

National Park Service  
U. S. Department of the Interior  
Fort Matanzas National Monument



# FINAL GENERAL MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT



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**General Management Plan/Environmental Impact Statement  
Fort Matanzas National Monument  
St. Augustine, Florida**

**SUMMARY**

1 President Calvin Coolidge established Fort  
2 Matanzas as a National Monument by  
3 proclamation on October 15, 1924 under the  
4 authority of Section 2 of the Antiquities Act of  
5 1906. The Antiquities Act gives the President the  
6 authority to declare “historic landmarks, historic  
7 and prehistoric structures, and other objects of  
8 historic or scientific interest that are situated upon  
9 the lands owned or controlled by the Government  
10 of the United States to be national monuments...”.  
11 The proclamation declared “An area of one acre  
12 comprising within it the site of the old  
13 fortification which is situated on a marsh island  
14 south of the main channel of the Matanzas  
15 River...” to be a national monument. That marsh  
16 island is now known as Rattlesnake Island.  
17  
18 President Franklin D. Roosevelt expanded Fort  
19 Matanzas National Monument through  
20 Proclamation Number 2114 on January 9, 1935.  
21 This Proclamation added lands on Anastasia  
22 Island that had been donated to the United States  
23 by the Corbett family.  
24  
25 On March 24, 1948, President Harry S. Truman  
26 issued Proclamation Number 2773, which added  
27 the remainder of public lands on Rattlesnake  
28 Island, consisting of 89.42 acres to the National  
29 Monument “in order to insure permanent  
30 protection to the Fort and its historic setting”.  
31  
32 Subsequent donations and the acquisition of 70  
33 acres authorized by Public Law 106-524  
34 (November 22, 2000) have further expanded the  
35 park from its original 1-acre size. Today, Fort  
36 Matanzas consists of nearly 300 acres on  
37 Rattlesnake and Anastasia Islands, some 14 miles  
38 south of the City of St. Augustine, Florida.  
39  
40 Executive Orders No. 6166 of June 10, 1933 and  
41 No. 6228 of July 28 1933 (President Franklin D.  
42 Roosevelt) transferred Fort Matanzas (and other  
43 military parks, battlefields, and cemeteries) from  
44 the War Department to the Interior Department  
45 (NPS).  
46

47 This *Final General Management Plan* provides  
48 comprehensive guidance for maintaining natural  
49 systems, preserving cultural resources, and  
50 providing opportunities for quality visitor  
51 experiences at Fort Matanzas National  
52 Monument. The purpose of the plan is to decide  
53 how the National Park Service (NPS) can best  
54 fulfill the National Monument’s purpose, maintain  
55 its significance, and protect its resources  
56 unimpaired for the enjoyment of present and  
57 future generations. This *General Management*  
58 *Plan* describes the general path that the NPS  
59 would follow in managing the National  
60 Monument during the next 20 years.  
61  
62 The document examines three alternatives for  
63 managing the National Monument for the next 20  
64 years. It also analyzes the impacts of  
65 implementing each of the alternatives.  
66 **Alternative A** is the “no-action” alternative,  
67 which describes how the National Monument is  
68 managed now, providing a basis for comparing  
69 the other alternatives. **Alternative B**, the NPS’s  
70 preferred alternative, centers around managing the  
71 National Monument in a manner consistent with  
72 its history as a small military outpost within a  
73 sometimes harsh, but beautiful and rich natural  
74 environment. There would be minimal  
75 development of new facilities or expansion of  
76 existing facilities. The primary interpretive  
77 themes of the park would continue to be the fort,  
78 its construction from locally available coquina  
79 stone, and its strategic location relative to the  
80 defense of St. Augustine. There would be  
81 increased emphasis on the interpretation of the  
82 natural environment as well.  
83  
84 **Alternative C** combines the history of the  
85 Rattlesnake Island fortified outpost with its  
86 establishment as a National Monument and the  
87 further development and evolution of the park to  
88 its present day configuration. The north end of the  
89 Anastasia Island part of the park that is west of  
90 Highway A1A would be preserved as an exhibit  
91 that commemorates the efforts of the New Deal  
92 agencies and local citizens to create a permanent

1 monument to the Spanish history of the site. The  
2 central and southern ends of Anastasia Island, and  
3 the east side of Highway A1A would continue to  
4 be managed to protect and conserve the natural  
5 resources of the zone.

6  
7 The key impacts of implementing these  
8 alternatives are summarized in Table 6 and  
9 detailed in Chapter 4.

10  
11 This *Final General Management Plan/*  
12 *Environmental Impact Statement* includes letters  
13 from governmental agencies, any substantive  
14 comments on the draft document, and National  
15 Park Service responses to those comments. The  
16 final plan also includes changes and clarifications  
17 made to the document in response to comments  
18 received. Following distribution of the final plan  
19 and a 30-day no-action period, a "Record of  
20 Decision" approving a final plan will be signed by  
21 the National Park Service regional director. The  
22 "Record of Decision" documents the National  
23 Park Service selection of an alternative for  
24 implementation. With the signed "Record of  
25 Decision", the plan can then be implemented,  
26 depending on funding and staffing. However, a  
27 "Record of Decision" does not guarantee funds  
28 and staff for implementing the approved plan.

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**Fort Matanzas National Monument**

# CHAPTER 1 – PURPOSE AND NEED FOR THE PLAN

## 1 INTRODUCTION

2  
3 This *Final General Management Plan and*  
4 *Environmental Impact Statement* presents and  
5 analyzes three alternative future directions for the  
6 management and use of Fort Matanzas National  
7 Monument. Alternative B is the NPS’s preferred  
8 alternative. The potential environmental impacts  
9 of all alternatives have been identified and  
10 assessed. General management plans are intended  
11 to be long-term documents that establish and  
12 articulate a management philosophy and  
13 framework for decision-making and problem  
14 solving in the parks. This general management  
15 plan will provide guidance for the next 20 years  
16 or more.

## 18 BACKGROUND

19  
20 Fort Matanzas National Monument was  
21 established by Presidential Proclamation No. 1713  
22 (43 Stat. 1968) on October 15, 1924. The War  
23 Department administered it until transferred to the  
24 Department of the Interior, National Park Service,  
25 by Executive Orders No. 6166 on June 10, 1933  
26 and No. 6228 on July 28, 1933. Proclamations  
27 No. 2114 (49 Stat. 3433) on January 9, 1935 and  
28 No. 2773 (62 Stat. 1491) on March 24, 1948  
29 authorized the addition of acreage to the park.

30  
31 Subsequent donations by the Johnson family  
32 during the 1960s greatly expanded the park by  
33 about 70 acres. Today, Fort Matanzas National  
34 Monument consists of 298.51 acres located on  
35 Rattlesnake Island and Anastasia Island. These  
36 two islands lie along the shores of the Atlantic  
37 Ocean and the Matanzas estuary, about 14 miles  
38 south of St. Augustine, Florida.

## 40 BRIEF DESCRIPTION OF THE PARK

41  
42 The story of Fort Matanzas has always been  
43 closely linked with St. Augustine and the Castillo  
44 de San Marcos, which served as the city's chief  
45 defensive structure for many years. Since its  
46 founding in 1565, the outpost town of St.  
47 Augustine had been the heart of Spain’s coastal

48 defense system in Florida. After the completion  
49 of the Castillo in 1695, the town still had a glaring  
50 weakness—the Matanzas Inlet. The inlet allowed  
51 easy access to the Matanzas River, by which  
52 enemy vessels could attack St. Augustine. In  
53 1740, troops from the British Colony of Georgia  
54 blockaded St. Augustine Inlet and began a 39-day  
55 siege of the town. The British eventually  
56 retreated and the Spanish immediately sought to  
57 fortify Matanzas Inlet, realizing that British  
58 control of this strategic entry to the river could  
59 ultimately lead to surrender of the town.

60  
61 Construction of a masonry fort began soon  
62 thereafter. In 1742, with the fort near completion,  
63 the British positioned twelve ships near the inlet.  
64 The fort’s cannons were able to drive off the  
65 British scouting boats and the ships.

66  
67 Besides warning St. Augustine of enemy vessels,  
68 the fort also served as a rest stop, coast guard  
69 station, and a place where vessels heading for St.  
70 Augustine could get advice on navigating the  
71 river. Its primary mission, though, was  
72 maintaining control of the Matanzas Inlet. After  
73 thwarting the British advance in 1742, the fort  
74 never again fired its guns in battle.

75  
76 The various land expansions that followed its  
77 initial establishment also resulted in the inclusion  
78 of significant natural resources within park  
79 boundaries. These resources include a variety of  
80 natural habitats that support diverse plant and  
81 animal communities typical of the Northeast  
82 Florida coastal barrier ecosystems.

83  
84 Annual recreational visitation to the park steadily  
85 increased since 1990 from 372,079 to over 1  
86 million in 2005. Visitation steadily decreased  
87 between 2005 (1,002,444) and 2012 (497,454).  
88 The typical peak period of visitation at Fort  
89 Matanzas is April through August. The months  
90 with the lowest visitation levels are November,  
91 December, and January. Approximately 80% of  
92 the visitors to Fort Matanzas National Monument  
93 visit only the Anastasia Island beach area of the  
94 park.

1 **PURPOSE OF THE PLAN**

2  
3 The approved general management plan will be  
4 the basic document for managing Fort Matanzas  
5 National Monument for the next 20 years. The  
6 purposes of this general management plan are as  
7 follows:

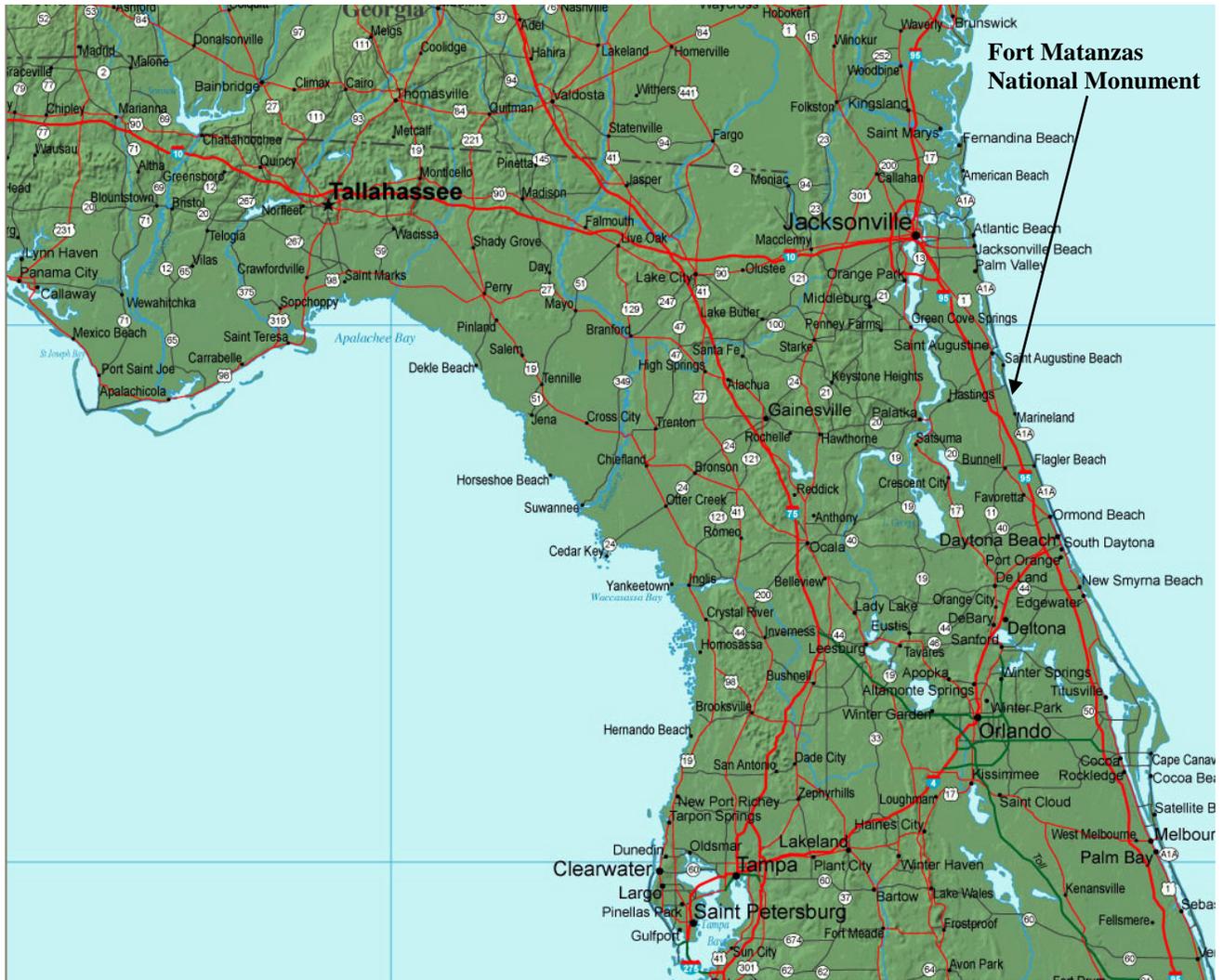
- 8
- 9 • Confirm the purpose, significance, and  
10 special mandates of Fort Matanzas National  
11 Monument.
- 12
- 13 • Clearly define resource conditions and  
14 visitor uses and experiences to be achieved  
15 in the National Monument.
- 16
- 17 • Provide a framework for Fort Matanzas  
18 managers to use when making decisions  
19 about how to best protect park resources,  
20 how to provide quality visitor uses and  
21 experiences, how to manage visitor use, and  
22 what kinds of facilities, if any, to develop  
23 in/near the National Monument.
- 24
- 25 • Ensure that this foundation for decision  
26 making has been developed in consultation  
27 with interested stakeholders and adopted by  
28 the NPS leadership after an adequate  
29 analysis of the benefits, impacts, and  
30 economic costs of alternative courses of  
31 action.
- 32

33 Legislation establishing the NPS as an agency and  
34 governing its management provides the  
35 fundamental direction for the administration of  
36 Fort Matanzas National Monument (and other  
37 units and programs of the national park system).  
38 This general management plan will build on these  
39 laws and the Presidential Proclamation that  
40 established Fort Matanzas National Monument to  
41 provide a vision for the park’s future.

42  
43 The “Servicewide Mandates and Policies” section  
44 calls the reader’s attention to topics that are  
45 important to understanding the management  
46 direction at the National Monument. The  
47 alternatives in this general management plan  
48 address the desired future conditions that are not  
49 mandated by law and policy and must be  
50 determined through a planning process.

51  
52 The general management plan does not describe  
53 how particular programs or projects should be

54 prioritized or implemented. Those decisions will  
55 be addressed in future planning efforts that have  
56 more details about the specific locations,  
57 footprints, and design details of future projects.  
58 All future plans will tier from the approved  
59 general management plan. Compliance with the  
60 National Environmental Policy Act, the  
61 Endangered Species Act, National Historic  
62 Preservation Act, and other relevant legislative  
63 and policy mandates will occur for each specific  
64 project or action that originates as a component of  
65 this general management plan. Actions directed  
66 by general management plans will be  
67 accomplished over time. Budget restrictions,  
68 requirements for additional data or regulatory  
69 compliance, and competing national park system  
70 priorities could prevent immediate  
71 implementation of many actions. Major or  
72 especially costly actions could be implemented 10  
73 or more years in the future.



**Fort Matanzas  
National Monument**

**Fort Matanzas National Monument Region**

## 1 NEED FOR THE PLAN

2  
3 A general management plan is needed to meet the  
4 requirements of the National Parks and Recreation  
5 Act of 1978 (P.L. 95-625) and NPS policy, which  
6 mandate development of a general management  
7 plan for each park. The 1982 GMP for Fort  
8 Matanzas does not address many of the issues  
9 facing the park today. Therefore, this *Final*  
10 *General Management Plan/Environmental Impact*  
11 *Statement* has been prepared to comply with those  
12 legal and policy requirements.

13  
14 This general management plan provides broad  
15 direction for the park's future. It is needed to  
16 assist park managers in making purposeful  
17 decisions based on a deliberate vision of the park.

18  
19 General management planning is needed to:

- 20  
21 • Clarify the levels of resource protection and  
22 public use that must be achieved for the  
23 park, based on the park-specific purpose and  
24 significance, plus the body of laws and  
25 policies directing park management.  
26
- 27 • Determine the best mix of resource  
28 protection and visitor experiences beyond  
29 what is prescribed by law and policy based  
30 on the:
  - 31 • Purposes of the park.
  - 32 • Range of public expectations and  
33 concerns.
  - 34 • Resources occurring within the park.
  - 35 • Effects of alternative management plans  
36 on existing natural, cultural, and social  
37 conditions.
  - 38 • Long-term economic costs.
- 39 • Establish the degree to which the park  
40 should be managed to:
  - 41 • Preserve and enhance its cultural and  
42 natural resources.
  - 43 • Provide appropriate visitor experiences  
44 and recreation opportunities.

## 54 THE NEXT STEPS

55  
56 This *Final General Management*  
57 *Plan/Environmental Impact Statement* includes  
58 the results of a 60-day public review and  
59 comment period after which the NPS planning  
60 team evaluated comments from other federal  
61 agencies, local and state governmental agencies,  
62 organizations, businesses, and individuals  
63 regarding the draft plan and incorporated  
64 appropriate changes into the *Final General*  
65 *Management Plan Environmental Impact*  
66 *Statement*. The final plan includes letters from  
67 governmental agencies, any substantive  
68 comments on the draft document, and NPS  
69 responses to those comments. Following  
70 distribution of the *Final General Management*  
71 *Plan Environmental Impact Statement* and a 30-  
72 day no-action period, a record of decision  
73 approving a final plan will be signed by the NPS  
74 regional director. The record of decision  
75 documents the NPS selection of an alternative for  
76 implementation. With the signing of the record of  
77 decision, the plan can then be implemented.  
78

## 79 IMPLEMENTATION OF THE PLAN

80  
81 The implementation of the approved plan will  
82 depend on future funding. The approval of a plan  
83 does not guarantee that the funding and staffing  
84 needed to implement the plan will be  
85 forthcoming. Full implementation of the approved  
86 plan could be many years in the future.  
87

88 The implementation of the approved plan also  
89 could be affected by other factors. Once the  
90 general management plan has been approved,  
91 additional feasibility studies and more detailed  
92 planning and environmental documentation would  
93 be completed, as appropriate, before any proposed  
94 actions can be carried out. For example:

- 95  
96 • Appropriate permits would be obtained  
97 before implementing actions that would  
98 impact wetlands.  
99
- 100 • Appropriate federal and state agencies would  
101 be consulted concerning actions that could  
102 affect threatened and endangered species.  
103
- 104 • The State Historic Preservation Office  
105 (SHPO) would be consulted.

- 1
- 2 • The park will comply with Sections 106
- 3 (requires federal agencies to consult with
- 4 Advisory Council on Historic Preservation)
- 5 and 110 (requirements for the preservation
- 6 and use of historic buildings by federal
- 7 agencies) of the National Historic
- 8 Preservation Act.
- 9
- 10 • Appropriate NEPA documentation would be
- 11 prepared.
- 12
- 13 • Opportunities for public review and comment
- 14 would be provided.
- 15

16 The general management plan does not describe  
 17 how particular programs or projects should be  
 18 prioritized or implemented. Those decisions will  
 19 be addressed during the more detailed planning  
 20 associated with strategic plans, implementation,  
 21 plans, etc. These future plans will be based on the  
 22 goals, future conditions, and appropriate types of  
 23 activities established in the approved general  
 24 management plan. Actions directed by general  
 25 management plans or in subsequent  
 26 implementation plans are accomplished over time.  
 27 Budget restrictions, requirements for additional  
 28 data or regulatory compliance, and competing  
 29 national park system priorities could prevent  
 30 immediate implementation of many actions.

31 Major or especially costly actions could be  
 32 implemented 10 or more years into the future.

33

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

1  
 2



5  
**Boardwalk Nature Trail**

1 **FOUNDATION STATEMENT**

2  
3 The foundation statement is the basis for planning  
4 and management, and it concentrates on why a  
5 park was established. It describes a park’s  
6 *purpose* and *significance*, focusing future  
7 management and planning on what is most  
8 important about a park’s resources and values.  
9 Those park resources and values that are  
10 “fundamental” to achieving the park’s purpose  
11 and significance are identified, along with the  
12 legal and policy requirements that mandate a  
13 park’s basic management responsibilities.  
14

15 **Legislative Foundation**

16  
17 Fort Matanzas National Monument was  
18 established by Presidential Proclamation No. 1713  
19 (43 Stat. 1968) on October 15, 1924. The War  
20 Department administered it until transferred to the  
21 Department of the Interior, National Park Service,  
22 by Executive Orders No. 6166 on June 10, 1933  
23 and No. 6228 on July 28, 1933. Proclamations  
24 No. 2114 (49 Stat. 3433) on January 9, 1935 and  
25 No. 2773 (62 Stat. 1491) on March 24, 1948  
26 authorized the addition of acreage to the park.  
27

28 On January 4, 1963, Fort Matanzas received a  
29 donation of 68 acres (consisting of approximately  
30 the southern .85 miles of Anastasia Island from  
31 about 221 feet north of the Matanzas ramp south  
32 to the Matanzas Inlet) from Howard and Teresa  
33 Johnson that was accepted under authority of the  
34 National Historic Sites Act of August 21, 1935  
35 (49 Stat. 666).  
36

37 On January 1, 1965, the National Monument  
38 received another donation from the Johnsons of  
39 2.75 acres (a rectangular parcel south of the  
40 Matanzas ramp and east of Highway A1A  
41 extending eastward to the mean high tide line)  
42 that also was accepted under authority of the  
43 National Historic Sites Act of 1935.  
44

45 On December 22, 1967, the State of Florida ceded  
46 to the United States the exclusive jurisdiction over  
47 Lot 5, Section 13, on Anastasia Island, except  
48 over the 66-foot wide right-of-way of State Road  
49 A1A, and over lands formerly called Rattlesnake  
50 and Fort Islands located in Sections 13, 14, 23,  
51 and 24, as described in Presidential Proclamation  
52 of October 15, 1924, deed from the Trustees of  
53 the Internal Improvement Fund of Florida of April

54 28, 1944, and Presidential Proclamation of March  
55 24, 1948, the combined tracts containing 298.51  
56 acres.  
57

58 Public Law 106-524 (November 22, 2000),  
59 formally incorporated the 70 acres acquired  
60 through the Johnson family donations into the  
61 National Monument boundary. Today, Fort  
62 Matanzas National Monument consists of 298.51  
63 acres located on Rattlesnake Island and Anastasia  
64 Island. These two islands lie along the shores of  
65 the Atlantic Ocean and the Matanzas estuary,  
66 about 14 miles south of St. Augustine, Florida.  
67

68 **Purpose**

69  
70 Purpose statements are based on the national  
71 monument’s legislation and legislative history  
72 and NPS policies. The statements reaffirm  
73 the reasons for which the national monument  
74 was set aside as a unit of the national park  
75 system and provide the foundation for the  
76 monument’s management and use.  
77

78 The purposes of Fort Matanzas National  
79 Monument are:  
80

- 81 • To preserve the 1742 fortified watchtower  
82 and its associated landscapes and  
83 archeological resources;  
84
- 85 • To provide an accurate historical perspective  
86 of what military life was like in Florida as it  
87 existed at this isolated outpost;  
88
- 89 • To conserve all other resources within the  
90 park for the benefit of future generations  
91 through a comprehensive program of  
92 preservation, management, interpretation,  
93 and education;  
94
- 95 • To permit recreational opportunities on  
96 Rattlesnake Island and Anastasia Island  
97 which do not impair park resources.  
98

99 **Significance**

100  
101 Significance statements capture the essence  
102 of the park’s importance to the nation’s  
103 natural and cultural heritage. They are  
104 statements of why, within a national,  
105 regional, and system-wide context, the park’s

resources and values are important enough to warrant national park designation. Significance statements describe the park's distinctiveness and provide direction for park managers to make decisions that preserve resources and values consistent with the National Monument's purpose.

Fort Matanzas National Monument is nationally significant because:

- The fort is the only example of a Spanish fortified watchtower in the continental United States.
- The fort is a completely intact component of the St. Augustine defense system constructed by the Spanish.
- The site commemorates the massacre of over 200 French Huguenot soldiers by Spanish soldiers in 1565 – an event which marked the beginning of 235 years of Spanish dominance in Florida.
- The location provides a rare opportunity for visitors to experience an historic setting as it might have appeared hundreds of years ago.
- The National Monument preserves nearly 300 acres of a virtually undisturbed barrier island system containing dunes, marsh, maritime forest, and associated flora and fauna, including threatened and endangered species.

### Special Mandates and Administrative Commitments

Special mandates are park specific legislative or judicial requirements that expand upon or modify the park's basic mission and purpose. They may be worthy of discussion and special consideration because (1) they are unusual (such as a special provision in a park's establishing legislation for grazing), (2) they add another dimension to an area's purpose and significance (such as the designation of an area in the park as part of the national wilderness preservation system, the inclusion of a river in the national wild and scenic rivers system, a national historic

landmark designation for part of a park, or a park's designation as a world heritage site or biosphere reserve), or (3) they commit park managers to specific actions (such as an action required by a court order).

Administrative commitments are generally defined as agreements that have been reached through formal, documented processes with other Federal or state agencies that refer to the co-management of specific natural or cultural resources.

Fort Matanzas National Monument was created in 1924 by Presidential Proclamation (Appendix B). Neither the proclamation nor any subsequent legislation established any special mandates for the park.

Administrative commitments are generally defined as agreements that have been reached through formal, documented processes with other Federal or state agencies that refer to the co-management of specific natural or cultural resources. There are no administrative commitments at Fort Matanzas that meet the definition above.

## FUNDAMENTAL AND OTHER IMPORTANT RESOURCES AND VALUES

### Fundamental Resources and Values

Fundamental resources and values are systems, processes, features, visitor experiences, stories, scenes, etc. that warrant primary consideration during planning and management because they are critical to achieving the monument's purpose and maintaining its significance. It is these resources and values that maintain the park's purpose and significance, and if these resources are allowed to deteriorate, the park purpose and/or significance could be jeopardized. The following list is presented in no particular order of importance.

#### *The 1742 Fortified Coquina\* Watchtower*

*\*A soft porous limestone, composed essentially of fragments of shells and used as a building material.*

- 1 • The nature of the fort is unique for its time
- 2 and location (the North American
- 3 continent).
- 4 • The fort is notable for its distinctive
- 5 architecture (Spanish design).
- 6 • Locally quarried coquina provided a unique
- 7 building material.
- 8 • The apparent remoteness of the fort's
- 9 location provides an authentic experience to
- 10 the visitor in terms of the isolation and
- 11 views that might have been experienced by
- 12 the Spanish soldiers.
- 13 • The fort is situated in a natural setting with
- 14 only the Matanzas Inlet Bridge and a few
- 15 condominium tops visible from the gun
- 16 deck. To the west, only marshes and other
- 17 natural environments are visible to the
- 18 visitor.
- 19 • The serenity of the immediate scene
- 20 contrasts with the fort's purpose and the
- 21 event (the massacre of French Huguenots)
- 22 which gave it its name.
- 23 • The construction (1740-1742) of the fort
- 24 predates the founding of the United States of
- 25 America.
- 26 • The structure is a tangible symbol of 235
- 27 years of Spanish culture and heritage in the
- 28 area.

29  
30 ***Cultural Resources***

- 31
- 32 • Archeological resources.
- 33 • Middens.
- 34 • Museum collections.
- 35 • Historic 1930's buildings and their
- 36 surrounding landscape
- 37 • Potential cultural landscape associated with
- 38 the fort.

39  
40 ***The opportunity for visitors to learn about***

41 ***all aspects of military activities at an isolated***

42 ***outpost***

- 43
- 44 • The fort's strategic location at the Matanzas
- 45 Inlet, which served as an important water
- 46 access to the settlement at St. Augustine.
- 47 • The soldiers' daily life (such as sources of
- 48 water and food, recreation, and furnishings).
- 49 • The soldier's military responsibilities at the
- 50 fort (such as patrols and maintenance).
- 51 • The role of the fort as a military defense
- 52 system for St. Augustine

- 53 • The difficult climate and environment: semi-
- 54 tropical, heat and humidity, insects, snakes,
- 55 etc.
- 56 • Transportation of soldiers and supplies
- 57 between St. Augustine and Fort Matanzas.
- 58 • The difficulty and yet importance of
- 59 maintaining communications between the
- 60 outpost at Fort Matanzas and the main
- 61 garrison of Castillo de San Marcos in St.
- 62 Augustine.

63  
64 ***The story of one of the first conflicts***

65 ***between European nations in the New***

66 ***World***

- 67
- 68 • Conflict between the Spanish and the
- 69 French.
- 70 • The Spanish defeat of the French,
- 71 especially the massacre of French
- 72 Huguenots by Spanish soldiers, the event
- 73 that gave the fort, the river, and ultimately
- 74 the National Monument their names.
- 75 • The role of religion in these conflicts.
- 76 • Competition for limited resources.
- 77 • Interpretation of moral decisions of
- 78 another time period and how we connect it
- 79 to current events.
- 80 • Subsequent conflicts between Spanish and
- 81 British.
- 82 • Conflict and cultural interactions between
- 83 American Indians and Europeans.
- 84 • Interpretation of military defense systems.

85  
86 ***The fort's isolated island location in the***

87 ***midst of a larger landscape of dunes,***

88 ***marsh, and maritime forest***

- 89
- 90 • Historic and natural oasis in the midst of
- 91 modern developed landscape.
- 92 • Opportunity for visitor reflection with
- 93 minimum modern distractions.
- 94 • Relatively unspoiled viewsheds.
- 95 • Boat trip to the fort – experience of
- 96 transitioning back in time.

97  
98 **Other Important Resources and**

99 **Values**

100 Parks may also have other important resources

101 and values that may not be fundamental to the

102 park's purpose and significance but are

103

1 nevertheless determined to be particularly  
2 important considerations for general management  
3 planning. Identifying other important resources  
4 and values is primarily done to separate those  
5 resources or values that are covered by the  
6 servicewide mandates and policies, from those  
7 that have important considerations to be addressed  
8 in the GMP.

9

10 *The barrier island system consisting of*  
11 *Rattlesnake and Anastasia Islands*

12

- 13 • Salt marsh.
- 14 • Estuary system (Matanzas River and Inlet).
- 15 • Atlantic Ocean and associated beach.
- 16 • Maritime Forest.
- 17 • Sand dunes.
- 18 • Flora and fauna including threatened and  
19 endangered species.
- 20 • Opportunities for research, education, and  
21 interpretation.

22

23 *Opportunity for a variety of beach oriented*  
24 *recreational activities*

25

- 26 • Water-based activities (such as fishing and  
27 swimming).
- 28 • Nature observation (such as wildlife  
29 viewing, interpretation, photography, and  
30 education).
- 31 • Fitness activities (such as trail and beach  
32 walking).

33

34

35 **PRIMARY INTERPRETIVE THEMES**

36

37 Interpretive themes are ideas, concepts, or stories  
38 that are central to the monument's purpose,  
39 significance, identity, and visitor experience. The  
40 primary interpretive themes define concepts that  
41 every visitor should have the opportunity to learn.  
42 Primary themes also provide the framework for  
43 the park's interpretation and educational  
44 programs, influence the visitor experience, and  
45 provide direction for planners and designers of the  
46 park's exhibits, publications, and audiovisual  
47 programs. Subsequent interpretive planning may  
48 elaborate on these primary themes.

49

50 **Relationship to General**  
51 **Management Planning**

52

53

54

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- In general management planning, primary interpretive themes may form the basis for alternatives and management zones that prescribe resource conditions and visitor experiences.
- Primary interpretive themes provide the foundation on which the park's educational and interpretive program is based.
- Primary themes lead to the identification of services, resources, and experiences that should be accessible to visitors and the public.
- Primary themes help focus orientation services by identifying important experiences and resources that support themes.
- Identifying primary themes leads to recommendations for interpretive and educational facilities, media, and services that are core to park missions and facilitate emotional and intellectual connections with park resources and values.
- Primary interpretive themes guide the development of interpretive media and programs that help visitors connect tangible and intangible park resources and experiences to larger ideas, meaning, and values.
- The development and interpretation of primary themes provide a framework for shared perspectives among visitors, stakeholders, and publics.

93 **Fort Matanzas National Monument**  
94 **Interpretive Themes**

- Built from locally available coquina, Fort Matanzas survives as a unique example of a Spanish fortified watchtower.
- The Southeastern coast of what is now the United States, including the Matanzas Inlet, was a primary arena of conflict in the region as colonial powers jockeyed for dominance.

- The location of Fort Matanzas was a practical response to the geography of Matanzas Bay and the need for a system of strong military positions around St. Augustine.
- In addition to its historical significance, Fort Matanzas National Monument encompasses an increasingly rare resource – the coastal barrier island ecosystem.

## SERVICEWIDE LAWS AND POLICIES

This section (expanded in Appendix B) identifies what must be done at Fort Matanzas National Monument to comply with federal laws and policies of the NPS. Many park management directives are specified in laws and policies guiding the NPS and are therefore not subject to alternative approaches. For example, there are laws and policies about managing environmental quality (such as the Clean Air Act, the Endangered Species Act, and Executive Order 11990 “Protection of Wetlands”); laws governing the preservation of cultural resources (such as the National Historic Preservation Act (NHPA) and the Native American Graves Protection and Repatriation Act); and laws about providing public services (such as the Americans with Disabilities Act) — to name only a few. In other words, a general management plan is not needed to decide, for instance, that it is appropriate to protect endangered species, control exotic species, protect archeological sites, conserve artifacts, or provide for handicap access. Laws and policies have already decided those and many other things for us. Although attaining some of these conditions set forth in these laws and policies may have been temporarily deferred in the park because of funding or staffing limitations, the NPS will continue to strive to implement these requirements with or without a new general management plan.

Some of these laws and executive orders are applicable solely or primarily to units of the national park system. These include the 1916 Organic Act that created the National Park Service, the General Authorities Act of 1970, the act of March 27, 1978, relating to the management of the national park system, and the National Parks Omnibus Management Act (1998).

Other laws and executive orders have much broader application, such as the Endangered Species Act, the National Historic Preservation Act, and Executive Order 11990 that address the protection of wetlands (see appendixes B and C).

The NPS Organic Act (16 USC § 1) provides the fundamental management direction for all units of the national park system:

[P]romote and regulate the use of the Federal areas known as national parks, monuments, and reservations...by such means and measure as conform to the fundamental purpose of said parks, monuments and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

The impairment prohibited by the NPS Organic Act is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources and values, including opportunities that otherwise would be present for the enjoyment of those resources or values. (NPS *Management Policies 2006* 1.4.5) An impact on any park resource or value may, but does not necessarily, constitute an impairment. An impact would be more likely to constitute impairment to the extent it affects a resource or value whose conservation is:

- Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, or
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or
- identified in the park’s general management plan or other relevant NPS planning documents as being of significance.

Impairment may result from NPS activities in managing the park; visitor activities; or activities

1 undertaken by concessioners, contractors, and  
 2 others operating in the park. A written  
 3 determination regarding impairment will be  
 4 prepared for the final selected alternative and will  
 5 be appended to the Record of Decision Document  
 6 for this General Management Plan.

7  
 8 The National Park System General Authorities  
 9 Act (16 USC § 1a-1 et seq.) affirms that while all  
 10 national park system units remain “distinct in  
 11 character,” they are “united through their  
 12 interrelated purposes and resources into one  
 13 national park system as cumulative expressions of  
 14 a single national heritage.” The act makes it clear  
 15 that the NPS Organic Act and other protective  
 16 mandates apply equally to all units of the system.  
 17 Further, amendments state that NPS management  
 18 of park units should not “derogat[e]...the  
 19 purposes and values for which these various areas  
 20 have been established.”

21  
 22 The National Park Service also has established  
 23 policies for all units under its stewardship. These  
 24 are identified and explained in a guidance manual  
 25 entitled *NPS Management Policies 2006*. The  
 26 “action” alternatives (Alternatives B and C)  
 27 considered in this document incorporate and  
 28 comply with the provisions of these mandates and  
 29 policies.

30  
 31 Public Law 95-625, the National Park and  
 32 Recreation Act, requires the preparation and

33 timely revision of general management plans for  
 34 each unit of the national park system. Section 604  
 35 of that act outlines several requirements for  
 36 general management plans, including measures  
 37 for the protection of the area’s resources and  
 38 “indications of potential modifications to the  
 39 external boundaries of the unit and the reasons  
 40 therefore.” *NPS Management Policies*, adopted in  
 41 2006, reaffirm this legislative directive.

42  
 43 To understand the implications of an alternative, it  
 44 is important to consider the servicewide mandates  
 45 and policies with the management actions  
 46 described in an alternative.

47  
 48 Table 1 shows some of the most pertinent  
 49 servicewide mandates and policy topics related to  
 50 planning and managing Fort Matanzas National  
 51 Monument; across from each topic are the *desired*  
 52 *conditions that the staff is striving to achieve* for  
 53 that topic and thus the table is written in the  
 54 present tense. Appendix B expands on this  
 55 information by citing the law or policy directing  
 56 these actions and giving examples of the types of  
 57 actions being pursued by NPS staff. The  
 58 alternatives in this general management plan  
 59 address the desired future conditions that are not  
 60 mandated by law and policy and must be  
 61 determined through a planning process.  
 62

**TABLE 1 - SERVICEWIDE MANDATES AND POLICIES PERTAINING TO FORT MATANZAS NATIONAL MONUMENT**

TOPIC	Current laws and Policies Require That the Following Conditions Be Achieved at Fort Matanzas National Monument
<b>Relations with Private and Public Organizations, Owners of Adjacent Land, and Governmental Agencies</b>	Fort Matanzas National Monument is managed as part of a greater ecological, social, economic, and cultural system.  Good relations are maintained with adjacent landowners, surrounding communities, and private and public groups that affect, and are affected by, the park. The park is managed proactively to resolve external issues and concerns and ensure that park values are not compromised.  Because the National Monument is an integral part of a larger regional environment, the NPS works cooperatively with others to anticipate, avoid, and resolve potential conflicts, protect National Monument resources, and address mutual interests in the quality of life for community residents. Regional cooperation involves federal, state, and local agencies, neighboring landowners, and all other concerned parties.
<b>Natural Resources</b>	
<b>Air Quality</b>	Air quality in the park meets national ambient air quality standards for specified pollutants. The park’s air quality is maintained or enhanced with no significant deterioration.
<b>Climate Change</b>	Climate change is expected to affect the park’s weather, resources (e.g., shorelines, vegetation, and wildlife), facilities (e.g., docks and roads), and visitors (e.g., seasonal use patterns, fishing, and other visitor opportunities such as typical beach activities). These changes will have direct implications on resource management and park operations and on

TOPIC	Current laws and Policies Require That the Following Conditions Be Achieved at Fort Matanzas National Monument
	<p>the way visitors use and experience the park. Although climate change is expected to affect the park during the life of this plan, many of the specific effects, the rate of changes, and the severity of impacts are not known.</p> <p>Desired Condition: Fort Matanzas National Monument is a leader in its efforts to address climate change by reducing the contribution of NPS operations and visitor activities to climate change; preparing for and adapting to climate change impacts; and increasing its use of renewable energy and other sustainable practices. NPS staff proactively monitors and mitigates the climate change impacts on cultural and natural resources and visitor amenities. The park provides refugia for marine and terrestrial species to increase their resilience to climate change. Education and interpretive programs help visitors understand climate change impacts in the park and beyond, and how they can respond to climate change. Partnerships with various agencies and institutions allow NPS staff to participate in research on climate change impacts.</p> <p>Sources: NPS Organic Act; Executive Order 13423 (includes requirements for the reduction of greenhouse gases and other energy and water conservation measures); Department of the Interior Secretarial Order 3289, Amendment 1, February 10, 2010 (ensures that climate change impacts be taken into account in connection with departmental planning and decision making); NPS <i>Management Policies 2006</i> (including sections on environmental leadership [1.8], sustainable energy design [9.1.1.6], and energy management [9.1.7]); NPS Environmental Quality Division’s “Draft Interim Guidance: Considering Climate Change in NEPA Analysis”</p>
<b>Ecosystem Management</b>	The park is managed holistically, as part of a greater ecological, social, economic, and cultural system.
<b>Exotic Species</b>	The management of populations of exotic plant and animal species, up to and including eradication, is undertaken wherever such species threaten park resources or public health and when control is prudent and feasible. (See <i>National Park Service Management Policies 2006</i> , especially Section 4.4.4.2).
<b>Fire Management</b>	<p>Fort Matanzas National Monument fire management programs are designed to meet resource management objectives prescribed for the various areas of the park and to ensure that the safety of firefighters and the public is not compromised.</p> <p>All wildland fires are effectively managed, considering resource values to be protected and firefighter and public safety, using the full range of strategic and tactical operations as described in an approved fire management plan.</p>
<b>Floodplains</b>	<p>Natural floodplain values are preserved or restored.</p> <p>Long-term and short-term environmental effects associated with the occupancy and modification of floodplains is avoided.</p> <p>When it is not practicable to locate or relocate development or inappropriate human activities to a site outside the floodplain or where the floodplain will be affected, the NPS</p> <ul style="list-style-type: none"> <li>• Prepares and approves a statement of findings in accordance with Director’s Order # 77-2, <i>Floodplain Management</i>.</li> <li>• Uses nonstructural measures as much as practicable to reduce hazards to human life and property while minimizing impacts on the natural resources of floodplains.</li> <li>• Ensures that structures and facilities are designed to be consistent with the intent of the standards and criteria of the National Flood Insurance Program (44 CFR 60).</li> </ul>
<b>General Natural Resources/ Restoration</b>	<p>Native species populations that have been severely reduced in or extirpated from Fort Matanzas National Monument are restored where feasible and sustainable.</p> <p>Populations of native plant and animal species function in as natural a condition as possible except where special considerations are warranted.</p>
<b>Geologic Resources</b>	NPS will preserve and protect geologic resources as integral components of park natural systems. As used here, the term “geologic resources” includes both geologic features and geologic processes.
<b>Land Protection</b>	Land protection plans are prepared to determine and publicly document what lands or

<b>TOPIC</b>	<b>Current laws and Policies Require That the Following Conditions Be Achieved at Fort Matanzas National Monument</b>
	interests in land need to be in public ownership, and what means of protection are available to achieve the purposes for which the national park system unit was created.
<b>Native Vegetation and Animals</b>	The National Park Service will maintain as parts of the natural ecosystem, all native plants and animals in the park.
<b>Soils</b>	The National Park Service actively seeks to understand and preserve the soil resources of Fort Matanzas National Monument, and to prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soil, or its contamination of other resources.  Natural soil resources and processes function in as natural a condition as possible, except where special considerations are allowable under policy.
<b>Soundscapes</b>	Park natural soundscape resources encompass all the natural sounds that occur in parks, including the physical capacity for transmitting those natural sounds and the interrelationships among park natural sounds of different frequencies and volumes. Natural sounds occur within and beyond the range of sounds that humans can perceive, and they can be transmitted through air, water, or solid materials. The National Park Service will preserve, to the greatest extent possible, the natural soundscapes of parks.
<b>Threatened and Endangered Species and Species of Concern</b>	Federal and state-listed threatened and endangered species and their habitats are protected and conserved.  Native threatened and endangered species populations that have been severely reduced in or extirpated from Fort Matanzas National Monument are enhanced or restored where feasible and sustainable.
<b>Water Resources</b>	Surface water and groundwater are protected, and water quality meets or exceeds all applicable water quality standards.  NPS and NPS-permitted programs and facilities are maintained and operated to avoid pollution of surface water and groundwater.
<b>Wetlands</b>	The natural and beneficial values of wetlands are preserved and enhanced. The National Park Service implements a “no net loss of wetlands” policy and strives to achieve a longer-term goal of net gain of wetlands across the national park system through the restoration of previously degraded wetlands.  The National Park Service avoids to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and avoids direct or indirect support of new construction in wetlands wherever there is a practicable alternative.  The National Park Service compensates for remaining unavoidable adverse impacts on wetlands by restoring wetlands that have been previously degraded.
<b>Cultural Resources</b>	
<b>Archeological Resources</b>	Archeological sites are identified and inventoried and their National Register of Historic Places (National Register) significance is determined and documented. Archeological sites are protected in an undisturbed condition unless it is determined through formal processes that disturbance or natural deterioration is unavoidable. When disturbance or deterioration is unavoidable, the site is professionally documented and excavated and the resulting artifacts, materials, and records are curated and conserved in consultation with the Florida State Historic Preservation Office (SHPO). Mitigation may include a variety of measures ranging from avoidance to data recovery, and is generally included in a memorandum of agreement. Artifacts, materials, and records resulting from data recovery are curated and conserved as provided for in 36 CFR 79. Some archeological sites that can be adequately protected may be interpreted to the visitor.  These requirements are specified in Director’s Order 28 (NPS 1998c) which directs the NPS to protect and manage cultural resources in its custody through effective research, planning, and stewardship and in accordance with the policies and principles contained in the NPS Management Policies (NPS 2006a).
<b>Historic Structures</b>	Historic structures are inventoried and their significance and integrity are evaluated under National Register of Historic Places criteria. The qualities that contribute to the listing or eligibility for listing of historic structures on the National Register are protected in accordance with the <i>Secretary of the Interior’s Standards and Guidelines for Archeology and Historic</i>

