes. The actions contained in Alternative A would contribute a very small increment to this cumulative impact.	Under Alternative B, impacts on plant communities and vegetation would be local, short- and long-term, direct, minor, and adverse. There could be long-term, moderate to major and adverse cumulative impacts to vegetation and plant communities in the surrounding region. The actions contained in Alternative B would contribute a very small increment to this cumulative impact. Under Alternative B, impacts from exotic plants and nonnative vegetation would be long-term, adverse, and moderate to major. There could be a long-term, moderate to major, adverse cumulative impacts on native natural processes. The actions contained in Alternative B would offset these cumulative adverse impacts to a negligible degree.	Under Alternative C, impacts on plant communities and vegetation would be local, short-term, direct, minor to moderate adverse and long-term, direct, minor to moderate adverse. There could be long-term, moderate to major and adverse cumulative impacts to vegetation and plant communities in the surrounding region. The actions contained in Alternative C would contribute a minor increment to this cumulative impact. Potential adverse impacts to dune vegetation are possible if ORV beach driving is approved. Under Alternative C, impacts from exotic plants and nonnative vegetation would be long-term, adverse, and moderate to major. There could be a long-term, moderate to major, adverse cumulative impacts on native natural processes. The actions for exotic plant control contained in Alternative C would offset these cumulative adverse impacts to a negligible degree.
<b>Fish and Wildlife</b>	Under Alternative A, impacts on fish and	Under Alternative B, impacts on fish and wildlife would be local,	Under Alternative C, impacts on fish and wildlife would be local, short-

Impact Topic	Alternative A	Alternative B	Alternative C
	wildlife from the continuation of current management would be long-term, minor, and both beneficial and adverse. Minor adverse impacts to soil, water quality, and vegetation would result in minor adverse effects on some fish and wildlife species. In contrast, the removal of exotic, nuisance, and invasive species would result in minor beneficial effects on some wildlife species. This alternative would result in long-term, moderate, adverse cumulative impacts on fish and wildlife. The actions contained in Alternative A would contribute a very small increment to this cumulative impact.	short- and long-term, direct and indirect, minor, and both beneficial and adverse. Impacts would result primarily from the potential expansion of parking lots on the east and west sides of Highway A1A. Minor adverse impacts to soil, water quality, and vegetation would result in minor adverse effects on some fish and wildlife species. In contrast, the removal of exotic, nuisance, and invasive species would result in minor beneficial effects on some wildlife species. This alternative would result in long-term, moderate, adverse cumulative impacts on fish and wildlife. The actions contained in Alternative B would contribute a very small increment to this cumulative impact.	and long-term, direct and indirect, minor to moderate, and both beneficial and adverse. Impacts would result primarily from modifications of the natural environment to accommodate new trails, expanded parking lots on the east and west sides of Highway A1A, and visitor circulation patterns. Minor adverse impacts to soil, water quality, and vegetation would result in minor adverse effects on some fish and wildlife species. In contrast, the removal of exotic, nuisance, and invasive species would result in minor beneficial effects on some wildlife species. If this alternative were selected, NPS would seek to promulgate an ORV regulation with an ORV plan and environmental impact statement that would fully assess the effects of re-established driving on the beach under a number of alternative scenarios.
<b>Water Quality</b>	Under Alternative A, impacts on water quality would be long-term, negligible to minor, adverse, and localized. There would be a long-term, adverse cumulative impact on water quality in the watershed. The intensity of the impact is unknown. The actions contained in Alternative A would contribute a very small adverse increment to this cumulative impact.	Under Alternative B, impacts on water quality would be local, short- and long-term, direct, minor, and adverse. There would be a long-term, adverse cumulative impact on water quality in the watershed. The intensity of the impact is unknown. The actions contained in Alternative B would contribute a very small adverse increment to this cumulative impact.	Under Alternative C, impacts on water quality would be local, short- and long-term, minor, and adverse. There would be a long-term, adverse cumulative impact on water quality in the watershed. The intensity of the impact is unknown. The actions contained in Alternative C would contribute a minor increment to this cumulative impact. Impacts would be partially mitigated by use of best management practices during clearing and site recovery.
<b>Floodplains</b>	Impacts to floodplain functions under Alternative A would be local, direct and indirect, negligible to minor, and adverse. Impacts to infrastructure in the event of flooding would be short- and long-term, moderate to major, and adverse.	Impacts to floodplain functions under Alternative B would be local, direct and indirect, negligible to minor, and adverse. Impacts to infrastructure in the event of flooding would be short- and long-term, moderate to major, and adverse.	Impacts to floodplain functions under Alternative C would be local, direct and indirect, negligible to minor, and adverse. Impacts to infrastructure in the event of flooding would be short- and long-term, moderate to major, and adverse.
<b>Wetlands</b>	Under Alternative A, past impacts on wetlands would continue and would be long-term, minor, adverse, and	Under Alternative B, past impacts on wetlands would continue and would be long-term, minor, adverse, and localized. There would be a	Under Alternative C, past impacts on wetlands would continue and would be long-term, minor, adverse, and localized. There would be a long-term, minor to major, adverse