TOPIC	<b>Current laws and Policies Require That the Following Conditions Be Achieved at Fort Matanzas National Monument</b>
	<i>Preservation</i> (unless it is determined through a formal process that disturbance or natural deterioration is unavoidable).
<b>Ethnographic Resources</b>	<p>The National Park Service will adopt a comprehensive approach towards appreciating the diverse human heritage and associated resources that characterize the national park system. The Service will identify the present-day peoples whose cultural practices and identities were, and often still are, closely associated with each park's cultural and natural resources.</p> <p>Ethnographic information will be collected through collaborative (with groups associated with Fort Matanzas National Monument) research that recognizes the sensitive nature of such information. Cultural anthropologists/ethnographers will document the meanings that traditionally associated groups assign to traditional natural and cultural resources and the landscapes they form. The park's ethnographic file will include this information, as well as data on the traditional management practices and knowledge systems that affect resource uses and the short- and long-term effects of use on the resources.</p> <p>The National Park Service will adopt a comprehensive approach towards appreciating the diverse human heritage and associated resources that characterize the national park system. The Service will identify the present-day peoples whose cultural practices and identities were, and often still are, closely associated with each park's cultural and natural resources.</p> <p>The Service generally supports traditional access and use when reasonable accommodations can be made under NPS authorities to allow greater access and use. Park superintendents may reasonably control the times when and places where specific groups may have exclusive access to particular areas of a park.</p> <p>All ethnographic resources determined eligible for listing or listed on the National Register are protected. If disturbance of such resources is unavoidable, formal consultation with the SHPO, the Advisory Council on Historic Preservation, and with American Indian tribes as appropriate, is conducted.</p>
<b>Cultural Landscapes</b>	<p>Cultural landscape inventories are conducted to identify landscapes potentially eligible for listing in the National Register, and to assist in future management decisions for landscapes and associated resources, both cultural and natural.</p> <p>The management of cultural landscapes focuses on preserving the landscape's physical attributes, biotic systems, and uses when those uses contribute to its historical significance.</p> <p>Treatments are based on sound preservation practices for the preservation, rehabilitation, restoration, or reconstruction of cultural landscapes is undertaken in accordance with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes</i>.</p> <p>Parks are required by Section 110 of the National Historic Preservation Act and National Park Service policies to inventory and evaluate all cultural resources within the park boundaries. They must also produce adequate research to support informed planning and compliance with legal requirements prior to implementation of any work that will affect the identified resources. For cultural landscapes, the completion of the cultural landscapes inventory (CLI) and cultural landscape report (CLR) will satisfy these requirements.</p> <p>The national CLI database serves as the evaluated inventory for cultural landscapes and is the analytical tool for assessing significance, impacts, condition, treatment and legal responsibilities. Fort Matanzas NM proposes to complete one or more certified CLI entries to inventory and evaluate the park's identified cultural landscape or landscapes, and will nominate to the National Register of Historic Places the significant landscapes, component landscapes, and landscape features present on the site as identified by the CLI.</p> <p>A CLR is the approved document that fulfills the research need and provides treatment guidance to support cultural landscape planning. Although a CLR is not considered an implementation plan because it does not present defined alternatives and a National Environmental Policy Act assessment is not required, it will provide documentation for</p>

TOPIC	<b>Current laws and Policies Require That the Following Conditions Be Achieved at Fort Matanzas National Monument</b>
	subsequent implementation planning and support informed management and treatment of cultural landscapes. Upon completion of the park's CLI, Fort Matanzas NM proposes to complete a CLR to identify approved treatment options for the cultural landscape.
<b>Museum Collections</b>	<p>All museum collections (prehistoric and historic objects, artifacts, works of art, archival documents, and natural history specimens) are identified and inventoried, catalogued, documented, preserved, and protected, and provision is made for access to and use of items in the collections for exhibits, research, and interpretation in consultation with traditionally associated groups.</p> <p>The qualities that contribute to the significance of collections are protected in accordance with established standards.</p>
<b>Visitor Use and Experience</b>	
<b>Visitor Use and Experience and Park Use Requirements</b>	<p>Fort Matanzas National Monument resources are conserved "unimpaired" for the enjoyment of present and future generations. Visitors have opportunities for types of enjoyment that are uniquely suited and appropriate to the superlative natural and cultural resources found in the park. No activities occur that would cause derogation of the values and purposes for which the park was established.</p> <p>For all zones, districts, or other logical management divisions within Fort Matanzas National Monument, the types and levels of visitor use are consistent with the desired resource and visitor experience conditions prescribed for those areas consistent with the unit's purpose.</p> <p>Park visitors will have opportunities to understand and appreciate the significance of the park and its resources, and to develop a personal stewardship ethic by directly relating to the resources.</p> <p>To the extent feasible, programs, services, and facilities in the park are accessible to and usable by all people, including those with disabilities within an inviting atmosphere accessible to every segment of American society.</p>
<b>Public Health and Safety</b>	<p>While recognizing that there are limitations on its capability and constraints imposed by the Organic Act to not impair resources, the service and its concessionaires, contractors and cooperators will seek to provide a safe and healthful environment for visitors and employees.</p> <p>The park staff will strive to identify recognizable threats to safety and health and protect property by applying nationally accepted standards. Consistent with mandates and non-impairment, the park staff will reduce or remove known hazards and/or apply appropriate mitigative measures, such as closures, guarding, gating, education, and other actions.</p>
<b>Other Topics</b>	
<b>Sustainable Design/ Development</b>	<p>NPS facilities are harmonious with park resources, compatible with natural processes, aesthetically pleasing, functional, as accessible as possible to all segments of the population, energy-efficient, and cost effective.</p> <p>All decisions regarding park operations, facilities management, and development in the park — from the initial concept through design and construction — reflect principles of resource conservation. Thus, all park developments and park operations are sustainable to the maximum degree possible and practical. New developments and existing facilities are located, built, and modified according to the <i>Guiding Principles of Sustainable Design</i> (NPS 1993) or other similar guidelines.</p> <p>Management decision-making and activities throughout the national park system should use value analysis, which is mandatory for all Department of the Interior bureaus, to help achieve this goal. Value planning, which may be used interchangeably with value analysis/value engineering/value management, is most often used when value methods are applied on general management or similar planning activities.</p>
<b>Transportation to and within the Park</b>	Visitors have reasonable access to the park, and there are connections from the park to regional transportation systems as appropriate. Transportation facilities in the park provide access for the protection, use, and enjoyment of park resources. They preserve the integrity of the surroundings, avoid or minimize adverse impacts on ecological processes, protect park resources, and provide the highest visual quality and a rewarding visitor experience.

TOPIC	Current laws and Policies Require That the Following Conditions Be Achieved at Fort Matanzas National Monument
	The National Park Service participates in all transportation planning forums that may result in links to parks or impact park resources. Working with federal, tribal, state, and local agencies on transportation issues, the NPS seeks reasonable access to parks, and connections to external and alternative transportation systems.
<b>Utilities and Communication Facilities</b>	Neither Fort Matanzas National Monument resources nor public enjoyment of the park are denigrated by nonconforming uses. Telecommunication structures are permitted in the park to the extent that they do not jeopardize the park's mission and resources. No new nonconforming use or rights-of-way are permitted through the park without specific statutory authority and approval by the director of the NPS or his representative, and are permitted only if there is no practicable alternative to such use of NPS lands.

1 **OTHER PLANNING EFFORTS**  
2 **RELATED TO THIS GENERAL**  
3 **MANAGEMENT PLAN**

4  
5 Fort Matanzas National Monument is located  
6 on Anastasia and Rattlesnake Islands at the  
7 Matanzas Inlet, St. Johns County, Florida  
8 approximately 14 miles south of the historic  
9 city of St. Augustine. The park is surrounded  
10 mostly by coastal waters including the  
11 Matanzas River, the Intracoastal Waterway  
12 and the Atlantic Ocean.

13  
14 Several plans have influenced or would be  
15 influenced by the approved General  
16 Management Plan for Fort Matanzas National  
17 Monument.

18  
19 The following highlights those plans most  
20 relevant to this general management plan.

21  
22 *The St. Johns County Habitat Conservation*  
23 *Plan (HCP), A Plan for the Protection of*  
24 *Sea Turtles and Anastasia Island Beach*  
25 *Mice on the Beaches of St. Johns County,*  
26 *Florida, August 2006*

27  
28 The St. Johns County Planning Division  
29 prepared the Habitat Conservation Plan in  
30 support of the County’s application for an  
31 Incidental Take Permit (ITP) from the United  
32 States Fish and Wildlife Service. According  
33 to a statement on the inside cover of the HCP,  
34 the take of sea turtles and Anastasia Island  
35 Beach Mice is causally related to public  
36 vehicular beach access and associated  
37 activities. The following quotations are  
38 pertinent excerpts from the Executive  
39 Summary of the HCP:

40  
41 “The take of any federally listed species of  
42 plants or animals is prohibited under the  
43 Endangered Species Act (ESA) of 1973, as  
44 amended, unless specifically authorized  
45 through a section 10 Incidental Take Permit  
46 (ITP). The ESA defines the term take as an  
47 action “to harass, harm, pursue, hunt, shoot,  
48 wound, kill, trap, capture, or collect, or to  
49 attempt to engage in any such conduct” (ESA  
50 section 3(18)). Harassment includes the  
51 disruption of normal behavioral patterns, like  
52 breeding, feeding, and sheltering (50 CFR

53 222.102). Harming includes habitat  
54 modification or degradation (50 CFR 17.3).  
55 Thus, both direct and indirect impacts can  
56 constitute a take under the ESA.”

57  
58 “The HCP Plan Area includes all beaches  
59 along St. Johns County between the Duval  
60 County Line on the north and the Flagler  
61 County Line on the south, except for those  
62 beaches fronting Fort Matanzas National  
63 Monument. The beaches along FMNM are  
64 excluded from the HCP Plan Area, and  
65 incidental take coverage for public beach  
66 driving along FMNM is not requested by St.  
67 Johns County. The status of this area will be  
68 reevaluated (and the HCP may be amended)  
69 when the NPS addresses public beach driving  
70 in an approved FMNM General Management  
71 Plan.”

72  
73 *Guana Tolomato Matanzas National*  
74 *Estuarine Research Reserve Final*  
75 *Environmental Impact Statement and*  
76 *Management Plan, November 1998*

77  
78 The National Estuarine Research Reserve  
79 System is a partnership of the National  
80 Oceanographic and Atmospheric  
81 Administration (NOAA) and coastal states to  
82 study and protect vital coastal and estuarine  
83 resources. The National Estuarine Research  
84 Reserve System uses its network of living  
85 laboratories to help understand and find  
86 solutions to crucial issues facing America’s  
87 coastal communities. The Guana Tolomato  
88 Matanzas National Estuarine Research  
89 Reserve encompasses approximately 73,352  
90 acres of salt marsh and mangrove tidal  
91 wetlands, oyster bars, estuarine lagoons,  
92 upland habitat and offshore seas in Northeast  
93 Florida. The GTM Reserve is located in the  
94 East Florida subregion, south of Jacksonville  
95 and sandwiching St. Augustine. It contains  
96 the northernmost extent of mangrove habitat  
97 on the east coast of the United States, some of  
98 the highest dunes in Florida, measuring 30-40  
99 feet, and one of the few remaining "inlets" in  
100 northeast Florida not protected by a jetty thus  
101 presenting an easy study of what an inlet  
102 might have looked like in the past. The  
103 coastal waters of the GTM Reserve are also  
104 important calving grounds for the endangered  
105 Right Whale. (Source: <http://nerrs.noaa.gov/>)

1  
2 Fort Matanzas National Monument lies  
3 within the boundaries of the GTM Reserve  
4 and is party to a multi-agency Memorandum  
5 of Agreement (December 30, 1998) the  
6 objective of which is “to establish and  
7 manage, through federal, state, and local  
8 government cooperation, a permanent  
9 National Estuarine Research Reserve to  
10 provide opportunities for long-term scientific  
11 research and environmental education”.

12  
13 ***St. Johns River Water Management District,***  
14 ***District Water Management Plan,***  
15 ***September 2005***

16  
17 The Florida Legislature passed the Florida  
18 Water Resources Act of 1972. This act  
19 established five water management districts  
20 and provided them with specific authorities  
21 and responsibilities to manage the water  
22 resources of the state. The water management  
23 plan provides long-range guidance for the  
24 District’s activities and presents a  
25 compilation of water resource information  
26 that forms the basis for water management.  
27 The Matanzas River, which divides the two  
28 major sections of Fort Matanzas National  
29 Monument (Rattlesnake Island and Anastasia  
30 Island), is one of the major water bodies  
31 within the purview of the St. Johns River  
32 Water Management District.

33  
34 ***Matanzas State Forest Ten-Year Resource***  
35 ***Management Plan – October 12, 2007***

36 Source: [http://www.fl-](http://www.fl-dof.com/state_forests/management_plans.htm)  
37 [dof.com/state\\_forests/management\\_plans.htm](http://www.fl-dof.com/state_forests/management_plans.htm)  
38 [|](http://www.fl-dof.com/state_forests/management_plans.htm)

39  
40 The Matanzas State Forest consists of 4,699  
41 acres located one-half mile northwest of the  
42 Rattlesnake Island section of Fort Matanzas  
43 National Monument. **Matanzas State Forest**  
44 was created from the Matanzas Marsh  
45 Northeast Florida Blueway Florida Forever  
46 Project. The forest protects the last remaining  
47 undisturbed salt marsh within the Guana-  
48 Tolomato-Matanzas National Estuarine  
49 Research Reserve.

50  
51 The Florida Division of Forestry oversees the  
52 management of the State’s one million acres  
53 of state forests. The purpose of these resource

54 management plans is to incorporate, evaluate,  
55 and prioritize all relevant information about  
56 the site into a cohesive management strategy,  
57 allowing for appropriate access to the  
58 managed areas while protecting the long-term  
59 health of the ecosystems and their resources.

60  
61 These 10-year resource management plans  
62 are not annual work plans or detailed  
63 operational plans, but provide general  
64 guidance for the management of each state  
65 forest by outlining the major concepts that  
66 will guide management activities on those  
67 forests. Each management plan is evaluated  
68 periodically and revised as necessary to allow  
69 for strategic improvements. In this regard, the  
70 State Forest resource management plan is  
71 very similar to the National Monument’s  
72 general management plan. The presence of  
73 such a large state managed forest so close to  
74 Fort Matanzas provides a natural viewshed  
75 from the two exterior decks of the fort that  
76 gives visitors nearly the same sense of  
77 isolation and remoteness that the original  
78 Spanish soldiers must have experienced.

79  
80 ***Florida Historic Preservation Plan –***  
81 ***“Planning for the Past: Preserving Florida’s***  
82 ***Heritage 2006 - 2010”*** Source:

83 [http://www.flheritage.com/preservation/](http://www.flheritage.com/preservation/publications/docs/planning_for_the_past.pdf)  
84 [publications/docs/planning\\_for\\_the\\_pas](http://www.flheritage.com/preservation/publications/docs/planning_for_the_past.pdf)  
85 [t.pdf](http://www.flheritage.com/preservation/publications/docs/planning_for_the_past.pdf)

86  
87 The purpose of the Florida Historic  
88 Preservation Plan is to guide Florida’s  
89 preservation efforts for a five-year period.  
90 The Department of State’s Division of  
91 Historical Resources distributes the plan to  
92 public and academic libraries, local  
93 governments, and key organizations. It also  
94 posts the document on the Division’s website  
95 at [www.flheritage.com](http://www.flheritage.com). The SHPO tracks  
96 implementation of and progress toward  
97 accomplishing each objective to establish the  
98 framework for the next five-year cycle. The  
99 goals and objectives included in the plan  
100 reflect the issues and opportunities available  
101 to Floridians as they plan for the preservation  
102 of our cultural heritage in the 21st century.

1  
2 **PLANNING ISSUES/CONCERNS**  
3

4 The NPS staff, general public, stakeholder  
5 groups and organizations, local, state, and  
6 county government representatives, and other  
7 federal agency staff identified issues and  
8 concerns during scoping (early information  
9 gathering) for this general management plan.  
10 An issue is defined as an opportunity,  
11 conflict, or problem regarding the use or  
12 management of public lands. Comments were  
13 solicited at public meetings, through planning  
14 newsletters, and on the Fort Matanzas  
15 National Monument’s Web site (see Chapter  
16 5, “Consultation and Coordination”).  
17

18 Two principal issues helped to steer the  
19 development of preliminary alternatives:  
20

- 21 • A New Deal era visitor center,  
22 consisting of two very small rooms, that  
23 is woefully inadequate to provide  
24 services to a visitor population that has  
25 more than doubled since the mid-1990s;  
26 and  
27
- 28 • Off-road driving on the Anastasia Island  
29 beach.  
30

31 Three additional issues factored into the  
32 development of the preliminary alternatives:  
33

- 34 • The number of parking areas and spaces  
35 available for visitors going to the ocean  
36 beach on Anastasia Island as well as the  
37 shore of the western side of the island on  
38 the Matanzas River is inadequate on  
39 many summer weekends. The three  
40 available parking areas frequently fill up  
41 early and visitors park on the shoulders  
42 of Highway A1A, which bisects the  
43 Anastasia Island section of the park.  
44 Beach users also park in the visitor  
45 center parking lot, which is intended for  
46 visitors desiring to take the boat to the  
47 fort on Rattlesnake Island and for visitor  
48 center and surrounding area usage.  
49
- 50 • Many of the people who submitted  
51 scoping comments expressed concern  
52 about the health of the natural  
53 environment, especially threatened and

54 endangered species on Anastasia Island,  
55 as a result of driving on the beach and  
56 heavy use by boaters and personal  
57 watercraft operators in the Matanzas  
58 River, the Matanzas Inlet and on the  
59 southwestern tip of Anastasia Island.  
60

- 61 • Fort Matanzas exists in a region of  
62 several state parks and forests,  
63 conservation areas, and preserves. It  
64 exists within the boundaries of the St.  
65 Johns River Water Management District  
66 and the Guano Tolmato Matanzas  
67 National Estuarine Research Reserve.  
68 How can the National Monument  
69 partner with these various entities in  
70 mutually beneficial ways?  
71

72 **Climate Change**  
73

74 Finally, the phenomenon of climate change  
75 has been included in the analysis and has  
76 resulted in the development of strategies  
77 common to all alternatives. All National Park  
78 System areas are affected by climate change,  
79 but coastal units such as Fort Matanzas  
80 National Monument are more immediately  
81 vulnerable to the effects of global warming  
82 such as sea level rise and more violent and  
83 frequent storm events than parks more  
84 distant from the coasts and at higher  
85 elevations above sea level.  
86

87 The National Park Service recognizes that the  
88 major drivers of climate change are outside  
89 the control of the agency. However, climate  
90 change is a phenomenon whose impacts  
91 throughout the national park system cannot be  
92 discounted. Some of these impacts are  
93 already occurring or are expected in Fort  
94 Matanzas National Monument in the life span  
95 of this management plan. Therefore, climate  
96 change is included in this document to  
97 recognize its role in the changing  
98 environment of the National Monument and  
99 to provide an understanding of its impact;  
100 other factors driving environmental change  
101 include population growth in the area  
102 (subsidence of water table, increased  
103 visitation, pollution), and land-use change  
104 and development around the National  
105 Monument.  
106

1 Although climate change is a global  
2 phenomenon, it manifests differently  
3 depending on regional and local factors.  
4 Climate change is expected to result in many  
5 changes to the Atlantic coast of the eastern  
6 United States, including warming ocean  
7 waters, hotter summer temperatures and  
8 fewer winter freezes, sea level rise, and  
9 higher storm surges. In addition to these  
10 likely widespread effects, specific impacts on  
11 Fort Matanzas National Monument could  
12 include shifting shorelines due to coastal  
13 erosion, erosion of archeological sites,  
14 saltwater intrusion into soils and vegetation,  
15 flooding of the nesting sites of threatened and  
16 endangered sea turtles and shore birds, and  
17 threats to the integrity and foundation of the  
18 Fort Matanzas historic watchtower on  
19 Rattlesnake Island in the Matanzas River.  
20 This dynamic environment is expected to  
21 affect the natural and cultural resources in the  
22 National Monument, as well as visitor use  
23 patterns.

24  
25 Questions to be addressed are as follows:

- 26  
27 • What is the contribution of the proposed  
28 project to climate change, such as  
29 greenhouse gas emissions and the  
30 “carbon footprint”?
- 31  
32 • What are the anticipated effects of  
33 climate change on the National  
34 Monument resources and visitors that are  
35 affected by the management alternatives?

36  
37 Because the contribution of the proposed  
38 project to climate change is negligible under  
39 any alternative, the former issue has been  
40 dismissed. The latter issue, a discussion of the  
41 anticipated effects of climate change on  
42 National Monument resources, has been  
43 carried forward.

## 44 45 **DECISION POINTS AND** 46 **CONSIDERATIONS**

47  
48 Many aspects of the desired future conditions  
49 of Fort Matanzas National Monument are  
50 defined in the establishing Presidential  
51 Proclamation, the park’s purpose and  
52 significance statements, and established laws  
53 and policies. The resolution of questions or

54 issues that have not already been addressed  
55 by legislation or laws and policies are the  
56 basis for developing different alternatives or  
57 approaches to managing the park into the  
58 future, because usually there is more than one  
59 way an issue could be resolved. As with any  
60 decision-making process, there are key  
61 decisions that, once made, will dictate the  
62 direction of subsequent management  
63 strategies. Based on public and partner  
64 comments and NPS concerns, the following  
65 four major decision points were identified for  
66 Fort Matanzas National Monument.

- 67  
68 1. Beach Driving issue – Fort Matanzas  
69 currently has no legal authority to permit  
70 driving off designated roads within the  
71 National Monument (See Appendix F for  
72 an analysis of this issue.). Therefore, to  
73 bring the park into compliance with law,  
74 regulation, and policy, and despite prior  
75 vehicular access to the beaches south of  
76 the Matanzas ramp on Anastasia Island,  
77 Fort Matanzas National Monument began  
78 the process of closing the beach to  
79 vehicular access in October 2009. This  
80 process was completed on January 1,  
81 2010. The closure will continue unless  
82 and until such time that authority to  
83 permit off road driving on the Fort  
84 Matanzas beach is granted by legislation,  
85 regulation, or some other lawful method.  
86 However, NPS is aware that driving on  
87 this section of the beach has been  
88 occurring since the advent of the  
89 automobile long before the creation of  
90 Fort Matanzas National Monument. In  
91 the early stages of this planning project,  
92 many commenters at scoping meetings  
93 and meetings to present preliminary  
94 management concepts indicated their  
95 preference for retaining access by vehicle  
96 to the beach. However, since the closure  
97 on January 1, 2010, there has been a  
98 substantial increase in the number of  
99 visitors and commenters who prefer the  
100 beach to remain closed to vehicles. One  
101 of the most important questions to be  
102 answered by this general management  
103 plan therefore is, should the NPS seek  
104 authority to permit driving on the beach  
105 or should the beach remain closed to  
106 vehicles.

- 1
- 2 2. Visitor Center adequacy – The existing  
3 visitor center was built by the Public  
4 Works Administration in 1937 during the  
5 Great Depression. The local population,  
6 particularly the school-age population has  
7 expanded tremendously since then as has  
8 the annual visitation to the park and the  
9 limited space is no longer adequate to  
10 provide programs and services for more  
11 than a handful of visitors at one time.  
12 Should the current visitor center be  
13 expanded, should a new facility be  
14 constructed, or should another existing  
15 structure be adapted to provide the  
16 additional visitor service space and  
17 administrative space the park needs? Is  
18 there another solution besides a capital  
19 improvement?  
20
- 21 3. Parking adequacy - On most summer  
22 weekends the parking lots on the east and  
23 west sides of Highway A1A fill early and  
24 parking on the shoulders of the road  
25 creates dangerous conditions for both  
26 pedestrians and drivers. Should off-beach  
27 parking be expanded to accommodate  
28 growing use of the beach resources?  
29
- 30 4. Protection of natural resources,  
31 particularly endangered species, on  
32 Anastasia Island – Many comments from  
33 those attending public meetings and those  
34 who provided written comments on the  
35 preliminary alternatives expressed  
36 concerns about the health of natural  
37 resources within the National Monument.  
38 While protection of the natural and  
39 cultural resources within every unit of the  
40 National Park System is a mandate rather  
41 than an option, present and future  
42 managers of the National Monument  
43 must find ways to protect and preserve  
44 these resources while simultaneously  
45 providing opportunities for the visiting  
46 public to experience and enjoy these  
47 resources.  
48  
49

50 **RESOURCES AND VALUES AT**  
51 **STAKE IN THE PLANNING**  
52 **PROCESS**

53  
54 **Introduction**

55  
56 An important part of planning is seeking to  
57 understand the consequences of making one  
58 decision over another. To this end, NPS  
59 general management plans are typically  
60 accompanied by full environmental impact  
61 statements. Environmental impact statements  
62 identify the anticipated impacts of possible  
63 actions on resources and on park visitors and  
64 neighbors.  
65

66 Impact topics are specific natural, cultural, or  
67 socioeconomic resources or values (including  
68 visitor use and experience and park  
69 operations) that could be affected by  
70 implementation of any of the alternatives  
71 described in the GMP, including the no-  
72 action alternative. Impacts to these resources  
73 or values must be identified, and the intensity  
74 or magnitude, duration, and timing of the  
75 effect to each resource must be disclosed in  
76 the environmental consequences section of  
77 the EIS.  
78

79 The impact topics identified for this general  
80 management plan are outlined in this section;  
81 they were identified based on federal laws  
82 and other legal requirements, Council on  
83 Environmental Quality (CEQ) guidelines,  
84 NPS management policies, staff subject-  
85 matter expertise, and issues and concerns  
86 expressed by the public and other agencies  
87 early in the planning process. The planning  
88 team selected the impact topics for analysis  
89 based on the potential for each topic to be  
90 affected by the alternatives. Also included is  
91 a discussion of some impact topics that are  
92 commonly addressed in general management  
93 plans, but are dismissed from detailed  
94 analysis in this plan for the reasons given.  
95  
96

97 **IMPACT TOPICS TO BE**  
98 **CONSIDERED**

99  
100 **Cultural Resources**

101  
102 The National Historic Preservation Act and  
103 NEPA require that the effects of any federal  
104 undertaking on cultural resources be taken

1 into account. Also, NPS *Management*  
2 *Policies 2006* and *Cultural Resource*  
3 *Management* guideline (Director’s Order 28)  
4 call for the consideration of cultural resources  
5 in planning proposals, and taking into account  
6 the concerns of traditionally associated  
7 peoples and stakeholders when making  
8 decisions about the park’s cultural resources.  
9 Actions proposed in this plan are focused in  
10 large part on the historic fort and surrounding  
11 environs, and thus could affect archeological  
12 resources, historic structures, cultural  
13 landscapes, and museum collections.

14  
15 **Archeological Resources.** Regulations  
16 implementing the Archeological Resources  
17 Protection Act define archeological resources  
18 to be any material remains of human life or  
19 activities which are at least 100 years of age,  
20 and which are of archeological interest. Of  
21 archeological interest means capable of  
22 providing scientific or humanistic  
23 understandings of past human behavior,  
24 cultural adaptation, and related topics through  
25 the application of scientific or scholarly  
26 techniques such as controlled observation,  
27 contextual measurement, controlled  
28 collection, analysis, interpretation and  
29 explanation. There are seven registered  
30 archeological sites at Fort Matanzas. These  
31 are primarily shell middens and sites  
32 associated with Spanish and British periods of  
33 occupation. This topic will be retained for  
34 detailed analysis.

35  
36 **Historic Structures.** Historic structures  
37 served and may continue to serve some form  
38 of human activity and are generally  
39 immovable. They include buildings and  
40 monuments, canals, bridges, roads, defensive  
41 works, and ruins of all structural types. At  
42 Fort Matanzas there are three historic  
43 structures: the fort itself on Rattlesnake Island  
44 and the New Deal era visitor center and  
45 headquarters buildings on Anastasia Island.  
46 The Johnson House, also on Anastasia Island  
47 was the former residence of Howard and  
48 Teresa Johnson, who donated most of the  
49 land on Anastasia Island that is within the  
50 National Monument boundary to the United  
51 States. This topic will be retained for detailed  
52 analysis.

53

54 **Cultural Landscapes.** Cultural landscapes  
55 are complex resources that range from large  
56 rural tracts covering several thousand acres to  
57 formal gardens of less than an acre. Natural  
58 features such as landforms, soils, and  
59 vegetation are not only part of the cultural  
60 landscape, they provide the framework within  
61 which it evolves. In the broadest sense, a  
62 cultural landscape is a reflection of human  
63 adaptation and use of natural resources and is  
64 often expressed in the way land is organized  
65 and divided, patterns of settlement, land use,  
66 systems of circulation, and the types of  
67 structures that are built. The character of a  
68 cultural landscape is defined both by physical  
69 materials, such as roads, buildings, walls, and  
70 vegetation, and by use reflecting cultural  
71 values and traditions. Although there are no  
72 designated cultural landscapes at Fort  
73 Matanzas, the visitor center, headquarters  
74 building, park roads, parking areas,  
75 surrounding landscape, and the Matanzas  
76 Ramp (Atlantic Ocean beach access road)  
77 have all been included in the National  
78 Register of Historic Places and therefore  
79 could be designated a cultural landscape in  
80 the future. This topic will be retained for  
81 detailed analysis.

82  
83 **Museum Collections.** Museum collections  
84 are material things possessing functional,  
85 aesthetic, cultural, symbolic, and/or scientific  
86 value, usually movable by nature or design.  
87 Museum objects include prehistoric and  
88 historic objects, artifacts, works of art,  
89 archival material, and natural history  
90 specimens that are part of a museum  
91 collection. Large or immovable properties,  
92 such as monumental statuary, trains, nautical  
93 vessels, cairns, and rock paintings, are  
94 defined as historic structures or features of  
95 sites. Fort Matanzas National Monument has  
96 an extensive museum collection comprised of  
97 archival collections, historic and  
98 archeological artifacts, and biological  
99 specimens. These materials are all stored in a  
100 facility at Timucuan Ecological and Historic  
101 Preserve in Jacksonville, Florida that has  
102 special temperature and humidity controls  
103 and other storage equipment and protocols  
104 designed to provide them with the utmost  
105 protection and preservation. None of the  
106 alternatives in this general management plan

1 is expected to have greater than negligible  
2 effects on museum collections. However, for  
3 purposes of consultation pursuant to Section  
4 106 of the NHPA, this topic has been retained  
5 for further analysis.

## 6 7 **Natural Resources**

### 8 9 ***Geology and Soils***

10 The geology and soils of Rattlesnake and  
11 Anastasia islands reflect a somewhat varied  
12 environment and a complex history. The  
13 soils can be affected by construction,  
14 restoration, and visitor use. Geologic  
15 processes and formations can likewise be  
16 affected by these factors, as well as by off-  
17 site activities. Alternatives in this plan could  
18 have an adverse or beneficial impact on  
19 geology and soils, so this topic is retained for  
20 analysis.

### 21 22 ***Plant Communities and Vegetation***

23 Fort Matanzas National Monument has a  
24 variety of vegetation typical of the maritime  
25 and estuarine environment. It also has a  
26 significant amount of non-native invasive  
27 vegetation. Alternatives presented in this  
28 plan could affect native and invasive non-  
29 native vegetation, so this topic is retained.

### 30 31 ***Fish and Wildlife Including Species of 32 Special Concern***

33 Fort Matanzas National Monument is home to  
34 a variety of fish, birds, and other wildlife.  
35 Alternatives presented in this plan could  
36 affect wildlife and fish species, including  
37 threatened or endangered species or important  
38 habitat, so this topic is retained.

### 39 40 ***Water Quality***

41 Effects on water quality are regulated by  
42 NPS policies and the Clean Water Act (33  
43 U.S.C. 1344). NPS *Management Policies*  
44 *2006* § 4.6.3 states that the NPS will

45  
46 “take all necessary actions to maintain or  
47 restore the quality of surface waters and  
48 groundwaters within the parks consistent  
49 with the Clean Water Act and all other  
50 applicable federal, state, and local laws  
51 and regulations.... “

52  
53 Surface water resources in the Fort Matanzas  
54 National Monument area of interest include  
55 the Atlantic Ocean and the Matanzas River.  
56 Implementation of any of the action  
57 alternatives could result in increased  
58 sedimentation of surface water resources in  
59 the park. Therefore, this topic has been  
60 retained for analysis.

### 61 62 ***Floodplains and Wetlands***

63 Executive Order 11990, “Protection of  
64 Wetlands,” requires federal agencies  
65 conducting certain activities to avoid, to the  
66 extent possible, the adverse impacts  
67 associated with the destruction or loss of  
68 wetlands and to avoid new construction in  
69 wetlands if a practicable alternative exists.  
70 The National Park Service must determine if  
71 proposed actions will be in or will affect  
72 wetlands. If so, the responsible official shall  
73 prepare a wetlands assessment (statement of  
74 findings), which will be part of the  
75 environmental assessment or environmental  
76 impact statement. There are two types of  
77 wetlands in the park that could be affected by  
78 implementation of any of the action  
79 alternatives – palustrine (inland, non-tidal  
80 wetlands) and estuarine (tidal wetlands  
81 affected by both ocean tides and river flows)  
82 – so this topic is retained for analysis.

83  
84 Executive Order 11988, “Floodplain  
85 Management,” requires federal agencies to  
86 evaluate the potential effects of actions they  
87 may take in a floodplain to avoid, to the  
88 extent possible, adverse effects associated  
89 with direct and indirect development of a  
90 floodplain. If so, staff will prepare a  
91 floodplain assessment (statement of findings).  
92 The assessment will become part of the  
93 environmental assessment or environmental  
94 impact statement. The alternatives in this plan  
95 propose leaving facilities in floodplains or  
96 removing them, so this topic is retained for  
97 analysis.

### 98 99 **Visitor Use and Experience**

100  
101 The Organic Act and NPS *Management*  
102 *Policies 2006* direct the NPS to provide  
103 visitors with enjoyment opportunities  
104 appropriate to the superlative resources found  
105 in the park. Actions in the alternatives could

1 affect the types of facilities available to park  
2 visitors, as well as the ability of visitors to  
3 engage in recreational activities. Actions in  
4 the plan could also affect the degree of visitor  
5 understanding and appreciation of park  
6 resources. Therefore, this topic will be  
7 retained for analysis.

## 8 **Socioeconomic Environment**

10 The National Environmental Policy Act  
11 requires an examination of social and  
12 economic impacts caused by federal actions  
13 as part of a complete analysis of the potential  
14 impacts of these actions on the “human  
15 environment.” St. Johns County and the City  
16 of St. Augustine make up the affected area for  
17 the socioeconomic analysis. Private sector  
18 businesses, including visitor service facilities  
19 and operators (e.g., restaurants and motels)  
20 could be affected by the actions proposed in  
21 this management plan. Therefore, this topic  
22 will be analyzed.

### 24 **Transportation**

25 Providing access to Fort Matanzas National  
26 Monument is a public and park concern.  
27 Alternatives proposed in this plan could affect  
28 visitor access. Therefore, this impact topic  
29 will be retained for analysis.

## 31 **Park Operations**

32 Staffing, funding needs, and park priorities  
33 may change under some of the alternatives.  
34 Therefore, the impacts that each alternative  
35 may have on park operations will be  
36 analyzed.

## 37 **Energy Requirements, Depletable 38 Resources, and Conservation 39 Potential**

40 The National Park Service strives to use  
41 sustainable practices and technology and  
42 reduce its impact on natural or depletable  
43 resources. Under all of the alternatives,  
44 ecological principles would be applied to  
45 ensure that the park’s natural resources were  
46 maintained and conserved. However, the use  
47 and consumption of fuel and other non-  
48 renewable resources for NPS operations,  
49 activities, and development would continue

50 and vary among the alternatives. Therefore,  
51 this topic was retained for further  
52 consideration.

## 53 **Public Health and Safety**

54 Some actions in this plan could have effects  
55 on human health or safety. Therefore, this  
56 topic was retained for further analysis.

## 57 **Soundscape**

58 *NPS Management Policies 2006* (§4.9)  
59 requires national park managers to preserve  
60 the natural quiet and natural sounds  
61 associated with the physical and biological  
62 resources (for example, the sounds of birds  
63 and the ocean surf). The natural soundscape  
64 (i.e., natural quiet on Rattlesnake Island and  
65 the sounds of the ocean and birds on  
66 Anastasia Island) at Fort Matanzas National  
67 Monument is a special resource to park  
68 visitors. Some of the action alternatives in  
69 this plan could result in long-term alteration  
70 of the soundscapes in the park. Efforts to  
71 preserve natural soundscapes in the  
72 monument would continue. Some short-term  
73 impacts from construction projects may occur  
74 for brief periods in the future, but impacts  
75 would be negligible. Accordingly, this topic  
76 was retained for further analysis.

## 77 **IMPACT TOPICS CONSIDERED 78 BUT NOT ANALYZED IN DETAIL**

79 The following topics were considered for  
80 detailed analysis, but dismissed for the  
81 reasons indicated:

### 82 ***Ethnographic Resources***

83 Ethnographic resources are landscapes,  
84 objects, plants and animals, or sites and  
85 structures that are important to a people's  
86 sense of purpose or way of life. These  
87 peoples are the contemporary park neighbors  
88 and ethnic or occupational communities that  
89 have been associated with a park for two or  
90 more generations (40 years), and whose  
91 interests in the park’s resources began before  
92 the park’s establishment. There are several  
93 types of studies and research that the NPS

1 uses to determine the extent of ethnographic  
2 resources in a particular park. The most  
3 comprehensive background study, the  
4 ethnographic overview and assessment,  
5 reviews existing information on park  
6 resources traditionally valued by  
7 stakeholders. The information comes mostly  
8 from archives and publications; interviews  
9 with community members and other  
10 constituents—often on trips to specific  
11 sites—supply missing data. This study also  
12 identifies the need for further research.

13  
14 Fort Matanzas National Monument has not  
15 yet been the subject of such an assessment  
16 and therefore the existence (or nonexistence)  
17 of ethnographic resources is undocumented.  
18 However, it is highly unlikely that any of the  
19 alternatives in this general management plan  
20 would have greater than negligible impacts on  
21 ethnographic resources, should they be  
22 determined to exist. This topic has been  
23 dismissed from further consideration.

#### 24 25 ***Air Quality***

26 The park is located in an area that has been  
27 designated Class II under the Clean Air Act.  
28 By policy, the NPS seeks to perpetuate the  
29 best possible air quality in parks in order to  
30 preserve natural and cultural resources, and to  
31 sustain visitor enjoyment, human health, and  
32 scenic vistas. See *NPS Management Policies*  
33 *2006* § 4.7.1. The contribution of pollutants  
34 resulting from implementing any of the  
35 alternatives would be negligible compared to  
36 current levels. Therefore, air quality has been  
37 dismissed from further consideration.

#### 38 39 ***Lightscape Management (Dark Night Sky*** 40 ***Preservation)***

41 The National Park Service strives to minimize  
42 the intrusion of artificial light into the night  
43 scene by limiting the use of artificial outdoor  
44 lighting to basic safety requirements,  
45 shielding the lights when possible, and using  
46 minimal impact lighting techniques. The  
47 level and type of new development and  
48 lighting proposed in this plan is minimal. In  
49 addition, the National Monument is  
50 sufficiently distant from the center of the city  
51 of St. Augustine that only a minor effect on  
52 night skies from St. Augustine is present.  
53 Furthermore, the effects of the actions in this

54 plan on natural lightscapes would be  
55 negligible. Therefore, the topic of lightscapes  
56 was dismissed from further analysis.

#### 57 58 ***Urban Quality and Design of the Built*** 59 ***Environment***

60 The quality of urban areas is not a concern in  
61 this planning project. Vernacular architecture  
62 and park-compatible design would be  
63 considered for any new structures built under  
64 the alternatives. Emphasis would be placed  
65 on designs, materials, and colors that blend in  
66 and do not detract from the natural and built  
67 environment. Therefore, adverse impacts are  
68 anticipated to be negligible. No further  
69 consideration of this topic is necessary.

#### 70 71 ***Socially or Economically Disadvantaged*** 72 ***Populations***

73 Executive Order 12898 (“Federal Actions to  
74 Address Environmental Justice in Minority  
75 Populations and Low-Income Populations”)  
76 requires all federal agencies to incorporate  
77 environmental justice into their missions by  
78 identifying and addressing disproportionately  
79 high and adverse human health or  
80 environmental effects of their programs and  
81 policies on minorities and low-income  
82 populations and communities. None of the  
83 alternatives considered in this document  
84 would result in any identifiable adverse health  
85 effects, and none of the impacts to the natural  
86 and physical environment would significantly  
87 and adversely affect any minority or low-  
88 income population or community. Therefore,  
89 environmental justice was dismissed as an  
90 impact topic.

#### 91 92 ***Prime and Unique Agricultural Lands***

93 Council on Environmental Quality  
94 regulations require that federal agencies  
95 assess the effects of their actions on farmland  
96 soils classified by the U.S. Natural Resource  
97 Conservation Service (NRCS) as prime or  
98 unique. According to NRCS, none of the  
99 soils in the project area are classified as prime  
100 or unique. Therefore, this topic was  
101 dismissed from further consideration.

#### 102 103 ***Indian Sacred Sites and Indian Trust*** 104 ***Resources***

105 Executive Order 13007 (“Indian Sacred  
106 Sites”) requires all federal agencies to

1 determine whether their proposed actions  
2 would restrict access to or ceremonial use of  
3 Indian sacred sites by Indian religious  
4 practitioners or adversely affect the integrity  
5 of such sacred sites. Secretarial Order 3175  
6 requires that any anticipated impacts to Indian  
7 trust resources from a proposed action or  
8 project by a Department of the Interior bureau  
9 be explicitly addressed in environmental  
10 compliance documents.

11  
12 None of the alternatives considered in this  
13 document would restrict access to any sites  
14 sacred to American Indians or limit  
15 ceremonial use of any such sites. None of the  
16 alternatives would affect Indian trust

17 resources. Therefore, this topic was  
18 dismissed from further consideration in this  
19 document.

20  
21 ***Conformity with Local Land Use Plans***  
22 Land use at Fort Matanzas National  
23 Monument is consistent with St. Johns  
24 County, Florida land use plans and  
25 regulations. The creation of additional visitor  
26 use opportunities in the park as proposed in  
27 the alternatives would be consistent with  
28 existing land uses or local (non-NPS) land  
29 use plans, policies, or controls for the area.  
30 Therefore, this topic was dismissed from  
31 further consideration.



**Fort Matanzas Dunes and Ocean Beach**

## CHAPTER 2 – ALTERNATIVES, INCLUDING THE PREFERRED ALTERNATIVE

### 1 INTRODUCTION

2  
3 Many aspects of the desired future condition  
4 of Fort Matanzas National Monument are  
5 defined in the establishing legislation, the  
6 National Monument’s purpose and  
7 significance statements, and the servicewide  
8 mandates and policies that were described  
9 earlier. Within these parameters, the NPS  
10 solicited input from the public, NPS staff,  
11 government agencies, and other organizations  
12 regarding issues and desired conditions for  
13 the park. Planning team members gathered  
14 information about existing visitor use and the  
15 condition of the National Monument’s  
16 facilities and resources. They considered  
17 which areas of the National Monument attract  
18 visitors, and which areas have sensitive  
19 resources.

20  
21 Using the above information the planning  
22 team developed a set of management  
23 prescriptions and two action alternatives to  
24 reflect the range of ideas proposed by the  
25 national park staff and the public.

26  
27 This chapter describes the management zones  
28 and the alternatives for managing the  
29 National Monument for the next 20 years.  
30 The NPS planning process requires  
31 development of action alternatives  
32 (alternatives B, and C) for comparison with  
33 no change in current park management and  
34 trends (no-action, alternative A). The chapter  
35 includes tables that summarize the key  
36 differences between the alternatives and the  
37 key differences in the impacts that are  
38 expected from implementing each alternative.  
39 (The summary of impacts table is based on  
40 the analysis in Chapter 4, "Environmental  
41 Consequences.") This chapter also describes  
42 mitigative measures that would be used to  
43 lessen or avoid impacts, the future studies that  
44 would be needed, and the environmentally  
45 preferred alternative.

### 46 FORMULATION OF ALTERNATIVES

49 The building blocks for reaching an approved  
50 plan for managing a national park system unit  
51 are the management zones and the  
52 alternatives. The alternatives in the GMP/EIS  
53 or EA must be consistent with the purpose of  
54 the park, its significance, its administrative  
55 and legal mandates, and its enabling  
56 legislation. They must be developed with the  
57 protection of the park’s resources and values,  
58 including opportunities for visitor enjoyment,  
59 as the primary determinants. In other words,  
60 the alternatives should propose different  
61 approaches to achieving a park’s purpose,  
62 while at the same time protecting or  
63 minimizing impacts to the park’s resources  
64 and values. Management zones are  
65 descriptions of desired conditions for park  
66 resources and visitor experiences in different  
67 areas of the park. Management zones are  
68 determined for each national park system  
69 unit; however the management zones for one  
70 unit will likely not be the same for any other  
71 national park system unit (although some  
72 might be similar). The management zones  
73 identify the widest range of potential  
74 appropriate resource conditions, visitor  
75 experiences, and facilities for the park that  
76 fall within the scope of the park’s purpose,  
77 significance, and special mandates. Five  
78 management zones have been identified for  
79 Fort Matanzas National Monument (see Table  
80 3 later in this chapter).

81  
82 The alternatives in this general management  
83 plan are the different futures that could be  
84 created with the management zones available.  
85 Each of the action alternatives has an overall  
86 management concept and a description of  
87 how different areas of the park would be  
88 managed. The concept for each alternative  
89 gives the NPS staff the idea for what the  
90 alternative is going to look like. For example,  
91 perhaps one management zone is called  
92 “natural resource” and another zone is called  
93 “recreation.” An alternative whose concept is  
94 to keep most of the park in an undeveloped  
95 and natural/wild condition would have more  
96 of the natural resource than the recreation  
97 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.

4  
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.

13  
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.

20  
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.

52

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.

## 71 72 **IDENTIFICATION OF THE** 73 **PREFERRED ALTERNATIVE**

74  
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.

101  
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

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

- 5
- 6 1. Protection of natural resources
- 7
- 8 2. Protection of cultural resources
- 9
- 10 3. Creation or enhancement of educational  
11 and interpretive opportunities
- 12
- 13 4. Creation or enhancement of recreational  
14 opportunities for fishing, birding,  
15 walking, etc.
- 16
- 17 5. Providing for public health, safety, and  
18 welfare
- 19

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

## 26 **USER (CARRYING) CAPACITY**

27  
28  
29 General management plans for national park  
30 system units must address user capacity  
31 management. The National Park Service  
32 defines user capacity as the type and extent of  
33 use that can be accommodated while  
34 sustaining the quality of a park unit's  
35 resources and visitor experiences consistent  
36 with the park unit's purpose.

37  
38 User capacity management involves  
39 establishing desired conditions, monitoring,  
40 and taking actions to ensure the park unit's  
41 values are protected. The premise is that with  
42 any visitor use comes some level of impact  
43 that must be accepted; therefore, it is the  
44 responsibility of the NPS to decide what level  
45 of impact is acceptable and what management  
46 actions are needed to keep impacts within  
47 acceptable limits.

48  
49 Instead of just tracking and controlling the  
50 number of visitors, NPS staff manages the  
51 levels, types, and patterns of visitor use as  
52 needed to preserve the condition of the  
53 resources and quality of the visitor

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

59  
60 The foundation for user capacity decision  
61 making is the qualitative descriptions of  
62 desired resource conditions, visitor  
63 experience opportunities, and general levels  
64 of development and management described in  
65 the management zones. Based on these  
66 desired conditions, indicators and standards  
67 are identified. An indicator is a measurable  
68 variable that can be used to track changes in  
69 resource and social conditions related to  
70 human activity, so that existing conditions  
71 can be compared to desired conditions. A  
72 standard is the minimum acceptable condition  
73 for an indicator.

74  
75 User capacity decision making is a  
76 continuous process; decisions are adjusted  
77 based on monitoring the indicators and  
78 standards. Management actions are taken to  
79 minimize impacts when needed. The  
80 indicators and standards included in this  
81 management plan would generally not change  
82 in the future. However, as monitoring of the  
83 park's conditions continues, managers may  
84 decide to modify, add, or delete indicators if  
85 better ways are found to measure important  
86 changes in resource and social conditions.  
87 Information on the NPS' monitoring efforts,  
88 related visitor use management actions, and  
89 any changes to the indicators and standards  
90 would be available to the public.

91  
92 This *General Management Plan* addresses  
93 user capacity in the following ways:

- 94
- 95 • The management zones described  
96 earlier in this chapter provide the basis  
97 for managing user capacity. Each zone  
98 prescribes desired resource conditions,  
99 visitor experiences, and recreational  
100 opportunities for different areas of the  
101 park. The zones also prescribe the  
102 types and levels of developments  
103 necessary to support these conditions,  
104 experiences, and opportunities. This  
105 element of the framework is the most  
106 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**

<b>Indicator</b>	<b>Applicable Zone</b>	<b>Standard</b>	<b>Management Strategies</b>
<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>

1

2

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

3  
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**

	<b>VISITOR SERVICES ZONE</b>	<b>PARK SERVICES ZONE</b>	<b>HISTORIC RESOURCE ZONE</b>	<b>NATURAL RESOURCE ZONE</b>	<b>RECREATION ZONE</b>
<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>

1 **ACTIONS COMMON TO ALL**  
2 **ALTERNATIVES**

3  
4 **Protecting Coastal Resources**

5  
6 It is an objective of this plan under all alternatives  
7 to enhance the ability of the park to monitor and  
8 protect coastal resources on the Atlantic Ocean  
9 side of Anastasia Island. This area is divided in  
10 ownership between the State of Florida (from the  
11 mean high tide line eastward into the territorial  
12 waters of the State) and the NPS (from the mean  
13 high tide line westward to the right-of-way for  
14 State Route A1A). To accomplish this, the park  
15 would work cooperatively with St. Johns County,  
16 which manages the state lands.

17  
18 Other ongoing actions common to all alternatives  
19 include the following:

- 20  
21 • The NPS Inventory & Monitoring (I&M)  
22 program for the Southeast Coastal Network  
23 has begun and would continue to collect  
24 data on coastal shoreline change, salt marsh  
25 accretion or subsidence, and trends in plant  
26 communities. The I&M program is also  
27 planning to develop a protocol and analyze  
28 data to determine the status and trends of  
29 groundwater levels in existing groundwater  
30 wells and identify potential relationships  
31 between changes in groundwater dynamics  
32 and changes in landscape dynamics for the  
33 park.
- 34  
35 • The State of Florida is conducting  
36 vegetation classification and mapping of  
37 the park.
- 38  
39 • The NPS continues to monitor and treat the  
40 National Monument for a variety of exotic  
41 invasive plants.
- 42  
43 • Removal of exotics, nuisance, and invasive  
44 species would continue.
- 45  
46 • Fort stabilization work would be ongoing.

47  
48  
49 **ALTERNATIVE A: THE NO-ACTION**  
50 **ALTERNATIVE**

51 **Concept**  
52

53  
54 The primary purpose of the no-action alternative,  
55 required by NEPA, is to serve as a baseline for  
56 comparing the effects of the action alternatives to  
57 the effects of the status quo. The no-action  
58 alternative is the continuation of current  
59 management actions and direction into the future,  
60 i.e., continuing with the present course of action  
61 until that action is changed. “No action” does not  
62 mean that the park does nothing. Rather, the no-  
63 action alternative presents how the park would  
64 continue to manage natural resources, cultural  
65 resources, and visitor use and experience if a new  
66 GMP was not approved and implemented.

67  
68 The no-action alternative is a viable course of  
69 action and must be presented as an objective and  
70 realistic representation of continuing the current  
71 park management direction otherwise it will not  
72 be an accurate baseline against which to compare  
73 action alternatives and their potential impacts.

74  
75 The park’s enabling legislation and NPS  
76 management policies would provide guidance for  
77 all of the alternatives. The park would continue to  
78 be managed as it is today, with no major change  
79 in management direction. Visitors would enjoy a  
80 quiet, reflective experience on the west side of  
81 Anastasia Island and on Rattlesnake Island. The  
82 experience on the east side of Anastasia Island  
83 would be that of a natural coastal beach  
84 environment in which driving private vehicles  
85 within the National Monument boundary is  
86 prohibited in accord with Presidential Executive  
87 Orders and NPS regulations. Park managers  
88 would preserve and maintain both the natural  
89 environment and the park’s principal cultural  
90 resources to the fullest extent according to  
91 applicable laws and policies, standards and  
92 guidelines.

93  
94 **Natural Resources**

- 95  
96 • NPS would preserve and maintain the  
97 natural environment to the fullest extent  
98 possible according to applicable laws and  
99 policies, standards and guidelines.
- 100  
101 • The NPS Inventory & Monitoring program  
102 for the Southeast Coastal Network has  
103 begun the process of collecting data on salt  
104 marsh accretion or subsidence.

- 1 • The NPS Inventory & Monitoring program  
2 for the Southeast Coastal Network is  
3 planning to develop a protocol and analyze  
4 data to determine the status and trends of  
5 groundwater levels in existing groundwater  
6 wells and identify potential relationships  
7 between changes in groundwater dynamics  
8 and changes in landscape dynamics for the  
9 park.  
10
- 11 • NPS continues to monitor and treat the  
12 National Monument for a variety of exotic,  
13 invasive, and nuisance plants.  
14
- 15 • The University of North Florida is  
16 conducting research into the dispersion of  
17 invasive Green Mussels, *Perna viridis*.  
18
- 19 • The University of North Florida is  
20 conducting research using the river system  
21 around the park as a model for comparing  
22 the effects of nutrient loads for estuaries.  
23

## 24 Cultural Resources

- 25
- 26 • NPS would preserve the park's principal  
27 cultural resources according to applicable  
28 laws and policies, standards and guidelines.  
29
- 30 • Use of the New Deal era structures would  
31 continue as a visitor center and park  
32 offices.  
33
- 34 • The park's museum collections would  
35 continue to be stored in a multi-park facility  
36 in Jacksonville, Florida. The collections  
37 would continue to be available for research  
38 and educational purposes within the  
39 framework of NPS Management Policies  
40 2006, Chapter 5.3.5.5 and the park's  
41 approved scope of collection statement.  
42
- 43 • Archeological resources – continue current  
44 protection measures and investigations  
45 according to regulations.  
46

## 47 Visitor Uses and Experiences

- 48
- 49 • Visitors would enjoy a quiet, reflective  
50 experience on west side of Anastasia Island  
51 and Rattlesnake Island.  
52

- 53 • Visitors would enjoy a natural coastal  
54 beach environment on east side of Highway  
55 A1A.  
56
- 57 • Visitors would receive information about  
58 the fort at the Anastasia Island visitor  
59 center by means of a short film, books and  
60 pamphlets, and programs presented at the  
61 amphitheater nearby.  
62
- 63 • Weather permitting, visitors would board  
64 the ferry at the dock behind the visitor  
65 center for a short trip to Rattlesnake Island  
66 and the historic fort. Visitors would be free  
67 to explore the fort on their own or  
68 participate in interpretive programs on the  
69 lower level of the structure.  
70

## 71 Vehicular Beach Access

72  
73 Driving off established park roads and parking  
74 lots would continue to be prohibited in accord  
75 with existing legal authorities, Presidential  
76 Executive Orders, Regulations and NPS policy.  
77

## 78 Interpretation

79  
80 Interpretive programs at Fort Matanzas would  
81 continue to consist of an 8-minute orientation film  
82 at the visitor center and a program presented  
83 either on the boat or at the fort for each fort  
84 visitor. Nature programs and bird walks are  
85 presented on the park trails and/or beach twice  
86 each month. The first Saturday of each month is  
87 "Living History Day" with re-enactors portraying  
88 Spanish soldiers of the 1740s on duty at the fort  
89 with cannon and sometimes musket  
90 demonstrations. Musket demonstrations would  
91 continue to be presented most Saturdays as  
92 staffing allows. In addition, evening "Torchlight  
93 Living History Tours" would continue to be  
94 presented usually three evenings each year.  
95 Curriculum-based education programs would  
96 continue to be presented at the amphitheater next  
97 to the visitor center. Occasionally, off-site  
98 programs would be presented at local schools or  
99 for organizations. In Fiscal Year 2012, 66,189  
100 people attended ranger programs and 24,032  
101 watched the film. These figures represent 3.8 %  
102 and 21 % increases respectively, over the Fiscal  
103 Year 2008 numbers.  
104

1 **Parking**

- 2
- 3 • The park has implemented design changes to address unsafe conditions with existing parking lots.
- 4
- 5
- 6
- 7 • 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.
- 8
- 9
- 10
- 11
- 12

13 **Visitor Center**

14  
15 No new visitor center would be constructed and there would be no major renovations to existing visitor center.

16  
17  
18  
19 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 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 Additional adaptation strategies will be developed relevant to climate change projections and scenarios as part of GMP implementation.

47  
48 **ALTERNATIVE B (The NPS Preferred Alternative)**

49  
50  
51 **Concept**

52  
53 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.

- 54
- 55
- 56
- 57
- 58 • There would be minimal development of new facilities, which would consist of some expanded parking.
- 59
- 60
- 61
- 62 • 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.
- 63
- 64
- 65
- 66
- 67
- 68
- 69
- 70 • Low-impact recreational activities would be emphasized.
- 71
- 72

73 **Natural Resources**

74  
75 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:

76  
77  
78  
79  
80  
81  
82  
83  
84 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.

97  
98 **Cultural Resources**

- 99
- 100 • Fort stabilization work would be ongoing.
- 101
- 102 • The park’s museum collections would continue to be stored in a multi-park facility in Jacksonville, Florida. The collections
- 103
- 104

1 would continue to be available for research  
2 and educational purposes within the  
3 framework of NPS Management Policies  
4 2006, Chapter 5.3.5.5 and the park's  
5 approved scope of collection statement.

- 6
- 7 • Archeological resources –current protection  
8 measures and investigations would  
9 continue according to regulations.
- 10
- 11 • Explore adaptive reuse of the existing New  
12 Deal era visitor center, minimizing changes  
13 to the natural environment. Because this  
14 structure and the adjacent building as well  
15 as the surrounding landscape, roads, drives,  
16 and parking areas have been included in the  
17 National Register of Historic Places, all  
18 future planning regarding the use of these  
19 structures and facilities will incorporate  
20 compliance with Section 106 of the NHPA.

### 21 **Visitor Use and Experience**

- 22
- 23
- 24 • Visitors would enjoy a quiet, reflective  
25 experience on the west side of A1A and  
26 Rattlesnake Island.
- 27
- 28 • Visitors would enjoy a natural coastal  
29 beach environment on the east side of  
30 Highway A1A.
- 31
- 32 • There would be an expanded emphasis on  
33 interpretation of the natural environment.
- 34
- 35 • Driving off established park roads and  
36 parking lots would continue to be  
37 prohibited in accord with existing  
38 Presidential Executive Orders, Regulations,  
39 and NPS policy.
- 40
- 41 • Interpretation of cultural resources would  
42 remain the same as in Alternative A.
- 43

### 44 **Vehicular Beach Access**

45  
46 Driving off established park roads and parking  
47 lots would continue to be prohibited in accord  
48 with existing legal authorities, Presidential  
49 Executive Orders, Regulations and NPS policy.

### 50 **Interpretation**

- 51
- 52
- 53 • There would be an expanded emphasis on  
54 interpretation of the natural environment.
- 55
- 56 • Interpretation of cultural resources would  
57 remain the same as Alternative A.
- 58

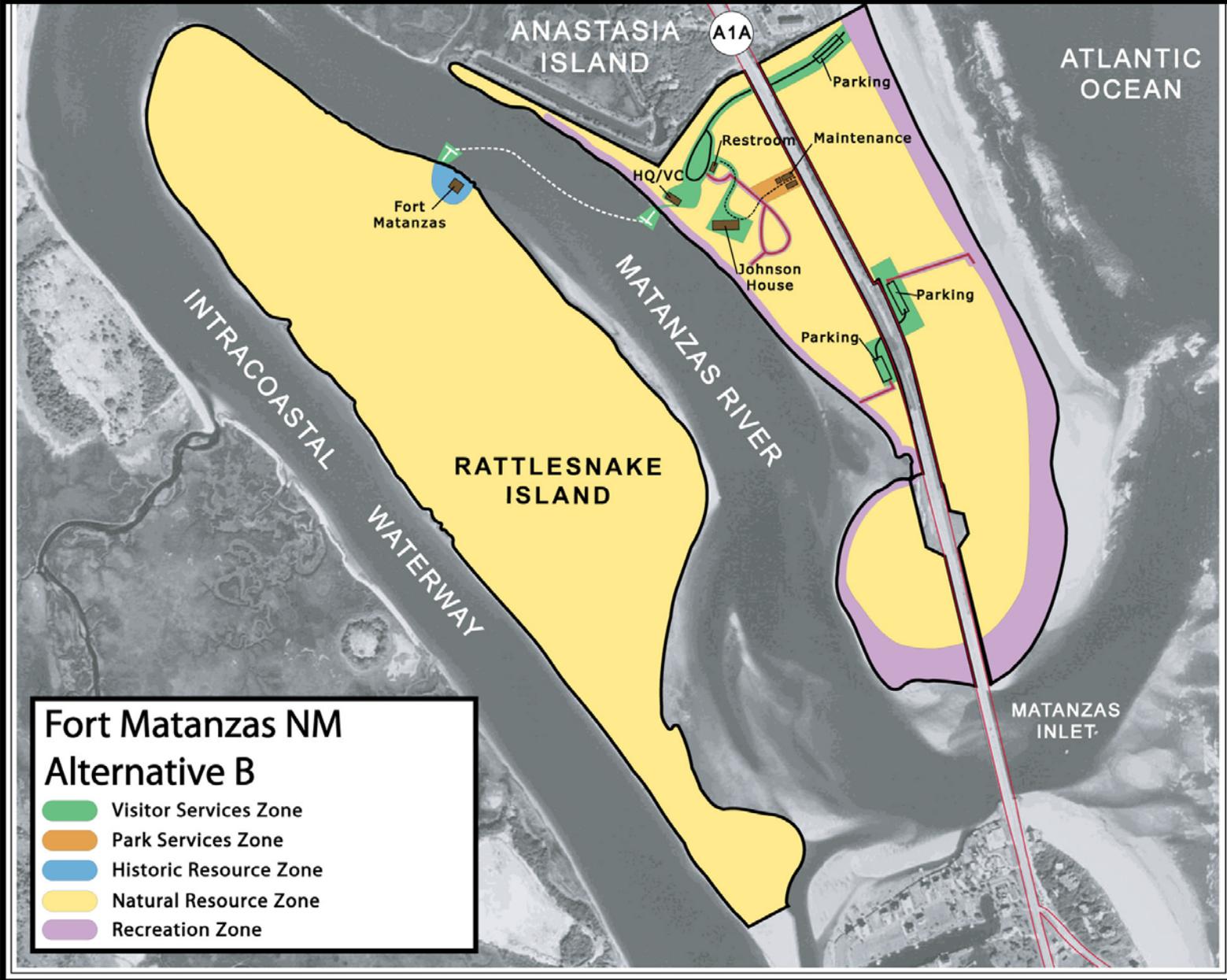
### 59 **Parking**

- 60
- 61 • The existing visitor center parking would  
62 remain with the possible addition of spaces  
63 within the existing footprint through  
64 redesign, reorientation, and/or restriping.  
65 The footprint of the parking area would not  
66 be expanded.
- 67
- 68 • Expansion of other parking lots could occur  
69 if adverse resource (including threatened  
70 and endangered species) impacts could be  
71 avoided. Visitor Center
- 72

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

# Fort Matanzas National Monument General Management Plan

National Park Service  
U.S. Department of the Interior



1 **ALTERNATIVE C**

2  
3 **Concept**

4  
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.

- 10
- 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.
- 20
- 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.
- 36
- 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.

43  
44 **Natural Resources**

45  
46 Same as Alternative A except:

47  
48 There would be some modification of the natural  
49 environment to accommodate new trails,  
50 expanded parking lots, and visitor circulation  
51 patterns.

52 **Cultural Resources**

- 53
- 54
- 55 • Fort stabilization work would be ongoing.
- 56
- 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.
- 65
- 66 • Archeological resources –current protection
- 67 measures and investigations would
- 68 continue according to regulations.

69  
70 **Visitor Uses and Experience**

- 71
- 72 • There would be enhanced opportunities
- 73 throughout the park for interpreting the
- 74 park’s evolution and development.
- 75
- 76 • There would be more interpretive emphasis
- 77 on the cultural history than the natural
- 78 history of the site.
- 79
- 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.
- 86
- 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.

95  
96 **Vehicular Beach Access**

97  
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  
103 However, upon final approval of the GMP, NPS  
104 would:

- 1
- 2 • Seek authority to permit driving on the
- 3 Anastasia Island beach within the Fort
- 4 Matanzas boundary through the
- 5 promulgation of a Special Regulation
- 6 followed by the preparation of an ORV
- 7 Plan and an EIS. Both the rulemaking
- 8 process and the ORV planning process
- 9 involve public notice and review and
- 10 comment phases.
- 11
- 12 • Beach driving access and the
- 13 boundaries/geographical limits within
- 14 which beach driving would be permitted
- 15 would be based on the environmental
- 16 impacts analysis.
- 17

## 18 Interpretation

- 19
- 20 • There would be enhanced opportunities
- 21 throughout the park for interpreting the
- 22 park's evolution and development.
- 23
- 24 • There would be more interpretive emphasis
- 25 on the cultural history than the natural
- 26 history of the site
- 27
- 28 • There would be a focus on the north end of
- 29 the Anastasia Island (west of A1A) section
- 30 of the park with the New Deal era visitor
- 31 center and interpretation of the land
- 32 donations and other activities of St.
- 33 Augustine organizations to restore and
- 34 commemorate the Fort for local residents
- 35 and tourists.
- 36

## 37 Parking

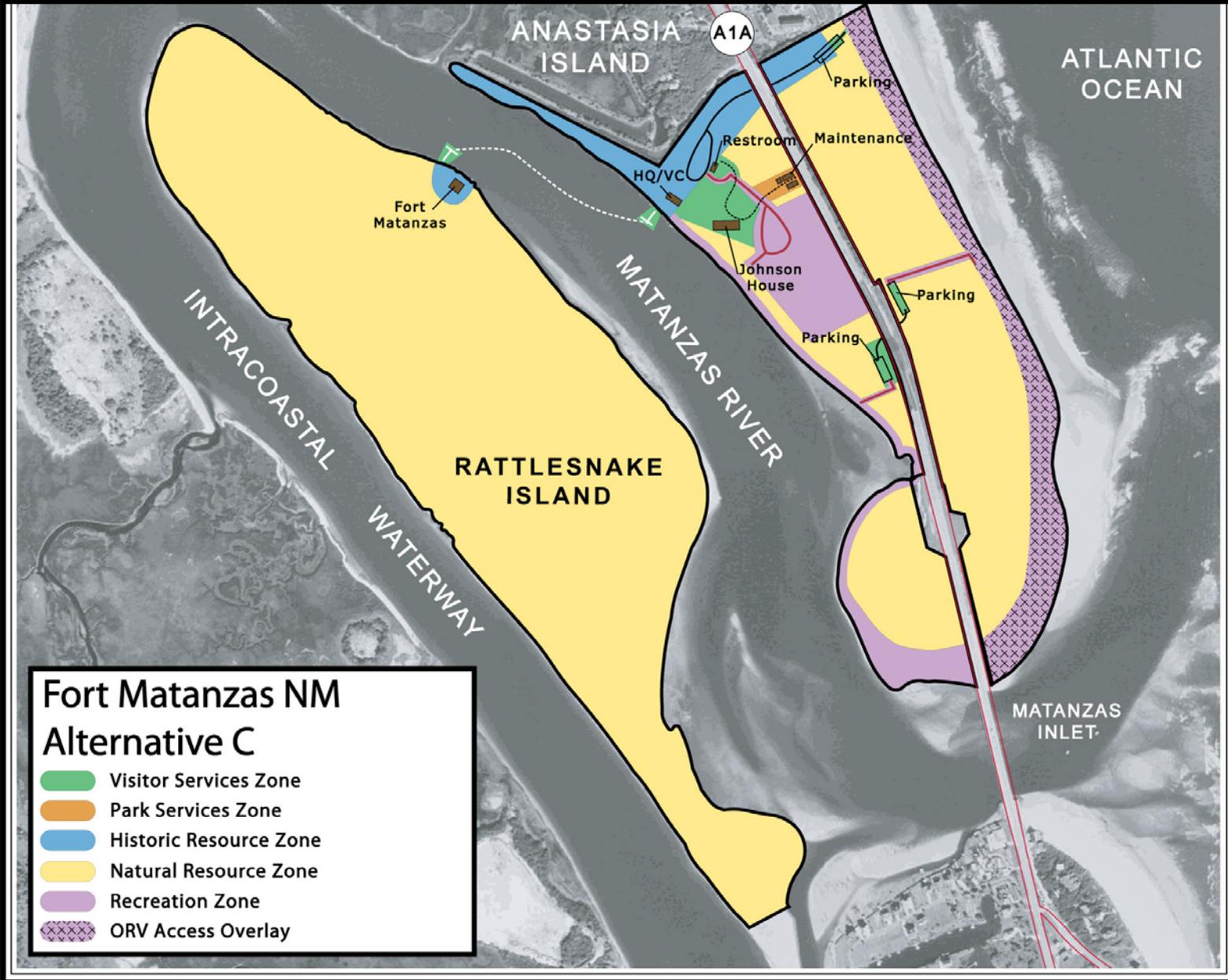
- 38
- 39 • There could be minimal expansion of
- 40 following parking areas: beach ramp and
- 41 both parking areas at south end of
- 42 Anastasia Island.
- 43
- 44 • The current visitor center parking lot
- 45 expansion would be limited to
- 46 accommodate bus/RV parking and possible
- 47 small vehicle parking within the existing
- 48 footprint through redesign, reorientation,
- 49 and/or restriping. There would be no
- 50 expansion of the existing parking area
- 51 footprint.
- 52

## 53 Visitor Center

- 54
- 55 Same as Alternative B plus:
- 56
- 57 The 1937 visitor center and park headquarters,
- 58 having been approved for listing on the National
- 59 Register of Historic Places in 2008, would be
- 60 interpreted along with contributing elements such
- 61 as the entrance road, parking area, and the
- 62 Matanzas Ramp as part of the story of the
- 63 development and evolution of the National
- 64 Monument, especially the contributions of local
- 65 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 **Annual Costs**

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

### 43 **NPS Facilities Model**

44  
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

## 54 **Implementation**

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.

1 **SUMMARY COMPARISON OF THE**  
2 **ALTERNATIVES**

3  
4 Table 5 beginning on the next page, provides a  
5 comparison of the major features of the alternatives.  
6 The comparison is based on the major issue categories  
7 that were developed during public scoping of the  
8 general management plan. The comparison also  
9 provides a summary for each alternative of how that  
10 alternative addresses visitor experience, natural  
11 resource conditions and cultural resource conditions.  
12 The alternatives were designed to address the major  
13 issues. The last column in the table discusses the  
14 differences between alternatives for each issue topic.  
15



**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
<p><b>Visitor Experience</b></p> <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>
<p><b>Natural Resource Conditions</b></p> <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> </ul> <p>.</p> <ul style="list-style-type: none"> <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
<p><b>Cultural Resource Conditions</b></p> <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>	<p>invasive species would continue.</p> <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>
<p><b>Visitor Center</b></p>	<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: 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.</li> </ul>	<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**

Impact Topic	Alternative A	Alternative B	Alternative C
<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.

<b>Impact Topic</b>	<b>Alternative A</b>	<b>Alternative B</b>	<b>Alternative C</b>
	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-

<b>Impact Topic</b>	<b>Alternative A</b>	<b>Alternative B</b>	<b>Alternative C</b>
	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

<b>Impact Topic</b>	<b>Alternative A</b>	<b>Alternative B</b>	<b>Alternative C</b>
	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**

1 **MITIGATIVE MEASURES COMMON TO**  
2 **ALL ACTION ALTERNATIVES**

3  
4 Congress charged the NPS with managing the  
5 lands under its stewardship “in such manner and  
6 by such means as will leave them unimpaired for  
7 the enjoyment of future generations” (NPS  
8 Organic Act, 16 USC 1). As a result, the NPS  
9 routinely mitigates adverse effects or impacts  
10 whenever conditions occur that could adversely  
11 affect the sustainability of national park system  
12 resources.

13  
14 To ensure that implementation of the action  
15 alternatives protects natural and cultural resources  
16 and the quality of the visitor experience, a  
17 consistent set of mitigative measures would be  
18 applied to actions proposed in this plan. The  
19 National Park Service would prepare appropriate  
20 environmental reviews (i.e., those required by  
21 NEPA, NHPA, and other relevant legislation) for  
22 these future actions. As part of the environmental  
23 review, the NPS would avoid, reduce or minimize  
24 adverse impacts when practicable. The  
25 implementation of a compliance-monitoring  
26 program would be considered to stay within the  
27 parameters of National Environmental Policy Act  
28 and NHPA compliance documents, U.S. Army  
29 Corps of Engineers Section 404 permits, etc.  
30 Compliance with Section 106 and 36 CFR 800  
31 will be guided by the 2008 Programmatic  
32 Agreement between the NPS, the Advisory  
33 Council for Historic Preservation, and the  
34 National Conference of State Historic  
35 Preservation Officers (NCSHPO). The  
36 compliance-monitoring program would oversee  
37 these mitigative measures and would include  
38 reporting protocols.

39  
40 The following mitigative measures and best  
41 management practices would be applied to avoid,  
42 minimize, mitigate, or compensate for potential  
43 impacts from implementation of the alternatives.  
44 These measures would apply to all alternatives.

45  
46 **Management Strategies to Address**  
47 **Climate Change**

48  
49 Climate change has very high potential to  
50 adversely affect the future condition of coastal  
51 resources such as Fort Matanzas National  
52 Monument. As global and regional climates  
53 continue to change, a management approach that

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

60  
61 Climate change science is a rapidly advancing  
62 field and new information is continually being  
63 collected and released, yet the full extent of  
64 climate change impacts on resource conditions is  
65 unknown. As such, park managers and policy  
66 makers have not determined the most effective  
67 response mechanisms for minimizing impacts and  
68 adapting to change. Because of this, this proposed  
69 management strategy does not provide definitive  
70 solutions or directions; rather it provides science-  
71 based and scholarship-based management  
72 principles to consider when implementing the  
73 broader management direction of the National  
74 Monument.

75  
76 **Strategy**

77  
78 The NPS Climate Change Response Program  
79 aims to prepare the agency and its parks for the  
80 anticipated management needs that result from  
81 climate change. To help parks cope with the  
82 uncertainty in future climate conditions, this  
83 Climate Change Response Program serves to help  
84 park managers determine the extent to which they  
85 can and should act to protect the parks' current  
86 resources while allowing the parks' ecosystems to  
87 adapt to new conditions. Efforts of the NPS  
88 Climate Change Response Program focus on the  
89 following strategies:

90  
91 **Science**

- 92
- 93 • Conduct scientific research and  
94 vulnerability assessments necessary to  
95 support NPS adaptation, mitigation, and  
96 communication efforts.
- 97
- 98 • Collaborate with scientific agencies and  
99 institutions to meet the specific needs of  
100 management as it confronts the challenges  
101 of climate change.
- 102
- 103 • Learn from and apply the best available  
104 climate change science.
- 105

106 **Mitigation**

- 1
- 2 • Reduce carbon footprint of NPS.
- 3 • Promote energy efficient practices, such as
- 4 alternative transportation.
- 5 • Enhance carbon sequestration as one of
- 6 many ecosystem services.
- 7 • Integrate mitigation into all business
- 8 practices, planning, and the NPS culture.

9  
10 **Adaptation**

- 11
- 12 • Develop the adaptive capacity for
- 13 managing natural and cultural resources
- 14 and infrastructure under a changing
- 15 climate.
- 16 • Inventory resources at risk and conduct
- 17 vulnerability assessments.
- 18 • Prioritize and implement actions, and
- 19 monitor the results.
- 20 • Explore scenarios, associated risks, and
- 21 possible management options.
- 22 • Integrate climate change impacts into
- 23 facilities management.

24  
25 **Communication**

- 26
- 27 • Provide effective communication about
- 28 climate change and impacts to the public.
- 29
- 30 • Train park staff and managers in the
- 31 science of climate change and decision
- 32 tools for coping with change.
- 33
- 34 • Lead by example.

35  
36 With the guidance of the above strategies, Fort  
37 Matanzas will use the following management  
38 approach to address climate change throughout  
39 the implementation of this general management  
40 plan. Many of these specific management  
41 strategies are adopted from the publication,  
42 “Some guidelines for helping natural resources  
43 adapt to climate change” (IHDP 2008). Further  
44 elaboration and adaption of these are anticipated  
45 as implementation of the general management  
46 plan proceeds.

- 47
- 48 • Identify key natural and cultural resources,
- 49 processes, and park facilities that are at risk
- 50 from climate change and associated effects
- 51 such as sea level rise. Establish baseline
- 52 conditions for these resources, identify their

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

- 56
- 57 • Restore key ecosystem features and
- 58 processes, and protect cultural resources to
- 59 increase their resilience to climate change.
- 60
- 61 • Use best management practices to reduce
- 62 human-caused stresses (e.g., park
- 63 infrastructure and visitor-related
- 64 disturbances) that hinder the ability of
- 65 species or ecosystems to withstand climatic
- 66 events.
- 67
- 68 • Form partnerships with other resource
- 69 management entities to maintain regional
- 70 habitat connectivity and refugia that allow
- 71 species dependent on National Monument
- 72 resources to better adapt to changing
- 73 conditions.
- 74
- 75 • Use climate change projections and
- 76 scenarios to develop adaptation strategies
- 77 for park resources and assets.
- 78
- 79 • Reduce or mitigate greenhouse gas
- 80 emissions associated with National
- 81 Monument operations and visitor use, such
- 82 as alternative transportation options (e.g.,
- 83 shuttles and low-emission vehicles for the
- 84 park’s fleet) and biofuels and other
- 85 renewable energy sources for visitor center
- 86 and administrative buildings.
- 87
- 88 • Use the fragile environments of Fort
- 89 Matanzas National Monument such as the
- 90 Atlantic Ocean facing dunes of Anastasia
- 91 Island and the wetlands of both Anastasia
- 92 Island and Rattlesnake Island as an
- 93 opportunity to educate visitors about the
- 94 effects of climate change on the resources
- 95 they are enjoying. Inspire visitors to take
- 96 action through leadership and education.
- 97
- 98 • Manage National Monument facilities and
- 99 infrastructure (structures, trails, roads,
- 100 docks, drainage systems, etc.) in a way that
- 101 prepares for and adapts to the effects of
- 102 climate change.
- 103

104 **Cultural Resources**

1 The National Park Service would preserve and  
 2 protect, to the greatest extent possible, resources  
 3 that reflect the history, events, and people  
 4 associated with Fort Matanzas National  
 5 Monument. Specific mitigative measures would  
 6 include but not be limited to the following:  
 7

- 8 • Continue to develop inventories for and  
 9 oversee research about archeological  
 10 resources, historic structures, cultural  
 11 landscapes, and ethnographic resources to  
 12 better understand, interpret, and manage the  
 13 resources. Conduct any needed  
 14 archeological or other resource specific  
 15 surveys, National Register evaluations, and  
 16 identify recommended treatments through  
 17 completion of resource-specific treatment  
 18 plans (historic structure reports, cultural  
 19 landscape reports, collections management  
 20 plans, etc.). Incorporate the results of these  
 21 efforts into site-specific planning and  
 22 compliance documents.  
 23
- 24 • Continue to manage cultural resources and  
 25 collections following federal regulations  
 26 and NPS guidelines. Inventory the park’s  
 27 collection and keep in a manner that would  
 28 meet NPS curatorial standards.  
 29
- 30 • Subject projects to site-specific planning  
 31 and compliance procedures. For  
 32 archeological resources, by locating  
 33 projects and designing facilities in  
 34 previously disturbed (which may represent  
 35 historical developments requiring treatment  
 36 as cultural resources) or existing developed  
 37 areas, make efforts to avoid resources and  
 38 thus adverse impacts.  
 39
- 40 • Use screening and/or sensitive design that  
 41 would be compatible with historic  
 42 resources and potential cultural landscapes  
 43 and not adjacent to ethnographic resources.  
 44 If adverse impacts could not be avoided,  
 45 mitigate these impacts through a  
 46 consultation process with all interested  
 47 parties.  
 48
- 49 • Conduct archeological site monitoring and  
 50 routine protection. Conduct data recovery  
 51 excavations at archeological sites  
 52 threatened with destruction, where  
 53 protection or site avoidance during design

54 and construction is infeasible. Strictly  
 55 adhere to NPS standards and guidelines on  
 56 the display and care of artifacts. This would  
 57 include artifacts used in exhibits in the  
 58 visitor center.  
 59

- 60 • Mitigative measures for structures and  
 61 landscapes include documentation  
 62 according to standards of the Historic  
 63 American Buildings Survey/Historic  
 64 American Engineering Record/Historic  
 65 American Landscape Survey (HABS/  
 66 HAER/HALS). The level of this  
 67 documentation, which includes  
 68 photography, archeological data recovery,  
 69 and/or a narrative history, would depend on  
 70 significance (national, state, or local) and  
 71 individual attributes (an individually  
 72 significant structure, individual elements of  
 73 a cultural landscape, etc.) and be  
 74 determined in consultation with the SHPO  
 75 and other parties with an interest in the  
 76 effects of the undertaking on historic  
 77 properties. The agency official may be a  
 78 state, local, or tribal government official  
 79 who has been delegated legal responsibility  
 80 for compliance with section 106 in  
 81 accordance with Federal law.  
 82

83 **Natural Resources**

84

85 **Air Quality.** Air quality has been dismissed from  
 86 consideration as an impact topic for the reasons  
 87 cited in Chapter 1.  
 88

89 **Exotic Plant Species.** The National Monument  
 90 will continue to monitor, treat, and remove exotic,  
 91 invasive, and nuisance species.  
 92

93 **Soundscapes.** Effects on soundscapes are most  
 94 likely from short-term construction projects,  
 95 regular maintenance such as using lawnmowers,  
 96 chainsaws, etc. and from traffic noise on the state  
 97 highway that bisects the Anastasia Island portion  
 98 of the park.  
 99

100 **Soils.**

- 101
- 102 • Build facilities on soils suitable for  
 103 development. Minimize soil erosion by  
 104 limiting the time that soil is left exposed  
 105 and by applying erosion control measures,

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

- 7
- 8 • Place construction equipment in previously  
9 disturbed areas.
- 10
- 11 • Locate trails on soils with low erosion  
12 hazards small changes in slope, and  
13 develop proper signs to minimize social  
14 trails.
- 15
- 16 • Ensure proper drainage of parking areas.
- 17

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

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

- 33
- 34 • Conduct surveys for rare, threatened, and  
35 endangered species as warranted.
- 36
- 37 • Locate and design facilities/actions to avoid  
38 adverse effects on rare, threatened, and  
39 endangered species. Where and when  
40 adverse effects are unavoidable, minimize  
41 and compensate for such effects as  
42 appropriate and in consultation with the  
43 appropriate resource agencies. Conduct  
44 work outside of critical periods for the  
45 specific species.
- 46
- 47 • Develop and implement restoration and/or  
48 monitoring plans as warranted. Plans  
49 should include methods for  
50 implementation, performance standards,  
51 monitoring criteria, and adaptive  
52 management techniques.
- 53

- 54 • Implement measures to reduce adverse  
55 effects of nonnative plants and wildlife on  
56 rare, threatened, and endangered species.
- 57

### 58 **Vegetation.**

- 59
- 60 • Monitor areas used by visitors (e.g., trails)  
61 for signs of native vegetation disturbance.  
62 Use public education, revegetation of  
63 disturbed areas with native plants, erosion  
64 control measures, and barriers to control  
65 potential impacts on plants from trail  
66 erosion or unauthorized trails.
- 67
- 68 • Use barriers and closures to prevent  
69 trampling and loss of riparian vegetation.
- 70
- 71 • Develop revegetation plans for areas  
72 disturbed by construction or unauthorized  
73 visitor use and require the use of native  
74 species. Revegetation plans should specify  
75 seed/plant source, seed/ plant mixes, soil  
76 preparation, etc. Salvage vegetation from  
77 construction activities should be used to the  
78 extent possible.
- 79
- 80 • Based in part on the findings of a  
81 completed study (at Cumberland Island  
82 National Seashore) of the role of natural  
83 fire in a southeastern barrier island  
84 ecosystem, Fort Matanzas National  
85 Monument would consider the use  
86 prescribed fire and/or mechanical thinning  
87 to restore coastal scrub habitat that has  
88 become overgrown in recent years. The  
89 primary beneficiary of this strategy would  
90 be the gopher tortoise, which is a keystone  
91 species in the park. A keystone species is  
92 one that plays a critical role in maintaining  
93 the structure of an ecological community  
94 and whose impact on the community is  
95 greater than would be expected based on its  
96 relative abundance.
- 97

### 98 **Water Resources.**

- 99
- 100 • Contractors for construction projects would  
101 be required to develop and implement a  
102 storm water pollution prevention plan.
- 103
- 104 • Standard best management practices to  
105 limit erosion and control sediment release

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

## 10 **Wildlife**

11  
12 The Service will adopt park resource preservation,  
13 development, and use management strategies that  
14 are intended to maintain the natural population  
15 fluctuations and processes that influence the  
16 dynamics of individual plant and animal  
17 populations, groups of plant and animal  
18 populations, and migratory animal populations in  
19 parks.

20  
21 In addition to maintaining all native plant and  
22 animal species and their habitats inside parks, the  
23 Service will work with other land managers to  
24 encourage the conservation of the populations and  
25 habitats of these species outside parks whenever  
26 possible. To meet its commitments for  
27 maintaining native species in the National  
28 Monument, the Service will cooperate with states,  
29 tribal governments, the U.S. Fish and Wildlife  
30 Service, and NOAA, as appropriate, to

- 31  
32 • participate in local and regional scientific  
33 and planning efforts, identify ranges of  
34 populations of native plants and animals,  
35 and develop cooperative strategies for  
36 maintaining or restoring these populations in  
37 the parks;
- 38  
39 • employ techniques to reduce impacts on  
40 wildlife, including visitor education  
41 programs, restrictions on visitor activities,  
42 and park ranger patrols.
- 43  
44 • prevent the introduction of exotic, invasive,  
45 or nuisance species into the National  
46 Monument, and remove, when possible, or  
47 otherwise contain individuals or populations  
48 of these species that have already become  
49 established in the unit.