Impact Topic	Alternative A	Alternative B	Alternative C
	localized. There would be a long-term, minor to major, adverse cumulative impact on wetlands. The actions contained in Alternative A would not contribute any new impacts to this cumulative impact.	long-term, minor to major, adverse cumulative impact on wetlands. The actions contained in Alternative B would not contribute any new impacts to this cumulative impact.	cumulative impact on wetlands. The actions contained in Alternative C would not contribute any new impacts to this cumulative impact.
<b>Soundscape</b>	Alternative A would have a continued long-term, minor effect on the natural soundscape and a temporary, minor adverse effect to the soundscape during the time of construction of the expansion of the parking lots.	Alternative B would have a continued long-term, minor effect on the natural soundscape and a temporary, minor adverse effect to the soundscape during the time of expansion of the parking lots within the visitor center complex by redesign and restriping.	Alternative C would have a long-term, minor adverse effect on the soundscape from ongoing visitor and park management sources and a temporary, minor adverse effect during the construction phase for expanded parking lots on the east and west sides of Highway A1A and new trails. Pursuant to the promulgation and issuance of a special regulation, should the effort be successful, an ORV plan and environmental impact statement would evaluate the effects on the soundscape resulting from alternative ORV plans.
<b>VISITOR USE AND EXPERIENCE</b>			
<b>Visitation of Historic Sites / Recreational Activities</b>	Under the no-action alternative, impacts on visitor use and experience would be long-term, major, adverse and long-term major beneficial. The cumulative impact on visitor use and experience in the monument would be long-term, negligible to minor, and beneficial. The actions contained in the no-action alternative would not contribute an appreciable increment to this cumulative impact.	Impacts to visitor use and experience would stem primarily from the creation of additional parking and the adaptive reuse of the visitor center and would be local, short- and long-term, moderate, and both beneficial and adverse, depending on a given visitor's individual preferences.	Impacts to visitor use and experience would stem primarily from the creation of additional parking, the adaptive reuse of the visitor center, and the pursuit of a special regulation followed by an ORV plan and environmental impact statement to allow ORV use on the beach. Impacts would be local, short- and long-term, moderate, and both beneficial and adverse, depending on a given visitor's individual preferences.
<b>Public Health &amp; Safety</b>	Under all alternatives there would be improvements to parking and circulation of visitors which would alleviate some of the congestion in the park and result in a minor, beneficial effect to public safety.	Under all alternatives there would be improvements to parking and circulation of visitors which would alleviate some of the congestion in the park and result in a minor, beneficial effect to public safety.	Under all alternatives there would be improvements to parking and circulation of visitors which would alleviate some of the congestion in the park and result in a minor, beneficial effect to public safety.
<b>SOCIOECONOMIC ENVIRONMENT</b>			

Impact Topic	Alternative A	Alternative B	Alternative C
<b>Local Economy</b>	Because there would be negligible changes to visitor spending or construction activity within St. Johns County under Alternative A, long-term and short-term impacts on the socioeconomic environment would be localized, negligible, and neutral. As a result, county employment, housing, and sales would remain constant. In terms of cumulative impacts, long-term and short-term impacts would be localized, moderate, and beneficial. Alternative A would contribute a negligible increment to this total cumulative effect.	Because there would be only slight increases to visitor spending or park expenditures within St. Johns County under Alternative B, long-term and short-term impacts on the socioeconomic environment would be localized, negligible, and beneficial. As a result, county employment, housing, and sales would not be measurably affected. In terms of cumulative impacts, long-term and short-term impacts would be localized, moderate, and beneficial. Alternative B would contribute a negligible increment to this total cumulative effect.	Because there would be only slight increases to visitor spending or park expenditures within St. Johns County under Alternative C, long-term and short-term impacts on the socioeconomic environment would be localized, negligible, and beneficial. As a result, county employment, housing, and sales would not be measurably affected. In terms of cumulative impacts, long-term and short-term impacts would be localized, moderate, and beneficial. Alternative C would contribute a negligible increment to this total cumulative effect.
<b>NPS OPERATIONS AND MANAGEMENT</b>			
<b>NPS Operations and Management</b>	Operation of existing visitor and administrative facilities in the monument would result in continuing minor, long-term, neutral impacts on NPS operations. The cumulative impacts of the no-action alternative and other reasonably foreseeable future actions required of park staff would be minor to moderate, long-term, and neutral.	Operation of existing and projected visitor and administrative facilities in the monument would result in minor, long-term, neutral impacts on NPS operations. The cumulative impacts of Alternative B and other reasonably foreseeable future actions required of park staff would be minor to moderate, long-term, and neutral.	The impacts of Alternative C on park operations would include those of Alternative A and B. Four new permanent employees would be necessary to implement Alternative C. This additional staffing would have minor to moderate beneficial effects on operations from the point of view of effectively achieving critical park work goals and objectives. The impacts on park operations resulting from re-established driving on the beach, should Alternative C be selected and should the effort to promulgate a regulation permitting beach driving be successful, would be determined in detail in the required ORV plan and environmental impact statement.