## 51 **Wetlands**

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

## 65 **Visitor Safety and Experiences**

66  
67 While recognizing that there are limitations on its  
68 capability to totally eliminate all hazards, Fort  
69 Matanzas and its concessioners, contractors, and  
70 cooperators will seek to provide a safe and  
71 healthful environment for visitors and employees.  
72 The National Monument will work cooperatively  
73 with other federal, tribal, state, and local agencies;  
74 organizations; and individuals to carry out this  
75 responsibility. Fort Matanzas will strive to  
76 identify and prevent injuries from recognizable  
77 threats to the safety and health of persons and to  
78 the protection of property by applying nationally  
79 accepted codes, standards, engineering principles,  
80 and the guidance contained in Director's Orders  
81 #50B (Occupational Safety and Health Program),  
82 #50C (Park Signs), #58 (Structural Fire  
83 Management), and #83 (Public Health) and their  
84 associated reference manuals.

85  
86 The National Monument recognizes that the  
87 natural and cultural resources it protects are not  
88 only visitor attractions, but that some may also be  
89 potentially hazardous. Therefore, when  
90 practicable and consistent with congressionally  
91 designated purposes and mandates, Fort Matanzas  
92 will reduce or remove known hazards and apply  
93 other appropriate measures, including closures,  
94 guarding, signing, or other forms of education. In  
95 doing so, the National Monument's preferred  
96 actions will be those that have the least impact on  
97 park resources and values.

98  
99 Specific strategies with regard to mitigative  
100 measures that are common to all alternatives for  
101 visitor safety and experiences would include:

- 102  
103 • Implementation of traffic control plans, as  
104 warranted. Standard measures include

- 1 strategies to maintain safe and efficient  
2 traffic flow during any construction period.  
3  
4 • Consideration of accessibility in each project  
5 to understand barriers to programs and  
6 facilities. Provide the maximum level of  
7 accessibility that is consistent with law,  
8 regulation, and policy.  
9  
10 • Implementation of adaptive visitor use  
11 management, as outlined in the user capacity  
12 section of this plan, when resource and  
13 visitor experience conditions are trending  
14 towards or violating a user capacity  
15 standard. Management strategies may  
16 include visitor education, site management,  
17 visitor use regulations, rationing or  
18 reallocation of visitor use, and enforcement.  
19

## 20 **Hazardous Materials**

21  
22 Implement a spill prevention and pollution control  
23 program for hazardous materials. Standard  
24 measures could include, but are not limited to  
25 hazardous materials storage and handling  
26 procedures; spill containment, cleanup, and  
27 reporting procedures; and limitation of refueling  
28 and other hazardous activities to upland/ non-  
29 sensitive sites.  
30

## 31 **Noise Abatement**

32  
33 Mitigative measures would be applied to protect  
34 the natural sounds in the National Monument.  
35 Specific mitigative measures would include but  
36 not be limited to the following:  
37

- 38 • Implement standard noise abatement  
39 measures during typical maintenance (grass  
40 cutting and use of other types of power  
41 equipment) and construction activities.  
42 Standard noise abatement measures could  
43 include, but are not limited to the following  
44 strategies: a schedule that minimizes impacts  
45 visitor experiences, the use of the best  
46 available noise control techniques wherever  
47 feasible, and the location of stationary noise  
48 sources as far from sensitive uses as  
49 possible.  
50  
51 • Implement standard noise abatement  
52 measures during park operations. Standard  
53 noise abatement measures could include, but

- 54 are not limited to the following strategies: a  
55 schedule that minimizes impacts on adjacent  
56 noise-sensitive uses, use of the best available  
57 noise control techniques wherever feasible,  
58 use of hydraulically or electrically powered  
59 impact tools when feasible and appropriate  
60 for the situation, and location of stationary  
61 noise sources as far from sensitive uses as  
62 possible.  
63  
64 • Site and design facilities to minimize  
65 objectionable noise.  
66

1  
2 **Socioeconomic Environment**

3  
4 During the future planning and implementation of  
5 the approved management plan for Fort Matanzas  
6 National Monument, the NPS would work with  
7 local communities and county governments to  
8 further identify potential impacts and mitigative  
9 measures that would best serve the interests and  
10 concerns of both the NPS and the local and  
11 regional communities. Partnerships would be  
12 pursued to improve the quality and diversity of  
13 community amenities and services.

14  
15 **Sustainable Design and Aesthetics**

16  
17 Projects would avoid or minimize adverse impacts  
18 on natural and cultural resources. Development  
35

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



36 **Rattlesnake Island Dock**  
37

1 **FUTURE STUDIES AND**  
2 **IMPLEMENTATION PLANS NEEDED**

3  
4 After completion and approval of a general  
5 management plan for managing the National  
6 Monument, other more detailed studies and plans  
7 would be needed for implementation of specific  
8 actions. As required, additional environmental  
9 compliance (National Environmental Policy Act,  
10 NHPA, and other relevant laws and policies) and  
11 public involvement would be conducted.

12 Additional studies needed include, but are not  
13 limited to the following:

- 14  
15 • Completion of a cultural landscape report –  
16 A cultural landscape report (CLR) is the  
17 primary guide to treatment and use of a  
18 cultural landscape. Based on the historic  
19 context provided in a historic resource study,  
20 a CLR documents the characteristics,  
21 features, materials, and qualities that make a  
22 landscape eligible for the National Register.  
23
- 24 • Completion of a historic structure report for  
25 the New Deal era visitor center and the  
26 associated structure that now houses ranger  
27 offices. This should be done prior to  
28 embarking on any modifications  
29 recommended in the action alternatives.  
30
- 31 • Ethnographic Overview and Assessment –  
32 The most comprehensive background study,  
33 this document reviews existing information  
34 on park resources traditionally valued by  
35 stakeholders. This study also documents the  
36 need for further research on cultural  
37 affiliations, important events and associated  
38 places in the park, and traditional uses and  
39 ways of life.  
40
- 41 • Fire management plan – A fire management  
42 plan is required for all parks that have  
43 vegetation that will sustain fire. The fire  
44 management plan is a public document  
45 (requires a public comment period).  
46
- 47 • Comprehensive interpretive plan – The  
48 Comprehensive Interpretive Plan (CIP)  
49 process is the basic planning component for  
50 interpretation and education in a park. The  
51 CIP is a tool to help parks decide priorities  
52 for their objectives, determine what stories  
53 to tell, identify their audiences and describe

54 the most effective mix of media and  
55 personal services to use.  
56

- 57 • Climate Change Scenario Planning – This is  
58 a process that informs the park of the  
59 plausible climate futures projected for the  
60 region and associated impacts, based on the  
61 latest climate models. Parks can then test  
62 management strategies/actions under the  
63 range of plausible climate futures to help  
64 validate future park investments, which  
65 includes identifying “no regrets” actions or  
66 “no gainer” actions.  
67
- 68 • Conduct vulnerability assessments of park  
69 natural and cultural resources to sea level  
70 rise and increased storm frequency and  
71 intensity. Storms are the primary drivers of  
72 change along the coast. The NPS, in  
73 cooperation with various universities and  
74 government agencies, is undertaking a series  
75 of investigations to assess the vulnerability  
76 of natural and cultural resources to storms  
77 and sea level rise in coastal parks. These  
78 projects will allow managers to better  
79 understand the level of vulnerability,  
80 improve the park’s pre-storm preparedness  
81 and post-storm response, and increase the  
82 safety of park visitors and employees.  
83
- 84 • Initiate data collection and research projects  
85 that address climate change effects on the  
86 park’s natural and cultural resources, as well  
87 as on visitors’ experiences, health, safety,  
88 and overall enjoyment of the Fort Matanzas  
89 National Monument. These efforts could  
90 include scenario planning via the assistance  
91 of the NPS Climate Change Response  
92 Program and partnership research efforts  
93 with other agencies/institutions.  
94
- 95 • Resource Stewardship Strategy - A Resource  
96 Stewardship Strategy is a long-range plan --  
97 with an expected life of 20 years -- for a  
98 park to achieve its desired natural and  
99 cultural resource conditions. Desired  
100 conditions are established by the park's  
101 General Management Plan and current  
102 scientific and scholarly understanding of  
103 park resources. As a program planning  
104 document, the RSS serves as a linkage  
105 between the park's GMP and its strategic  
106 planning, wherein the park's personnel and

1 financial resources are allocated to  
2 implement resource stewardship actions.

3  
4 **ENVIRONMENTALLY PREFERRED**  
5 **ALTERNATIVE**

6  
7 The environmentally preferable alternative is  
8 defined as the alternative that will promote the  
9 national environmental policy as expressed in  
10 section 101 of NEPA. That section indicates that  
11 it is the continuing responsibility of the federal  
12 government to do the following:

- 13  
14 1. Fulfill the responsibilities of each  
15 generation as trustee of the environment  
16 for succeeding generations.
- 17  
18 2. Ensure safe, healthful, productive, and  
19 esthetically and culturally pleasing  
20 surroundings for all Americans.
- 21  
22 3. Attain the widest range of beneficial uses  
23 of the environment without degradation,  
24 risk of health or safety, or other  
25 undesirable and unintended  
26 consequences.
- 27  
28 4. Preserve important historic, cultural, and  
29 natural aspects of our national heritage  
30 and maintain, wherever possible, an  
31 environment that supports diversity and a  
32 variety of individual choices.
- 33  
34 5. Achieve a balance between population  
35 and resource use that will permit high  
36 standards of living and a wide sharing of  
37 life's amenities.
- 38  
39 6. Enhance the quality of renewable  
40 resources and approach the maximum  
41 attainable recycling of depletable  
42 resources.

43  
44 A description of how each alternative would or  
45 would not achieve the requirements of sections  
46 101 and 102(1) of NEPA is provided below and  
47 illustrated through a rating system shown in Table  
48 7.

49  
50 **Criterion 1** – Fort Matanzas National Monument  
51 is a unit of the national park system, and as trustee  
52 of this area, the NPS would continue to fulfill its  
53 obligation to protect this area for future

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

68  
69 **Criterion 2** – All the alternatives would ensure  
70 safe, healthful, productive, and culturally pleasing  
71 surroundings for all Americans. Alternative B  
72 would provide the most safe and healthful  
73 surroundings by continuing the prohibition on  
74 beach driving, minimal modification of the  
75 natural environment, and increased environmental  
76 education as compared with Alternatives A and C.

77  
78 **Criterion 3** – Alternatives A and B would both  
79 attain the widest range of beneficial uses of the  
80 environment without degradation, risk of health or  
81 safety, or other undesirable and unintended  
82 consequences due to the continued prohibition  
83 against driving on the beach south of the  
84 Matanzas ramp. Alternative C provides for the  
85 possibility of future driving on the beach and thus  
86 achieves this goal to a lesser degree.

87  
88 **Criterion 4** – Alternative C achieves the most  
89 preservation of important historic and cultural  
90 aspects of our national heritage by emphasizing  
91 the retention of the historic character of the visitor  
92 center and park headquarters area as a potential  
93 cultural landscape and interpreting the  
94 contributions of local citizens to the creation,  
95 development and evolution of the National  
96 Monument.

97  
98 **Criterion 5** – Alternative C, by providing an  
99 expanded area for trails on the west side of  
100 Highway A1A and by offering the possibility of  
101 re-establishing vehicular access to the Atlantic  
102 Ocean beach of Fort Matanzas National  
103 Monument, provides the greatest balance between  
104 population and resource use that would permit  
105 high standards of living and a wide sharing of  
106 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.			

1 **ALTERNATIVES AND ACTIONS**  
2 **CONSIDERED BUT DISMISSED FROM**  
3 **DETAILED EVALUATION**  
4

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

10  
11 **Retaining or Removing from**  
12 **Wetlands, Structures and Facilities in**  
13 **Existence Prior to May 28, 1980**  
14

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

33  
34 **Proposal to Acquire the Beach Below**  
35 **Mean High Tide from the State of**  
36 **Florida**  
37

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

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

57  
58 **Proposals for Addressing Visitor**  
59 **Center Deficiencies**  
60

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

73  
74 The second alternative was to build a new visitor  
75 center, but the costs, potential impacts to natural  
76 and cultural resources, and lack of a good location  
77 resulted in the rejection of this alternative. The  
78 third alternative was adaptation of an existing  
79 structure within the current footprint and this one  
80 was retained.



81  
82  
83  
84 **Fort Matanzas Interpretive Program**



MATANZAS IN 1671  
- as described by an old document

**Fort Matanzas Watchtower Circa 1671**

**INTENTIONALLY LEFT BLANK**

## CHAPTER 3 – AFFECTED ENVIRONMENT

### 1 INTRODUCTION

2  
3 The Affected Environment and Environmental  
4 Consequences chapters comprise the  
5 Environmental Impact Statement (EIS) for this  
6 Final General Management Plan. The  
7 descriptions, data, and analysis presented focus on  
8 the specific conditions or consequences that may  
9 result from implementing the alternatives. The  
10 EIS should not be considered a comprehensive  
11 description of all aspects of the human  
12 environment within or surrounding the park.

13  
14 A description of existing environmental  
15 conditions gives the reader a better understanding  
16 of planning issues and establishes a benchmark by  
17 which the magnitude of environmental effects of  
18 the various alternatives can be compared.

### 19 CULTURAL RESOURCES

#### 20 Overview

21  
22 This section describes the cultural resources at  
23 Fort Matanzas. The National Historic Preservation  
24 Act recognizes five property types: districts, sites,  
25 buildings, structures, and objects. As called for in  
26 the act, these categories are used in the National  
27 Register of Historic Places, the preeminent  
28 reference for properties worthy of preservation in  
29 the United States. To focus attention on  
30 management requirements within these property  
31 types, the NPS Management Policies categorizes  
32 cultural resources as archeological resources,  
33 cultural landscapes, historic structures, museum  
34 collections, and ethnographic resources.

#### 35 National Historic Preservation Act

36  
37  
38 The intent of this document is to comply with the  
39 requirements of Section 106 of the NHPA, as  
40 amended, which requires federal agencies to  
41 consider the effects of their undertakings on  
42 historic properties and affords the Advisory  
43 Council on Historic Preservation a reasonable  
44 opportunity to comment. Parks are required by  
45 Section 110 of the National Historic Preservation  
46 Act and National Park Service policies to  
47 inventory and evaluate all cultural resources  
48 within the park boundaries. The purpose of

49  
50  
51 Section 106 is to ensure that federal agencies  
52 consult with state and local groups before non-  
53 renewable cultural resources are impacted or  
54 destroyed and ensures that preservation values are  
55 factored into Federal agency planning and  
56 decisions. Section 106 provides a systematic  
57 process for complying with the NHPA. The  
58 preparation of this environmental assessment is  
59 conducted simultaneously with Section 106  
60 review, enabling agency consultation to occur  
61 only once for both processes. All information  
62 gathered and correspondence exchanged during  
63 the Section 106 review process will be included in  
64 this environmental assessment.

#### 65 Archeological Resources

66  
67 Several archeological surveys and investigations  
68 have taken place at Fort Matanzas since the  
69 1960s. These surveys have provided  
70 comprehensive coverage of the park and indicated  
71 the locations of all archeological sites, provided  
72 information on the range of cultural resources,  
73 and suggest the likelihood of finding any  
74 additional archeological or historical sites.

75  
76 There are seven recorded archeological sites at  
77 Fort Matanzas. Table 8 lists these sites by site  
78 number and briefly describes their locations and  
79 characteristics.  
80

**TABLE 8. RECORDED ARCHEOLOGICAL SITES AT FORT MATANZAS**

Site #	Site Name	Location	Description
8SJ28	North Midden	Rattlesnake Island, north of the fort	Shell midden containing artifacts related to the Spanish and British occupations of Fort Matanzas
8SJ44B	Fort Matanzas	Rattlesnake Island	The site number refers to the archeological materials that are related to, but distinct from, the fort
8SJ90	Pompano Farm Midden	Anastasia Island, northern park boundary	Prehistoric shell midden
8SJ3231	West Midden	Rattlesnake Island, west of the fort	Shell midden with artifacts related to the Spanish and British periods of occupation
8SJ3233	Johnson House	Anastasia Island	Prehistoric and historic artifact scatter
8SJ3225	Visitor Center Site	Anastasia Island, parking lot vicinity	Prehistoric and historic midden; camp site
N/A	Marker Midden	Anastasia Island, at massacre marker	Prehistoric artifact scatter

1 Archeological surveys of the park have been  
2 rather comprehensive and suggest that there is a  
3 low potential of finding additional sites on land.  
4 Much of the southern portion of Anastasia Island  
5 contains accretive deposits dating to the twentieth  
6 century, and other areas to the south and east  
7 reflect nineteenth- and twentieth-century fill that  
8 was used to reclaim marshy areas. Such locations  
9 have a low potential to contain significant  
10 archeological resources. On Rattlesnake Island,  
11 archeological resources reflect the Spanish and  
12 British military occupations of Fort Matanzas.  
13 Because the island is a low-lying marsh that  
14 would not be attractive for extended human  
15 settlement (except for special purposes like the  
16 fort), it has a low potential to contain significant  
17 unidentified prehistoric and historic archeological  
18 resources. In 1979, an underwater archeological  
19 survey of the river east of Fort Matanzas did not  
20 identify any submerged cultural resources but  
21 suggested that intact resources could be present  
22 under 5-12 feet of overburden.

23  
24 Climate change may impact archeological sites in  
25 Fort Matanzas National Monument if more  
26 erosion occurs because of increased storm  
27 frequency and intensity or sea level rise. As  
28 archeological and historic resources become

29 submerged or compromised because of climate  
30 change, they become unavailable for  
31 archeological research, artifact recovery, and  
32 visitor enjoyment.

33  
34

### 35 **Historic Structures**

36  
37 **Fort Matanzas.** Located on Rattlesnake Island,  
38 Fort Matanzas is a very simple structure, its main  
39 strengths being the artillery and its strategic  
40 location. Built of coquina masonry and set on a  
41 foundation of pine timbers and oyster shells, Fort  
42 Matanzas includes an elevated gun deck, officer's  
43 quarters, soldiers' quarters, powder magazine, and  
44 a 30-foot high observation deck. The fort is  
45 square, measuring 50 feet on each side. Both  
46 Spanish and British forces used the structure in  
47 their efforts to guard the Matanzas Inlet and St.  
48 Augustine. By the time the U.S. acquired Florida  
49 in 1821, the fort had fallen into a state of  
50 disrepair. Major efforts were made to stabilize  
51 and restore the fort in 1916, 1922, the 1930s, and  
52 the late 1970s. Presently, the fort is in good  
53 condition.

54

55 Lime for the mortar was made by burning oyster  
56 shells. A foundation of close-set pine pilings

1 driven deep into the marshy ground gave the fort  
2 stability. Coquina shell rock was quarried south of  
3 the inlet and transported to the building site by  
4 boat where the rough chunks were squared into  
5 blocks. Originally, the entire fort was plastered  
6 and whitewashed with perhaps red trim on some  
7 of the architectural elements such as the garita  
8 (the turret-shaped sentry box on the southwest  
9 corner of the fort wall).

10  
11 **Powder Magazine.** The powder magazine is  
12 located within the west wall of the fort and  
13 accessed only through the upstairs officer's  
14 quarters. The magazine extends down into the  
15 wall to the level of the gun deck. The area in front  
16 of the powder magazine was used for food  
17 storage.

18  
19 **Gun Deck.** Five cannons once guarded the  
20 fortress facing in the three approaching directions.  
21 Each cannon could easily reach the inlet, then  
22 only a half-mile away. Two original cannon still  
23 stand at the fort today. They were made around  
24 1750 (probably in Spain), emplaced at Matanzas  
25 in 1793, and left behind by the Spanish when they  
26 departed Florida in 1821. The other two cannon  
27 now on the gun deck are modern reproductions  
28 purchased through donations to the park and used  
29 in the park's living history cannon firing  
30 demonstrations.

31  
32 **Cistern.** The fort's cistern is located under the gun  
33 deck with its opening under the stairs. The roof of  
34 the fort collected rainwater, which drained into  
35 the cistern through a wooden pipe.

36  
37 **Sentry Box.** The sentry box or garita, an  
38 architectural feature of Spanish Caribbean forts,  
39 had fallen off sometime during the 1800s while  
40 Fort Matanzas sat abandoned. It was rebuilt of  
41 brick in 1927 and again of coquina in 1929 using  
42 steel reinforcing rods to attach it to the existing  
43 parapet walls.

44  
45 **Entry Embrasure.** The small opening on the  
46 west embrasure was the "door" to the fort.  
47 Soldiers would climb a removable wooden ladder  
48 to reach the gun deck. If needed, cannons could  
49 be moved to point through this opening just like  
50 the one on the east side of the gun deck. Today,  
51 sturdy stairs allow easy access for visitors to the  
52 fort.

53

54 **Headquarters and Visitor Center.** The  
55 Headquarters and Visitor Center (HQ/VC) is  
56 located on Anastasia Island, on the west side of  
57 Highway A1A. The HQ/VC consists of two  
58 buildings: a multi-use building that serves as both  
59 the primary visitor contact point and park  
60 housing, and a secondary utility building that now  
61 serves as a ranger office. The main building is  
62 two-stories, intersected by an arched breezeway  
63 on the ground level. The exterior walls on the first  
64 floor are constructed of coquina block masonry.  
65 The second floor is of wood frame construction  
66 faced with wood siding. The secondary utility  
67 building is located 50 feet to the north of the main  
68 building.

69  
70 The HQ/VC and the surrounding landscape was  
71 designed by the NPS Eastern Division, Branch of  
72 Plans and Design, and constructed with funds  
73 provided by the federal government. The designed  
74 landscape around the HQ/VC includes an exterior  
75 staircase, a retaining wall, a stone culvert  
76 headwall, and other features such as sidewalks,  
77 curbing, flagstone walks, parking areas, and  
78 roads. Planned in 1935, the HQ/VC illustrates  
79 early NPS design philosophy and is an example of  
80 NPS Rustic Architecture.

81  
82 Since their construction in 1937, the two buildings  
83 have been in continual use and have undergone  
84 only modest alterations. In addition, the  
85 surrounding landscape remains largely unchanged  
86 since its initial development in 1937. Both the  
87 HQ/VC and its designed setting continue to  
88 reflect the intentions of the original development  
89 plans and retain their original character and  
90 integrity to a high degree. On December 31, 2008,  
91 the Fort Matanzas Headquarters and Visitor  
92 Center and its surrounding landscape, including  
93 the entrance road, parking area, and the access  
94 road and parking area for the Atlantic Ocean  
95 beach on the east side of Highway A1A, were  
96 officially listed in the National Register of  
97 Historic Places. These facilities occupy most of  
98 the 17.34-acre tract donated to the NPS in 1934  
99 by Ada Corbett.

100

101 Turning west from Highway A1A, the park road  
102 gently curves as it approaches the HQ/VC. The  
103 curve of the road leads into a one-way, elongated  
104 loop, with the HQ/VC located at the top of the  
105 loop. These facilities also constitute historic  
106 resources that date from the park development

1 era. The loop road expands on the southern side to  
2 include a 29-car visitor parking area that features  
3 sidewalks finished with coquina curbing; after  
4 parking, visitors approach the HQ/VC by way of a  
5 pedestrian pathway. The pathway leads to the  
6 visitor entrance of the HQ/VC, located in an  
7 arched breezeway of the main building, and then  
8 continues through the breezeway to the dock  
9 where visitors board the boat to Fort Matanzas.

10  
11 A service road that branches off the northern  
12 portion of the loop road leads park employees to  
13 the garages (now enclosed) of the utility building.  
14 Park vehicles once used the service road, which  
15 forms a wide arc, to arrive at the garages,  
16 formerly located on the end of the building. The  
17 roadway's path maximizes the distance between  
18 the visitor use and employee use roads, thereby  
19 concealing, behind dense vegetation, the service  
20 road from the visitor's sightline. These elements  
21 combine to create a residential atmosphere around  
22 the HQ/VC, which also complements the natural  
23 landscape of mature live oaks, native vegetation,  
24 and gently rolling dunes.

25  
26 **Johnson House.** In the 1960s the scope of the  
27 park was greatly expanded with the donation by  
28 the Johnson family of most of the southern end of  
29 Anastasia Island, including the ocean side  
30 beaches, dunes, and maritime forests bisected by  
31 Highway A1A. Included in this donation was the  
32 Johnson family residence, which is located a few  
33 hundred feet south of the visitor center. The two-  
34 story house is currently used as park housing and  
35 is in good condition.

36  
37 The Johnson House is somewhat rambling and  
38 features a large number of double-hung sash  
39 windows. The house is constructed of wood and  
40 brick with a roof composed of asphalt shingled  
41 gables. The west side of the house features an  
42 elongated covered porch that faces out to a lawn  
43 and the Matanzas River beyond. It is believed that  
44 there are portions of the house that date back  
45 more than 50 years. Additional research is  
46 necessary to determine the history and age of the  
47 structure.

48  
49 The Rattlesnake Island fortification and other  
50 historic structures on Anastasia Island at Fort  
51 Matanzas National Monument may be vulnerable  
52 to increased severe weather that is anticipated in  
53 the future due to climate change (Loehman and

54 Anderson 2009). Sea level rise and an expected  
55 increase in severe weather and precipitation may  
56 increase the rate of erosion around the fort and  
57 may threaten the historic visitor center and the  
58 adjacent Johnson House. Coastal fortifications  
59 may also be vulnerable to damage from changes  
60 in the freeze/thaw cycle that can affect the fabric  
61 of the structures and their foundations.

## 62 63 **Museum Collections**

64  
65 The museum collection at the park is combined  
66 with the collection for Castillo de San Marcos  
67 National Monument and is considered to be one  
68 entity for administrative purposes; however, they  
69 are reported and accounted for as two separate  
70 collections, each with their own accessioning and  
71 cataloging systems. Most of the objects are stored  
72 together. Fort Matanzas has museum collections  
73 comprised of archival collections, historic and  
74 archeological artifacts, and biological specimens.

75  
76 Between Fort Matanzas and Castillo de San  
77 Marcos NM, approximately 40,085 archeological  
78 specimens have been collected through  
79 excavations, with historic ceramics representing  
80 the majority of the objects. Some of these objects  
81 are on loan to the NPS Southeast Archeological  
82 Center (SEAC) in Tallahassee, Florida, for  
83 analysis, study, and cataloging. The remainder of  
84 the park's museum collections are stored at the  
85 Timucuan Ecological and Historical Preserve  
86 (TIMU) museum management facility in  
87 Jacksonville, Florida.

88  
89 According to the 2010 Collection Management  
90 Report, Fort Matanzas's museum collections  
91 consist of 46,651 objects and archival materials,  
92 98.98% of which is catalogued. The first  
93 accession in the Fort Matanzas accession book  
94 was made in 1993; it was a field collection  
95 recovered during an archeological monitoring  
96 project for the visitor center in 1989.  
97 Archeological accessions continued through the  
98 mid-1990s. The accessions included archeological  
99 investigations for sewer and power lines, fort  
100 stabilization, nearby middens, and boardwalk  
101 construction.

102  
103 Materials found during these projects included  
104 architectural samples such as coquina rubble,  
105 brick fragments, tabby fragments, and floor  
106 samples. Artifacts included glass fragments, a .45

1 caliber brass cartridge, sherds of slipware,  
2 delftware bisque, pearlware, wire nails, and red  
3 brick tile fragments. Net floats, corked green wine  
4 bottles, a Spanish olive jar, one archaic stemmed  
5 point, British brass button, and a variety of  
6 ceramic and stoneware sherds were found in  
7 archeological excavations at Fort Matanzas  
8 between 1935 and 1975.

9  
10 In 2003, two cannons that had long been on  
11 exhibit were accessioned into the collection. The  
12 most recent accessions involve natural history  
13 specimens and associated records generated  
14 through inventorying and monitoring activities.  
15 Herpetological, small mammals, plants, and fish  
16 inventories were accessioned into the collection  
17 from 2004-2006. Also accessioned in 2006 were  
18 gopher tortoise specimens.

## 20 **Ethnographic Resources**

21  
22 Ethnographic resources are landscapes, objects,  
23 plants and animals, or sites and structures that are  
24 important to a people's sense of purpose or way of  
25 life. These peoples are the contemporary park  
26 neighbors and ethnic or occupational communities  
27 that have been associated with a park for two or  
28 more generations (40 years), and whose interests  
29 in the park's resources began before the park's  
30 establishment. There are several types of studies  
31 and research that the NPS uses to determine the  
32 extent of ethnographic resources in a particular  
33 park. The most comprehensive background study,  
34 the Ethnographic Overview and Assessment,  
35 reviews existing information on park resources  
36 traditionally valued by stakeholders. The  
37 information comes mostly from archives and  
38 publications; interviews with community  
39 members and other constituents—often on trips to  
40 specific sites—supply missing data. This study  
41 also identifies the need for further research. Fort  
42 Matanzas National Monument has not yet been  
43 the subject of such an assessment and therefore  
44 the existence (or non-existence) of ethnographic  
45 resources is unknown. Chapter 2 of this General  
46 Management Plan and Environmental Impact  
47 Statement recommends the initiation and  
48 completion of an ethnographic overview and  
49 assessment.

## 51 **Cultural Landscapes**

52

53 Cultural landscapes are complex resources that  
54 range from large rural tracts covering several  
55 thousand acres to formal gardens of less than an  
56 acre. Natural features such as landforms, soils,  
57 and vegetation are not only part of the cultural  
58 landscape, they provide the framework within  
59 which it evolves. In the broadest sense, a cultural  
60 landscape is a reflection of human adaptation and  
61 use of natural resources and is often expressed in  
62 the way land is organized and divided, patterns of  
63 settlement, land use, systems of circulation, and  
64 the types of structures that are built. The character  
65 of a cultural landscape is defined both by physical  
66 materials, such as roads, buildings, walls, and  
67 vegetation, and by use reflecting cultural values  
68 and traditions.

69  
70 Cultural landscape inventories are conducted to  
71 identify landscapes potentially eligible for listing  
72 in the National Register, and to assist in future  
73 management decisions for landscapes and  
74 associated resources, both cultural and natural.

75  
76 A cultural landscape report (CLR) is the primary  
77 guide to treatment and use of a cultural landscape.  
78 Based on the historic context provided in a  
79 historic resource study, a CLR documents the  
80 characteristics, features, materials, and qualities  
81 that make a landscape eligible for the National  
82 Register. It analyzes the landscape's development  
83 and evolution, modifications, materials,  
84 construction techniques, geographical context,  
85 and use in all periods, including those deemed not  
86 significant. Based on the analysis, it evaluates the  
87 significance of individual landscape  
88 characteristics and features in the context of the  
89 landscape as a whole.

90  
91 There are no designated cultural landscapes at  
92 Fort Matanzas National Monument. Therefore,  
93 completion of a cultural landscape inventory and  
94 a cultural landscape report has been recommended  
95 in this general management plan.

96  
97 Climate change may affect potential cultural  
98 landscapes within the boundaries of Fort  
99 Matanzas National Monument, including the  
100 historic visitor center and surrounding grounds  
101 and facilities and the Johnson House and its  
102 environs. As potential cultural landscapes, these  
103 areas represent connections between people and  
104 the land. Sea level rise, increased storm intensity  
105 or frequency, and increased air and water

1 temperature may damage natural or cultural  
2 resources in these locations, compromising the  
3 cultural landscapes as a whole. Resilience of these  
4 landscapes may depend on their ability to  
5 withstand both gradual and extreme weather  
6 variations.

## 7 8 **Interpretation and Museum** 9 **Operations**

10  
11 Exhibits are located throughout the park. When  
12 visitors arrive at the park, they will find several  
13 exterior exhibits that establish the context of the  
14 fort's history. Interior space at the HQ/VC is  
15 extremely limited; a model shows how the fort  
16 looked when in use, there is a small sales area,  
17 and a staffed sales/information desk. An  
18 audiovisual program introduces visitors to the  
19 park and suggests on-site activities.

20  
21 The park offers regular boat trips to the fort  
22 supported by ranger talks, recreated settings  
23 inside the fort, living history and weapons firing  
24 demonstrations in season, and a few interpretive  
25 signs.

26  
27 Rangers also give regular talks on both historical  
28 and natural topics. School groups can arrange for  
29 programs in advance.

30  
31 A 0.6-mile nature trail provides visitors with  
32 access to a portion of Anastasia Island, and short  
33 boardwalks provide access to both the bay and the  
34 ocean. There are trailheads and wayside exhibits  
35 along the bay and ocean boardwalks.

36

## 37 **NATURAL RESOURCES**

38

### 39 **Physical Resources**

40

41 This section discusses the physical environment at  
42 Fort Matanzas, including soils and geology,  
43 floodplains, wetlands, air quality, and noise.

44

45 **Geology and Soils.** The U.S. Department of  
46 Agriculture (USDA) Natural Resource  
47 Conservation Services surveyed the soils at Fort  
48 Matanzas in 1983. A total of seven soil series  
49 were delineated and described in the vicinity of  
50 the fort on Rattlesnake Island. The soil series  
51 ranged from poorly drained to excessively  
52 drained, depending on their topographic position  
53 and texture. Textures range from fine sand to silty  
54 clay loam, but are mostly fine sand. The soil  
55 series located on Rattlesnake Island include St.  
56 Augustine fine sand, clayey substratum, Moultrie  
57 fine sand, Pellicer silty clay loam, and beaches.  
58 The soil series found on Anastasia Island include  
59 Fripp-Satellite complex, Satellite fine sand,  
60 Pottsburg fine sand, and beaches. Table 9  
61 describes the characteristics of each soil series.

62

63 The definition of a hydric soil is a soil that formed  
64 under conditions of saturation, flooding, or  
65 ponding long enough during the growing season  
66 to develop anaerobic conditions in the upper part.  
67 Hydric soils are one of three required criteria for a  
68 site to be characterized as a wetland and include  
69 soils developed under sufficiently wet conditions  
70 to support the growth and regeneration of  
71 hydrophytic vegetation. Of the seven soils series  
72 that occur in the vicinity of the fort, Moultrie fine  
73 sand, Pellicer silty clay loam, and beaches are  
74 considered hydric soils.

75

76 Climate change may impact geological resources  
77 and soils in the National Monument as a result of  
78 increased storm intensity and duration. These  
79 predicted changes are expected to result in  
80 shoreline erosion, flooding, and inundation  
81 (Loehman and Anderson 2009).

**TABLE 9. CHARACTERISTICS OF SOILS PRESENT AT FORT MATANZAS NATIONAL MONUMENT**

Soil Series	Permeability	Available Water Capacity	Slopes (%)	Flooding	Soil Constraints
St Augustine fine sand, clayey substratum	Moderate to Rapid	Very Low	0-2	Rare	Wetness
Moultrie fine sand	Very Rapid	Very Low	0-1	Frequent	Flooding and wetness
Pellicer silty clay loam	Slow	High	<1	Frequent	Flooding, wetness, slow permeability
Satellite fine sand	Rapid	Moderate	0-2	Frequent	Shallow water table, wetness
Fripp-Satellite complex	Rapid	Moderate	0-2	Frequent	Wetness

Source: USDA, 1983

1 **Noise.** Current noise sources in the surrounding  
 2 area are predominantly the result of human  
 3 activities. These activities include traffic from the  
 4 local roadways, (primarily Highway A1A),  
 5 boating traffic along the Matanzas River,  
 6 including the NPS ferry operation, and human  
 7 recreational activities in the vicinity of Fort  
 8 Matanzas.

9  
 10 **Water Resources**

11  
 12 **Hydrology.** The main body of water in the  
 13 vicinity of the fort is the Matanzas River, which is  
 14 part of the Lower St. Johns River Basin. The  
 15 Matanzas River is narrow and tidally influenced  
 16 with a maximum width of approximately 1.5  
 17 miles. The river is approximately 17 miles long  
 18 and extends from St. Augustine through Fort  
 19 Matanzas and connects to the Atlantic Ocean at  
 20 the Matanzas Inlet. The Matanzas River is  
 21 protected from the Atlantic Ocean by Anastasia  
 22 Island to the east.

23  
 24 The Atlantic Intracoastal Waterway is a series of  
 25 federally maintained navigation channels along  
 26 the southeastern seaboard of the U.S. that extend  
 27 from Norfolk, Virginia to Miami, Florida. The  
 28 1200-mile course includes manmade canals, bays  
 29 protected by barrier islands, natural river  
 30 channels, and estuaries. The Atlantic Intracoastal  
 31 Waterway Association was established in 1999 to  
 32 ensure that the Intracoastal Waterway is

33 maintained for commerce and recreation. Within  
 34 St. Johns County, the Intracoastal Waterway is  
 35 comprised of the Tolomato, Guana, and Matanzas  
 36 Rivers, and their tributaries.

37  
 38 **Water Quality.** The Florida Department of  
 39 Environmental Protection (FDEP) created a  
 40 watershed management program in 1999 to  
 41 implement the provisions of the Florida  
 42 Watershed Restoration Act. As part of this  
 43 watershed management program FDEP created  
 44 five water management districts that are  
 45 responsible for managing ground and surface  
 46 water supply. Fort Matanzas is located in the  
 47 Northern Coastal Basin of St. Johns River Water  
 48 Management District. The district established the  
 49 surface water quality monitoring program in 1983  
 50 that maintains water quality monitoring of  
 51 approximately 73 stations throughout the district.  
 52 This program also monitors sediments for priority  
 53 pollutants and benthic community sampling. The  
 54 data generated under the program are uploaded to  
 55 the U.S EPA National Water Quality Storage and  
 56 Retrieval Database. At the regional level, FDEP  
 57 and the St. Johns River Water Management  
 58 District are the two main agencies involved in  
 59 surface water permitting procedures.

60  
 61 The Clean Water Act requires that surface waters  
 62 for each state be classified according to Florida's  
 63 designated uses. The Florida Administrative Code  
 64 applies classifications, criteria, an anti-

1 degradation policy, and special protection of  
2 certain waters in Florida. Water quality  
3 classifications are arranged in order of the degree  
4 of protection required, with Class I water having  
5 the most stringent water quality criteria and Class  
6 V the least. These classifications are designed to  
7 maintain the minimum conditions necessary to  
8 assure the suitability of water for the designated  
9 use of the classification. The Matanzas River is  
10 designated as Class II waters, which is defined as  
11 “Shellfish Propagation or Harvesting.” A large  
12 portion of the Matanzas River is Conditionally  
13 Approved for shellfish harvesting.

14  
15 Because the authorized boundary of the National  
16 Monument extends only to the mean high tide line  
17 on both Anastasia and Rattlesnake Islands, neither  
18 the waters of the Matanzas River, the Atlantic  
19 Intracoastal Waterway, nor the Atlantic Ocean are  
20 part of the National Monument.

21  
22 **Floodplains.** Floodplain Management, Executive  
23 Order 11988 issued 24 May 1977, directs all  
24 federal agencies to avoid both long- and short-  
25 term adverse effects associated with occupancy,  
26 modification, and development in the 100-year  
27 floodplain, when possible. Floodplains are  
28 defined in this order as “the lowland and  
29 relatively flat areas adjoining inland and coastal  
30 waters including flood prone areas of offshore  
31 islands, including at a minimum, that area subject  
32 to a one percent greater chance of flooding in any  
33 given year.” Flooding in the 100-year zone is  
34 expected to occur once every 100 years, on  
35 average. In addition, NPS proposed actions that  
36 may adversely affect floodplains must comply  
37 with Director’s Order #77-2: Floodplain  
38 Management.

39  
40 All federal agencies are required to avoid building  
41 in a 100-year floodplain unless no other practical  
42 alternative exists. The NPS has adopted  
43 guidelines pursuant to Executive Order 11998  
44 stating that NPS policy is to restore and preserve  
45 natural floodplain values and avoid environmental  
46 impacts associated with the occupation and  
47 modification of floodplains. The guidelines also  
48 require that, where practicable alternative exist,  
49 Class I action be avoided within a 100-year  
50 floodplain. Class I actions include the location or  
51 construction of administration, residential,  
52 warehouse, and maintenance buildings, non-  
53 excepted parking lots, or other manmade features

54 that by their nature entice or require individuals to  
55 occupy the site.

56  
57 The majority of the park is located within the 100-  
58 year floodplain, which has been mapped by the  
59 Federal Emergency Management Agency on a  
60 Flood Insurance Rate Map issued in 2004.

61  
62 Climate change is expected to increase the extent  
63 and frequency of coastal flooding (Loehman and  
64 Anderson 2009). These floods may alter the  
65 natural floodplain distribution in the National  
66 Monument, leading to changes in vegetation,  
67 wildlife habitat, and sand regimes on the islands.

## 68 **Natural Resources**

69  
70  
71 **Overview.** Natural resources are in abundance  
72 within the boundary of Fort Matanzas. The park  
73 contains river and ocean beaches, wetlands, and  
74 distinct habitats that harbor a number of species,  
75 several of which are listed as endangered or  
76 threatened. The ocean beach at Fort Matanzas  
77 provides a nesting area for the threatened  
78 loggerhead and endangered green and leatherback  
79 sea turtles, the ghost crab, least tern, Wilson’s  
80 plover and other migratory shorebirds and  
81 seabirds. In addition, Fort Matanzas provides  
82 migrating and wintering habitat for the  
83 endangered piping plover. Black skimmers and  
84 brown pelicans also use the park’s beach  
85 extensively for roosting, mostly outside of  
86 breeding season. The gopher tortoise, a species of  
87 special concern (listed as threatened by the  
88 Florida Fish and Wildlife Conservation  
89 Commission in 2007) in Florida, is found in the  
90 adjacent dune and scrub habitat along with the  
91 endangered Anastasia Island beach mouse, the  
92 threatened eastern indigo snake, and five-lined  
93 skink. Herons, egrets, and endangered wood  
94 storks feed on the mud flats, which are also the  
95 home of fiddler and hermit crabs. Ospreys, bald  
96 eagles, black skimmers, brown pelicans, and  
97 various other shorebirds and seabirds can be seen  
98 flying over Fort Matanzas National Monument,  
99 and it is not unusual to sight dolphin or even the  
100 endangered manatee within the Matanzas River  
101 and inlet.

102  
103 **Coastal Barriers.** Coastal barriers are landscape  
104 features that shield the mainland from the full  
105 force of wind, wave, and tidal energies, and can  
106 take on a variety of forms such as bay barriers,

1 tombolos, barrier spits, or barrier islands. Coastal  
2 barriers include barrier islands, which are coastal  
3 barriers completely detached from the mainland.  
4 Both Anastasia and Rattlesnake Islands are  
5 considered coastal barrier islands. Other examples  
6 of mapped coastal barriers in St. Johns County  
7 include Guana River, Usinas Beach, Conch  
8 Island, and Matanzas River. The floodplain map  
9 issued in 2004 by FEMA (shown in Figure 3-1)  
10 indicates that the entire project area has been  
11 designated an “Otherwise Protected Area,” which  
12 is defined in the Coastal Barrier Resources Act as  
13 “an undeveloped coastal barrier within the  
14 boundaries of an area established under Federal,  
15 State, or local law, or held by a qualified  
16 organization, primarily for wildlife refuge,  
17 sanctuary, recreational, or natural resource  
18 conservation purposes.”

19  
20 **Coastal Hammock (Maritime) Forest.** The  
21 oldest and highest part of the barrier island  
22 (Anastasia Island) is covered with a forest called a  
23 hammock -- an ancient dune on which larger plant  
24 species have taken root in the thin layer of  
25 decayed remains from pioneer species. Cabbage  
26 palm, red bay, magnolia, and live oak provide a  
27 canopy under which diverse animal species can  
28 thrive.

29  
30 Spiders, lizards, snakes, great horned owls,  
31 cardinals and Carolina wrens, raccoons, opossum,  
32 and even a bobcat all live here. A small herd of  
33 white tail deer finds shelter in the forest on  
34 Rattlesnake Island. Understory plants such as wax  
35 myrtle, saw palmetto, yaupon holly, beauty berry,  
36 and grape vines provide food for some of these  
37 animals as well as for migrating birds that stop for  
38 a rest in the maritime forest.

39  
40 On the ocean side of Anastasia Island are the sand  
41 dunes. Sea oats and other grasses, vines like beach  
42 morning glory, and other salt-tolerant plants grow  
43 on the dunes and help stabilize them with their  
44 extensive root systems. These plants also provide  
45 cover and shade for the few hardy species that  
46 live here.