Impact Topic	Alternative A	Alternative B	Alternative C
<b>Transportation</b>	<p>Although the direct effects of construction and rerouting of traffic for any additional parking spaces would be noticeable, the result of additional parking could alleviate some congestion at the park in the immediate area. The effects of Alternative A would be long-term, negligible to minor adverse and long-term beneficial. The cumulative impacts of Alternative A and other reasonably foreseeable future and past actions regarding transportation would be long-term, minor, and adverse.</p>	<p>Planning and environmental analysis for the expansion of the existing parking lots adjacent to Highway A1A would be initiated under this alternative. If the planning and analysis result in a conclusion that no unacceptable adverse impacts to natural resources would occur, then further planning and design would occur. Although the direct effects of construction would be noticeable, the result of additional parking would alleviate some congestion at the park. The effects of Alternative B would be long-term, minor, and beneficial. The cumulative impacts of Alternative B and other reasonably foreseeable future and past actions regarding transportation would be long-term, minor, and adverse.</p>	<p>Although the direct effects of construction would be noticeable, the result of additional parking would alleviate some congestion at the park. The effects of Alternative C would be short-term, minor and long-term, beneficial. The cumulative impacts of Alternative C and other reasonably foreseeable future and past actions regarding transportation would be long-term, minor, and adverse.</p>



**Matanzas River Beach Boardwalk**

## **MITIGATIVE MEASURES COMMON TO ALL ACTION ALTERNATIVES**

Congress charged the NPS with managing the lands under its stewardship “in such manner and by such means as will leave them unimpaired for the enjoyment of future generations” (NPS Organic Act, 16 USC 1). As a result, the NPS routinely mitigates adverse effects or impacts whenever conditions occur that could adversely affect the sustainability of national park system resources.

To ensure that implementation of the action alternatives protects natural and cultural resources and the quality of the visitor experience, a consistent set of mitigative measures would be applied to actions proposed in this plan. The National Park Service would prepare appropriate environmental reviews (i.e., those required by NEPA, NHPA, and other relevant legislation) for these future actions. As part of the environmental review, the NPS would avoid, reduce or minimize adverse impacts when practicable. The implementation of a compliance-monitoring program would be considered to stay within the parameters of National Environmental Policy Act and NHPA compliance documents, U.S. Army Corps of Engineers Section 404 permits, etc. Compliance with Section 106 and 36 CFR 800 will be guided by the 2008 Programmatic Agreement between the NPS, the Advisory Council for Historic Preservation, and the National Conference of State Historic Preservation Officers (NCSHPO). The compliance-monitoring program would oversee these mitigative measures and would include reporting protocols.

The following mitigative measures and best management practices would be applied to avoid, minimize, mitigate, or compensate for potential impacts from implementation of the alternatives. These measures would apply to all alternatives.

### **Management Strategies to Address Climate Change**

Climate change has very high potential to adversely affect the future condition of coastal resources such as Fort Matanzas National Monument. As global and regional climates continue to change, a management approach that

enhances the protection and resilience of climate-sensitive resources is becoming increasingly important. The following outlines such a strategy that adapts to our growing understanding of climate change influences and the effectiveness of management to contend with them.

Climate change science is a rapidly advancing field and new information is continually being collected and released, yet the full extent of climate change impacts on resource conditions is unknown. As such, park managers and policy makers have not determined the most effective response mechanisms for minimizing impacts and adapting to change. Because of this, this proposed management strategy does not provide definitive solutions or directions; rather it provides science-based and scholarship-based management principles to consider when implementing the broader management direction of the National Monument.