47  
48 These grasses and dunes also act like styrofoam,  
49 giving a little, but mostly absorbing the force of  
50 storm winds and waves, thus protecting the island  
51 from storms. What might happen in a big storm in  
52 areas where the dunes have been destroyed or  
53 built on?

54  
55 **Coastal Scrub.** Between the hammock and the  
56 dunes grow dense thickets of scrub live oak  
57 interspersed with thick stands of saw palmetto,  
58 bay and cedar, and an occasional sabal palm, all  
59 laced together by a tangle of grape and other  
60 vines. Prickly pear cacti grow in the more open,  
61 areas. Sandy and dry, scoured by harsh, salt-laden  
62 winds, the scrub is a harsh environment for  
63 animals, but a beautiful garden for wildflowers in  
64 the spring and summer.

65  
66 **Estuary and Salt Marsh.** Behind the dunes and  
67 the coastal forest lie the tidal creeks and marshes  
68 of the estuary where salt water meets fresh. The  
69 open water between Anastasia Island where the  
70 visitor center is located and Rattlesnake Island  
71 where the historic fort sits is called the Matanzas  
72 River. Not a true river, it is actually a long, thin  
73 sound with a mouth at both ends-- the St.  
74 Augustine Inlet to the north and the Matanzas  
75 Inlet at Fort Matanzas National Monument at the  
76 south.

77  
78 The estuary and salt marsh is the most diverse  
79 habitat of the island in terms of animal species.  
80 Great blue herons, great egrets, snowy egrets, and  
81 little green herons feed on the rich soup of fish  
82 and crustaceans living in the tidal flats and salt  
83 marshes.

84  
85 **Salt Marsh Plants.** Plants must have special  
86 adaptations in order to live in the salt marsh  
87 where their roots and even much of their tops  
88 might be covered by salt water for much of the  
89 day. Many plants like the salt marsh cordgrass  
90 (*Spartina alterniflora*), the predominate plant of  
91 the marsh, has pores which secrete the salt the  
92 plant takes up. A film of salt crystals is visible on  
93 their stems and leaves.

94  
95 Pickleweed (*Salicornia sp.*) rids itself of excess  
96 salt by means of joints which allow a part of the  
97 plants to be broken off. The plant sends salt to its  
98 tips and, in the fall, these compartments dry up  
99 and break off.

100  
101 Mangroves, one of the few trees of the salt marsh,  
102 can survive because of specially adapted roots.  
103 The red mangrove can be identified by its prop  
104 roots which stabilize the plant in soft muddy soil  
105 and which exposes more root surface to the  
106 oxygen in the air. Black mangroves can be

1 identified by numerous finger-like projections  
 2 called pneumatophores which serve the same  
 3 purpose.  
 4  
 5 Both of these mangroves are at the northern-most  
 6 extent of their range at Fort Matanzas National  
 7 Monument. It has only been because of  
 8 several years without major freezes that these  
 9 trees survive here in north Florida at all.  
 10  
 11 **Wetlands.** Executive Order 11990 – *Protection of*  
 12 *Wetlands*, directs all federal agencies to avoid, to  
 13 the extent possible, the long- and short-term  
 14 adverse impacts associated with the destruction or  
 15 modification of wetlands and to avoid direct or  
 16 indirect support of new construction in wetlands  
 17 wherever there is a practicable alternative. In the  
 18 absence of such alternatives, parks must modify  
 19 actions to preserve and enhance wetland values  
 20 and minimize degradation. Consistent with E.O.  
 21 11990 and Director’s Order #77-1: *Wetland*  
 22 *Protection*, NPS adopted a goal of “no net loss of  
 23 wetlands.” Director’s Order #77-1 states that for  
 24 new actions where impacts to wetlands cannot be  
 25 avoided, proposals must include plans for  
 26 compensatory mitigation that restores wetlands on  
 27 NPS lands, where possible, at a minimum acreage  
 28 ratio of 1:1.  
 29  
 30 Wetlands are characterized by soil type and a  
 31 diversity of vegetation, including trees, shrubs,  
 32 and herbaceous ground covers. Wetlands provide  
 33 a variety of beneficial functions from supplying  
 34 habitat for a variety of wildlife, storage and  
 35 attenuation of floodwaters, trapping silts and other

36 sediments during floods, to biologically filtering  
 37 contaminants from surface waters. The National  
 38 Wetlands Inventory (NWI) of the U.S. Fish and  
 39 Wildlife Service (USFWS) produces information  
 40 on the characteristics, extent, and status of the  
 41 nation’s wetlands and deepwater habitats.  
 42 National Wetlands Inventory maps are prepared  
 43 by the USFWS from the analysis of high altitude  
 44 imagery and wetlands are identified based on  
 45 vegetation, visible hydrology and geography.  
 46 Based on the NWI maps at the site from the  
 47 USFWS and NPS definition of wetlands, roughly  
 48 half (147.4 acres) of the total acreage of  
 49 Rattlesnake Island and Anastasia Island is mapped  
 50 as wetlands. Roughly 100 acres of this total  
 51 wetlands figure is on Rattlesnake Island.  
 52  
 53 In the vicinity of Fort Matanzas, the northeastern  
 54 shoreline of Rattlesnake Island and the  
 55 southwestern shoreline of Anastasia Island are  
 56 mapped by the inventory as an estuarine,  
 57 intertidal, unconsolidated shore that is regularly  
 58 flooded. The majority of Rattlesnake and  
 59 Anastasia Islands are mapped by the inventory as  
 60 an estuarine, intertidal, emergent/scrub-shrub  
 61 broad-leaved evergreen wetland. South of the fort  
 62 on Rattlesnake Island, a small estuarine wetland  
 63 exists and on Anastasia Island inland from the  
 64 shoreline, a linear excavated estuarine wetland.  
 65  
 66 The wetland classifications within Fort Matanzas  
 67 have been classified by U.S. Fish and Wildlife  
 68 Service’s National Wetlands Inventory as the  
 69 following:

**TABLE 10. WETLANDS PRESENT IN FORT MATANZAS**

NWI Mapping Code	NWI Wetland Classification	Project Area
E2EM/SS3U	Estuarine, intertidal, emergent/scrub-shrub broadleaved evergreen, uplands	Rattlesnake Island and Anastasia Island
E2USN	Estuarine, intertidal, unconsolidated shore, regularly flooded	Rattlesnake Island and Anastasia Island Shorelines
E2USP	Estuarine, intertidal, unconsolidated shore, irregularly flooded	South of the fort, Rattlesnake Island
E1UBL	Estuarine, subtidal, unconsolidated bottom, subtidal	Matanzas River
E1UBLx	Estuarine, subtidal, unconsolidated bottom, subtidal, excavated	Anastasia Island open water canal

1 In addition to the National Wetlands Inventory  
 2 maps, the St. Johns County Soil Survey has  
 3 mapped hydric soils (one of the three wetland  
 4 indicators) on both Anastasia and Rattlesnake  
 5 Islands. On Rattlesnake Island in the vicinity of  
 6 Fort Matanzas, the soil series Pellicer silty clay  
 7 loam, Moultrie fine sand, and Beaches are all  
 8 classified as hydric soils. Portions of the shoreline  
 9 of Anastasia Island are also mapped as hydric  
 10 soils, including Pellicer silty clay loam and  
 11 Beaches.

12  
 13 Also noteworthy, the Matanzas River, a navigable  
 14 waterway of the U.S., is characterized as an  
 15 estuarine, subtidal wetland with unconsolidated  
 16 bottom. Several state and Federally listed species  
 17 that occur or may occur within this habitat include  
 18 the West Indian manatee (*Trichechus manatus*)  
 19 and five species of both state and federally listed  
 20 sea turtles, including the Loggerhead turtle  
 21 (*Caretta caretta*), Green sea turtle (*Chelonia*  
 22 *mydas*), Leatherback sea turtle (*Dermodochelys*  
 23 *coriacea*), Hawksbill sea turtle (*Eretmochelys*  
 24 *imbricata*), and Kemp's Ridley sea turtle  
 25 (*Lepidochelys kempii*).

26  
 27 **Terrestrial Resources.** This section discusses  
 28 natural resources, including terrestrial vegetation  
 29 and wildlife found at Fort Matanzas. Federally  
 30 listed threatened and endangered species  
 31 potentially found at Fort Matanzas are discussed  
 32 below.

33  
 34 **Vegetation.** A vegetative survey of Fort  
 35 Matanzas was conducted in 2003 and 2004. A  
 36 total of 237 species of vascular plants were  
 37 identified representing 189 genera and 73  
 38 families. Of the 237 species identified, 125  
 39 species were identified on Rattlesnake Island and  
 40 197 were identified on Anastasia Island.

41  
 42 Six major community types have been described  
 43 for the park, including Matanzas River open  
 44 beach, foredune, backdune, maritime forest, salt  
 45 marsh, and disturbed areas.

46  
 47 Table 11 provides a list of common species found  
 48 within the six major community types.

**TABLE 11. COMMON SPECIES WITHIN MAJOR COMMUNITY TYPES AT FORT MATANZAS**

Scientific Name	Common Name
<b>Backdunes</b>	
<i>Andropogon glomeratus</i>	Bushy bluestem
<i>Gaillardia pulchella</i>	Blanket flower
<i>Helianthus debilis</i>	Beach sunflower
<i>Hydrocotyle bonariensis</i>	Pennywort
<i>Ipomopsis rubra</i>	Standing cypress
<i>Muhlenbergia cappillaries</i>	Purple muhly grass
<i>Oputina supp.</i>	Prickly pear cactuses
<i>Spartina patens</i>	Cordgrass
<b>Disturbed Areas</b>	
<i>Acalypha graciliens</i>	Slender threeseed
<i>Conyza canadensis</i>	Canadian horseweed
<i>Oxalis corniculata</i>	Creeping woodsorrel
<i>Pteris vittata</i>	Ladder brake
<i>Salvia lyrata</i>	Lyreleaf sage
<b>Foredune</b>	
<i>Atriplex cristata</i>	Crested saltbush
<i>Cakile edulenta</i>	American searocket
<i>Cakile lanceolata</i>	Coastal searocket
<i>Chamaesyce bombensis</i>	Dixie sandmat
<i>Gaillardia pulchella</i>	Firewheel
<i>Helianthus debilis</i>	Cucumberleaf sunflower
<i>Ipomoea imperati</i>	Beach morning-glory
<i>Ipomoea pes-caprae</i>	Bayhops
<i>Iva imbricata</i>	Seacoast marshelder
<i>Panicum amarum</i>	Bitter panicgrass
<i>Salsola kali</i>	Russian thistle

Scientific Name	Common Name
<i>Sesuvium portulacastrum</i>	Shoreline seapurslane
<i>Spartina patens</i>	Saltmeadow cordgrass
<i>Sporobolus virginicus</i>	Seashore dropseed
<i>Uniola paniculata</i>	Seaoats
<b>Maritime Forest</b>	
<i>Callicarpa americana</i>	American beautybush
<i>Cnidocolus stimulosus</i>	Stinging spurge
<i>Erythrina herbacea</i>	Coralbean
<i>Illex vomitoria</i>	Yaupon holly
<i>Juniperus salicicola</i>	Southern red cedar
<i>Myrica cerifera</i>	Wax myrtle
<i>Nephrolepis exaltata</i>	Boston fern
<i>Persea borbonia</i>	Red bay
<i>Polypodium polypodioides</i>	Resurrection fern
<i>Quercus virginiana</i>	Live oak
<i>Sabal palmetto</i>	Cabbage palm
<i>Serenoa repens</i>	Saw palmetto
<i>Vitis spp.</i>	Wild grape
<i>Zamia pumila</i>	Coontie
<i>Zanthoxylum clava-heculis</i>	Hercules club
<i>Magnolia grandiflora</i>	Southern magnolia
<b>Open Beach</b>	
<i>Panicum amarum</i>	Bitter panic grass
<i>Ipomoea pes-caorae</i>	Railroad vine
<i>Uniola paniculata</i>	Sea oats
<b>Salt Marsh</b>	
<i>Avicennia germinans</i>	Black mangrove
<i>Batis maritima</i>	Saltwort
<i>Juncus roemerianus</i>	Black needlerush
<i>Salicornia spp.</i>	Glasswort
<i>Spartina alteriflora</i>	Saltmarsh cordgrass

1 **Wildlife.** The diversity of habitats found at Fort  
2 Matanzas supports a rich variety of wildlife.  
3 Major habitats present on Anastasia Island  
4 include open beach, backdunes, foredunes,  
5 maritime forest, Florida coastal scrub\*, and  
6 coastal hammock. Major habitats present on  
7 Rattlesnake Island include slash pine and  
8 redbay woodlands, cedar/wax myrtle/cabbage  
9 palm forests, salt marshes, tidal creeks, and  
10 mangroves. There are a limited number of  
11 mammals found on the beach and sand dunes of  
12 Rattlesnake and Anastasia Islands. Table 12

13 provides a list of common wildlife species  
14 found within habitats at Fort Matanzas (Source:  
15 *FINAL ENVIRONMENTAL ASSESSMENT,*  
16 *Proposed Shoreline Stabilization Features and*  
17 *Boat Dock Replacement*, National Park Service,  
18 June 2006) \*The Florida coastal scrub habitat is  
19 described as “characterized by sand pine and/or scrub oaks  
20 and/or rosemary and lichens” on the Florida Native Plant  
21 Society website,  
22 <http://www.fnps.org/pages/plants/vegtypes.php> , accessed  
23 1-7-2011.

**Table 12. Common Wildlife Species at Fort Matanzas**

Scientific Name	Common Name	Habitat
<b>Birds</b>		
<i>Ardea alba</i>	Great egret	Nests and roosts in colonies in woody vegetation over water, and on islands. Feeds in wetlands, including marshes, tide flats, and along inlets and estuaries.
<i>Ardea herodias</i>	Great blue heron	Nests and roosts in colonies in woody vegetation over water, and on islands. Feeds in wetlands, including marshes, tide flats, and along inlets and estuaries.
<i>Butorides virescens</i>	Little green heron	Nests and roosts in colonies in woody vegetation over water, and on islands. Feeds in wetlands, including marshes, tide flats, and along inlets and estuaries.
<i>Calidris alba</i>	Sanderling	Roosts and feeds along beaches, mud flats, inlets, and estuaries.
<i>Catoptrophorus semipalmatus</i>	Willet	Nests under woody brush or in tall grass near marsh. Roosts and feeds along beaches, mud flats, inlets, and estuaries.
<i>Charadrius vociferous</i>	Killdeer	Nests in open areas, often near water. Feeds in moist substrate along beaches, inlets, and mudflats.
<i>Haliaeetus leucocephalus</i>	Bald eagle	Nests in tree tops. Feeds in open water, often where perches are nearby.
<i>Larus argentatus</i>	Herring gull	Found along beaches, inlets, mudflats, and estuaries.
<i>Larus atricilla</i>	Laughing gull	Found along beaches, inlets, mudflats, and estuaries.
<i>Mycteria americana</i>	Wood stork	May nest in mangroves. Feeds in fresh, brackish, and salt water.
<i>Pandion haliaetus</i>	Osprey	Nests in trees or manmade structures. Feeds in fresh, brackish, and salt water, often where perches are nearby.
<i>Pelecanus occidentalis*</i>	Brown pelican	Nests and roosts along coast. Feeds in ocean and estuarine waters.
<i>Phalacrocorax auritus</i>	Double-crested cormorant	Nests and roosts in woody vegetation along coast. Roosts in woody vegetation or on the ground. Feeds in ocean and estuarine waters.
<i>Sternula antillarum</i>	Least tern	Nests and roosts on sand and shell beaches and spoil banks along coast. Feeds in ocean and estuarine waters.
<i>Thalasseus maximus</i>	Royal tern	Nests and roosts on sand and shell beaches and spoil banks along coast. Feeds in ocean and estuarine waters.
<b>Mammals</b>		
<i>Didelphis virginiana phasma</i>	Opossum	Dens in tree cavities, hollow logs, brush piles, underground burrows, or manmade structures. Feeds in a variety of natural and disturbed coastal habitats.
<i>Peromyscus polionotus</i>	Oldfield mouse	Inhabit burrows in well-drained, sandy soils.
<i>Procyon lotor</i>	Raccoon	Inhabits a variety of habitats, from uplands to wetlands.
<i>Sylvialagus palustris</i>	Marsh rabbit	Inhabit freshwater and estuarine wetlands.
<b>Reptiles</b>		
<i>Cnemidophorus sexlineatus</i>	Six-lined racerunner	Found in dry grassy or sandy areas, and open woodlands.
<i>Columber constrictor</i>	Southern racer	Found in pinelands, hardwood hammocks, prairies, sandhills, scrub, and cypress strands.
<i>Crotalus adamanteus</i>	Eastern diamondback rattlesnake	Found in pine flatwoods, longleaf pine and turkey oak, sand pine scrub areas, and coastal barrier islands
<i>Elahpe obsolete</i>	Yellow rat snake	Found in a variety of habitats, including forested areas, wetland margins, and around manmade structures.
<i>Elaphe guttata</i>	Corn snake	Found in sandy upland habitat, including areas around manmade structures.
<i>Gopherus polyphemus</i>	Gopher tortoise	Found in coastal dunes and other well-drained soils with abundant low vegetation cover.
<i>Masticophis flagellum</i>	Eastern coachwhip	Found in coastal dunes and other open habitat with well-drained soils.
<i>Ophedrys aestivus</i>	Rough green snake	Found in a variety of habitats, including open forests and wetland margins.
<i>Terrapene carolina</i>	Florida box turtle	Found in a variety of upland and seasonally flooded habitats.

1 **Birds.** Formal bird surveys of the islands for  
2 shorebirds and forest birds have been and  
3 continue to be conducted. More than 125 species  
4 of birds have been seen throughout the years at  
5 Fort Matanzas. The park lies on the eastern  
6 flyway allowing a large number of migrating  
7 birds to be observed from February through April  
8 and again in September and October.

9  
10 Responsibilities of Federal agencies to protect  
11 migratory birds are governed by the Endangered  
12 Species Act, the Migratory Bird Treaty Act, and  
13 Executive Order 13186 (President William  
14 Jefferson Clinton, January 10, 2001). Among  
15 other requirements, EO 13186 required each  
16 Federal agency taking actions that would or could  
17 have a measurable negative effect on migratory  
18 bird populations to develop and implement a  
19 memorandum of understanding with the U.S. Fish  
20 and Wildlife Service to promote conservation of  
21 migratory bird populations. On April 12, 2010,  
22 the directors of the NPS and the Fish and Wildlife  
23 Service signed the required memorandum of  
24 understanding.

25  
26 Fort Matanzas has been selected as a stop on the  
27 Great Florida Birding Trail by the Florida Fish  
28 and Wildlife Conservation Commission. The  
29 Great Florida Birding Trail is divided into four  
30 sections: East Florida, West Florida, Panhandle  
31 Florida, and South Florida. Each Birding Trail  
32 section consists of a series of clusters, with each  
33 cluster containing 1 to 15 sites highlighting  
34 communities and special ecosystems. This 2,000-  
35 mile, self-guided highway trail connects nearly  
36 500 birding sites throughout Florida. Other  
37 Birding Trail sites in the vicinity of Fort Matanzas  
38 include Anastasia State Park, Faver-Dykes State  
39 Park, Fort Mose Historic State Park, and the  
40 Guana Tolomato Matanzas National Estuarine  
41 Research Reserve.

42  
43 Fort Matanzas is also within an area that has been  
44 designated by the Audubon Society as an  
45 Important Bird Area (IBA). Source:  
46 [http://web4.audubon.org/bird/iba/florida/IBA\\_site](http://web4.audubon.org/bird/iba/florida/IBA_site_list.htm)  
47 [\\_list.htm](http://web4.audubon.org/bird/iba/florida/IBA_site_list.htm) (Accessed 7-31-13) IBAs are sites that  
48 provide essential habitat for one or more species  
49 of birds according to criteria established by  
50 BirdLife International. Source:  
51 <http://www.birdlife.org/action/science/sites/>  
52 (Accessed 7-31-13).

53

54 Least terns (*Sternula antillarum*) nest in great  
55 numbers on the beach. The area known to be a  
56 nesting area for least terns is initially marked with  
57 flags, string, and signs. The area is expanded as  
58 needed if the birds expand their nests beyond the  
59 initial boundaries. Wilson's plovers (*Charadrius*  
60 *wilsonia*) and willets (*Tringa semipalmata*) also  
61 nest within the park. Shorebird surveys at Fort  
62 Matanzas documented at least 17 red knots  
63 (*Tringa canutus*) in 2008 and 13 red knots in  
64 2009. There have also been red knots observed in  
65 the park in 2010. The red knot is a Federal  
66 candidate for listing. The reddish egret forages on  
67 broad, barren sand or mud flats, usually in water  
68 less than six inches deep (Paul 1996).

69  
70 State-listed species of concern that have the  
71 potential to be seen at Fort Matanzas include the  
72 snowy egret (*Egretta thula*), white ibis  
73 (*Eudocimus albus*), brown pelican (*Pelecanus*  
74 *occidentalis*), and black skimmer (*Rynchops*  
75 *niger*).

76  
77 **Reptiles and Amphibians.** Herptile (both reptile  
78 and amphibian) surveys were conducted from  
79 2001-2002 and in 2009. A total of 30 species were  
80 identified on Anastasia Island (29 species) and  
81 Rattlesnake Island (18 species). Nine additional  
82 species have been identified on Anastasia Island  
83 during other systematic collections. The northern  
84 end of Rattlesnake Island and its eastern shoreline  
85 consist of white sand dunes and storm water  
86 overwash areas. The most abundant reptiles in  
87 these dunes meadows include the six-lined  
88 racerunner and the state-listed species of  
89 concern gopher tortoise (*Gopherus*  
90 *polyphemus*). The gopher tortoise is one of the  
91 most abundant reptiles within Fort Matanzas and  
92 can be found in all open dry habitats, dunes,  
93 dunes meadows, and areas between patches of  
94 forest.

95  
96 **Aquatic Resources.** The Matanzas River is  
97 considered an estuary, where salt water from the  
98 Atlantic Ocean and freshwater from the tributaries  
99 flowing into the Matanzas River mix to form  
100 brackish water. The Matanzas River supports a  
101 large number of fish, shellfish, and crustaceans.  
102 Table 13 provides a list of finfish species and  
103 marine mammals found in the Matanzas River.

1 Federally listed threatened and endangered

2 species are discussed below.

**TABLE 13. FINFISH SPECIES AND MARINE MAMMALS AT FORT MATANZAS**

Scientific Name	Common Name
<b>Finfish Species</b>	
<i>Archosargus probatocephalus</i>	Sheepshead
<i>Coryphaena hippurus</i>	Dolphin
<i>Mugil cephalus</i>	Striped mullet
<i>Mugil spp.</i>	Mullet
<i>Paralichthys spp.</i>	Flounder
<i>Pomatomus saltatrix</i>	Bluefish
<i>Sciaenops ocellatus</i>	Red drum
<i>Trachinotus carolinus</i>	Florida pompano
<b>Marine Mammals</b>	
<i>Trichechus manatus</i>	West Indian manatee
<i>Tursiops truncatus</i>	Bottlenose dolphin

1 **Finfish Species.** The Florida Fish and Wildlife  
2 Conservation Commission (FWCC) manages  
3 Florida’s fish and wildlife resources. The Fish and  
4 Wildlife Research Institute was established by  
5 Florida FWCC to monitor marine and freshwater  
6 resources, monitor wildlife habitats, and conduct  
7 research. The Matanzas River supports  
8 commercial and recreational fishing. The majority  
9 of commercial fishing in St. Johns County is  
10 performed in the vicinity of the Matanzas Inlet.  
11 Recreational anglers on St. Johns County beaches  
12 outnumber commercial fisherman. St. Augustine  
13 and Matanzas Inlets are among the most popular  
14 areas for recreational fishing.

15  
16 **Shellfish.** Shellfish thrive in estuaries and include  
17 oysters, clams, and mussels. Shellfish are filter  
18 feeders, meaning they intake large quantities of  
19 water across their gills for food and oxygen.  
20 During this process, shellfish take in bacteria,  
21 viruses, and chemical contaminants that can be  
22 stored in their digestive systems. Waters are  
23 classified for harvest of shellfish as approved,  
24 conditionally approved, restricted, conditionally  
25 restricted, prohibited, and unclassified. The  
26 Matanzas River in the vicinity of Fort Matanzas is  
27 classified by the state as a Class II conditionally  
28 approved harvesting area. A conditionally  
29 approved area is defined as an area periodically  
30 closed to shellfish harvesting based on events that  
31 may increase pollution in the harvesting area,  
32 such as rainfall or increased river flow.

33  
34 The Matanzas River at Fort Matanzas supports  
35 living oyster beds that provide a great habitat in  
36 the estuarine ecosystem. Oyster beds provide

37 many crevices for other animals to hide in, such  
38 as juvenile fish, crabs, and algae. In addition,  
39 clams and ribbed mussels reside in this area.  
40 Shellfish are harvested in the vicinity of Fort  
41 Matanzas.

42  
43 **Marine Mammals.** Two marine mammals, the  
44 federally endangered West Indian manatee  
45 (*Trichechus manatus*) and the bottlenose dolphin  
46 (*Tursiops truncatus*), are found in the Matanzas  
47 River. These marine mammals are offered federal  
48 protection under the Marine Mammal Protection  
49 Act of 1972. The Act established a moratorium on  
50 the taking or harassment of marine mammal  
51 species, and the West Indian manatee is further  
52 protected as a depleted stock under the Act.

53  
54 **Threatened and Endangered Species.** Certain  
55 species of plants and animals are protected by  
56 federal regulations under the Endangered Species  
57 Act (ESA) of 1973. The primary state law that  
58 allows and governs the listing of endangered  
59 species is the Florida State Endangered Species  
60 Act of 1976. The FWCC maintains a state list of  
61 threatened and endangered animals, and the  
62 Florida Department of Agriculture and Consumer  
63 Services maintains a list of plants. Threatened and  
64 endangered (T&E) species are those plant and  
65 animal species that are most in need of  
66 conservation efforts due to habitat loss and  
67 declining populations.

68  
69 Under Section 7[a] of the ESA, the NPS is  
70 required to consult with USFWS and National  
71 Marine Fisheries Service (NMFS) if federally  
72 protected T&E species may be present in the area

1 affected by a proposed project. NMFS and  
 2 USFWS share authority over certain federally  
 3 protected species and have total jurisdiction over  
 4 others.  
 5  
 6 This section, along with the impacts analysis for  
 7 the preferred alternative in Chapter 4 of this plan,  
 8 fulfills the NPS's obligation under Section 7 to  
 9 document federally listed species and impacts of

10 the preferred alternative on these species via an  
 11 embedded Biological Assessment.  
 12  
 13 Table 14 lists the federally protected T&E species  
 14 and depicts the federal agency associated with  
 15 each species. There are no federally listed plant  
 16 species known to occur within the park  
 17 boundaries.

**TABLE 14. FEDERALLY PROTECTED THREATENED AND ENDANGERED SPECIES**

Scientific Name	Common Name	Federal Status	Federal Agency with Jurisdiction
<b>Birds</b>			
<i>Charadrius melodius</i>	Piping plover	Threatened	USFWS
<i>Mycteria americana</i>	Wood stork	Endangered*	USFWS
<b>Mammals</b>			
<i>Peromyscus polionotus phasma</i>	Anastasia Island Beach Mouse	Endangered	USFWS
<i>Trichechus manatus latirostris</i>	West Indian (Florida) Manatee	Endangered/Critical Habitat Designated	USFWS
<b>Reptiles</b>			
<i>Caretta caretta</i>	Loggerhead Sea Turtle	Threatened	USFWS/NMFS
<i>Drymarchon corais couperi</i>	Eastern Indigo Snake	Threatened	USFWS
<i>Chelonia mydas</i>	Green sea turtle	Endangered	USFWS/NMFS
<i>Dermochelys coriacea</i>	Leatherback sea turtle	Endangered	USFWS/NMFS
<i>Lepidochelys kempii</i> turtle	Kemp's Ridley sea	Endangered	USFWS/NMFS
*The U.S. Fish & Wildlife Service has proposed to reclassify the continental United States (U.S.) breeding population of wood stork from endangered to threatened under the Endangered Species Act of 1973, as amended (Act). Source: Federal Register /Vol. 77, No. 247 /Wednesday, December 26, 2012 / Proposed Rules, page 75947.			

Source: U.S. Fish & Wildlife Service, North Florida Ecological Services Office, Federally Listed Species Website: <http://www.fws.gov/northflorida/CountyList/Johns.htm> , (Accessed 12-15-2010).

1 The park has developed the following Endangered  
 2 Species Protection Protocols/Best Management  
 3 Practices:  
 4  
 5 The park patrols the beach on a daily basis and  
 6 when injured or stranded turtles are discovered,  
 7 they are delivered to a sanctuary for rehabilitation  
 8 and ultimate re-release into the wild.  
 9  
 10 Shore Birds: Piping plovers winter in Florida  
 11 along inlets and adjacent shorelines, including  
 12 beaches and intertidal wetlands within and  
 13 contiguous to Fort Matanzas. Wood storks do not  
 14 nest on the beach but use habitats within Fort  
 15 Matanzas for loafing and foraging. The park  
 16 closes a portion of the beach from April 15  
 17 through August 31 each year. These dates are  
 18 flexible and the closure could begin earlier if nests  
 19 are discovered earlier and could end later if  
 20 nesting is still occurring.  
 21

22 Dune species (including Anastasia Island beach  
 23 mouse and eastern indigo snake): The dune  
 24 system at Fort Matanzas is closed to pedestrian  
 25 and vehicle access all year. Boardwalks provide  
 26 pedestrian access from roadside parking areas to  
 27 the beach. The conservation zone extends 15 ft.  
 28 seaward from the toe of the dune. The park patrols  
 29 the beach and monitors the dune system year  
 30 round.  
 31  
 32 **Ecologically Critical Areas.** The Endangered  
 33 Species Act of 1973, as amended, has a provision  
 34 that provides for the designation of habitat critical  
 35 to the conservation and recovery of threatened  
 36 and endangered species. Critical habitat is defined  
 37 in the ESA as a specific geographic area that  
 38 contains habitat features essential for the  
 39 conservation of a threatened or endangered  
 40 species. Designated critical habitat can include  
 41 both occupied and unoccupied habitat if the latter  
 42 is deemed necessary to the recovery of the

1 species. There is no federally designated critical  
2 habitat within Fort Matanzas boundaries.  
3  
4 The Matanzas Inlet is state designated as an active  
5 Critical Wildlife Area for the state-listed least tern  
6 from 1 April to 1 September, which is also  
7 suitable habitat for the federally listed piping  
8 plover and several other state-listed species. The  
9 designated Florida Critical Wildlife Area covers  
10 an area located within the park at the  
11 southernmost point of Anastasia Island. The park  
12 has recognized this area as an important “Least  
13 Tern Nesting Area”.

14  
15 **Designated Natural Areas.** Fort Matanzas is  
16 situated within the boundaries of the Guana  
17 Tolomato Matanzas (GTM) Reserve, which is  
18 part of the National Estuarine Research Reserve  
19 System. This system is a network of protected  
20 areas established for long-term research and  
21 education. The GTM Reserve encompasses  
22 approximately 55,000 acres and includes salt  
23 marsh habitats, mangrove tidal wetlands, oyster  
24 bars, estuarine lagoons, and upland habitats. The  
25 reserve is separated into a northern and southern  
26 section, and Fort Matanzas is located in the  
27 southern section of the reserve. The Matanzas  
28 River from Moses Creek to south of Pellicer  
29 Creek is included in the reserve. The Matanzas  
30 Inlet, located within the GTM Reserve, is one of  
31 the last natural, unaltered inlets on Florida’s  
32 Atlantic coast.

33  
34 **Soundscape.** Current noise sources in the  
35 surrounding area are predominantly the result of  
36 human activities. These activities include traffic  
37 from the local roadways (Highway A1A), boating

38 traffic along the Matanzas River, including the  
39 ferry operating at Fort Matanzas, and human  
40 recreational activities in the vicinity of Fort  
41 Matanzas. A secondary source of sound in the  
42 vicinity of the site is natural and includes calls  
43 from birds and other wildlife, wind, and surf.  
44  
45 **HUMAN ENVIRONMENT**  
46  
47 **Recreation.** Fort Matanzas offers a variety of  
48 recreational activities throughout the park,  
49 including bird watching, boating, fishing,  
50 kayaking, nature walks, swimming, and wildlife  
51 viewing. The park offers a 0.5-mile self guided  
52 nature trail on a boardwalk through a coastal  
53 maritime forest and through the dunes to a beach  
54 overlook. Fishing is permitted along the shoreline  
55 of the Matanzas River. No license is required for  
56 Florida residents or children under the age of 16.  
57 In addition, boating using powered boats or  
58 canoes/kayaks is permitted on the Matanzas  
59 River. Walking along the river shoreline,  
60 watching for wading birds and crabs, is also one  
61 of the recreational uses for the park. Fort  
62 Matanzas offers excellent bird watching; it has  
63 been selected as a stop on the Great Florida  
64 Birding Trail. The park also offers guided boat  
65 tours to the fort on the Matanzas Queen ferryboat.  
66  
67 **Demographics, Income and Ethnic**  
68 **Composition.** According to U.S. Census  
69 estimates as of 2009, the population of St. Johns  
70 County was 187,436. The median household  
71 income for St. Johns County was \$67,238.  
72 Persons below the poverty level were 7.9%. The  
73 composition of the county is provided in Table  
74 15.  
75  
76



**Fort Matanzas - 1934 - Historic American Buildings Survey Photo**

**TABLE 15. POPULATION COMPOSITION OF ST. JOHNS COUNTY AND THE STATE OF FLORIDA.**

<b>Category</b>	<b>St. Johns County</b>	<b>Florida</b>
Population, percent change, April 1, 2000 to July 1, 2009	52.2%	16.0%
Persons under 5 years old, percent, 2008	5.5%	6.2%
Persons under 18 years old, percent, 2008	20.6%	21.8%
Persons 65 years old and over, percent, 2008	14.8%	17.4%
Female persons, percent, 2008	50.9%	50.9%
White persons, percent, 2008	90.1%	79.8%
Black persons, percent, 2008	6.4%	15.9%
American Indian and Alaska Native persons, percent, 2008 (a)	0.2%	0.5%
Asian persons, percent, 2008	2.0%	2.3%
Persons reporting two or more races, percent, 2008	1.1%	1.4%
Persons of Hispanic or Latino origin, percent, 2008	4.7%	21.0%
White persons not Hispanic, percent, 2008	85.7%	60.3%

1 **Aesthetics.** The aesthetic nature of the area  
 2 surrounding Fort Matanzas is well preserved as  
 3 most of the surrounding lands have been set aside  
 4 for conservation and open space. There are  
 5 several residences across the Matanzas River from  
 6 the fort on Anastasia Island, and a waterfront  
 7 community called Summer Haven is located south  
 8 of Rattlesnake Island on the south side of the  
 9 bridge that crosses the Matanzas Inlet. These  
 10 residences, the bridge, and several other man-  
 11 made structures are visible from the fort.  
 12 Currently within Fort Matanzas, aesthetic  
 13 resources are in good condition. The grounds are  
 14 maintained daily throughout the park.

15  
 16 **Public Health and Safety.** The number of  
 17 parking areas and spaces available for visitors  
 18 going to the ocean beach on Anastasia Island as  
 19 well as the shore of the western side of the island  
 20 on the Matanzas River is inadequate on many  
 21 summer weekends. The three available parking  
 22 areas frequently fill up early and visitors park on  
 23 the shoulders of Highway A1A, which bisects the  
 24 Anastasia Island section of the park. Beach users  
 25 also park in the visitor center parking lot which is  
 26 intended for visitors desiring to take the boat to  
 27 the fort on Rattlesnake Island. On most summer  
 28 weekends the parking lots on the east and west  
 29 sides of Highway A1A fill early and parking on  
 30 the shoulders of the road creates dangerous  
 31 conditions for both pedestrians and drivers.

32  
 33

34 Some visitors to Fort Matanzas National  
 35 Monument may be unaware of dangers presented  
 36 by a Florida barrier island environment. Although  
 37 the NPS attempts to inform visitors of dangers  
 38 through signs, bulletin boards, brochures, and  
 39 individual contacts, the National Monument  
 40 continues to present a variety of hazards. These  
 41 include the possibility of drownings and near  
 42 drownings as a result of rough surf conditions,  
 43 strong ocean currents, and rip tides; getting struck  
 44 by sudden lightning storms (central Florida  
 45 receives more lightning strikes than any other  
 46 section of North America); sunburn and heat  
 47 stroke/exhaustion; and jellyfish/Portuguese man-  
 48 of-war stings (in the ocean surf).

49  
 50 **Visitor Use and Experience.** Fort Matanzas  
 51 consists of 298 acres on Anastasia and  
 52 Rattlesnake Islands north of Matanzas Inlet where  
 53 the NPS owns and manages both oceanfront and  
 54 riverfront property. Most of the parkland on  
 55 Anastasia Island is accessible to the public.  
 56 Anastasia Island includes the entrance to the park,  
 57 visitor center, boardwalk, picnic area, and parking  
 58 lots. A majority of the land on Rattlesnake Island  
 59 is closed to the public. Fort Matanzas is open to  
 60 the public from 9 am to 5:30 pm every day of the  
 61 year, except December 25. There are no fees to  
 62 enter the park or to take the ferry to the fort. Fort  
 63 Matanzas currently has approximately 56,000  
 64 visitors annually that use the ferry to see the fort;  
 65 however, other areas of the park, including the  
 66 beach on Anastasia Island, receive close to one

1 million visitors annually. The number of visitors  
2 is highest March through Labor Day and during  
3 the December holidays. Visitation is at its lowest  
4 from mid-September through mid-November. The  
5 park is busiest on holiday weekends throughout  
6 the year. There is a small visitor center, open from  
7 9 am until 4:30 pm, which offers displays, an 8-  
8 minute video, and various books and materials for  
9 sale. Park staff offer 45 minute guided boat tours  
10 to the fort. Other features available for visitor use  
11 include nature trails and beaches, and special  
12 programs are frequently offered, such as living  
13 history and guided nature walks.

14  
15 **Park Operations.** This section describes the  
16 existing conditions related to park operations and  
17 administration. Most of the operations necessary  
18 to manage the park occur on Anastasia Island, as  
19 there are few daily operations related to  
20 maintaining the dock and fort structures on  
21 Rattlesnake Island.

22  
23 **Utilities** – The park has 2 dumpsters, 1 recycle  
24 dumpster, no septic systems, 1 hydrant, 1 test well  
25 (drilled by state agency St. John River Water  
26 Management District), 1 county supplied water  
27 and sewer system. The maintenance complex is  
28 1860 sq. ft. and consists of a workshop and 5

29 equipment storage bays. There are no utilities or  
30 roads currently located on Rattlesnake Island.

31  
32 **Personnel** – Fort Matanzas has 1 STEP (Student  
33 Temporary Employment Program) position, 2  
34 part-time, 3 permanent subject to furlough and 3  
35 full-time. The capacity of the ferry is 35 (new  
36 USCG weight rules reduced the total capacity of  
37 the ferry). The fort is limited to 70 people  
38 maximum per tour. There are 8 total maintenance  
39 personnel, 1 is assigned to Fort Matanzas the  
40 others assigned on a project by project basis or  
41 when the regular maintenance person is on lieu  
42 days. The park operation is supplemented by 4  
43 four-hour volunteer shifts each day. There are  
44 approximately 50 volunteers on the Fort Matanzas  
45 roster.

46  
47 **Parking** – There are currently four parking lots  
48 available at Fort Matanzas. Near the north end of  
49 the park boundary on Anastasia Island, there is a  
50 lot on the west side of Highway AIA that provides  
51 parking primarily for visitors to the fort. On the  
52 east side, there is a lot for visitors to the beach.  
53 There are also two parking lots in the mid portion  
54 of the park boundary on Anastasia Island, just off  
55 Highway AIA. The east side lot is used mostly by  
56 visitors to the beach and the west side lot is used  
57 mostly by visitors to the beach and the river.



**Fort Matanzas Interpretive Program**

## CHAPTER 4 – ENVIRONMENTAL CONSEQUENCES

### 1 INTRODUCTION

2  
3 The National Environmental Policy Act requires  
4 that environmental documents discuss the  
5 environmental impacts of a proposed federal  
6 action, feasible alternatives to that action, and any  
7 adverse environmental effects that cannot be  
8 avoided if the proposed action is implemented. In  
9 this case the proposed federal action would be the  
10 adoption of a general management plan for Fort  
11 Matanzas National Monument. The following  
12 portion of this document analyzes the  
13 environmental impacts of implementing each of  
14 the three alternatives on natural resources, cultural  
15 resources, transportation, visitor experience,  
16 socioeconomic environment, soundscape, and  
17 park operations. The analysis is the basis for  
18 comparing the beneficial and adverse effects of  
19 implementing the three alternatives. By examining  
20 the environmental consequences of all alternatives  
21 on an equivalent basis, decision-makers can  
22 evaluate which approach would provide the  
23 greatest beneficial results with the fewest adverse  
24 effects on the park.

25  
26 Because of the general, conceptual nature of the  
27 actions described in the alternatives, the impacts of  
28 these actions are analyzed in general qualitative  
29 terms. Thus, this environmental impact statement  
30 should be considered a programmatic analysis. If  
31 and when site-specific developments or other  
32 actions are proposed for implementation  
33 subsequent to this *General Management Plan*,  
34 appropriate detailed environmental and cultural  
35 compliance documentation will be prepared in  
36 accordance with requirements of NEPA and the  
37 NHPA as well as the Coastal Barrier Resources  
38 Act and the Florida Coastal Management  
39 Program.

40  
41 This chapter begins with a description of the  
42 methods and assumptions used for analyzing  
43 impacts. The impact analyses follow next,  
44 organized by alternative and then by impact topic  
45 under each alternative. All of the impact topics  
46 are assessed for each alternative. The existing  
47 conditions for each impact topic are described in  
48 Chapter 3 (“Affected Environment”). For each  
49 impact topic, there is an analysis of the beneficial

50 and adverse effects of implementing the  
51 alternative, a description of cumulative impacts  
52 (in which this plan is considered in conjunction  
53 with other actions occurring in the region), and a  
54 conclusion. At the end of each alternative there is  
55 also a brief discussion of unavoidable adverse  
56 impacts, irreversible and irretrievable  
57 commitments of resources, and the relationship of  
58 short-term uses of the environment and the  
59 maintenance and enhancement of long-term  
60 productivity. The impacts of each alternative are  
61 briefly summarized in Table 6, in Chapter 2  
62 (“Alternatives, Including the Preferred  
63 Alternative”).

### 64 65 METHODS AND ASSUMPTIONS FOR 66 ANALYZING IMPACTS

67  
68 The planning team based the impact analysis and  
69 the conclusions in this chapter largely on a review  
70 of existing literature and studies, information  
71 provided by experts in the NPS and other agencies,  
72 and park staff insights and professional judgment.  
73 It is important to remember that all the impacts  
74 have been assessed assuming mitigation measures  
75 have been implemented to minimize or avoid  
76 impacts. If mitigation measures described in  
77 Chapter 2 (“Alternatives Including the Preferred  
78 Alternative”) were not applied, the potential for  
79 resource impacts and the magnitude of those  
80 impacts would increase.

81 The NPS applied logic, experience, professional  
82 expertise, and professional judgment to analyze  
83 the impacts that each alternative would have on  
84 the socioeconomic environment. Economic data,  
85 historic visitor use data, expected future visitor  
86 use, and projected future expenditures at Fort  
87 Matanzas National Monument were all considered  
88 in identifying, discussing, and evaluating  
89 expected impacts.

### 90 91 Identification of Impacts

92  
93 *NPS Director’s Order 12 and Handbook:*  
94 *Conservation Planning, Environmental Impact*  
95 *Analysis, and Decision Making* presents an  
96 approach to identifying the impacts of a particular  
97 alternative. The analysis considers the duration

1 (short or long-term), type (adverse, beneficial, or  
2 neutral), context (the setting within which an effect  
3 would occur), and intensity or magnitude (e.g.,  
4 negligible, minor, moderate, or major) of impacts.  
5 This is the approach that has been used in this  
6 document. Where quantitative data were not  
7 available, best professional judgment was used to  
8 identify impacts.