### **Strategy**

The NPS Climate Change Response Program aims to prepare the agency and its parks for the anticipated management needs that result from climate change. To help parks cope with the uncertainty in future climate conditions, this Climate Change Response Program serves to help park managers determine the extent to which they can and should act to protect the parks' current resources while allowing the parks' ecosystems to adapt to new conditions. Efforts of the NPS Climate Change Response Program focus on the following strategies:

#### **Science**

- Conduct scientific research and vulnerability assessments necessary to support NPS adaptation, mitigation, and communication efforts.
- Collaborate with scientific agencies and institutions to meet the specific needs of management as it confronts the challenges of climate change.
- Learn from and apply the best available climate change science.

#### **Mitigation**



- Reduce carbon footprint of NPS.
- Promote energy efficient practices, such as alternative transportation.
- Enhance carbon sequestration as one of many ecosystem services.
- Integrate mitigation into all business practices, planning, and the NPS culture.

## Adaptation

- Develop the adaptive capacity for managing natural and cultural resources and infrastructure under a changing climate.
- Inventory resources at risk and conduct vulnerability assessments.
- Prioritize and implement actions, and monitor the results.
- Explore scenarios, associated risks, and possible management options.
- Integrate climate change impacts into facilities management.

## Communication

- Provide effective communication about climate change and impacts to the public.
- Train park staff and managers in the science of climate change and decision tools for coping with change.
- Lead by example.

With the guidance of the above strategies, Fort Matanzas will use the following management approach to address climate change throughout the implementation of this general management plan. Many of these specific management strategies are adopted from the publication, “Some guidelines for helping natural resources adapt to climate change” (IHDP 2008). Further elaboration and adaption of these are anticipated as implementation of the general management plan proceeds.

- Identify key natural and cultural resources, processes, and park facilities that are at risk from climate change and associated effects such as sea level rise. Establish baseline conditions for these resources, identify their

thresholds, and monitor for change. Increase reliance on adaptive management to minimize risks.

- Restore key ecosystem features and processes, and protect cultural resources to increase their resilience to climate change.
- Use best management practices to reduce human-caused stresses (e.g., park infrastructure and visitor-related disturbances) that hinder the ability of species or ecosystems to withstand climatic events.
- Form partnerships with other resource management entities to maintain regional habitat connectivity and refugia that allow species dependent on National Monument resources to better adapt to changing conditions.
- Use climate change projections and scenarios to develop adaptation strategies for park resources and assets.
- Reduce or mitigate greenhouse gas emissions associated with National Monument operations and visitor use, such as alternative transportation options (e.g., shuttles and low-emission vehicles for the park’s fleet) and biofuels and other renewable energy sources for visitor center and administrative buildings.
- Use the fragile environments of Fort Matanzas National Monument such as the Atlantic Ocean facing dunes of Anastasia Island and the wetlands of both Anastasia Island and Rattlesnake Island as an opportunity to educate visitors about the effects of climate change on the resources they are enjoying. Inspire visitors to take action through leadership and education.
- Manage National Monument facilities and infrastructure (structures, trails, roads, docks, drainage systems, etc.) in a way that prepares for and adapts to the effects of climate change.

## Cultural Resources

The National Park Service would preserve and protect, to the greatest extent possible, resources that reflect the history, events, and people associated with Fort Matanzas National Monument. Specific mitigative measures would include but not be limited to the following:

- Continue to develop inventories for and oversee research about archeological resources, historic structures, cultural landscapes, and ethnographic resources to better understand, interpret, and manage the resources. Conduct any needed archeological or other resource specific surveys, National Register evaluations, and identify recommended treatments through completion of resource-specific treatment plans (historic structure reports, cultural landscape reports, collections management plans, etc.). Incorporate the results of these efforts into site-specific planning and compliance documents.
- Continue to manage cultural resources and collections following federal regulations and NPS guidelines. Inventory the park's collection and keep in a manner that would meet NPS curatorial standards.
- Subject projects to site-specific planning and compliance procedures. For archeological resources, by locating projects and designing facilities in previously disturbed (which may represent historical developments requiring treatment as cultural resources) or existing developed areas, make efforts to avoid resources and thus adverse impacts.
- Use screening and/or sensitive design that would be compatible with historic resources and potential cultural landscapes and not adjacent to ethnographic resources. If adverse impacts could not be avoided, mitigate these impacts through a consultation process with all interested parties.
- Conduct archeological site monitoring and routine protection. Conduct data recovery excavations at archeological sites threatened with destruction, where protection or site avoidance during design

and construction is infeasible. Strictly adhere to NPS standards and guidelines on the display and care of artifacts. This would include artifacts used in exhibits in the visitor center.