9  
10 Unless otherwise described under a specific  
11 impact topic, the **duration** of an impact is defined  
12 as follows:

13  
14 *Short-Term* – Impacts that would last less than  
15 one year and could be *temporary* in nature.

16 *Long-Term* – Impacts that would last one year or  
17 longer and could be *permanent*.

18  
19 Impacts are evaluated by **type**, i.e., whether the  
20 impacts would be *beneficial, adverse, or neutral*.  
21 Beneficial impacts would improve park resources,  
22 the visitor experience, or park operations.  
23 Adverse impacts would negatively affect park  
24 resources, the visitor experience, or park  
25 operations. Neutral impacts would be virtually  
26 undetectable or would be equally adverse and  
27 beneficial.

28  
29 *Direct and indirect* impacts caused by an action are  
30 considered in the analysis. Direct impacts are  
31 caused by an action and occur at the same time and  
32 place as the action. Indirect impacts are caused by  
33 the action and occur later in time or farther  
34 removed from the place, but are still reasonably  
35 foreseeable.

36  
37 The analysis also considers the **setting** of impacts  
38 for each impact topic. Unless otherwise indicated,  
39 the setting for each impact topic is Rattlesnake and  
40 Anastasia islands, together with surrounding  
41 waters.

42  
43 In this document, the definition of impact  
44 **intensity** varies by impact topic. Individual  
45 intensity definitions can be found in Table 16  
46 below.

## 47 **CLIMATE CHANGE**

48  
49  
50 The impacts of climate change on the National  
51 Monument are not expected to differ among the  
52 alternatives, and the lack of quantitative  
53 information about climate change effects adds to

54 the difficulty of predicting how these impacts will  
55 be realized within the boundaries of Fort  
56 Matanzas National Monument. For example,  
57 dunes, dune vegetation, and nesting shorebirds  
58 and sea turtles may be impacted by sea level rise,  
59 and storm frequency and intensity may impact the  
60 Fort Matanzas structure itself as well as other  
61 cultural resources and visitor facilities.

62  
63 The range of variability in the potential effects of  
64 climate change is large in comparison to what is  
65 known about the future under an altered climate  
66 regime in the National Monument in particular,  
67 even if larger-scale climatic patterns such as  
68 increases in air and water temperature, increased  
69 seasonal precipitation, and more frequent severe  
70 thunderstorms have been accurately predicted for  
71 the Atlantic Coast (Loehman and Anderson  
72 2009). Therefore, the potential effects of this  
73 dynamic climate on National Monument  
74 resources were included in “Chapter 3, Affected  
75 Environment.” However, they will not be  
76 analyzed in detail in “Chapter 4, Environmental  
77 Consequences” with respect to each alternative  
78 because of the uncertainty and variability of  
79 outcomes, and because these impacts are not  
80 expected to differ among the alternatives.

81  
82 Although many specific effects of climate change,  
83 and the rates of changes, are not known at the  
84 present time, additional data and climate change  
85 modeling will become available during the life of  
86 this *General Management Plan*. The best  
87 available scientific climate change data and  
88 modeling will be incorporated into specific  
89 management planning, decisions, or actions that  
90 may be taken under any of the alternatives  
91 described in this plan.

## 92 **IMPACT TOPICS**

93  
94  
95 The following impact topics are addressed in this  
96 environmental impact statement:

### 97 **Cultural Resources**

98  
99  
100 **Method for Assessing Effects on Cultural**  
101 **Resources.** This environmental impact statement  
102 addresses the effects of the three plan alternatives  
103 on cultural resources – archeological sites,  
104 cultural landscapes, ethnographic resources,  
105 historic and prehistoric structures, and museum  
106 collections – that are proposed by actions in this

1 General Management Plan. The method for  
2 assessing effects on cultural resources is designed  
3 to comply with the requirements of both NEPA  
4 and Section 106 of the NHPA, and with  
5 implementing regulations 40 CFR 1500 and 36  
6 CFR 800, respectively, while considering the  
7 differences between NEPA and NHPA language  
8 and recognizing that compliance with one does  
9 not automatically mean compliance with the  
10 other. Accordingly, the assessment of effects  
11 discusses the following characteristics of effects:

- 12 • Direct and indirect effects
- 13 • Duration of the effect (short-term, long-  
14 term)
- 15 • Context of the effect (site-specific, local,  
16 regional)
- 17 • Intensity of the effect (negligible, minor,  
18 moderate, major, both adverse and  
19 beneficial)
- 20 • Cumulative nature of the effect

21 In accordance with 36 CFR 800, the regulations  
22 implementing Section 106 of NHPA, effects on  
23 cultural resources are identified and evaluated by:

- 24 • Determining the area of potential effect  
25 (APE) [800.4(a)]
- 26 • Identifying historic properties in the APE  
27 that are listed in or eligible for listing in the  
28 National Register of Historic Places  
29 [800.4(b)-(c)]. The results are either:
  - 30 ○ *No historic properties affected* – either  
31 there are no historic properties present or  
32 there are historic properties present but  
33 the undertaking will have no effect upon  
34 them [800.4(d)(1)]; or
  - 35 ○ *Historic properties affected* – there are  
36 historic properties that may be affected  
37 by the undertaking [800.4(d)(2)].
- 38 • Applying the criteria of adverse effect to  
39 affected historic properties in the area of  
40 APE [800.5.(a)(1)], as follows:

53  
54  
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- An *adverse effect* is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner than would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property’s eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative. [examples of adverse effect are provided in 800.5(a)(2)]
- A finding of *no adverse effect* is found when the undertaking’s effects do not meet the criteria of 800.5(a)(1) [800.5.(b)].
- Considering ways to avoid, minimize, or mitigate or otherwise resolve adverse effects. The following are considered:
  - Consultation with the SHPO/THPO and others to develop and evaluate strategies to mitigate adverse effects [800.6].
  - CEQ regulations and Director’s Order 12 call for the discussion of mitigating impacts and an analysis of how effective the mitigation would be in reducing the intensity of an impact, such as reducing it from moderate to minor intensity. Any resultant reduction in impact intensity is, however, an estimate of the effectiveness of mitigation under NEPA only.
  - Such reduction in impact intensity does not suggest that the level of effect as defined by Section 106 and 36 CFR 800 is similarly reduced. Cultural resources are non-renewable resources and adverse effects generally consume, diminish, or destroy the original historic materials or form, resulting in a loss of integrity that

1 can never be recovered. Therefore,  
2 although actions determined to have an  
3 adverse effect under Section 106 and 36  
4 CFR 800 may be mitigated, the effect  
5 remains adverse.

6  
7 A Section 106 Summary is included in the impact  
8 analysis sections. The Section 106 summary  
9 provides an assessment of effect of the  
10 undertaking (implementation of the alternative),  
11 on historic properties, based on the Section 106  
12 regulations cited above.

13  
14 Definitions for impact intensity for archeological  
15 resources, cultural landscapes, ethnographic  
16 resources, historic and prehistoric structures, and  
17 museum collections are provided in Table 16  
18 below.

## 19 **Natural Resources**

20  
21 The natural resource impact topics analyzed in  
22 this document are *climate, soils and geologic*  
23 *resources, plant communities and vegetation, fish*  
24 *and wildlife, water quality, floodplains, wetlands,*  
25 *and soundscape*. Information about known  
26 resources was compiled and compared with the  
27 locations of proposed developments and other  
28 actions. The impact analysis was based on the  
29 knowledge and best professional judgment of  
30 planners and biologists; data from park records;  
31 and studies of similar actions and effects, when  
32 applicable. The planning team qualitatively  
33 evaluated the intensities of effects on all the  
34 natural resource impact topics.

35  
36 Definitions of impact intensity as regards climate,  
37 soils/geologic resources, plant  
38 communities/vegetation, fish and wildlife, water  
39 quality, floodplains, wetlands, and soundscape are  
40 set forth in Table 16.

## 41 **Visitor Use and Experience**

42  
43  
44 This impact analysis considers various aspects of  
45 visitor use and experience at Fort Matanzas  
46 National Monument, including the effects on: the  
47 range of recreational opportunities; opportunities  
48 for solitude and getting in touch with nature;  
49 visitor access including access for visitors with  
50 disabilities; opportunities for orientation,  
51 education, and interpretation; and visitor safety.  
52 The analysis is primarily qualitative rather than

53 quantitative due to the conceptual nature of the  
54 alternatives.

55 Impacts on visitor use and experience were  
56 determined considering the best available  
57 information regarding visitor use and experience.  
58 Information on visitor use and visitor opinions  
59 was taken from data in park files. This  
60 information was supplemented by data gathered  
61 during the planning process for this management  
62 plan, including opinions from National Monument  
63 visitors and neighbors and information provided  
64 by National Monument staff. Definitions of  
65 impact intensity as regards visitor use and  
66 experience are set forth in Table 16

## 67 **Socioeconomic Environment**

68  
69 Fort Matanzas National Monument primarily  
70 operates within the local social and economic  
71 environment of St. Augustine and the surrounding  
72 communities and regionally within St. Johns  
73 County and the surrounding counties (Clay,  
74 Flagler, and Putnam). As a result, actions  
75 proposed in the alternatives could have a direct  
76 effect on some parts of the social and economic  
77 environment of the region. In the socioeconomic  
78 analysis, the duration of effects is considered to  
79 be either short-term (lasting less than one year), or  
80 long-term (lasting more than one year). Long-  
81 term effects could be considered as a permanent  
82 change in conditions. Definition of impact  
83 intensity as regards the socioeconomic  
84 environment is set forth in Table 16.

## 85 **Transportation**

86  
87  
88 None of the alternatives addressed in this GMP  
89 would change transportation patterns on park  
90 roads to any significant degree. However, the  
91 continuation of a ban on beach driving as with  
92 Alternatives A and B could contribute to  
93 congestion in off-beach parking lots, illegal  
94 parking, and generally a strain on circulation  
95 within the park. Definition of impact intensity as  
96 regards transportation projects are set forth in  
97 Table 16.

## 98 **NPS Operations and Management**

99  
100  
101 The impacts of the alternatives on park operations  
102 and facilities were determined by examining the

- 1 effects and changes on staffing, infrastructure,
- 2 visitor facilities, and services.
- 3
- 4 Definition of impact intensity as regards NPS
- 5 operations and management are set forth in Table
- 6 16.
- 7



**Fort Matanzas – West Face – 1934 Historic American Buildings Survey Photo**

**TABLE 16: IMPACT THRESHOLD DEFINITIONS**

<b>Impact Topic</b>	<b>Negligible</b>	<b>Minor</b>	<b>Moderate</b>	<b>Major</b>
<b>CULTURAL RESOURCES</b>				
<b>Archeological Resources</b>	The effect would be at the lowest levels of detection, barely measurable, with no perceptible consequences, either adverse or beneficial, to the resources. The Section 106 determination would be <i>no adverse effect</i> .	The effect is measurable or perceptible, but it is slight and affects a limited area of a site or group of sites. Slight alteration(s) to any of the characteristics that qualify the site(s) for inclusion in the National Register may diminish the integrity of the site(s). For purposes of Section 106, the determination of effect would be <i>adverse effect</i> .	The effect is measurable and perceptible. The effect changes one or more of the characteristics that qualify the site(s) for inclusion in the National Register and diminishes the integrity of the site(s), but does not jeopardize the National Register eligibility of the site(s). For purposes of Section 106, the determination of effect would be <i>adverse effect</i> .	The effect on the archeological site or group of sites is substantial, noticeable, and permanent. The action severely changes one or more characteristics that qualify the site(s) for inclusion in the National Register, diminishing the integrity of the site(s) to such an extent that it is no longer eligible for listing in the National Register. For purposes of Section 106, the determination of effect would be <i>adverse effect</i> .
<b>Museum Collections</b>	The effect would be at the lowest levels of detection, barely perceptible, with no measurable consequences, either adverse or beneficial, to the collections. The Section 106 determination would be <i>no adverse effect</i> .	The effect is measurable or perceptible, but it is slight and affects the integrity of a few items in the museum collection, but would not degrade the usefulness of the collection for future research and interpretation. Slight alteration to any of the characteristics of the collection that qualify its related resource for inclusion in the National Register may diminish the integrity of the resource and its related collection. For purposes of Section 106, the determination of effect would be <i>adverse effect</i> .	The effect is measurable and perceptible, and would affect the integrity of many items in the collection and diminish the usefulness of the collection for future research and interpretation. The effect changes one or more of the characteristics of the collection that qualify its related resource for inclusion in the National Register and diminishes the integrity of the resource and its related collection, but does not jeopardize the National Register eligibility of the resource related to the collection. For purposes of Section 106, the determination of effect would be <i>adverse effect</i> .	The effect on the collection is substantial, noticeable, and permanent, and would affect the integrity of most items in the collection and destroy the usefulness of the collection for future research and interpretation. The action severely changes one or more characteristics of the collection that qualify its related resource for inclusion in the National Register, diminishing the integrity of the resource and its related collection to such an extent that the resource is no longer eligible for listing in the National Register. For purposes of Section 106, the determination of effect would be <i>adverse effect</i> .
<b>Historic Structures</b>	The effect would be at the lowest levels of	The effect is measurable or	The effect is measurable and	The effect on the structure or group of

Impact Topic	Negligible	Minor	Moderate	Major
	detection, barely measurable, with no perceptible consequences, either adverse or beneficial, to the resources. The Section 106 determination would be <i>no adverse effect</i> .	perceptible, but it is slight and affects a limited area of a structure or group of structures. Slight alteration(s) to any of the characteristics that qualify the structure(s) for inclusion in the National Register may diminish the integrity of the structure(s). For purposes of Section 106, the determination of effect would be <i>adverse effect</i> .	perceptible. The effect changes one or more of the characteristics that qualify the structure(s) for inclusion in the National Register and diminishes the integrity of the structure(s), but does not jeopardize the National Register eligibility of the structure(s). For purposes of Section 106, the determination of effect would be <i>adverse effect</i> .	structures is substantial, noticeable, and permanent. The action severely changes one or more characteristics that qualify the structure(s) for inclusion in the National Register, diminishing the integrity of the structure(s) to such an extent that it is no longer eligible for listing in the national Register. For purposes of Section 106, the determination of effect would be <i>adverse effect</i> .
<b>Cultural Landscapes</b>	The effect would be at the lowest levels of detection, barely measurable, with no perceptible consequences, either adverse or beneficial, to the resources. The Section 106 determination would be <i>no adverse effect</i> .	The effect is measurable or perceptible, but it is slight and affects a limited area of the landscape or few of its patterns or features. Slight alteration(s) to any of the characteristics that qualify the landscape for inclusion in the National Register may diminish the integrity of the landscape. For purposes of Section 106, the determination of effect would be <i>adverse effect</i> .	The effect on the patterns and features of the landscape is measurable and perceptible. The effect changes one or more of the characteristics that qualify the landscape for inclusion in the National Register and diminishes the integrity of the landscape, but does not jeopardize the landscape's National Register eligibility. For purposes of Section 106, the determination of effect would be <i>adverse effect</i> .	The effect on the cultural landscape, its patterns and features, is substantial, noticeable, and permanent. The action severely changes one or more characteristics that qualify the landscape for inclusion in the National Register, diminishing the landscape's integrity to such an extent that it is no longer eligible for listing in the national Register. For purposes of Section 106, the determination of effect would be <i>adverse effect</i> .
<b>NATURAL RESOURCES</b>				
<b>Geology and Soils</b>	The action would result in a change in soils or a geologic feature but the change would be at the lowest level of detection, or not measurable.	The action would result in a detectable change, but the change would be slight and local. Soils or geologic resources might be slightly altered in a way that would be noticeable. There could be changes in a soil's profile in a relatively small area, but the change would not	The action would result in a clearly detectable change in soils or geologic processes – soils would be obviously altered, or a few features would show changes. There could be a loss or alteration of the topsoil in a small area, or the potential for erosion to remove small quantities of	The action would result in the permanent loss of an important soil or geologic resource or there would be highly noticeable, widespread changes in many soils or features. There would be a permanent loss or alteration of soils or geologic resources in a relatively large area, or there

Impact Topic	Negligible	Minor	Moderate	Major
		appreciably increase the potential for erosion.	additional soil would increase.	would be a strong likelihood for erosion to remove large quantities of additional soil as a result of the action.
<b>Plant Communities and Vegetation (including Exotic/Non-native Plants)</b>	The action might result in a change in vegetation, but the change would not be measurable or would be at the lowest level of detection.	The action might result in a detectable change, but the change would be slight. This could include changes in the abundance, distribution, or composition of individual species in a local area, but would not include changes that would affect the viability of vegetation communities. Changes to local ecological processes would be minimal.	The action would result in a clearly detectable change in a vegetation community and could have an appreciable effect. This could include changes in the abundance, distribution, or composition of nearby vegetation communities, but would not include changes that would affect the viability of plant populations in the park. Changes to local ecological processes would be of limited extent.	The action would be severely adverse to a vegetation community. The impacts would be substantial and highly noticeable, and they could result in widespread change. This could include changes in the abundance, distribution, or composition of a nearby vegetation community or plant populations in the park to the extent that the population would not be likely to recover. Key ecological processes would be altered, and "landscape-level" (regional) changes would be expected.
<b>Fish and Wildlife</b>	The action might result in a change, but the change would not be measurable or would be at the lowest level of detection.	The action might result in a detectable change, but the change would be slight and have a local effect on population. This could include changes in the abundance or distribution of individual in a local area, but not changes that would affect the viability of local populations. Changes to local ecological processes would be minimal.	The action would result in a clearly detectable change in a population and could have an appreciable effect. This could include changes in the abundance or distribution of local populations, but not changes that would affect the viability of regional populations. Changes to local ecological processes would be of limited extent.	The action would be severely adverse to a population. The effects would be substantial and highly noticeable, and they could result in widespread change and be permanent. This could include changes in the abundance of or distribution of a local or regional population to the extent that the population would not be likely to recover. Important ecological processes would be altered, and "landscape-level" (regional) changes would be expected.

<b>Impact Topic</b>	<b>Negligible</b>	<b>Minor</b>	<b>Moderate</b>	<b>Major</b>
<b>Water Quality</b>	The action would have no measurable or detectable effect on water quality or the timing and intensity of flows.	The action would have measurable effects on water quality or the timing or intensity of flows. Water quality effects could include increased or decreased loads of sediment, debris, chemical or toxic substances, or pathogenic organisms.	The action would have clearly detectable effects on water quality or the timing or intensity of surface water flows and potentially would affect organisms or natural ecological processes. The impact would be visible to visitors.	The action would have substantial effects on water quality or the timing or intensity of surface water flows and potentially would affect organisms or natural ecological processes. The impact would be easily visible to visitors.
<b>Floodplains</b>	Impacts would occur outside the regulatory floodplain as defined by the <i>Floodplain Management Guideline</i> (100-year or 500-year floodplain, depending on the type of action), or no measurable or perceptible change in natural hydrologic processes or aquatic habitat would occur.	Actions in the regulatory floodplain would potentially interfere with or improve natural hydrologic processes or aquatic habitat in a limited way or in a localized area. Levee maintenance that would protect development areas from flooding and road and trail construction that would alter natural sheet flow are example actions that would have minor adverse impacts.	Actions within the regulatory floodplain would interfere with or enhance river processes or aquatic habitat in a substantial way or in a large area. Examples of moderate adverse impacts would include modification of natural watercourses or canals in multiple locations or development of small-scale recreational facilities in the floodplain.	An action would greatly alter or improve a floodplain, natural hydrologic process, or aquatic habitat. Examples of major adverse impacts would include substantial modification of natural watercourses or canals in multiple locations or development of facilities in the floodplain.
<b>Wetlands</b>	No measurable or perceptible changes in wetland size, integrity, or continuity would occur.	The impact would be measurable or perceptible, but slight. A small change in size, integrity or continuity could occur due to indirect effects such as storm water related runoff. However, the overall viability of the resource would not be affected.	The impact would be sufficient to cause a measurable change in the size, integrity or continuity of the wetland or would result in a small, but permanent, loss or gain in wetland acreage.	The action would result in a measurable change in all three parameters (size, integrity, and continuity) or a permanent loss of large wetland areas. The impact would be substantial and highly noticeable.
<b>VISITOR USE AND EXPERIENCE</b>				
<b>Visitation of Historic Sites / Recreational Activities</b>	Visitors would likely be unaware of any effects associated with implementation of the alternative. There would be no noticeable changes in visitor use and/or experience or in any defined indicators of visitor satisfaction or behavior.	Changes in visitor use and/or experience would be slight but detectable, but would not appreciably diminish or enhance critical characteristics of the visitor experience. Visitor satisfaction would remain stable.	Few critical characteristics of the desired visitor experience would change and/or the number of participants engaging in an activity would be altered. The visitor would be aware of the effects associated with implementation of the	Multiple critical characteristics of the desired visitor experience would change and/or the number of participants engaging in an activity would be greatly reduced or increased. The visitor would be aware of the effects associated with

Impact Topic	Negligible	Minor	Moderate	Major
			alternative and would likely be able to express an opinion on the changes. Visitor satisfaction would begin to either decline or increase as a direct result of the effect.	implementation of the alternative and would likely express a strong opinion about the change. Visitor satisfaction would markedly decline or increase.
<b>SOCIOECONOMIC ENVIRONMENT</b>				
<b>Local Economy</b>	The effect would be below detectable levels or detectable only through direct means, with no discernable effect on the character of the social and economic environment.  Effects identified as neutral would be actions that do not produce any changes at all to the social and economic environment.	The effect would be detectable but limited in geographic extent or size of population affected and not expected to alter the character of the established social and economic environment.	The effect would be readily detectable across a broad geographic area or segment of the community and could have an appreciable effect on the social and economic environment.	The effect would be readily apparent, affect a large segment of the population across the entire community and region, and would have substantial effect on the social and economic environment.
<b>NPS OPERATIONS AND MANAGEMENT</b>				
<b>NPS Operations and Management</b>	The effect would be at or below the level of detection, and would not have an appreciable effect on park operations and management.	The effects would be detectable, but would be of a magnitude that would not have an appreciable effect on park operations and management.	The effects would result in a change in park operations and management in a manner readily apparent to staff and possibly to the public.	The effects would result in a substantial and widespread change in park operations and management in a manner readily apparent to staff and the public.
<b>Transportation</b>	The impact on transportation patterns would be barely perceptible, not measurable.	The impact on transportation patterns would be perceptible and measurable.	The impact on transportation patterns would be clearly detectable and could have an appreciable effect.	The impact on transportation patterns would have a substantial, highly noticeable influence on a regional scale.

1 **CUMULATIVE IMPACT ANALYSIS**  
2  
3 A cumulative impact is described in the Council on  
4 Environmental Quality's regulation 1508.7 as  
5 follows:  
6  
7 *Cumulative impacts* are incremental impacts  
8 of the action when added to other past,  
9 present, and reasonably foreseeable future  
10 actions regardless of what agency (federal or  
11 nonfederal) or person undertakes such other  
12 action. Cumulative impacts can result from  
13 individually minor, but collectively

14 significant, actions taking place over a  
15 period of time.  
16  
17 To determine potential cumulative impacts, other  
18 projects within and surrounding Fort Matanzas  
19 National Monument were identified. Fort  
20 Matanzas is located in St. John's County, 14 miles  
21 south of the city of St. Augustine on the northeast  
22 Atlantic coast of Florida. It encompasses a total  
23 of 313 acres divided between the tip of Anastasia  
24 Island (138 acres) and the northern third of  
25 Rattlesnake Island (175 acres). Both Anastasia  
26 and Rattlesnake Islands are barrier islands that are  
27 separated from the Florida mainland. The

1 Matanzas River passes between the two islands  
2 and the Intracoastal Waterway (ICW) is located  
3 west of Rattlesnake Island. Fort Matanzas is  
4 located on Rattlesnake Island. This entire area is  
5 included in the project area of consideration for  
6 cumulative impacts. Projects were identified via  
7 discussions with park staff and representatives of  
8 county and city governments. Potential projects  
9 identified as cumulative actions included any past  
10 activities and any planning or development  
11 activity that was currently being implemented, or  
12 that would be implemented in the reasonably  
13 foreseeable future.

14  
15 These past, current, and reasonably foreseeable  
16 actions are evaluated in conjunction with the  
17 impacts of each alternative to determine if they  
18 have any cumulative effects on a particular  
19 natural, cultural, or socioeconomic resource or  
20 visitor use. The qualitative evaluation of  
21 cumulative impacts was based on a general  
22 description of the project.

### 23 24 **Past, Current, and Foreseeable** 25 **Actions That Could Contribute to** 26 **Cumulative Effects**

#### 27 *Actions and Projects inside Fort Matanzas* 28 *National Monument.*

29  
30  
31 Exotic plant management program – The park  
32 does not currently have an exotic plant  
33 management plan, but does treat exotic plants as  
34 needed within the park.

35  
36 River and Ocean Parking Lot Expansion – To  
37 help with traffic flow and to add additional spaces  
38 for handicap parking, the park redesigned and  
39 expanded existing parking lots within the existing  
40 footprints. There was some vegetation  
41 disturbance and loss; however, the cabbage palm  
42 trees were transplanted within the park.

43  
44 Shoreline Stabilization and Boat Dock  
45 Replacement - The NPS replaced the Rattlesnake  
46 Island dock, stabilized and extended the current  
47 coquina seawall and bulkhead, and restored the  
48 transverse dikes on Anastasia Island to their  
49 original condition at Fort Matanzas.

50  
51 Previous ORV use – Until January of 2010, the  
52 park allowed the use of ORV's on the beach.  
53 This recreational use was discontinued due to the

54 acknowledgement that the park did not have the  
55 authority to allow this use and that driving off of  
56 established park roads and parking lots is in  
57 violation of existing legal authorities, Presidential  
58 Executive Orders, Regulations, and NPS policy.

59  
60 The NPS Inventory & Monitoring (I&M) program  
61 for the Southeast Coastal Network - The I&M  
62 program has a list of projects that they are  
63 working on for data collection at Fort Matanzas,  
64 including collecting data on coastal shoreline  
65 change, collecting data on salt marsh accretion or  
66 subsidence, collecting data on trends in plant  
67 communities, and analyze data to determine the  
68 status and trends of groundwater levels in existing  
69 groundwater wells and identify potential  
70 relationships between changes in groundwater  
71 dynamics and changes in landscape dynamics for  
72 the park.

73  
74 The State of Florida is conducting vegetation  
75 classification and mapping of the park.

76  
77 The University of North Florida is conducting  
78 research into the dispersion of invasive green  
79 mussels, *Perna viridis* and is using the river  
80 system around the park as a model for comparing  
81 the effects of nutrient loads for estuaries.

#### 82 83 *Actions and Projects outside Fort Matanzas* 84 *National Monument.*

85  
86 It can be anticipated that Fort Matanzas National  
87 Monument will continue to be affected by  
88 regional population growth, with attendant  
89 impacts from increased visitation, continued  
90 development of adjacent lands, increased storm  
91 water runoff, increased upstream discharges of air  
92 and water pollutants, and the like. Public access  
93 to the beach is a growing problem in the area with  
94 the increase in condominiums; the public access  
95 areas have been diminished. In addition, the  
96 following sites and projects outside of the  
97 monument could contribute to cumulative  
98 impacts:

99  
100 Guana Tolomato Matanzas National Estuarine  
101 Research Reserve (GTMNERR) The GTMNERR  
102 is a federal/state partnership between the National  
103 Oceanic and Atmospheric Administration  
104 (NOAA) and the Florida Department of  
105 Environmental Protection designated in 1999.  
106 The reserve encompasses approximately 60,000

1 acres of salt marsh and mangrove tidal wetlands,  
2 oyster bars, estuarine lagoons, upland habitat and  
3 offshore seas in St. Johns and Flagler  
4 Counties. The NERR is a federal program to  
5 facilitate natural and cultural resource protection  
6 through long-term ecological research,  
7 environmental monitoring, environmental  
8 education, and resource stewardship.  
9  
10 Fort Mose Historic State Park - Fort Mose is the  
11 earliest known free African American settlement  
12 in the United States, and one of Florida's most  
13 notable African American heritage sites. A part of  
14 Anastasia State Park, the 34-acre Fort Mose was  
15 designated a National Historic Landmark in 1994.  
16 Fort Mose was originally established as a part of  
17 the northern defense line for the Spanish colonial  
18 town of St. Augustine.  
19  
20 Anastasia State Park - Anastasia State Park,  
21 located just south of historic St. Augustine on  
22 Anastasia Island, has 4 miles of pristine beach, a  
23 tidal salt marsh, and maritime and upland  
24 hammock. The park provides camping, nature  
25 trails, beach, water sports, and an archeological  
26 site where coquina rock was mined to create the  
27 nearby fortress, Castillo de San Marcos National  
28 Monument.  
29  
30 Visitor Center for Castillo de San Marcos - The  
31 proposed project site is located adjacent to state-  
32 owned historic properties that interpret the  
33 civilian life of St. Augustine during the Spanish  
34 Colonial period. The proposed visitor center is  
35 envisioned to orient visitors to the Castillo and  
36 forge a closer link between the military and  
37 civilian interpretive stories. The funding source  
38 for construction has yet to be determined.  
39  
40 Southeast Intracoastal Waterway Park – This park  
41 contains 114 acres and is located between  
42 Crescent Beach and Marineland on Anastasia  
43 Island. State Route A1A defines the eastern  
44 boundary of the site, and the Matanzas River  
45 defines the western boundary of the site. This is a  
46 new park, therefore some activities are ongoing  
47 and some are proposed for future use and  
48 development. The site amenities existing and  
49 planned include nature trails, boardwalks, scenic  
50 views of the Matanzas River and tributaries,  
51 scenic outlooks and interpretive displays. Specific  
52 projects implemented and planned include the  
53 addition of facilities such as hiking trails, nature

54 interpretation, picnicking, fishing,  
55 restrooms/visitor center, entrance road/parking,  
56 security, historic restoration and a playground.  
57  
58 Matanzas State Forest – Matanzas State Forest is  
59 located in St. Johns County and was created from  
60 the Matanzas Marsh Northeast Florida Blueway  
61 Florida Forever Project. The forest protects the  
62 last remaining undisturbed salt marsh within the  
63 GuanaTolomato-Matanzas National Estuarine  
64 Research Reserve. Using sound ecosystem  
65 science, the Division of Forestry manages for  
66 multiple uses of forest resources which include  
67 timber management, wildlife management, natural  
68 resource-based recreation, and ecological  
69 restoration.  
70  
71 City of St. Augustine – Beginning in 1959 Florida  
72 has had an ongoing preservation effort to restore  
73 many colonial structures to their original  
74 appearance. Much of the city center of St.  
75 Augustine has been preserved or restored and  
76 retains the distinctive plan of a 16th century  
77 Spanish Colonial walled town. There are  
78 numerous remaining colonial buildings in the  
79 historic district which represent architecture from  
80 1703 to 1898 (The Plaza de la Constitución,  
81 including the Government House, Trinity  
82 Episcopal Church (1825), and the Basilica  
83 Cathedral of St. Augustine). The City continues  
84 efforts to protect and restore its many cultural  
85 resources, including the rehabilitation of the  
86 National Register listed Bridge of Lions which  
87 connects the historic heart of St. Augustine to  
88 Anastasia Island over the Matanzas River.  
89  
90 Dredging near the Matanzas Inlet – Matanzas  
91 Inlet is a natural inlet that is strongly affected by a  
92 bridge abutment and revetment on the south  
93 shoreline, the dredging of the Intracoastal  
94 Waterway and stabilization of Rattlesnake Island.  
95 The Intracoastal Waterway, separated from the  
96 inlet by Rattlesnake Island, is dredged about every  
97 three years and the sand placed at Summer Haven,  
98 south of the inlet. (Source: Flagler-Volusia  
99 Beaches Florida Department of Environmental  
100 Protection, Bureau of Beaches and Coastal  
101 Systems, *Strategic Beach Management Plan for  
102 the Northeast Atlantic Coast Region*, May 2008  
103 Subregions: Sea Islands, St. Johns Beaches,  
104 Flagler-Volusia Beaches).  
105

1 St. Johns County Habitat Conservation Plan - In  
2 August 2006, St. Johns County received approval  
3 from the United States Fish and Wildlife Service  
4 (USFWS) for a 20 year Incidental Take Permit  
5 (ITP) and Habitat Conservation Plan (HCP) to  
6 minimize the negative impacts, resulting from  
7 beach driving, to the natural beach/dune  
8 environment and the protected species that depend  
9 on its health. The take of any federally listed  
10 species of plants or animals is prohibited under  
11 the Endangered Species Act (ESA) of 1973, as  
12 amended, unless specifically authorized through a  
13 section 10 Incidental Take Permit (ITP). The ESA  
14 defines the term take as an action “to harass,  
15 harm, pursue, hunt, shoot, wound, kill, trap,  
16 capture, or collect, or to attempt to engage in any  
17 such conduct” (ESA section 3(18)). Harassment  
18 includes the disruption of normal behavioral  
19 patterns, like breeding, feeding, and sheltering (50  
20 CFR 222.102). Harming includes habitat  
21 modification or degradation (50 CFR 17.3). Thus,  
22 both direct and indirect impacts can constitute a  
23 take under the ESA.

24  
25 St. Johns County applied to the U.S. Fish and  
26 Wildlife Service (USFWS) for a 20-year section  
27 10 ITP that has authorized the incidental take of  
28 Anastasia Island beach mice and five species of  
29 sea turtles causally related to public vehicular  
30 beach access initiated under the County’s  
31 authorization. The Habitat Conservation Plan  
32 (HCP) is a mandatory element of the County’s  
33 ITP application. The HCP outlines programs and  
34 policies to allow for limited public beach driving  
35 to continue in a manner and extent that is  
36 compatible with protected species conservation  
37 within the HCP Plan Area. The HCP Plan Area  
38 includes all beaches along St. Johns County  
39 between the Duval County Line on the north and  
40 the Flagler County Line on the south, except for  
41 those beaches fronting Fort Matanzas National  
42 Monument. (Source: *Habitat Conservation Plan,*  
43 *a Plan for the Protection of Sea Turtles and*  
44 *Anastasia Island Beach Mice on the Beaches of*  
45 *St. Johns County, Florida*, Prepared for the U.S.  
46 Fish and Wildlife Service by St. Johns County  
47 Planning Division, St. Augustine Florida, August  
48 18, 2003).

49  
50 Beach Driving in St. Johns County – The history  
51 of driving on the public beaches of Florida and St.  
52 Johns County is summarized in Appendix F.  
53 Currently there are about 14 miles of beach in St.

54 Johns County on which motorized vehicular  
55 driving is allowed. Beach gates are closed from  
56 7:30 pm to 8:00 am during sea turtle nesting  
57 season May 1 through October 31. Vehicles must  
58 be cleared from beaches to avoid receiving a  
59 citation. There is a fee to park on beaches from  
60 March 1 through Labor Day. A special permit is  
61 required from St. Johns County Beach Services  
62 for 4X4 vehicle access. The beaches where  
63 driving is allowed include 9 miles of continuous  
64 beach from the A Street vehicle access point in St.  
65 Augustine Beach south to the Matanzas Ramp and  
66 parking area at the northern boundary of Fort  
67 Matanzas National Monument. It also includes  
68 the Porpoise Point area of Vilano Beach. Beach  
69 driving for 4X4 vehicles with permits is allowed  
70 from the Vilano Road Walkover at the north end  
71 of the Porpoise Point area for about 4.3 miles to a  
72 point about 1 mile north of the Usina Ramp  
73 Vehicle Access point. Driving on the beach south  
74 of the Matanzas Ramp within the boundary of the  
75 National Monument was banned effective January  
76 1, 2010 to bring the park into compliance with  
77 Presidential Executive Orders and Federal Law  
78 that had been in effect for many years. The ban  
79 affects approximately one mile of beach on the  
80 southern-most tip of Anastasia Island. (Source of  
81 beach driving access information: St. Johns  
82 County Department of Recreation & Parks Beach  
83 Access Map  
84 ([http://www.sjcfl.us/BCC/Land\\_Management/GIS/](http://www.sjcfl.us/BCC/Land_Management/GIS/Map_Mart/index.aspx#anchBeachAccessAll)  
85 [Map\\_Mart/index.aspx#anchBeachAccessAll](http://www.sjcfl.us/BCC/Land_Management/GIS/Map_Mart/index.aspx#anchBeachAccessAll) )  
86 Accessed 1-27-11.

## 87 88 **Comparison of Alternatives**

89  
90 Once impacts are identified, each alternative is  
91 compared to a baseline, represented by future  
92 conditions that would occur under the no-  
93 action/continue current management alternative  
94 (Alternative A). For the no-action alternative, the  
95 impact analysis compares future resource  
96 conditions in 2025 to existing conditions in 2010,  
97 assuming continuation of current management  
98 direction.

99  
100 The impact analysis for the action alternatives  
101 (Alternatives B and C) compares the action  
102 alternatives in the year 2025 to the no-action  
103 alternative in the year 2025. Said differently, the  
104 description of the impacts of the action alternatives  
105 sets forth the *difference between* implementing the  
106 no-action alternative and implementing the action

1 alternatives. To understand a complete “picture” of  
2 the impacts of implementing any of the action  
3 alternatives, the reader must take into consideration  
4 the impacts that would occur under the no-action  
5 alternative.

## 7 **IMPACTS COMMON TO ALL** 8 **ALTERNATIVES**

9  
10 **Public Health and Safety.** There are inherent  
11 safety risks with park use such as crossing park  
12 roads, parking on road shoulders, activity-based  
13 hazards associated with recreational (trail use,  
14 etc.) and beach use (sunburn, sea life, sea  
15 conditions, etc.), which would continue under all  
16 alternatives as a minor, adverse effect. In  
17 addition, under all alternatives there would be  
18 improvements to parking and circulation of  
19 visitors which would alleviate some of the  
20 congestion in the park and result in a minor,  
21 beneficial effect to public safety.

## 22 23 24 **IMPACTS OF IMPLEMENTING** 25 **ALTERNATIVE A (No Action or** 26 **Continue Current Management)**

### 27 28 **Cultural Resources**

29  
30 **Archeological Resources.** Under Alternative A,  
31 impacts on archeological resources could result  
32 from ongoing visitor activities such as hiking,  
33 picnicking, cycling, and exploring. Some parking  
34 lot expansion and redesign has already occurred.  
35 There would be limited expansion of off-beach  
36 parking at the Matanzas ramp to compensate for  
37 the loss of on-beach parking. Because this is part  
38 of the historic district that includes the visitor  
39 center and its parking area, there would be no  
40 construction or ground disturbance associated  
41 with this project. The number of spaces would be  
42 expanded by restriping or other design changes  
43 within the existing footprint. Therefore there  
44 would be no impact to archeological resources as  
45 a result of this expansion. Previous archeological  
46 surveys of the park have been rather  
47 comprehensive and suggest that there is a low  
48 potential of finding additional sites on land,  
49 therefore, should the discovery of artifacts occur  
50 during construction, those impacts would be  
51 permanent, adverse, and of negligible to minor  
52 intensity. Archeological resources adjacent to or

53 easily accessible from roads or trails could be  
54 vulnerable to looting and vandalism. Continued  
55 ranger patrol and emphasis on visitor education  
56 would minimize adverse effects and any adverse  
57 effects would be anticipated to range in intensity  
58 from negligible to minor and would be permanent.

59  
60 **Cumulative Impacts.** Ongoing park  
61 management and visitor use activities have  
62 resulted in relatively little disturbance of  
63 archeological resources in the monument.  
64 However, there have been a number of  
65 archeological investigations for park projects such  
66 as for sewer and power lines, fort stabilization,  
67 nearby middens, boardwalk construction, and  
68 inventory and monitoring, where archeological  
69 material was discovered and preserved. In 2004,  
70 the National Park Service constructed a climate-  
71 controlled storage building at the Timucuan  
72 Ecological and Historic Preserve in Jacksonville,  
73 Florida. This building provides significant  
74 protection to artifacts, including a sophisticated  
75 security and fire protection system, and a back-up  
76 generator. Although these items were disturbed  
77 due to park activities, the uncovering of artifacts  
78 provides invaluable information on the history of  
79 the area and the use of the collection facility  
80 preserves these items. Archeological finds have  
81 also occurred nearby at Anastasia State Park and  
82 the Guana Tolomato Matanzas National Estuarine  
83 Research Reserve, where rich history is preserved  
84 through research, education, and protection of  
85 those resources. When the permanent, negligible  
86 to minor adverse effects of implementing the  
87 actions contained in Alternative A are added to  
88 the minor effects of other past, present, and  
89 reasonably foreseeable actions as described  
90 above, there would be a permanent, negligible to  
91 minor, adverse cumulative impact on  
92 archeological resources. The actions contained in  
93 Alternative A would contribute a negligible  
94 increment to this cumulative impact.

95  
96 **Conclusion.** Under Alternative A, impacts on  
97 archeological resources would be permanent,  
98 negligible to minor, and adverse. Cumulative  
99 impacts would be permanent, minor, and adverse.  
100 The actions contained in Alternative A would  
101 contribute a negligible increment to this  
102 cumulative impact.

103  
104 **Section 106 Summary.** After applying the  
105 Advisory Council on Historic Preservation’s

1 criteria of adverse effects (36 CFR part 800.5,  
2 *Assessment of Adverse Effects*), the NPS has  
3 determined that the adverse impacts identified  
4 under the NEPA analysis above would not alter or  
5 diminish, directly or indirectly, any of the  
6 characteristics of the National Monument that  
7 qualify the property for inclusion in the National  
8 Register and therefore concludes that  
9 implementation of Alternative A would have no  
10 adverse effect on archeological resources.

11  
12 **Museum Collections.** Under Alternative A,  
13 museum collections would be co-located with the  
14 collections of other parks in a multi-park facility  
15 located at Timucuan Ecological and Historic  
16 Preserve (TIMU) in Jacksonville, Florida, thereby  
17 eliminating their vulnerability to storm surge and  
18 wind damage. Impacts to museum collections  
19 would be permanent and beneficial.

20  
21 **Cumulative Impacts.** In 2004, the National Park  
22 Service constructed a climate-controlled storage  
23 building at TIMU. This building provides  
24 significant protection to artifacts, including a  
25 sophisticated security and fire protection system,  
26 and a back-up generator.

27  
28 **Conclusion.** Under Alternative A, impacts to  
29 museum collections would be permanent and  
30 beneficial. Cumulative impacts would be  
31 permanent, minor, and adverse. The actions  
32 contained in Alternative A would contribute a  
33 negligible increment to this cumulative impact.

34  
35 **Section 106 Summary.** After applying the  
36 Advisory Council on Historic Preservation's  
37 criteria of adverse effects (36 CFR part 800.5,  
38 *Assessment of Adverse Effects*), the NPS has  
39 determined that the adverse impacts identified  
40 under the NEPA analysis above would not alter or  
41 diminish, directly or indirectly, any of the  
42 characteristics of the National Monument that  
43 qualify the property for inclusion in the National  
44 Register and therefore concludes that  
45 implementation of Alternative A would have no  
46 adverse effect on museum collections.

47  
48 **Historic Structures.** Under Alternative A,  
49 impacts to historic structures would continue to  
50 occur due to aging of the historic fabric, normal  
51 wear and tear, and vandalism. Use of the New  
52 Deal era structure as a visitor center would  
53 continue. Impacts for the most part would be

54 permanent, adverse, and of negligible to minor  
55 intensity. Continued fort stabilization / cyclic  
56 maintenance activities would minimize damage to  
57 historic structures. Adverse effects would be  
58 anticipated to be short-term, and negligible to  
59 minor in intensity. No historic structures would be  
60 modified or removed under this alternative.