- Mitigative measures for structures and landscapes include documentation according to standards of the Historic American Buildings Survey/Historic American Engineering Record/Historic American Landscape Survey (HABS/HAER/HALS). The level of this documentation, which includes photography, archeological data recovery, and/or a narrative history, would depend on significance (national, state, or local) and individual attributes (an individually significant structure, individual elements of a cultural landscape, etc.) and be determined in consultation with the SHPO and other parties with an interest in the effects of the undertaking on historic properties. The agency official may be a state, local, or tribal government official who has been delegated legal responsibility for compliance with section 106 in accordance with Federal law.

## Natural Resources

**Air Quality.** Air quality has been dismissed from consideration as an impact topic for the reasons cited in Chapter 1.

**Exotic Plant Species.** The National Monument will continue to monitor, treat, and remove exotic, invasive, and nuisance species.

**Soundscapes.** Effects on soundscapes are most likely from short-term construction projects, regular maintenance such as using lawnmowers, chainsaws, etc. and from traffic noise on the state highway that bisects the Anastasia Island portion of the park.

## Soils.

- Build facilities on soils suitable for development. Minimize soil erosion by limiting the time that soil is left exposed and by applying erosion control measures,

such as erosion matting, silt fencing, and sedimentation basins in construction areas to reduce erosion, surface scouring, and discharge to water bodies. Once work is completed, revegetate construction areas with native plants in a timely manner.

- Place construction equipment in previously disturbed areas.
- Locate trails on soils with low erosion hazards small changes in slope, and develop proper signs to minimize social trails.
- Ensure proper drainage of parking areas.

#### **Threatened and Endangered Species and**

**Species of Concern.** Actions would occur during normal park operations as well as before, during, and after construction to avoid, minimize, or compensate for immediate and long-term impacts on rare, threatened, and endangered species. These actions would vary by specific project and area of the National Monument affected, and additional measures will be added depending on the specific action and location. Many of the measures listed below for vegetation and wildlife would also benefit rare, threatened, and endangered species by helping to preserve habitat. Actions specific to rare, threatened, and endangered species would include the following:

- Conduct surveys for rare, threatened, and endangered species as warranted.
- Locate and design facilities/actions to avoid adverse effects on rare, threatened, and endangered species. Where and when adverse effects are unavoidable, minimize and compensate for such effects as appropriate and in consultation with the appropriate resource agencies. Conduct work outside of critical periods for the specific species.
- Develop and implement restoration and/or monitoring plans as warranted. Plans should include methods for implementation, performance standards, monitoring criteria, and adaptive management techniques.

- Implement measures to reduce adverse effects of nonnative plants and wildlife on rare, threatened, and endangered species.

#### **Vegetation.**

- Monitor areas used by visitors (e.g., trails) for signs of native vegetation disturbance. Use public education, revegetation of disturbed areas with native plants, erosion control measures, and barriers to control potential impacts on plants from trail erosion or unauthorized trails.
- Use barriers and closures to prevent trampling and loss of riparian vegetation.
- Develop revegetation plans for areas disturbed by construction or unauthorized visitor use and require the use of native species. Revegetation plans should specify seed/plant source, seed/ plant mixes, soil preparation, etc. Salvage vegetation from construction activities should be used to the extent possible.
- Based in part on the findings of a completed study (at Cumberland Island National Seashore) of the role of natural fire in a southeastern barrier island ecosystem, Fort Matanzas National Monument would consider the use prescribed fire and/or mechanical thinning to restore coastal scrub habitat that has become overgrown in recent years. The primary beneficiary of this strategy would be the gopher tortoise, which is a keystone species in the park. A keystone species is one that plays a critical role in maintaining the structure of an ecological community and whose impact on the community is greater than would be expected based on its relative abundance.

#### **Water Resources.**

- Contractors for construction projects would be required to develop and implement a storm water pollution prevention plan.
- Standard best management practices to limit erosion and control sediment release

would be employed. Such measures would include but not be limited to the use of silt fencing, limiting the area of vegetative disturbance, use of erosion mats, and covering banked soils to protect them until they are reused. To avoid introduction of exotic plant species, no hay bales would be used to control soil erosion.

## **Wildlife**

The Service will adopt park resource preservation, development, and use management strategies that are intended to maintain the natural population fluctuations and processes that influence the dynamics of individual plant and animal populations, groups of plant and animal populations, and migratory animal populations in parks.