61  
62 **Cumulative Impacts.** The continued  
63 preservation and restoration of structures within  
64 the neighboring parks and protected areas would  
65 provide a long-term beneficial effect to the  
66 historic resources. The development of some sites  
67 could result in damage to historic structures and  
68 resources; particularly if the development of the  
69 site was not performed in compliance with the  
70 Secretary of Interior's Standards; however the  
71 neighboring parks and protected areas would  
72 likely implement similar protection measures to  
73 avoid adverse effects to resources when possible.  
74 Previous impacts to historic resources from  
75 deterioration and existing and future effects from  
76 use would equate to minor to moderate effects for  
77 those areas that are now protected. Accordingly,  
78 when the short-term, negligible to minor, and  
79 adverse effects of implementing Alternative A are  
80 added to the minor to moderate adverse effects of  
81 other past, present, and reasonably foreseeable  
82 actions as described above, there would remain a  
83 long-term, minor to moderate adverse cumulative  
84 impact to historic structures. Alternative A would  
85 contribute a negligible increment to this  
86 cumulative impact.

87  
88 **Conclusion.** Under Alternative A, impacts to  
89 historic structures would be long-term, negligible  
90 to minor, and adverse, mostly due to normal wear  
91 and tear. Cumulative impacts would remain  
92 minor to moderate and adverse due to continued  
93 development in the local and regional area. The  
94 actions contained in Alternative A would  
95 constitute a negligible increment to this  
96 cumulative impact.

97  
98 **Section 106 Summary.** After applying the  
99 Advisory Council on Historic Preservation's  
100 criteria of adverse effects (36 CFR part 800.5,  
101 *Assessment of Adverse Effects*), the NPS has  
102 determined that the adverse impacts identified  
103 under the NEPA analysis above would not alter or  
104 diminish, directly or indirectly, any of the  
105 characteristics of the National Monument that  
106 qualify the property for inclusion in the National

1 Register and therefore concludes that  
2 implementation of Alternative A would have no  
3 adverse effect on historic structures.  
4  
5 **Cultural Landscapes.** To date no cultural  
6 landscape research has been completed at Fort  
7 Matanzas and no specific cultural landscapes have  
8 been identified or documented either on  
9 Rattlesnake Island or on Anastasia Island. The  
10 surrounding landscape of the visitor center  
11 (Anastasia Island) remains largely unchanged  
12 since its initial development in 1937. Both the  
13 HQ/VC and its designed setting continue to  
14 reflect the intentions of the original development  
15 plans and retain their original character and  
16 integrity to a high degree. Following the approval  
17 of the GMP, the park would actively pursue  
18 funding for a cultural landscape report to help  
19 define potential cultural landscapes and identify  
20 measures to preserve them.  
21  
22 **Cumulative Impacts.** Exotic plant removal  
23 through the park's exotic plant management  
24 program reduces the intrusion of non-native plants  
25 into the landscape. Projects where ground  
26 disturbance will occur may remove native and  
27 desirable species. The preparation of a cultural  
28 landscape report will provide the needed  
29 information and direction to the park to more  
30 actively manage the identified potential cultural  
31 landscape, particularly surrounding the visitor  
32 center and the Fort.  
33  
34 **Conclusion.** Under Alternative A, there would be  
35 long-term, beneficial, and minor impacts on the  
36 potential cultural landscape due to a gradual  
37 reduction in non-native vegetation. Cumulative  
38 impacts would be long-term, minor to moderate,  
39 beneficial and adverse. Alternative A would  
40 contribute a minor increment to this cumulative  
41 impact.  
42  
43 **Section 106 Summary.** After applying the  
44 Advisory Council on Historic Preservation's  
45 criteria of adverse effects (36 CFR part 800.5,  
46 *Assessment of Adverse Effects*), the NPS has  
47 determined that the adverse impacts identified  
48 under the NEPA analysis above would not alter or  
49 diminish, directly or indirectly, any of the  
50 characteristics of the National Monument that  
51 qualify the property for inclusion in the National  
52 Register and therefore concludes that

53 implementation of Alternative A would have no  
54 adverse effect on potential cultural landscapes.  
55  
56  
57 **Natural Resources**  
58  
59 **Geology and Soils.** Under Alternative A,  
60 geological, physiographical, and soil resources  
61 would continue to be subject to current management  
62 practices and policies. Impacts to these resources  
63 would be due to soil erosion from existing roads  
64 and trails, shoreline erosion from ongoing boating  
65 activities in the river, soil compaction at trailheads  
66 and parking areas, and soil disturbance resulting  
67 from miscellaneous facility maintenance  
68 activities. Very few additional impacts to soils  
69 would result from clearing and construction for  
70 off-beach parking at the Matanzas ramp. Impacts  
71 to soils and geologic resources would be  
72 negligible to minor, local, short- and long-term,  
73 direct, and adverse.  
74  
75 **Cumulative Impacts.** Permanent soil loss  
76 resulting from regional growth and development  
77 would adversely impact soils. The impact of these  
78 efforts on soils is expected to be long-term,  
79 moderate to major, and adverse. When the likely  
80 effects of implementing the actions contained in  
81 Alternative A are added to the effects of other  
82 past, present, and reasonably foreseeable actions  
83 as described above, there would be a long-term,  
84 moderate to major, adverse cumulative impact on  
85 soils. The actions contained in Alternative A  
86 would contribute a negligible increment to this  
87 cumulative impact.  
88  
89 **Conclusion.** Under Alternative A, impacts to  
90 soils and geologic resources would be long-term,  
91 negligible to minor, adverse, and localized. There  
92 would be a long-term, moderate to major, adverse  
93 cumulative impact on soils and geologic  
94 resources. The actions contained in Alternative A  
95 would contribute a negligible increment to this  
96 cumulative impact.  
97  
98 **Plant Communities and Vegetation.** There are  
99 six major community types represented at the  
100 park: open beach, foredune, backdune, maritime  
101 forest, salt marsh, and disturbed areas. Vegetation  
102 resources would continue to be subject to current  
103 management practices and policies. Impacts  
104 would be due primarily to removal of dead,  
105 diseased, or hazardous trees, as well as fuel

1 removal in accordance with an approved fire  
2 management plan. Additional impacts would  
3 occur from the potential expansion of off-beach  
4 parking at the beach parking areas on the east and  
5 west sides of Highway A1A, unauthorized  
6 parking at various locations, and possible  
7 continued spread of non-native vegetation, as well  
8 as from trampling and other visitor use of existing  
9 facilities. Expansion of the number of spaces at  
10 the visitor center would be accomplished by  
11 restriping and redesign and therefore there would  
12 be no additional paving or other construction that  
13 would affect plant communities or vegetation.  
14 Collectively, impacts to plant communities and  
15 vegetation from implementing Alternative A  
16 would continue to be negligible to minor, adverse,  
17 long-term, and localized.

18  
19 **Cumulative Impacts.** Regional growth and  
20 development is expected to result in an increase in  
21 the disturbance or destruction of plant  
22 communities and vegetation. The impact of these  
23 activities on vegetation and vegetative  
24 communities is expected to be long-term,  
25 moderate to major, and adverse. When the likely  
26 effects of implementing the actions contained in  
27 Alternative A are added to the effects of other  
28 past, present, and reasonably foreseeable actions  
29 as described above, there would be a long-term,  
30 moderate to major, and adverse cumulative  
31 impact on plant communities and vegetation. The  
32 actions contained in Alternative A would  
33 contribute a negligible increment to this  
34 cumulative impact.

35  
36 **Conclusion.** Under Alternative A, impacts on  
37 plant communities and vegetation would be long-  
38 term, adverse, negligible to minor, and localized.  
39 There could be long-term, moderate to major, and  
40 adverse cumulative impacts to vegetation and  
41 plant communities in the surrounding region. The  
42 actions contained in Alternative A would  
43 contribute a negligible increment to this  
44 cumulative impact.

45  
46 **Exotic/Non-native/Nuisance Plants.** Based on  
47 the 2004 study, *A Floristic Study of Fort*  
48 *Matanzas National Monument*, at the time there  
49 were 12 cultivated exotics and 46 introduced  
50 species of plants at the park. Five of those were  
51 listed as invasive exotics and four of those five  
52 (*Asparagus aethiopicus*, *Cinnamomum camphora*,  
53 *Nephrolepis cordifolia*, *Lantana camara*) are

54 ranked as Category I (invasive exotics altering  
55 native plant communities by displacing native  
56 species, changing community  
57 structures/ecological functions, or hybridizing  
58 with natives), and one, *Pteris vittata*, as Category  
59 II (invasive exotics increasing in  
60 abundance/frequency but not yet altered Florida  
61 plant communities to the extent shown by  
62 Category I). Exotic plants can have severe effects  
63 on the integrity of native systems and habitats.  
64 Visitors can be agents for seed dispersal,  
65 increasing the threat to native plant communities.  
66 Under Alternative A, impacts to park resources  
67 from the growth and spread of  
68 exotic/nonnative/nuisance plants would continue  
69 to occur. Some limited removal of Category I and  
70 II exotics would take place as funding became  
71 available, but large scale restoration would not be  
72 likely to take place in the near term. Non-native  
73 and nuisance vegetation would therefore continue  
74 to displace desirable native vegetation throughout  
75 the park, with corresponding impacts to natural  
76 processes and native wildlife. Impacts from  
77 exotic/nonnative/nuisance species would be long-  
78 term, adverse, and moderate.

79  
80 **Cumulative Impacts.** Regional growth and  
81 development are expected to result in an increase  
82 in the conversion of natural lands to developed  
83 areas and thereby increase the amount of  
84 disturbed land available for colonization by exotic  
85 species. The impact of these activities on native  
86 plants and plant communities is expected to be  
87 long-term, moderate to major, and adverse. When  
88 the likely effects of implementing the actions  
89 contained in Alternative A are added to the effects  
90 of other past, present, and reasonably foreseeable  
91 actions as described above, there would be a long-  
92 term, moderate to major, adverse cumulative  
93 impact on native natural processes resulting from  
94 the loss of vegetative cover and the spread of  
95 exotic and nuisance plants. The actions contained  
96 in Alternative A would contribute a very small  
97 increment to this cumulative impact.

98  
99 **Conclusion.** Under Alternative A, impacts from  
100 exotic plants and nonnative/nuisance vegetation  
101 would be long-term, adverse, and moderate.  
102 There could be a long-term, moderate to major,  
103 adverse cumulative impacts on native natural  
104 processes. The actions contained in Alternative A  
105 would contribute a very small increment to this  
106 cumulative impact.

1  
2 **Fish and Wildlife.** Under Alternative A, minor  
3 adverse impacts to fish and wildlife would  
4 continue to occur, primarily from disturbance to  
5 soils and vegetation caused by ongoing visitor use  
6 and NPS management and monitoring activities.  
7 Some vegetation management efforts, including  
8 hazardous vegetation removal and limited  
9 management of exotic and nuisance vegetation,  
10 would improve habitat by decreasing competition  
11 from exotic and nuisance plants and increasing  
12 the availability of desirable native plants as food  
13 sources. Impacts from these management  
14 activities would be beneficial. Construction of  
15 additional parking could disturb habitat for  
16 various species of reptiles and amphibians,  
17 however they would likely move to other  
18 locations at the start of disturbance. If habitat of  
19 protected species (Table 17) would be impacted  
20 by construction of parking areas, appropriate  
21 surveys would occur prior to construction.  
22 Overall, impacts on fish and wildlife from the  
23 continuation of current management (Alternative  
24 A) would be long-term, minor, and both  
25 beneficial and adverse.



**Anastasia Island Beach Mouse**

26  
27  
28 **Threatened and Endangered Species.** The  
29 Anastasia Island beach mouse is found primarily  
30 in the undeveloped dune systems of Anastasia  
31 Island. They show the greatest preference for  
32 open dunes sparsely vegetated with sea oats and  
33 other vegetation, of which Fort Matanzas contains  
34 1.8 miles of continuous dune habitat. Least terns  
35 have formed one of the largest nesting colonies in  
36 Florida at Fort Matanzas. The colony is  
37 approximately seven acres in size, and extends  
38 from the toe of the dunes seaward in a relatively  
39 narrow hook shape to the inlet. There were  
40 approximately 500 least terns inhabiting the  
41 breeding grounds at Fort Matanzas in 2010.  
42 Piping plovers breed in northern latitudes; they  
43 are migratory and winter in southern climates,  
44 including Florida.  
45  
46  
47



**Piping Plover**

**TABLE 17. FEDERALLY PROTECTED THREATENED AND ENDANGERED SPECIES**

Scientific Name	Common Name	Federal Status	Federal Agency with Jurisdiction
<b>Birds</b>			
<i>Charadrius melodus</i>	Piping plover	Threatened	USFWS
<i>Mycteria americana</i>	Wood stork	Endangered	USFWS
<b>Mammals</b>			
<i>Peromyscus polionotus phasma</i>	Anastasia Island Beach Mouse	Endangered	USFWS
<i>Trichechus manatus latirostris</i>	West Indian (Florida) Manatee	Endangered/Critical Habitat Designated	USFWS
<b>Reptiles</b>			
<i>Caretta caretta</i>	Loggerhead sea turtle	Threatened	USFWS/NMFS
<i>Drymarchon corais couperi</i>	Eastern Indigo snake	Threatened	USFWS
<i>Chelonia mydas</i>	Green sea turtle	Endangered	USFWS/NMFS
<i>Dermodochelys coriacea</i>	Leatherback sea turtle	Endangered	USFWS/NMFS
<i>Lepidochelys kempii</i> turtle	Kemp's Ridley sea turtle	Endangered	USFWS/NMFS

1 At Fort Matanzas itself, two piping plovers were  
 2 observed in 1991. In 2001, one bird was seen in  
 3 the park. In 2010, six piping plovers were  
 4 documented during wintertime shoreline surveys  
 5 conducted with the Audubon Society. A  
 6 contributing factor to the increase in piping  
 7 plovers *could* be the cessation of beach driving on  
 8 January 1, 2010; however, five to ten years of  
 9 data will be required to establish more reliable  
 10 conclusions in this regard. Shorebird surveys at  
 11 Fort Matanzas documented at least 17 red knots  
 12 (*Tringa canutus*) in 2008 and 13 red knots in  
 13 2009. There have also been red knots observed in  
 14 the park in 2010. The red knot is a Federal  
 15 candidate for listing. The reddish egret forages on  
 16 broad, barren sand or mud flats, usually in water  
 17 less than six inches deep (Paul 1996).

18  
 19 Fort Matanzas National Monument consists of  
 20 portions of two coastal islands, and both islands  
 21 contain estuarine habitat (approximately 100 acres  
 22 total) along the Matanzas River. Reddish egrets  
 23 have been documented in the park in the past, but  
 24 there is no current data on their presence or  
 25 absence, and thus no information on their  
 26 distribution and/or abundance at Fort Matanzas.  
 27 The estuarine habitat at Fort Matanzas could  
 28 potentially be utilized by wood storks for feeding  
 29 and breeding, which amounts to approximately  
 30 100 acres. Wood storks have been documented in  
 31 the park in the past, but there is no current data on  
 32 their presence or absence, and thus no information  
 33 on their distribution and/or abundance. There are  
 34 no active nests in the park, but bald eagles are a  
 35 relatively common sight at Fort Matanzas,  
 36 especially along the Matanzas River. Wilson's

37 plovers have been documented feeding on the  
 38 beach and nesting in the tern colony in small  
 39 numbers.  
 40  
 41 Fort Matanzas contains upwards of 150 acres of  
 42 potential gopher tortoise habitat. At Fort  
 43 Matanzas, gopher tortoises are a relatively  
 44 common site throughout the sand dune system.  
 45 Eastern indigo snakes are found in dune  
 46 meadows, and will sometimes co-opt a gopher  
 47 tortoise burrow for their own use. Habitat  
 48 destruction is primarily responsible for the decline  
 49 of eastern indigo snake species throughout its  
 50 range, although intentional killings and collection  
 51 by people is not uncommon. It has been  
 52 documented as being present at Fort Matanzas,  
 53 but rarely seen.

54  
 55 In 2007, Fort Matanzas had one documented  
 56 green turtle nest within the park. Fort Matanzas  
 57 documented the following numbers of loggerhead  
 58 turtle nests in the park during the previous five  
 59 years: 2006-2 nests, 2007-2 nests, 2008-2 nests,  
 60 2009-0 nests, and 2010-4 nests. No Kemp's  
 61 Ridley sea turtle nests have ever been recorded in  
 62 St. Johns County or Fort Matanzas. Fort Matanzas  
 63 contains at least 50 acres of foredunes dominated  
 64 by sea oat grasses.

65  
 66 The Endangered Species Act of 1973 prohibits  
 67 harming any species listed by the U.S. Fish and  
 68 Wildlife Service as being either threatened or  
 69 endangered. Harming such species includes not  
 70 only directly injuring or killing them, but also  
 71 disrupting the habitat on which they depend.  
 72 Section 7 of the act also requires federal agencies

1 to consult with the U.S. Fish and Wildlife Service  
2 when any activity permitted, funded, or conducted  
3 by that agency may affect a listed species or  
4 designated critical habitat or is likely to  
5 jeopardize proposed species or adversely modify  
6 proposed critical habitat.

7  
8 Some of the impacts to threatened and endangered  
9 species from Alternative A (the no-action or no-  
10 change from current management alternative)  
11 would be related to ongoing monitoring,  
12 treatment, and removal of exotic and invasive  
13 species. Exotic and invasive species can displace  
14 native species and alter the local ecology. When  
15 invasive exotic plant species dominate an area, the  
16 populations of native animals, particularly  
17 sensitive threatened and endangered species can  
18 decline. Therefore, the impacts of treatment and  
19 removal of exotic and invasive species would be  
20 primarily beneficial.

21  
22 This section, along with the impacts analysis for  
23 the preferred alternative in Chapter 4 of this plan,  
24 fulfills the NPS's obligation under Section 7 to  
25 document federally listed species and impacts of  
26 the preferred alternative on these species via an  
27 embedded Biological Assessment. The U. S. Fish  
28 and Wildlife Service Office in Jacksonville,  
29 Florida, the NPS has concurred with this finding  
30 in a letter dated August 31, 2012 that is  
31 reproduced at the end of Chapter 5 of this Final  
32 GMP/EIS.

33  
34 The park has implemented Endangered Species  
35 Protection Protocols, such as night closure of the  
36 beach during sea turtle nesting season, daily  
37 surveys for sea turtle nests, a conservation zone  
38 for the protection of dune species (Anastasia  
39 Island beach mouse, eastern indigo snake), and  
40 regular patrols of the beach and dune system.  
41 These protocols provide necessary and adequate  
42 protection to the threatened and endangered  
43 species known to live and nest within the park.

44  
45 **Cumulative Impacts.** The loss of natural areas  
46 and the increasing urbanization of the region have  
47 led to a loss of wildlife habitat. Continued  
48 urbanization will fragment remaining natural  
49 areas and increase the risks and threats to wildlife,  
50 including automobile collisions, exotic species,  
51 and pathogens. Rainwater runoff and industrial  
52 discharges from urban areas may lead to a  
53 deterioration of water quality, with corresponding

54 impacts on fish species. On the other hand, there  
55 are significant stands of protected lands in the  
56 area – Anastasia State Park, Guana Tolomato  
57 Matanzas National Estuarine Research Reserve,  
58 Fort Mose State Park, and Matanzas State Forest.  
59 These areas provide contiguous habitat and  
60 protection for wildlife. Overall, the effects of the  
61 activities described above would likely be long-  
62 term, moderate, and adverse on fish and wildlife  
63 in the region. When the likely effects of  
64 implementing the actions contained in Alternative  
65 A are added to the effects of other past, present,  
66 and reasonably foreseeable actions as described  
67 above, there would be a long-term, moderate,  
68 adverse cumulative impact on fish and wildlife.  
69 The actions contained in Alternative A would  
70 contribute a very small increment to this  
71 cumulative impact.

72  
73 **Conclusion.** Under Alternative A, impacts on fish  
74 and wildlife from the continuation of current  
75 management would be long-term, minor, and both  
76 beneficial and adverse. Minor adverse impacts to  
77 soil, water quality, and vegetation would result in  
78 minor adverse effects on some fish and wildlife  
79 species. In contrast, the removal of exotics would  
80 result in minor beneficial effects on some wildlife  
81 species. This alternative would result in long-  
82 term, moderate, adverse cumulative impacts on  
83 fish and wildlife. The actions contained in  
84 Alternative A would contribute a very small  
85 increment to this cumulative impact.

86  
87 **Water Quality.** The Matanzas River in the  
88 vicinity of Fort Matanzas is classified by the state  
89 as a Class II conditionally approved harvesting  
90 area. A conditionally approved area is defined as  
91 an area periodically closed to shellfish harvesting  
92 based on events that may increase pollution in the  
93 harvesting area, such as rainfall or increased river  
94 flow. Impacts would be due to sedimentation from  
95 existing roads and trails, as well as from oil and  
96 grease discharges at parking areas and road  
97 crossings over waterways. Additional impacts  
98 could occur from the use of herbicides to control  
99 nonnative vegetation and the expansion of the  
100 Highway A1A beach parking areas/impervious  
101 surfaces and associated runoff. Any expansion of  
102 the parking at the visitor center or the Matanzas  
103 ramp would be accomplished by restriping and  
104 reconfiguration within the existing footprints.  
105 Therefore there would be no impacts to water  
106 quality resulting from expansion of the number of

1 spaces associated with these two parking areas.  
2 To mitigate impacts from herbicide, NPS would  
3 use the appropriate class of herbicide for the  
4 vegetation setting in question, would strictly  
5 adhere to application directions, and would use  
6 appropriate best management practices.  
7 Alternative A would result in impacts to  
8 hydrology and water quality that are negligible to  
9 minor, long-term, indirect, and adverse.

10  
11 **Cumulative Impacts.** Regional growth and  
12 development is expected to result in an increase in  
13 the conversion of natural lands to development  
14 and alter the hydrology of the general area. Water  
15 quality would be affected by inputs from urban  
16 and suburban development, including increases in  
17 organic compounds and chemical concentrations.  
18 Inputs would derive both from point sources (e.g.,  
19 sewer outfalls) and non-point sources (e.g., storm  
20 water runoff). The impact on water quality within  
21 the watershed is expected to be adverse, but the  
22 intensity is unknown. When the likely effects of  
23 implementing the actions contained in Alternative  
24 A are added to the effects of other past, present,  
25 and reasonably foreseeable actions as described  
26 above, there would be a long-term, adverse  
27 cumulative impact on water quality in the  
28 watershed. The intensity of the impact is  
29 unknown. The actions contained in Alternative A  
30 would contribute a very small increment to this  
31 cumulative impact.

32  
33 **Conclusion.** Under Alternative A, impacts on  
34 water quality would be long-term, negligible to  
35 minor, adverse, and localized. There would be a  
36 long-term, adverse cumulative impact on water  
37 quality in the watershed. The intensity of the  
38 impact is unknown. The actions contained in  
39 Alternative A would contribute a very small  
40 adverse increment to this cumulative impact.

## 41 **Floodplains**

42  
43  
44 **Analysis.** Under Alternative A, existing structures  
45 in the 100-year floodplain would remain in place.  
46 Such structures include the historic fort, the  
47 visitor center, administrative structures, access  
48 roads and trails, visitor parking area, sidewalks  
49 and trails, etc. These structures would remain in  
50 place because they either constitute the resource  
51 that the monument was designated to protect, or  
52 they provide administrative or visitor services in  
53 the only practical locations available. Ground

54 disturbance would result in floodplain impacts  
55 because all of Fort Matanzas is in a 100-year  
56 floodplain with a wave velocity hazard zone  
57 extending from the beach on Anastasia Island to  
58 AIA and following around Matanzas Inlet. AIA  
59 was built as a levee, but is not able to protect park  
60 areas because the park is surrounded by water on  
61 two sides. The south end of Anastasia is more  
62 vulnerable to flooding than the north end. There  
63 would be little, if any, impact to floodplains from  
64 additional parking construction. Overall impacts  
65 to floodplain functions would be negligible to  
66 minor.

67  
68 **Cumulative Impacts.** Regional growth and  
69 development is expected to affect floodplains in  
70 the region. Floodplains could be physically  
71 altered, changing their capacity and altering the  
72 natural course of floodwater flow. Natural flood  
73 patterns would be adversely affected, but any  
74 adverse impacts on property and life should be  
75 mitigated through proper permitting. The impact  
76 of the floodplain modification and structures in  
77 floodplains could be long-term, minor to major  
78 (depending on the location and the nature of the  
79 impact, and adverse. When the likely effects of  
80 implementing the actions contained in Alternative  
81 A are added to the effects of other past, present,  
82 and reasonably foreseeable actions as described  
83 above, there would be a long-term, minor to  
84 major, adverse cumulative impact on floodplains.  
85 The actions contained in Alternative A would  
86 contribute a very small increment to this  
87 cumulative impact.

88  
89 **Conclusion.** Impacts to floodplain functions  
90 under Alternative A would be local, direct and  
91 indirect, negligible to minor, and adverse.  
92 Impacts to infrastructure in the event of flooding  
93 would be short- and long-term, moderate to  
94 major, and adverse.

## 95 **Wetlands**

96  
97  
98 **Analysis.** No filling of wetlands or other  
99 reduction in wetland function or values would  
100 occur as a result of Alternative A. Accordingly,  
101 there would be no new impacts to wetlands under  
102 this Alternative. Impacts on wetlands would be  
103 attributed primarily to the retention and  
104 maintenance of existing facilities, such as roads,  
105 grades, and trails. Impacts would include those  
106 from past vegetation loss and alteration of soils,

1 which have resulted in permanent effects on  
2 wetland size and integrity that are long-term,  
3 minor, adverse, and localized. Indirect impacts,  
4 such as increased runoff and sedimentation, are  
5 and will continue to be long-term, minor, adverse,  
6 and localized. The NPS would continue to collect  
7 data on salt marsh accretion or subsiding and  
8 collecting trends in plant communities under the  
9 Inventory and Monitoring Program. In addition,  
10 the University of North Florida is studying  
11 nutrient loads in estuaries and has included the  
12 park boundary in the study. The information  
13 gained from studies such as these can be used in  
14 future park planning and protection of its  
15 resources. Collectively, impacts on wetlands  
16 under Alternative A would continue to be long-  
17 term, minor, adverse, beneficial, and localized.

18  
19 **Cumulative Impacts.** Some reduction in wetland  
20 function or values inside the park could take place  
21 as a result of development occurring outside of  
22 the park boundary. Short-term impacts on  
23 wetlands would be adverse, moderate, and  
24 localized; long-term residual impacts would be  
25 adverse, minor, and localized. Regional growth  
26 and development is expected to result in an  
27 increase in the conversion of natural lands to  
28 development and alter the hydrology of the  
29 general area. Changes in sheet flow and water  
30 quality would affect the size, integrity, and  
31 function of wetlands in the watershed. The impact  
32 of these activities on wetlands would be long-  
33 term, moderate to major, and adverse. The  
34 adverse impacts would be at least partially offset  
35 by wetlands mitigation required by permitting  
36 agencies. Overall, the effects of the projects  
37 discussed above would be adverse on wetlands.  
38 When the likely effects of implementing the  
39 actions contained in Alternative A are added to  
40 the effects of other past, present, and reasonably  
41 foreseeable actions as described above, there  
42 would be a long-term, minor to major, adverse  
43 cumulative impact on wetlands. The actions  
44 contained in Alternative A would not contribute  
45 any new impacts to this cumulative impact.

46  
47 **Conclusion.** Under Alternative A, past impacts on  
48 wetlands would continue and would be long-term,  
49 minor, adverse, and localized. There would be a  
50 long-term, minor to major, adverse cumulative  
51 impact on wetlands. The actions contained in  
52 Alternative A would not contribute any new  
53 impacts to this cumulative impact.

## 54 55 **Soundscape / Natural Sounds**

56  
57 **Analysis.** Under Alternative A the park would  
58 continue to be managed as it is today, with no  
59 major change in management direction. The main  
60 focus would be to preserve and maintain the  
61 natural and cultural environment to the fullest  
62 extent possible according to applicable laws and  
63 policies, standards and guidelines. The park  
64 would strive to maintain an area for quiet,  
65 reflective experience on the west side of  
66 Anastasia Island and Rattlesnake Island and to  
67 allow enjoyment of the natural coastal beach  
68 environment on the east side of Highway A1A.

69  
70 Visitor and park management produced sounds  
71 would remain at current levels from programs  
72 presented just outside of the visitor center, the  
73 ferry, exploration of the park and particularly the  
74 fort on their own or via interpretive programs,  
75 nature programs and bird walks presented on the  
76 park trails and/or beach, and re-enactors  
77 portraying Spanish soldiers with occasional  
78 musket demonstrations. Other than limited  
79 construction for parking lot expansion, the overall  
80 level of human-related noise in all areas of Fort  
81 Matanzas would not change from existing levels  
82 as a result of implementing the no-action  
83 alternative. Consequently, no new impacts would  
84 be anticipated and current levels would remain at  
85 a long-term, minor, adverse impact to natural  
86 quiet throughout those areas of the park where a  
87 natural quiet experience is desired. Limited  
88 construction would add a temporary, minor  
89 adverse impact to the soundscape during the time  
90 and in the immediate area of construction.

91  
92 **Cumulative Impacts.** In general, the natural  
93 soundscape has been affected from activities on  
94 lands and waters adjacent to Fort Matanzas  
95 boundaries such as recreational boaters, tourists,  
96 vehicles, and other human-caused sounds in small  
97 cities. These continuous sources of sound are not  
98 likely to change significantly or decrease from the  
99 current levels and result in a moderate adverse  
100 effect to natural sounds in the area. This  
101 alternative would contribute limited additional  
102 sounds to other past, present and reasonably  
103 foreseeable project sounds, so there would be  
104 negligible additional cumulative impacts on the  
105 natural soundscape resulting from implementing  
106 this alternative.

1  
2 **Conclusion.** Alternative A would have a  
3 continued long-term, minor effect on the natural  
4 soundscape.

## 5 6 **Visitor Use and Experience**

7  
8 **Analysis.** The no-action alternative would not  
9 change the current management of the park.  
10 Visitors would continue to have access to the  
11 historic fort and park staff would continue to offer  
12 a variety of interpretive programs. Opportunities  
13 for hiking, biking, and picnicking would continue  
14 to be available. Overall, access to historic  
15 resources and the availability of varied  
16 recreational opportunities would result in long-  
17 term, beneficial impacts to visitor use and  
18 experience. Beneficial impacts would result from  
19 increased interpretation of Fort Matanzas  
20 resources and utilization of the monument as a  
21 focal point for Anastasia Island. Current trails  
22 would remain with no further expansion. The  
23 space for orientation, interpretive programs, and  
24 displays would continue to be small and  
25 inadequate. Although park programs would  
26 continue, the conditions of the space would  
27 contribute a minor adverse effect to the visitor  
28 experience. The continued ban on the use of  
29 vehicles on the beach would be beneficial to those  
30 visitor's who desire a beach experience without  
31 the presence of vehicles. Park users who prefer to  
32 access the beach via their vehicle, including those  
33 who use their vehicle to transport fishing  
34 equipment, would consider the continued ban a  
35 moderate to major, adverse effect to their park  
36 experience.

37  
38 **Cumulative Impacts.** Regional growth is  
39 expected to result in increased development in the  
40 vicinity of the monument. The use of vehicles on  
41 the beach is allowed just north of the park  
42 boundary, giving those that prefer the experience  
43 of having a vehicle on the beach an opportunity to  
44 do so. Combining the likely effects of  
45 implementing the no-action alternative with the  
46 effects of other past, present, and reasonably  
47 foreseeable actions described above, the  
48 cumulative impact on visitor use and experience  
49 in the park would be long-term, negligible to  
50 minor, and beneficial. The actions contained in  
51 the no-action alternative would not contribute an  
52 appreciable increment to this cumulative impact.

53

54 **Conclusion.** Under the no-action alternative,  
55 impacts on visitor use and experience would be  
56 long-term, major, adverse and long-term, major  
57 beneficial. The cumulative impact on visitor use  
58 and experience in the monument would be long-  
59 term, negligible to minor, and beneficial. The  
60 actions contained in the no-action alternative  
61 would not contribute an appreciable increment to  
62 this cumulative impact.

63

## 64 **Socioeconomic Environment**

65

66 **Analysis.** Analysis of economic impacts under  
67 Alternative A was based on projected visitation to  
68 the monument as well as estimated one-time  
69 capital expenditures due to construction activities,  
70 if appropriate. Because Alternative A would  
71 maintain the status quo, visitor spending is  
72 assumed to remain more or less as it is today, with  
73 some slight increase due to anticipated population  
74 growth in the local area. The no-action  
75 alternative assumes the current management of  
76 the prohibition of driving off of established park  
77 roads and parking lots in accord with existing  
78 legal authorities, Presidential Executive Orders,  
79 Regulations and NPS policy. The continued  
80 prohibition may attract those visitors desiring the  
81 experience of a natural coastal beach environment  
82 without the presence of vehicles; however those  
83 visitors that previously came to the park to enjoy  
84 recreation with the use of their vehicle on the  
85 beach may choose to seek other areas for  
86 recreation or use the beaches north of the park  
87 boundary where vehicles are allowed on the  
88 beach.

89

90 **Local Economy Employment.** Because no large  
91 projects or hiring opportunities would be created  
92 under Alternative A, St. Johns County would not  
93 realize any changes or the changes would be  
94 negligible to its employment levels. As a result,  
95 long-term impacts resulting from Alternative A  
96 would be localized, negligible, and neutral.  
97 Furthermore, because there would only be small  
98 new capital expenditures in the monument, short-  
99 term employment impacts would also remain  
100 negligible. Consequently, short-term impacts of  
101 Alternative A would be localized, negligible, and  
102 neutral.

103

104 **Housing.** Alternative A would entail hiring one  
105 additional staff member; therefore, demand for  
106 residential housing would be noticed at the lowest

1 levels. Short-term impacts resulting from  
2 Alternative A would be localized, negligible, and  
3 neutral.  
4  
5 **Sales.** Total sales of goods and services in St.  
6 Johns County, as a result of visitor spending,  
7 would remain more or less unchanged under the  
8 no-action alternative. Although prior to January  
9 2010 allowance of ORV's on the beach may have  
10 contributed to visitation from fishermen who  
11 would expend funds in the area, the ban of ORV's  
12 appears to have developed an opportunity for  
13 those visitors who would like a beach experience  
14 without the presence of ORV's. The ban of  
15 ORV's from the beach has not removed the  
16 opportunity for beach driving, since beach driving  
17 is allowed immediately north of the park and can  
18 be accessed from the park's ramp. Because  
19 Alternative A does not increase or decrease sales  
20 revenue, long-term impacts would be localized,  
21 negligible, and neutral.  
22  
23 **Cumulative Impacts.** The action area for  
24 evaluating cumulative impacts on the  
25 socioeconomic environment is St. Johns County.  
26 The implementation of Alternative A does not  
27 have a strong likelihood of attracting new visitors  
28 and locals to the monument. Relatively steady  
29 visitation would translate into more or less  
30 unchanged spending in the area, resulting in  
31 neutral impacts for St. Johns County in terms of  
32 employment, housing, and taxable annual sales.  
33 A surge in retirees in coming years is expected to  
34 increase populations near the coast with  
35 concomitant impacts on construction, health care,  
36 and related industries. Combining the likely  
37 effects of implementing the no-action alternative  
38 with the effects of other past, present, and  
39 reasonably foreseeable actions described above,  
40 the cumulative socioeconomic impacts would be  
41 localized, moderate, and beneficial. Alternative A  
42 would contribute a negligible increment to this  
43 cumulative impact.  
44  
45 **Conclusion.** Because there would be negligible  
46 changes to visitor spending or construction  
47 activity within St. Johns County under Alternative  
48 A, long-term and short-term impacts on the  
49 socioeconomic environment would be localized,  
50 negligible, and neutral. As a result, county  
51 employment, housing, and sales would remain  
52 constant. In terms of cumulative impacts, long-  
53 term and short-term impacts would be localized,

54 moderate, and beneficial. Alternative A would  
55 contribute a negligible increment to this total  
56 cumulative effect.  
57  
58 **Park Operations.** Alternative A would maintain  
59 the status quo with respect to park staff and  
60 facilities. Current staff levels are generally  
61 adequate to protect existing park resources and  
62 serve visitors. Thus, the no action alternative  
63 would result in minor, long-term, neutral impacts  
64 on NPS operations.  
65  
66 **Cumulative Impacts.** Cooperation and  
67 coordination with neighboring agencies and  
68 entities regarding planning, land use, resources,  
69 and development proposals near the monument  
70 would continue to require varying amounts of  
71 staff time and result in minor to moderate, long-  
72 term, adverse impacts. Combined with other past,  
73 present, and reasonably foreseeable future  
74 impacts, the no action alternative would result in  
75 minor to moderate, long-term, neutral cumulative  
76 impacts on NPS operations.  
77  
78 **Conclusion.** Operation of existing visitor and  
79 administrative facilities in the monument would  
80 result in continuing minor, long-term, neutral  
81 impacts on NPS operations. The cumulative  
82 impacts of the no-action alternative and other  
83 reasonably foreseeable future actions required of  
84 park staff would be minor to moderate, long-term,  
85 and neutral.  
86  
87 **Transportation**  
88  
89 **Analysis.** Impacts to transportation would result  
90 from any minor construction of parking and  
91 rerouting of traffic, if necessary. The resulting  
92 extra parking spaces would be beneficial to traffic  
93 circulation; however, parking would likely  
94 continue to be an issue for the park without a  
95 significant increase in parking opportunities.  
96 Overall, effects would be negligible to minor,  
97 long-term, and adverse.  
98  
99 **Cumulative Impacts.** Previous parking lot  
100 expansion has provided the opportunity for more  
101 parking since the absence of on-beach parking.  
102 Although vegetation was removed for the  
103 construction, the park was able to transplant some  
104 species. When added to the congestion of tourist  
105 traffic to and from St. Augustine, the additional

1 congestion at the park would add a long-term,  
2 negligible to minor adverse effect.

3  
4 **Conclusion.** Although the direct effects of  
5 construction and rerouting of traffic for any  
6 additional parking spaces would be noticeable, the  
7 result of additional parking could alleviate some  
8 congestion at the park in the immediate area. The  
9 effects of Alternative A would be long-term,  
10 negligible to minor adverse and long-term  
11 beneficial. The cumulative impacts of Alternative  
12 A and other reasonably foreseeable future and  
13 past actions regarding transportation would be  
14 long-term, minor, and adverse.

### 15 16 **Effects on Energy Requirements and** 17 **Conservation Potential**

18  
19 Under Alternative A, other than parking lot  
20 expansion, no new facilities would be developed,  
21 thereby eliminating any new energy requirements  
22 for facility construction. Public use of the  
23 monument would remain at about its current level.  
24 The fuel and energy consumed by visitors  
25 traveling to the monument would not be likely to  
26 increase because visitation is not likely to increase  
27 substantially. Energy would still be consumed to  
28 maintain existing facilities and for resource  
29 management of the monument.

### 30 31 **Unavoidable Adverse Impacts**

32  
33 Unavoidable adverse impacts are defined as  
34 impacts that cannot be fully mitigated or avoided.  
35 Adverse impacts on natural and cultural resources  
36 and visitor experience could occur in some areas  
37 throughout the monument, resulting from limited  
38 public use or NPS management activities.

### 39 40 **Irretrievable or Irreversible** 41 **Commitments of Resources**

42  
43 Under Alternative A, the energy requirements  
44 identified above would not result in an  
45 irreversible commitment of resources. There  
46 would be no permanent effects on monument  
47 resources.

48

### 49 **Relationship Between Local Short-** 50 **Term Uses of the Environment and** 51 **Maintenance or Enhancement of** 52 **Long-Term Productivity**

53  
54 In this alternative, most of the monument would  
55 be protected in a natural state and would maintain  
56 its long-term productivity. Only a small  
57 percentage of the monument would be maintained  
58 as developed areas.

### 59 60 **IMPACTS OF IMPLEMENTING** 61 **ALTERNATIVE B (NPS PREFERRED** 62 **ALTERNATIVE)**

#### 63 64 **Cultural Resources**

65  
66 **Archeological Resources.** Impacts to  
67 archeological resources would be the same as  
68 under Alternative A. Although this alternative  
69 does not call for any changes in the management  
70 of archeological resources, ground disturbance  
71 from expansion of parking may increase the  
72 likelihood of encountering artifacts.  
73 Archeological surveys of the park have been  
74 rather comprehensive and suggest that there is a  
75 low potential of finding additional sites on land,  
76 but if the discovery of artifacts were to occur  
77 during construction, those impacts would be  
78 permanent, adverse, and of negligible to minor  
79 intensity.

80  
81 **Cumulative Impacts.** Same as Alternative A.  
82 The actions contained in Alternative B would  
83 contribute a negligible increment to this  
84 cumulative impact.

85  
86 **Conclusion.** Under Alternative B, impacts on  
87 archeological resources would be permanent,  
88 negligible to minor, and adverse. Cumulative  
89 impacts would be permanent, minor, and adverse.  
90 The actions contained in Alternative B would  
91 contribute a negligible increment to this  
92 cumulative impact.

93  
94 **Section 106 Summary.** After applying the  
95 Advisory Council on Historic Preservation's  
96 criteria of adverse effects (36 CFR part 800.5,  
97 *Assessment of Adverse Effects*), the NPS has  
98 determined that the adverse impacts identified  
99 under the NEPA analysis above would not alter or  
100 diminish, directly or indirectly, any of the

1 characteristics of the National Monument that  
2 qualify the property for inclusion in the National  
3 Register and therefore concludes that  
4 implementation of Alternative B would have no  
5 adverse effect on archeological resources.

6  
7 **Museum Collections.** Impacts to museum  
8 collections would be the same as under  
9 Alternative A. This alternative does not call for  
10 any changes in the management of museum  
11 collections. Museum collections would be co-  
12 located with the collections of other parks in a  
13 multi-park facility located at Timucuan  
14 Ecological and Historic Preserve, thereby  
15 eliminating their vulnerability to storm surge and  
16 wind damage. Impacts to museum collections  
17 would be permanent and beneficial.

18  
19 **Cumulative Impacts.** Same as Alternative A.  
20 The actions contained in Alternative B would  
21 contribute a negligible increment to this  
22 cumulative impact.

23  
24 **Conclusion.** Under Alternative B, impacts to  
25 museum collections would be permanent and  
26 beneficial. Cumulative impacts would be  
27 permanent, minor, and adverse. The actions  
28 contained in Alternative B would contribute a  
29 negligible increment to this cumulative impact.

30  
31 **Section 106 Summary.** After applying the  
32 Advisory Council on Historic Preservation's  
33 criteria of adverse effects (36 CFR part 800.5,  
34 *Assessment of Adverse Effects*) the NPS has  
35 determined that the adverse impacts identified  
36 under the NEPA analysis above would not alter or  
37 diminish, directly or indirectly, any of the  
38 characteristics of the National Monument that  
39 qualify the property for inclusion in the National  
40 Register and therefore concludes that  
41 implementation of Alternative B would have no  
42 adverse effect on museum collections.

43  
44 **Historic Structures.** Fort stabilization work  
45 would continue. In addition, the park would  
46 explore additional adaptive reuse of the existing  
47 New Deal era visitor center while minimizing  
48 changes to the natural environment. Two  
49 buildings make up the HQ/VC: a multi-use  
50 building that serves as both the primary visitor  
51 contact point and a ranger residence, and a  
52 secondary utility building that now serves as a  
53 ranger office. Since their construction in 1936,

54 the two buildings have been in continual use and  
55 have undergone only modest alterations.  
56 Adaptive re-use of existing structures on the west  
57 side of SR A1A (Johnson House and New Deal  
58 era structures) would help the park in meeting the  
59 needs of increased visitation and increased local  
60 population, especially school-age population.

61  
62 Impacts on historic structures due to adaptive  
63 reuse and fort stabilization would be long-term  
64 and beneficial. However, continued use of the  
65 structures would result in negligible to minor  
66 adverse impacts.

67  
68 **Cumulative Impacts.** Same as Alternative A.  
69 The actions contained in Alternative B would  
70 constitute a negligible increment to this  
71 cumulative impact.

72  
73 **Conclusion.** Under Alternative B, impacts to  
74 historic structures would be long-term, negligible  
75 to minor, and adverse, mostly due to normal wear  
76 and tear. Cumulative impacts would be moderate  
77 to major and adverse due to continued  
78 development in the local and regional area. The  
79 actions contained in Alternative B would  
80 constitute a negligible increment to this  
81 cumulative impact.