In addition to maintaining all native plant and animal species and their habitats inside parks, the Service will work with other land managers to encourage the conservation of the populations and habitats of these species outside parks whenever possible. To meet its commitments for maintaining native species in the National Monument, the Service will cooperate with states, tribal governments, the U.S. Fish and Wildlife Service, and NOAA, as appropriate, to

- participate in local and regional scientific and planning efforts, identify ranges of populations of native plants and animals, and develop cooperative strategies for maintaining or restoring these populations in the parks;
- employ techniques to reduce impacts on wildlife, including visitor education programs, restrictions on visitor activities, and park ranger patrols.
- prevent the introduction of exotic, invasive, or nuisance species into the National Monument, and remove, when possible, or otherwise contain individuals or populations of these species that have already become established in the unit.

## **Wetlands**

The first priority for siting new facilities would be to avoid wetlands and sensitive areas and to place them as close to existing disturbances as feasible. In addition, the NPS would delineate wetlands and apply protection measures during construction. Wetlands would be delineated by qualified NPS staff or certified wetland specialists and clearly marked before construction work. The National Monument would perform construction activities in a cautious manner to prevent damage caused by equipment, erosion, siltation, etc.

## **Visitor Safety and Experiences**

While recognizing that there are limitations on its capability to totally eliminate all hazards, Fort Matanzas and its concessioners, contractors, and cooperators will seek to provide a safe and healthful environment for visitors and employees. The National Monument will work cooperatively with other federal, tribal, state, and local agencies; organizations; and individuals to carry out this responsibility. Fort Matanzas will strive to identify and prevent injuries from recognizable threats to the safety and health of persons and to the protection of property by applying nationally accepted codes, standards, engineering principles, and the guidance contained in Director's Orders #50B (Occupational Safety and Health Program), #50C (Park Signs), #58 (Structural Fire Management), and #83 (Public Health) and their associated reference manuals.

The National Monument recognizes that the natural and cultural resources it protects are not only visitor attractions, but that some may also be potentially hazardous. Therefore, when practicable and consistent with congressionally designated purposes and mandates, Fort Matanzas will reduce or remove known hazards and apply other appropriate measures, including closures, guarding, signing, or other forms of education. In doing so, the National Monument's preferred actions will be those that have the least impact on park resources and values.

Specific strategies with regard to mitigative measures that are common to all alternatives for visitor safety and experiences would include:

- Implementation of traffic control plans, as warranted. Standard measures include

strategies to maintain safe and efficient traffic flow during any construction period.

- Consideration of accessibility in each project to understand barriers to programs and facilities. Provide the maximum level of accessibility that is consistent with law, regulation, and policy.
- Implementation of adaptive visitor use management, as outlined in the user capacity section of this plan, when resource and visitor experience conditions are trending towards or violating a user capacity standard. Management strategies may include visitor education, site management, visitor use regulations, rationing or reallocation of visitor use, and enforcement.

## **Hazardous Materials**

Implement a spill prevention and pollution control program for hazardous materials. Standard measures could include, but are not limited to hazardous materials storage and handling procedures; spill containment, cleanup, and reporting procedures; and limitation of refueling and other hazardous activities to upland/ non-sensitive sites.

## **Noise Abatement**

Mitigative measures would be applied to protect the natural sounds in the National Monument. Specific mitigative measures would include but not be limited to the following:

- Implement standard noise abatement measures during typical maintenance (grass cutting and use of other types of power equipment) and construction activities. Standard noise abatement measures could include, but are not limited to the following strategies: a schedule that minimizes impacts visitor experiences, the use of the best available noise control techniques wherever feasible, and the location of stationary noise sources as far from sensitive uses as possible.
- Implement standard noise abatement measures during park operations. Standard noise abatement measures could include, but

are not limited to the following strategies: a schedule that minimizes impacts on adjacent noise-sensitive uses, use of the best available noise control techniques wherever feasible, use of hydraulically or electrically powered impact tools when feasible and appropriate for the situation, and location of stationary noise sources as far from sensitive uses as possible.

- Site and design facilities to minimize objectionable noise.

## Socioeconomic Environment

During the future planning and implementation of the approved management plan for Fort Matanzas National Monument, the NPS would work with local communities and county governments to further identify potential impacts and mitigative measures that would best serve the interests and concerns of both the NPS and the local and regional communities. Partnerships would be pursued to improve the quality and diversity of community amenities and services.

## Sustainable Design and Aesthetics

Projects would avoid or minimize adverse impacts on natural and cultural resources. Development

projects (e.g., buildings, facilities, utilities, roads, bridges, trails, etc.) or reconstruction projects (e.g., internal road and driveway reconstruction, building rehabilitation, utility upgrade, etc.) would be designed to work in harmony with the surroundings, particularly to blend with its natural surroundings. Projects would reduce, minimize, or eliminate air and water nonpoint-source pollution. Projects would be sustainable whenever practicable, by recycling and reusing materials, by minimizing materials, by using alternative materials such as shells versus asphalt when feasible, by minimizing energy consumption during the project, and by minimizing energy consumption throughout the lifespan of the project.



Rattlesnake Island Dock

## **FUTURE STUDIES AND IMPLEMENTATION PLANS NEEDED**

After completion and approval of a general management plan for managing the National Monument, other more detailed studies and plans would be needed for implementation of specific actions. As required, additional environmental compliance (National Environmental Policy Act, NHPA, and other relevant laws and policies) and public involvement would be conducted. Additional studies needed include, but are not limited to the following:

- Completion of a cultural landscape report – A cultural landscape report (CLR) is the primary guide to treatment and use of a cultural landscape. Based on the historic context provided in a historic resource study, a CLR documents the characteristics, features, materials, and qualities that make a landscape eligible for the National Register.
- Completion of a historic structure report for the New Deal era visitor center and the associated structure that now houses ranger offices. This should be done prior to embarking on any modifications recommended in the action alternatives.
- Ethnographic Overview and Assessment – The most comprehensive background study, this document reviews existing information on park resources traditionally valued by stakeholders. This study also documents the need for further research on cultural affiliations, important events and associated places in the park, and traditional uses and ways of life.
- Fire management plan – A fire management plan is required for all parks that have vegetation that will sustain fire. The fire management plan is a public document (requires a public comment period).
- Comprehensive interpretive plan – The Comprehensive Interpretive Plan (CIP) process is the basic planning component for interpretation and education in a park. The CIP is a tool to help parks decide priorities for their objectives, determine what stories to tell, identify their audiences and describe

the most effective mix of media and personal services to use.

- Climate Change Scenario Planning – This is a process that informs the park of the plausible climate futures projected for the region and associated impacts, based on the latest climate models. Parks can then test management strategies/actions under the range of plausible climate futures to help validate future park investments, which includes identifying “no regrets” actions or “no gainer” actions.
- Conduct vulnerability assessments of park natural and cultural resources to sea level rise and increased storm frequency and intensity. Storms are the primary drivers of change along the coast. The NPS, in cooperation with various universities and government agencies, is undertaking a series of investigations to assess the vulnerability of natural and cultural resources to storms and sea level rise in coastal parks. These projects will allow managers to better understand the level of vulnerability, improve the park’s pre-storm preparedness and post-storm response, and increase the safety of park visitors and employees.
- Initiate data collection and research projects that address climate change effects on the park’s natural and cultural resources, as well as on visitors’ experiences, health, safety, and overall enjoyment of the Fort Matanzas National Monument. These efforts could include scenario planning via the assistance of the NPS Climate Change Response Program and partnership research efforts with other agencies/institutions.
- Resource Stewardship Strategy - A Resource Stewardship Strategy is a long-range plan -- with an expected life of 20 years -- for a park to achieve its desired natural and cultural resource conditions. Desired conditions are established by the park’s General Management Plan and current scientific and scholarly understanding of park resources. As a program planning document, the RSS serves as a linkage between the park’s GMP and its strategic planning, wherein the park’s personnel and



financial resources are allocated to  
implement resource stewardship actions.

## **ENVIRONMENTALLY PREFERRED ALTERNATIVE**

The environmentally preferable alternative is defined as the alternative that will promote the national environmental policy as expressed in section 101 of NEPA. That section indicates that it is the continuing responsibility of the federal government to do the following:

1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
2. Ensure safe, healthful, productive, and esthetically and culturally pleasing surroundings for all Americans.
3. Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.
4. Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and a variety of individual choices.
5. Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.
6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

A description of how each alternative would or would not achieve the requirements of sections 101 and 102(1) of NEPA is provided below and illustrated through a rating system shown in Table 7.

**Criterion 1** – Fort Matanzas National Monument is a unit of the national park system, and as trustee of this area, the NPS would continue to fulfill its obligation to protect this area for future

generations. Under Alternatives A and B driving off of established roads and parking areas would be prohibited in accord with current Executive Orders, policies, and regulations. Under Alternative C, the National Monument would pursue a special regulation and an Off Road Vehicle Plan and Environmental Impact Statement with the goal of re-establishing some limited level of vehicular access that would protect the habitats of nesting birds, sea turtles, and other threatened and endangered species in the area. Therefore, Alternative C ranked slightly lower in this criterion than either Alternative A or B.

**Criterion 2** – All the alternatives would ensure safe, healthful, productive, and culturally pleasing surroundings for all Americans. Alternative B would provide the most safe and healthful surroundings by continuing the prohibition on beach driving, minimal modification of the natural environment, and increased environmental education as compared with Alternatives A and C.

**Criterion 3** – Alternatives A and B would both attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences due to the continued prohibition against driving on the beach south of the Matanzas ramp. Alternative C provides for the possibility of future driving on the beach and thus achieves this goal to a lesser degree.

**Criterion 4** – Alternative C achieves the most preservation of important historic and cultural aspects of our national heritage by emphasizing the retention of the historic character of the visitor center and park headquarters area as a potential cultural landscape and interpreting the contributions of local citizens to the creation, development and evolution of the National Monument.

**Criterion 5** – Alternative C, by providing an expanded area for trails on the west side of Highway A1A and by offering the possibility of re-establishing vehicular access to the Atlantic Ocean beach of Fort Matanzas National Monument, provides the greatest balance between population and resource use that would permit high standards of living and a wide sharing of life's amenities.

1  
2 **Criterion 6** – Alternative B achieves the highest  
3 quality of renewable resources by continuing the  
4 ban on off-road vehicular access and by  
5 emphasizing environmental education and by  
6 limiting development of new facilities.  
7 Alternative A would do so to a slightly lesser  
8 extent than B and Alternative C would achieve  
9 this goal to the least extent due to the potential

10 creation of new trails and the possibility of  
11 restored driving on the beach.  
12  
13 The environmentally preferable alternative for  
14 Fort Matanzas National Monument's *General*  
15 *Management Plan / Environmental Impact*  
16 *Statement* is Alternative B, the preferred  
17 alternative by the NPS.

**TABLE 7. ENVIRONMENTALLY PREFERRED ALTERNATIVE SCORING**

CRITERIA	ALTERNATIVES		
	A	B	C
1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.	4	5	3
2. Ensure safe, healthful, productive, and aesthetically and culturally pleasing surroundings for all Americans.	4	5	3
3. Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.	5	5	3
4. Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and a variety of individual choices.	3	3	5
5. Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.	4	4	5
6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.	4	5	3
Total Points*	24	27	22
* Five points were given to the alternative if it fully meets the criterion; four points if it meets nearly all of the elements of the criterion; three points if it meets more than one element of the criterion; two points if it meets only one element of the criterion; and one point if the alternative does not meet the criterion.			

## **ALTERNATIVES AND ACTIONS CONSIDERED BUT DISMISSED FROM DETAILED EVALUATION**

During the planning process for Fort Matanzas National Monument, other alternative concepts and elements of concepts were presented and then dismissed from further consideration as discussed below.

### **Retaining or Removing from Wetlands, Structures and Facilities in Existence Prior to May 28, 1980**

General Management Plans (GMPs) or subsequent planning documents for NPS units should include inventories of structures or facilities in existence prior to May 28, 1980 (original publication date of the NPS Floodplain Management and Wetland Protection Guidelines) that are located in or otherwise have the potential to have adverse impacts on wetlands. The only structure within the boundary of Fort Matanzas National Monument that was in existence prior to May 28, 1980 that has the potential to have an adverse impact on wetlands is the Fort Matanzas watchtower itself on Rattlesnake Island. There are wet areas on the island in close proximity to the Fort, but its impact on the adjacent wetlands is probably miniscule and no consideration whatsoever was given to removing it to protect these wetlands.

### **Proposal to Acquire the Beach Below Mean High Tide from the State of Florida**

General management plans for units of the National Park System are required by statute to include, among other elements, consideration and analysis of potential modifications to the external boundaries of the park – if any – and the reasons for the proposed changes. The planning team **did** consider recommending acquisition of the portion of the Anastasia Island section of the park that lies between the mean high tide line (the National Monument's current eastern boundary) and the Atlantic Ocean. The purpose would have been to simplify enforcement of driving restrictions given the fact that the beach between the Matanzas ramp and the Matanzas Inlet is divided between State and Federal ownership. This proposal was

dismissed from further consideration because it would have required an act of Congress **and** the prior acquiescence of the State of Florida to accomplish.

### **Proposals for Addressing Visitor Center Deficiencies**

Three alternatives were initially discussed for providing additional space for visitor services. The first was to expand the current visitor center. This idea was rejected because the entire district that contains the 1937 Visitor Center and Garage, the entrance drive and parking areas, and the Matanzas Ramp and parking area on the east side of Highway A1A were added to the National Register of Historic Places in 1978. Therefore any expansion was judged to be detrimental to the character of the site that justified its addition to the National Register.

The second alternative was to build a new visitor center, but the costs, potential impacts to natural and cultural resources, and lack of a good location resulted in the rejection of this alternative. The third alternative was adaptation of an existing structure within the current footprint and this one was retained.



**Fort Matanzas Interpretive Program**



**Fort Matanzas Watchtower Circa 1671**

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