82  
83 **Section 106 Summary.** After applying the  
84 Advisory Council on Historic Preservation's  
85 criteria of adverse effects (36 CFR part 800.5,  
86 *Assessment of Adverse Effects*), the NPS has  
87 determined that the adverse impacts identified  
88 under the NEPA analysis above would not alter or  
89 diminish, directly or indirectly, any of the  
90 characteristics of the National Monument that  
91 qualify the property for inclusion in the National  
92 Register and therefore concludes that  
93 implementation of Alternative B would have no  
94 adverse effect on historic structures.

95  
96 **Potential Cultural Landscapes.** The northern  
97 section of the Anastasia Island section of the  
98 National Monument, consisting of the visitor  
99 center, headquarters, park roads and driveways,  
100 parking areas, surrounding landscape, and the  
101 Matanzas Ramp (access road to the Atlantic  
102 Ocean beach) has not been designated a cultural  
103 landscape, however this potential cultural  
104 landscape remains largely unchanged since its  
105 initial development in 1937. Both the HQ/VC  
106 and its designed setting continue to reflect the

1 intentions of the original development plans and  
2 retain their original character and integrity to a  
3 high degree. Impacts would be local, long-term,  
4 direct and indirect, moderate to major, and  
5 beneficial. Periodic removal of non-native  
6 vegetation would continue to occur under this  
7 alternative through periodic employment of NPS  
8 exotic plant management teams. Impacts on the  
9 potential cultural landscape would be long-term  
10 and beneficial. No facility development is  
11 planned; the expansion of parking (2 spaces for  
12 buses) would not result in any adverse effects to  
13 the potential cultural landscape features because it  
14 would be accomplished by restriping the existing  
15 paved area only.

16  
17 **Cumulative Impacts.** On balance impacts to the  
18 potential cultural landscape of the area  
19 surrounding the monument are long-term, minor  
20 to moderate, and both beneficial and adverse.  
21 When the long-term, moderate to major, and  
22 beneficial effects of implementing Alternative B  
23 are added to the minor to moderate effects of  
24 other past, present, and reasonably foreseeable  
25 actions as described above, there would be long-  
26 term, moderate, beneficial cumulative impacts to  
27 the potential cultural landscape. Alternative B  
28 would contribute a minor increment to this  
29 cumulative impact.

30  
31 **Conclusion.** Under Alternative B, there would be  
32 long-term, beneficial, and minor to moderate  
33 impacts on the potential cultural landscape due to  
34 the removal of exotic vegetation and the  
35 maintenance of native vegetation surrounding the  
36 historic structures of the park. Cumulative  
37 impacts would be long-term, moderate, and  
38 beneficial. Alternative B would contribute a  
39 minor increment to this cumulative impact.

40  
41 **Section 106 Summary.** After applying the  
42 Advisory Council on Historic Preservation's  
43 criteria of adverse effects (36 CFR part 800.5,  
44 *Assessment of Adverse Effects*), the NPS has  
45 determined that the adverse impacts identified  
46 under the NEPA analysis above would not alter or  
47 diminish, directly or indirectly, any of the  
48 characteristics of the National Monument that  
49 qualify the property for inclusion in the National  
50 Register and therefore concludes that  
51 implementation of Alternative B would have no  
52 adverse effect on potential cultural landscapes.

53

54

## 55 **Natural Resources**

56

57 **Geology and Soils.** Impacts would include those  
58 from Alternative A along with additional impacts  
59 from additional parking expansion, an expansion  
60 of interpretive programs for natural resources, and  
61 low impact recreational opportunities. Impacts  
62 would result from the compaction of soils, the  
63 disturbance to soils as a result of construction, and  
64 erosion due to construction and continued use.  
65 Some of these impacts would be partially  
66 mitigated by use of best management practices  
67 during clearing; therefore impacts to soils and  
68 geologic resources as defined in this document  
69 would be local, short- and long-term (during  
70 construction versus continued use), direct,  
71 moderate, and adverse. In addition, the NPS  
72 Inventory & Monitoring program has begun the  
73 process of collecting data on coastal shoreline  
74 change. The information obtained through this  
75 program will provide data that the park can use  
76 for future decision-making. This would result in a  
77 beneficial effect to park resources.

78

79 **Cumulative Impacts.** Permanent soil loss  
80 resulting from regional growth and development  
81 would adversely impact soils. The impact of these  
82 efforts on soils is expected to be long-term,  
83 moderate to major, and adverse. When the local,  
84 short- and long-term, direct, minor, and adverse  
85 effects of implementing the actions contained in  
86 Alternative B are added to the effects of other  
87 past, present, and reasonably foreseeable actions  
88 as described above, there would be a long-term,  
89 moderate to major, adverse cumulative impact on  
90 soils. The actions contained in Alternative B  
91 would contribute a negligible increment to this  
92 cumulative impact.

93

94 **Conclusion.** Under Alternative B, impacts to  
95 soils and geologic resources would be localized,  
96 long-term, minor, and adverse. There would be a  
97 long-term, moderate to major, adverse cumulative  
98 impact on soils and geologic resources. The  
99 actions contained in Alternative B would  
100 contribute a negligible increment to this  
101 cumulative impact.

102

103 **Plant Communities and Vegetation.** There are  
104 six major community types represented at the  
105 park: open beach, foredune, backdune, maritime  
106 forest, salt marsh, and disturbed areas. Impacts

1 would include those from Alternative A (continue  
2 current management) due primarily to removal of  
3 dead, diseased, or hazardous trees, as well as fuel  
4 removal in accordance with an approved fire  
5 management plan. Additional impacts would  
6 occur from the expansion of off-beach parking at  
7 the beach parking lots on the east and west sides  
8 of Highway A1A, unauthorized parking at various  
9 locations, and possible continued spread of non-  
10 native vegetation, as well as from trampling and  
11 other visitor use of existing facilities. The  
12 parking areas at the visitor center and the  
13 Mantanzas ramp would only be expanded by  
14 restriping within the existing footprint and  
15 therefore there would be no adverse impacts on  
16 plant communities resulting from parking spaces  
17 expansion at those two areas. Collectively,  
18 impacts to plant communities and vegetation from  
19 implementing Alternative B would be negligible  
20 to minor, adverse, long-term, and localized.  
21 These impacts would be beneficial to the extent  
22 the removed vegetation consisted of non-native  
23 species. Overall impacts would be mitigated by  
24 new plantings outside the historic core of the  
25 park.

26  
27 **Cumulative Impacts.** The closure of the Fort  
28 Matanzas National Monument Atlantic Ocean  
29 Beach to motorized vehicles on January 1, 2010 is  
30 expected to result in long-term beneficial impacts  
31 to dune vegetation. Regional growth and  
32 development is expected to result in an increase in  
33 the conversion of natural lands to developed areas  
34 and thereby increase the amount of disturbed land  
35 available for colonization by exotic species. The  
36 cumulative impact of these activities on native  
37 plants and plant communities is expected to be  
38 long-term, moderate to major, and adverse. The  
39 NPS Inventory & Monitoring program has begun  
40 the process of collecting data on trends in plant  
41 communities and the State of Florida is  
42 conducting vegetation classification and mapping  
43 of the park. The use of this information for future  
44 park planning would result in a beneficial effect to  
45 park resources.

46  
47 When the local, short- and long-term, direct,  
48 minor, and adverse effects of implementing the  
49 actions contained in Alternative B are added to  
50 the effects of other past, present, and reasonably  
51 foreseeable actions as described above, there  
52 would be a long-term, moderate to major, adverse  
53 cumulative impact on native natural processes

54 resulting from the loss of vegetative cover and the  
55 spread of exotic plants. The actions contained in  
56 Alternative B would contribute a very small  
57 increment to this adverse cumulative impact, and  
58 could even offset it to a negligible degree to the  
59 extent it results in the removal of non-native  
60 vegetation.

61  
62 **Conclusion.** Under Alternative B, impacts on  
63 plant communities and vegetation would be local,  
64 short- and long-term, direct, minor, and adverse.  
65 There could be long-term, moderate to major and  
66 adverse cumulative impacts to vegetation and  
67 plant communities in the surrounding region. The  
68 actions contained in Alternative B would  
69 contribute a very small increment to this  
70 cumulative impact.

71  
72 **Exotic/Nonnative/Nuisance Plants.** Based on the  
73 2004 study, *A Floristic Study of Fort Matanzas*  
74 *National Monument*, at the time there were 12  
75 cultivated exotics and 46 introduced species of  
76 plants at the park. Five of those were listed as  
77 invasive exotics and four of those five (*Asparagus*  
78 *aethiopicus*, *Cinnamomum camphora*,  
79 *Nephrolepis cordifolia*, *Lantana camara*) are  
80 ranked as Category I (invasive exotics altering  
81 native plant communities by displacing native  
82 species, changing community  
83 structures/ecological functions, or hybridizing  
84 with natives), and one, *Pteris vittata*, as Category  
85 II (invasive exotics increasing in  
86 abundance/frequency but not yet altered Florida  
87 plant communities to the extent shown by  
88 Category I). Exotic plants can have severe effects  
89 on the integrity of native systems and habitats.  
90 Visitors can be agents for seed dispersal,  
91 increasing the threat to native plant communities.  
92 Under Alternative B, impacts to park resources  
93 from the growth and spread of  
94 exotic/nonnative/nuisance plants would continue  
95 to occur. Removal of Category I and II exotics  
96 would take place as funding became available, but  
97 large scale restoration would not be likely to take  
98 place in the near term. Impacts from  
99 exotic/nonnative/nuisance species would be the  
100 same as those described under Alternative A,  
101 long-term, adverse, and moderate.

102  
103 **Cumulative Impacts.** Regional growth and  
104 development is expected to result in an increase in  
105 the conversion of natural lands to developed areas  
106 and thereby increase the amount of disturbed land

1 available for colonization by exotic and nuisance  
2 species. The impact of these activities on  
3 desirable native plants and plant communities is  
4 expected to be long-term, moderate to major, and  
5 adverse. When the long-term, moderate to major,  
6 and adverse effects of implementing the actions  
7 contained in Alternative B are added to the effects  
8 of other past, present, and reasonably foreseeable  
9 actions as described above, there would be a long-  
10 term, moderate to major, adverse cumulative  
11 impact on native natural processes resulting from  
12 the loss of vegetative cover and the spread of  
13 exotic plants.

14  
15 **Conclusion.** Under Alternative B, impacts from  
16 exotic plants and nonnative/nuisance vegetation  
17 would be long-term, adverse, and moderate to  
18 major. There could be a long-term, moderate to  
19 major, adverse cumulative impacts on native  
20 natural processes. The actions contained in  
21 Alternative B would offset these cumulative  
22 adverse impacts to a negligible degree.

23  
24 **Fish and Wildlife.** Impacts would include those  
25 from Alternative A (continue current  
26 management). However, this alternative could  
27 include larger areas of clearing for parking lot  
28 expansion of the two beach parking lots on the  
29 east and west sides of Highway A1A (excluding  
30 the visitor center parking lot and the Matanzas  
31 ramp parking area), therefore resultant impacts  
32 and disturbance to wildlife would be larger in  
33 context. Adverse impacts to fish and wildlife  
34 would result from increased siltation in adjacent  
35 waterways and loss of habitat due to removal of  
36 plant cover. Impacts to wildlife would be  
37 beneficial to the extent that removed vegetation  
38 consisted of invasive, non-native species. On  
39 balance, impacts to fish and wildlife would be  
40 local, short- and long-term, direct and indirect,  
41 minor, and both beneficial and adverse.

42  
43 **Threatened and Endangered Species (See**  
44 **Table 17 for T&E Species List).** The impacts  
45 would be the same as those described under  
46 Alternative A, except there is a larger potential for  
47 habitat loss and fragmentation due to parking lot  
48 expansion and construction of the two beach  
49 parking areas on the east and west sides of  
50 Highway A1A (excluding the visitor center  
51 parking area and the Matanzas ramp parking  
52 area). The NPS will implement necessary  
53 mitigations and continue with current closures and

54 management for the protection of these species.  
55 The park has implemented Endangered Species  
56 Protection Protocols (see Chapter 3), such as night  
57 closure of the beach during sea turtle nesting  
58 season, daily surveys for sea turtle nests, closure  
59 for least term nesting, a conservation zone for the  
60 protection of dune species (Anastasia Island  
61 Beach Mouse, Eastern Indigo Snake, Gopher  
62 Tortoise), and regular patrols of the beach and  
63 dune system. These protocols provide necessary  
64 and adequate protection to the threatened and  
65 endangered species known to live and nest within  
66 the park.

67  
68 **Cumulative Impacts.** Regional growth and  
69 development is expected to continue and result in  
70 an increase in the conversion of natural lands to  
71 development in the general area. The loss of  
72 natural areas and the increasing urbanization of  
73 the region have led to a loss of wildlife habitat.  
74 Continued urbanization will fragment remaining  
75 natural areas and increase the risks and threats to  
76 wildlife, including automobile collisions, exotic  
77 species, and pathogens. Rainwater runoff and  
78 industrial discharges from urban areas may lead to  
79 a deterioration of water quality, with  
80 corresponding impacts on fish species. Overall,  
81 the effects of the activities described above would  
82 likely be long-term, moderate, and adverse on fish  
83 and wildlife in the region. The University of  
84 North Florida is conducting research into the  
85 dispersion of invasive Green Mussels, *Perna*  
86 *viridus*. The information obtained from this  
87 research could ultimately lead to the extirpation of  
88 the species from the park.

89  
90 When the local, short- and long-term, direct,  
91 minor, and both beneficial and adverse effects of  
92 implementing the actions contained in Alternative  
93 B are added to the effects of other past, present,  
94 and reasonably foreseeable actions as described  
95 above, there would be a long-term, moderate,  
96 adverse cumulative impact on fish and wildlife.  
97 The actions contained in Alternative B would  
98 contribute a very small increment to this  
99 cumulative impact.

100  
101 **Conclusion.** Under Alternative B, impacts on  
102 fish and wildlife would be local, short- and long-  
103 term, direct and indirect, minor, and both  
104 beneficial and adverse. Minor adverse impacts to  
105 soil, water quality, and vegetation would result in  
106 minor adverse effects on some fish and wildlife

1 species. In contrast, the removal of exotics would  
2 result in minor beneficial effects on some wildlife  
3 species. This alternative would result in long-  
4 term, moderate, adverse cumulative impacts on  
5 fish and wildlife. The actions contained in  
6 Alternative B would contribute a very small  
7 increment to this cumulative impact.

8  
9 **Water Quality.** Impacts would include those  
10 from Alternative A (continue current  
11 management). Additional impacts could occur  
12 from the use of herbicides to control nonnative  
13 vegetation and the expansion of parking areas (the  
14 two beach parking areas on the east and west  
15 sides of Highway A1A – not the visitor center  
16 parking lot or the Mantanzas ramp parking area)  
17 with impervious surfaces and associated runoff.  
18 To mitigate impacts from herbicide, NPS would  
19 use the appropriate class of herbicide for the  
20 vegetation setting in question, would strictly  
21 adhere to application directions, and would use  
22 appropriate best management practices.  
23 Alternative B would result in impacts to  
24 hydrology and water quality that are negligible to  
25 minor, long-term, indirect, and adverse. Overall,  
26 impacts to water quality would be local, short-  
27 and long-term, direct, minor, and adverse. These  
28 impacts would be partially mitigated by use of  
29 best management practices during clearing and  
30 site recovery.

31  
32 **Cumulative Impacts.** Regional growth and  
33 development is expected to result in an increase in  
34 the conversion of natural lands to development  
35 and alter the hydrology of the general area. Water  
36 quality would be affected by inputs from urban  
37 and suburban development, including increases in  
38 organic compounds and chemical concentrations.  
39 Inputs would derive both from point sources (e.g.,  
40 sewer outfalls) and non-point sources (e.g., storm  
41 water runoff). The impact on water quality within  
42 the watershed is expected to be adverse, but the  
43 intensity is unknown. When the local, short- and  
44 long-term, direct, minor, and adverse effects of  
45 implementing the actions contained in Alternative  
46 B are added to the effects of other past, present,  
47 and reasonably foreseeable actions as described  
48 above, there would be a long-term, adverse  
49 cumulative impact on water quality in the  
50 watershed. The intensity of the impact is  
51 unknown. The actions contained in Alternative B  
52 would contribute a very small increment to this  
53 cumulative impact.

54  
55 **Conclusion.** Under Alternative B, impacts on  
56 water quality would be local, short- and long-  
57 term, direct, minor, and adverse. There would be  
58 a long-term, adverse cumulative impact on water  
59 quality in the watershed. The intensity of the  
60 impact is unknown. The actions contained in  
61 Alternative B would contribute a very small  
62 adverse increment to this cumulative impact.

## 63 64 **Floodplains**

65  
66 **Analysis.** Impacts would be the same as those  
67 from Alternative A (continue current  
68 management). Paving for parking lot expansion  
69 (the two beach parking areas on the east and west  
70 sides of Highway A1A – not the visitor center  
71 parking lot or the Mantanzas ramp parking area)  
72 would result in floodplain impacts because all of  
73 Fort Matanzas is in a 100-year floodplain with a  
74 wave velocity hazard zone extending from the  
75 beach on Anastasia Island to AIA and following  
76 around Matanzas Inlet. Depending on where  
77 additional parking construction would occur, the  
78 impacts to floodplains could be more or less.  
79 Overall, however impacts to floodplain functions  
80 would be negligible to minor.

81  
82 **Cumulative Impacts.** Cumulative Impacts  
83 would be the same as under Alternative A. The  
84 actions contained in Alternative B would  
85 contribute a very small increment to this  
86 cumulative impact.

87  
88 **Conclusion.** Impacts to floodplain functions  
89 under Alternative B would be local, direct and  
90 indirect, negligible to minor, and adverse.  
91 Impacts to infrastructure in the event of flooding  
92 would be short- and long-term, moderate to  
93 major, and adverse.

## 94 95 **Wetlands**

96  
97 **Analysis.** Impacts would be the same as those  
98 from Alternative A (continue current  
99 management). Collectively, impacts on wetlands  
100 under Alternative B would continue to be long-  
101 term, minor, adverse, beneficial, and localized.

102  
103 **Cumulative Impacts.** Cumulative Impacts  
104 would be the same as under Alternative A.

1 **Conclusion.** Under Alternative B, past impacts  
2 on wetlands would continue and would be long-  
3 term, minor, adverse, and localized. There would  
4 be a long-term, minor to major, adverse  
5 cumulative impact on wetlands. The actions  
6 contained in Alternative B would not contribute  
7 any new impacts to this cumulative impact.

## 9 **Soundscape / Natural Sounds**

11 **Analysis.** Alternative B would have the same  
12 effects on the natural sounds of the park as  
13 Alternative A with the emphasis on the  
14 preservation of the park's natural and cultural  
15 environment. Alternative B includes measures to  
16 increase interpretation of the natural environment  
17 and to encourage low-impact recreational  
18 activities. Alternative B would also include  
19 actions to adaptively reuse the existing visitor  
20 center, but minimizing changes to the natural  
21 environment.

23 The limited construction for parking lot expansion  
24 (the two beach parking areas on the east and west  
25 sides of Highway A1A – not the visitor center  
26 parking lot or the Mantanzas ramp parking area),  
27 construction to adapt the visitor center, and  
28 potential increase in interpretive programs and  
29 recreational programs would contribute a minor  
30 and potential increase of human-related sounds to  
31 the natural and cultural environment of the park.  
32 However, the overall level of human-related noise  
33 in all areas of Fort Matanzas would not change  
34 appreciably from existing levels as a result of  
35 implementing Alternative B. Consequently,  
36 negligible impacts would be anticipated and  
37 current levels would remain at a long-term, minor,  
38 adverse impact to natural quiet throughout those  
39 areas of the park where a natural quiet experience  
40 is desired. Limited construction would add a  
41 temporary, adverse minor impact to the  
42 soundscape during the time and in the immediate  
43 area of construction.

45 **Cumulative Impacts.** Cumulative impacts would  
46 be the same as those discussed under Alternative  
47 A. The continuous sources of sound in the area  
48 are not likely to change significantly or decrease  
49 from the current levels and result in a moderate  
50 adverse effect to natural sounds in the area. This  
51 alternative would contribute limited additional  
52 sounds to other past, present and reasonably  
53 foreseeable project sounds, so there would be

54 negligible additional cumulative impacts on the  
55 natural soundscape resulting from implementing  
56 this alternative.

58 **Conclusion.** Alternative B would have a  
59 continued long-term, minor effect on the natural  
60 soundscape and a temporary, minor adverse effect  
61 to the soundscape during the time of construction  
62 of the expansion of the parking lots and  
63 construction within the visitor center.

## 65 **Visitor Use and Experience**

67 **Analysis.** Impacts would generally be the same  
68 as Alternative A, except that implementation of  
69 Alternative B would remove vegetation to a  
70 greater extent for parking lot expansion. In  
71 addition, the park would explore adaptive reuse of  
72 the existing New Deal era visitor center,  
73 minimizing changes to the surrounding natural  
74 environment. No new recreational opportunities  
75 would be provided under this alternative. Overall,  
76 enhanced appreciation of the historic scene and  
77 continued availability of varied recreational  
78 opportunities would result in long-term, moderate,  
79 beneficial impacts to visitor use and experience.

81 **Cumulative Effects.** Regional growth is  
82 expected to result in increased development in the  
83 vicinity of the monument. The use of vehicles on  
84 the beach is allowed just north of the park  
85 boundary, giving those that prefer the experience  
86 of having a vehicle on the beach an opportunity to  
87 do so. Combining the long-term, moderate,  
88 beneficial effects of implementing Alternative B  
89 with the effects of other past, present, and  
90 reasonably foreseeable actions described above,  
91 the cumulative impact on visitor use and  
92 experience in the park would be long-term,  
93 moderate, and beneficial. The actions contained  
94 in Alternative B would contribute substantially to  
95 this cumulative impact.

97 **Conclusion.** Impacts to visitor use and  
98 experience would stem primarily from the  
99 creation of expanded parking and the adaptive  
100 reuse of the visitor center and would be local,  
101 short- and long-term, moderate, and both  
102 beneficial and adverse, depending on a given  
103 visitor's individual preferences.

## 105 **Socioeconomic Environment**

1 **Analysis.** Under Alternative B, visitation is  
2 unlikely to increase to any appreciable degree  
3 over current levels, but may increase some due to  
4 population growth. Impacts to the local economy  
5 from increased visitation-related spending would  
6 be long-term, direct and indirect, negligible, and  
7 beneficial.

8  
9 **Local Economy Employment.** Three permanent  
10 jobs would be created under Alternative B for law  
11 enforcement, interpretation, and maintenance  
12 needs. As a result, St. Johns County would realize  
13 very minor measurable long-term changes to its  
14 employment levels and long-term impacts  
15 resulting from Alternative B would be localized,  
16 negligible to minor, and beneficial. In addition,  
17 there may be a realization of short-term hiring due  
18 to the expansion of the parking lots (the two  
19 beach parking areas on the east and west sides of  
20 Highway A1A – not the visitor center parking lot  
21 or the Mantanzas ramp parking area) and the  
22 reuse of the visitor center; however, any impact  
23 would be negligible to minor. Short-term impacts  
24 of Alternative B would be localized, negligible to  
25 minor, and beneficial.

26  
27 **Housing.** Because Alternative B would entail  
28 hiring additional permanent staff, demand for  
29 residential housing would likely increase subject  
30 to the new employees relocation. Short-term  
31 impacts resulting from Alternative B would be  
32 localized and beneficial.

33  
34 **Sales.** Under Alternative B, total sales of goods  
35 and services in St. Johns County, as a result of  
36 visitor spending, would likely increase a small  
37 amount over the life of this plan. Because  
38 Alternative B would result in only a small  
39 increase in sales revenue, long-term impacts  
40 would be localized, negligible, and beneficial.

41  
42 **Cumulative Impacts.** The action area for  
43 evaluating cumulative impacts on the  
44 socioeconomic environment is St. Johns County.  
45 The implementation of Alternative B does not  
46 have a strong likelihood of attracting significant  
47 numbers of new visitors and locals to the  
48 monument. Relatively steady to slightly  
49 increased visitation would translate into slightly  
50 increased spending in the area, resulting in  
51 negligible beneficial impacts for St. Johns County  
52 in terms of employment, housing, and taxable  
53 annual sales. Combining the likely effects of

54 implementing Alternative B with the effects of  
55 other past, present, and reasonably foreseeable  
56 actions described above, the cumulative  
57 socioeconomic impacts would be localized,  
58 moderate, and beneficial. Alternative B would  
59 contribute a negligible increment to this  
60 cumulative impact.

61  
62 **Conclusion.** Because there would be only slight  
63 increases to visitor spending or park expenditures  
64 within St. Johns County under Alternative B,  
65 long-term and short-term impacts on the  
66 socioeconomic environment would be localized,  
67 negligible, and beneficial. As a result, county  
68 employment, housing, and sales would not be  
69 measurably affected. In terms of cumulative  
70 impacts, long-term and short-term impacts would  
71 be localized, moderate, and beneficial. Alternative  
72 B would contribute a negligible increment to this  
73 total cumulative effect.

## 74 75 76 **Park Operations**

77  
78 **Analysis.** The impacts of Alternative B to park  
79 operations would include those of Alternative A.  
80 No addition of permanent staff is necessary to  
81 implement Alternative B. Thus, Alternative B  
82 would result in minor, long-term, neutral impacts  
83 on NPS operations.

84  
85 **Cumulative Impacts.** Same as Alternative A.

86  
87 **Conclusion.** Operation of existing and projected  
88 visitor and administrative facilities in the  
89 monument would result in minor, long-term,  
90 neutral impacts on NPS operations. The  
91 cumulative impacts of Alternative B and other  
92 reasonably foreseeable future actions required of  
93 park staff would be minor to moderate, long-term,  
94 and neutral.

## 95 96 **Transportation**

97  
98 **Analysis.** The impacts would be essentially the  
99 same as Alternative A; however, the effect would  
100 likely be diminished if more extensive parking is  
101 accomplished through this alternative. The  
102 increase in parking would be beneficial to overall  
103 circulation through the park and to and from the  
104 beach. Effects would be minor, long-term, and  
105 beneficial.

1 **Cumulative Impacts.** Recent (2009) parking lot  
2 expansion has provided some mitigation for on-  
3 beach parking which was discontinued within the  
4 boundaries of Fort Matanzas National Monument  
5 in January 2010. Although vegetation was  
6 removed for the construction, the park was able to  
7 transplant some species. When added to the  
8 congestion of tourist traffic to and from St.  
9 Augustine, the additional congestion at the park  
10 would add a long-term, negligible to minor  
11 adverse effect.

12  
13 **Conclusion.** The loss of on-beach parking that  
14 existed prior to January 2010 plus the crowded  
15 conditions of existing parking lots on the east and  
16 west sides of Highway A1A would be partially  
17 mitigated through the expansion of off-beach  
18 parking (the two beach parking areas on the east  
19 and west sides of Highway A1A – not the visitor  
20 center parking lot or the Mantanzas ramp parking  
21 area). Although the direct effects of construction  
22 would be noticeable, the result of additional  
23 parking would alleviate some congestion at the  
24 park. The effects of Alternative B would be long-  
25 term, minor, and beneficial. The cumulative  
26 impacts of Alternative B and other reasonably  
27 foreseeable future and past actions regarding  
28 transportation would be long-term, minor, and  
29 adverse.

### 30 31 **Effects on Energy Requirements and** 32 **Conservation Potential**

33  
34 Under Alternative B, no new facilities would be  
35 developed other than parking lot expansion,  
36 thereby resulting in very slight new energy  
37 requirements for facility construction. Some fuel  
38 would be consumed in the course of restoring  
39 historic sites, but the amounts would be minor.  
40 Public use of the monument would remain at  
41 about its current level. The fuel and energy  
42 consumed by visitors traveling to the monument  
43 would not be likely to increase because visitation  
44 is not likely to increase substantially. Energy  
45 would still be consumed to maintain existing  
46 facilities and for resource management of the  
47 monument.

### 48 49 **Unavoidable Adverse Impacts**

50  
51 Unavoidable adverse impacts are defined as  
52 impacts that cannot be fully mitigated or avoided.  
53 Adverse impacts on natural and cultural resources

54 and visitor experience could occur in some areas  
55 throughout the monument, resulting from limited  
56 public use or NPS management activities.

### 57 58 **Irretrievable or Irreversible** 59 **Commitments of Resources**

60  
61 Under Alternative B, the energy requirements  
62 identified above would result in an irreversible  
63 commitment of resources. There would be no  
64 permanent effects on monument resources.

### 65 66 **Relationship between Local Short-** 67 **Term Uses of the Environment and** 68 **Maintenance or Enhancement of** 69 **Long-Term Productivity**

70  
71 In this alternative, most of the monument would  
72 be protected in a natural state and would maintain  
73 its long-term productivity. Only a small  
74 percentage of the monument would be maintained  
75 as developed areas.

## 76 77 78 **IMPACTS OF IMPLEMENTING** 79 **ALTERNATIVE C**

### 80 81 **Cultural Resources**

82  
83 **Archeological Resources.** Alternative C does  
84 not call for any changes in the management of  
85 archeological resources; however, the unearthing  
86 of artifacts could occur during construction of  
87 new trails, the expansion of parking lots (the two  
88 beach parking areas on the east and west sides of  
89 Highway A1A – not the visitor center parking lot  
90 or the Mantanzas ramp parking area), the use of  
91 off-road vehicles, and visitor circulation patterns.  
92 Impacts to these resources would be mitigated by  
93 the use of surveys prior to ground disturbance  
94 when possible; therefore, impacts would be  
95 negligible to minor, adverse.

96  
97 **Cumulative Impacts.** Same as Alternative A and  
98 B. The actions contained in Alternative C would  
99 contribute a negligible increment to this  
100 cumulative impact.

101  
102 **Conclusion.** Under Alternative C, impacts on  
103 archeological resources would be permanent,  
104 negligible to minor, and adverse. Cumulative  
105 impacts would be permanent, minor to moderate,

1 and adverse. The actions contained in Alternative  
2 C would contribute a negligible increment to this  
3 cumulative impact.

4  
5 **Section 106 Summary.** After applying the  
6 Advisory Council on Historic Preservation's  
7 criteria of adverse effects (36 CFR part 800.5,  
8 *Assessment of Adverse Effects*), the NPS has  
9 determined that the adverse impacts identified  
10 under the NEPA analysis above would not alter or  
11 diminish, directly or indirectly, any of the  
12 characteristics of the National Monument that  
13 qualify the property for inclusion in the National  
14 Register and therefore concludes that  
15 implementation of Alternative C would have no  
16 adverse effect on archeological resources.

17  
18 **Museum Collections.** Impacts to museum  
19 collections would be the same as under  
20 Alternative A. This alternative does not call for  
21 any changes in the management of museum  
22 collections. Museum collections would be co-  
23 located with the collections of other parks in a  
24 multi-park facility located at Timucuan  
25 Ecological and Historic Preserve, thereby  
26 eliminating their vulnerability to storm surge and  
27 wind damage. Impacts to museum collections  
28 would be permanent and beneficial.

29  
30 **Cumulative Impacts.** Same as Alternative A.  
31 The actions contained in Alternative C would  
32 contribute a negligible increment to this  
33 cumulative impact.

34  
35 **Conclusion.** Under Alternative C, impacts to  
36 museum collections would be permanent and  
37 beneficial. Cumulative impacts would be  
38 permanent, minor, and adverse. The actions  
39 contained in Alternative C would contribute a  
40 negligible increment to this cumulative impact.

41  
42 **Section 106 Summary.** After applying the  
43 Advisory Council on Historic Preservation's  
44 criteria of adverse effects (36 CFR part 800.5,  
45 *Assessment of Adverse Effects*) the NPS has  
46 determined that the adverse impacts identified  
47 under the NEPA analysis above would not alter or  
48 diminish, directly or indirectly, any of the  
49 characteristics of the National Monument that  
50 qualify the property for inclusion in the National  
51 Register and therefore concludes that  
52 implementation of Alternative C would have no  
53 adverse effect on museum collections.

## 54 55 **Historic Structures**

56  
57 **Analysis.** Same as Alternative B plus the 1937  
58 visitor center, park headquarters, and associated  
59 roads, driveways, and parking areas would be  
60 interpreted as a National Register Historic District  
61 as a result of the listing of these resources on the  
62 National Register on December 31, 2008.  
63 Impacts on historic structures due to adaptive  
64 reuse and fort stabilization and the emphasis on  
65 the site as a National Register Historic District  
66 would be long-term and beneficial. However,  
67 continued use of the structures would result in  
68 negligible to minor adverse impacts from routine  
69 use.

70  
71 **Cumulative Impacts.** Cumulative impacts would  
72 be the same as those with Alternative A and B.  
73 The continued preservation and restoration of  
74 structures within the neighboring parks and  
75 protected areas would provide a long-term  
76 beneficial effect to historic resources. The  
77 development of some sites could result in the  
78 damage of historic structures, particularly if the  
79 development of the site was not to the Secretary  
80 of Interiors Standards; however, the neighboring  
81 parks and protected areas would likely implement  
82 similar protection measures to avoid adverse  
83 effects to resources when possible. The actions  
84 contained in Alternative C would offset these  
85 cumulative adverse impacts to a negligible  
86 degree.

87  
88 **Conclusion.** Under Alternative C, impacts to  
89 historic structures would be would for the most  
90 part be local, long-term, direct and indirect,  
91 moderate and beneficial. Some short-term,  
92 negligible to minor adverse impacts would occur,  
93 mostly due to normal wear and tear. Cumulative  
94 impacts would be minor to moderate and adverse  
95 due to continued development in the local and  
96 regional area. The beneficial actions contained in  
97 Alternative C would offset these cumulative  
98 adverse impacts to a negligible degree.

99  
100 **Section 106 Summary.** After applying the  
101 Advisory Council on Historic Preservation's  
102 criteria of adverse effects (36 CFR part 800.5,  
103 *Assessment of Adverse Effects*), the NPS has  
104 determined that the adverse impacts identified  
105 under the NEPA analysis above would not alter or  
106 diminish, directly or indirectly, any of the

1 characteristics of the National Monument that  
2 qualify the property for inclusion in the National  
3 Register and therefore concludes that  
4 implementation of Alternative C would have no  
5 adverse effect on historic structures.

## 7 **Potential Cultural Landscapes**

9 **Analysis.** Following completion and approval of  
10 a Cultural Landscape Report for the park, the  
11 northern section of the Anastasia Island section of  
12 the National Monument, consisting of the visitor  
13 center, headquarters, park roads and driveways,  
14 parking areas, surrounding landscape, and the  
15 Matanzas Ramp (access road to the Atlantic  
16 Ocean beach) would be restored or preserved as  
17 directed by data indicated in the report. The area  
18 has not been designated a cultural landscape.  
19 However, the surrounding landscape of the visitor  
20 center remains largely unchanged since its initial  
21 development in 1937. Both the HQ/VC and its  
22 designed setting continue to reflect the intentions  
23 of the original development plans and retain their  
24 original character and integrity to a high degree.  
25 Impacts would be local, long-term, direct and  
26 indirect and beneficial. Periodic removal of non-  
27 native vegetation would continue to occur under  
28 this alternative through periodic employment of  
29 NPS exotic plant management teams. Impacts on  
30 the potential cultural landscape would be long-  
31 term and beneficial. No facility development is  
32 planned and the expansion of parking would be  
33 accomplished by restriping and reconfiguration of  
34 parking spaces within the existing footprint.  
35 Therefore there would be no adverse impacts to  
36 the potential cultural landscape from an expansion  
37 of the number of parking spaces.

38  
39 **Cumulative Impacts.** Cumulative impacts  
40 would generally be the same as under Alternative  
41 B. The actions contained in Alternative C would  
42 contribute a moderate increment to this  
43 cumulative impact.

44  
45 **Conclusion.** Under Alternative C, impacts would  
46 be local, long-term, direct and indirect and  
47 beneficial from the maintenance of the area as a  
48 potential cultural landscape and minor, adverse  
49 from the removal of vegetation and expansion of  
50 parking lots (the two beach parking areas on the  
51 east and west sides of Highway A1A – not the  
52 visitor center parking lot or the Mantanzas ramp  
53 parking area). Cumulative impacts would be

54 long-term, minor to moderate, and both beneficial  
55 and adverse. Alternative C would contribute a  
56 moderate, beneficial increment to this cumulative  
57 impact.

58  
59 **Section 106 Summary.** After applying the  
60 Advisory Council on Historic Preservation’s  
61 criteria of adverse effects (36 CFR part 800.5,  
62 *Assessment of Adverse Effects*), the NPS has  
63 determined that the adverse impacts identified  
64 under the NEPA analysis above would not alter or  
65 diminish, directly or indirectly, any of the  
66 characteristics of the National Monument that  
67 qualify the property for inclusion in the National  
68 Register and therefore concludes that  
69 implementation of Alternative C would have no  
70 adverse effect on potential cultural landscapes.

## 72 73 **Natural Resources**

74  
75 **Geology and Soils.** Impacts would include those  
76 from Alternative B along with additional impacts  
77 from a notable increase in interpretive programs  
78 and an increase in visitor services such as new  
79 trails. Impacts to soils and geologic resources  
80 would be local, short-term, direct, moderate  
81 adverse and long-term, direct, moderate adverse.  
82 Impacts would result from the compaction of  
83 soils, the disturbance to soils as a result of  
84 construction, and erosion due to construction and  
85 continued use. Some of these impacts would be  
86 partially mitigated by use of best management  
87 practices during clearing. In addition, the NPS  
88 Inventory & Monitoring program has begun the  
89 process of collecting data on coastal shoreline  
90 change. The information obtained through this  
91 program will provide data that the park can use  
92 for future decision-making. This would result in a  
93 beneficial effect to park resources. Potential  
94 minimal expansion of the following parking areas:  
95 beach ramp (by restriping and reconfiguration  
96 within the existing footprint only – no ground  
97 disturbance), both parking areas at south end of  
98 Anastasia Island. Impacts resulting from the  
99 effort to obtain authority to allow ORV use on the  
100 beach, should such an effort be successful, would  
101 be determined as part of the ORV plan,  
102 environmental impact statement and related  
103 rulemaking process,

104  
105 **Cumulative Impacts.** Cumulative impacts would  
106 generally be the same as under Alternative B.

1 The actions contained in Alternative C would  
2 contribute a minor increment to this cumulative  
3 impact.

4  
5 **Conclusion.** Impacts would include those  
6 discussed under Alternative B, together with  
7 additional erosion from construction and use of  
8 new trails, other recreational facilities. Impacts to  
9 soils would be local, short-term, moderate adverse  
10 and long-term, moderate adverse. There would be  
11 a long-term, moderate to major, adverse  
12 cumulative impact on soils and geologic  
13 resources. The actions contained in Alternative C  
14 would contribute a minor increment to this  
15 cumulative impact.

16  
17 **Plant Communities and Vegetation.** There are  
18 six major community types represented at the  
19 park: open beach, foredune, backdune, maritime  
20 forest, salt marsh, and disturbed areas. Impacts  
21 would occur from the expansion of off-beach  
22 parking (the two beach parking areas on the east  
23 and west sides of Highway A1A – not the visitor  
24 center parking lot or the Mantanzas ramp parking  
25 area), unauthorized parking at various locations,  
26 trail development, and possible continued spread  
27 of non-native vegetation, as well as from  
28 trampling and other visitor use of existing  
29 facilities. Collectively, impacts to plant  
30 communities and vegetation from implementing  
31 Alternative C would be minor to moderate,  
32 adverse, long-term, and localized. These impacts  
33 would be beneficial to the extent the removed  
34 vegetation consisted of non-native species. The  
35 use of ORV's can have a detrimental effect on  
36 vegetation if not managed (i.e. driving too close to  
37 the dune vegetation, not following authorized  
38 routes, not using the on-ramps and cutting through  
39 the dunes). Should the use of ORV's on the  
40 beach occur in the future, an in depth analysis on  
41 effects would occur as part of the required ORV  
42 plan, environmental impact statement, and related  
43 rulemaking process.

44  
45 **Cumulative Impacts.** Cumulative impacts would  
46 generally be the same as under Alternative B.  
47 The actions contained in Alternative C would  
48 contribute a minor increment to this adverse  
49 cumulative impact.

50  
51 **Conclusion.** Under Alternative C, impacts on  
52 plant communities and vegetation would be local,  
53 short-term, direct, minor to moderate adverse and

54 long-term, direct, minor to moderate adverse.  
55 There could be long-term, moderate to major and  
56 adverse cumulative impacts to vegetation and  
57 plant communities in the surrounding region. The  
58 actions contained in Alternative C would  
59 contribute a minor increment to this cumulative  
60 impact.

61  
62 **Exotic/Nonnative/Nuisance Plants.** Based on the  
63 2004 study, *A Floristic Study of Fort Matanzas*  
64 *National Monument*, at the time there were 12  
65 cultivated exotics and 46 introduced species of  
66 plants at the park. Five of those were listed as  
67 invasive exotics and four of those five (*Asparagus*  
68 *aethiopicus*, *Cinnamomum camphora*,  
69 *Nephrolepis cordifolia*, *Lantana camara*) are  
70 ranked as Category I (invasive exotics altering  
71 native plant communities by displacing native  
72 species, changing community  
73 structures/ecological functions, or hybridizing  
74 with natives), and one, *Pteris vittata*, as Category  
75 II (invasive exotics increasing in  
76 abundance/frequency but not yet altered Florida  
77 plant communities to the extent shown by  
78 Category I). Exotic plants can have severe effects  
79 on the integrity of native systems and habitats.  
80 Visitors can be agents for seed dispersal,  
81 increasing the threat to native plant communities.  
82 Under Alternative C, impacts to park resources  
83 from the growth and spread of  
84 exotic/nonnative/nuisance plants would continue  
85 to occur. Some limited removal of exotics would  
86 take place as funding became available, but large  
87 scale restoration would not be likely to take place  
88 in the near term. Impacts from exotic/nonnative  
89 species would be the same as those described  
90 under Alternative A and B, long-term, adverse,  
91 and moderate.

92  
93 **Cumulative Impacts.** Cumulative impacts would  
94 generally be the same as under Alternative B.

95  
96 **Conclusion.** Under Alternative C, impacts from  
97 exotic plants and nonnative vegetation would be  
98 long-term, adverse, and moderate to major. There  
99 could be a long-term, moderate to major, adverse  
100 cumulative impacts on native natural processes.  
101 The actions for exotic plant control contained in  
102 Alternative C would offset these cumulative  
103 adverse impacts to a negligible degree.

104  
105 **Fish and Wildlife.** Impacts would include those  
106 from Alternative B, however, this alternative

1 could include larger areas of clearing for parking  
2 lot expansion and trail development. Adverse  
3 impacts to fish and wildlife would result from  
4 increased siltation in adjacent waterways and loss  
5 of habitat due to removal of plant cover. Impacts  
6 to wildlife would be beneficial to the extent that  
7 removed vegetation consisted of non-native  
8 species. On balance, impacts to fish and wildlife  
9 would be local, short- and long-term, direct and  
10 indirect, minor to moderate, and both beneficial  
11 and adverse. Impacts resulting from the effort to  
12 obtain authority to allow ORV use on the beach,  
13 should such an effort be successful, would be  
14 determined as part of the ORV plan,  
15 environmental impact statement and related  
16 rulemaking process.

17  
18 **Threatened and Endangered Species (See**  
19 **Table 17 for T&E Species List).** The impacts  
20 would include those described under Alternative  
21 A and B, except there is a larger potential for  
22 habitat loss and fragmentation due to parking lot  
23 expansion and construction and the potential for  
24 future regulations allowing beach driving. The  
25 operation of motor vehicles on the beach affects  
26 sea turtle nesting by interrupting or striking a  
27 female turtle on the beach, headlights disorienting  
28 or misorienting emergent hatchlings, vehicles  
29 running over hatchlings attempting to reach the  
30 ocean, and vehicle tracks traversing the beach that  
31 interfere with hatchlings crawling to the ocean.  
32 Hatchlings appear to become diverted not because  
33 they cannot physically climb out of the rut  
34 (Hughes and Caine 1994), but because the sides  
35 of the track cast a shadow and the hatchlings lose  
36 their line of sight to the ocean horizon (Mann  
37 1977). The extended period of travel required to  
38 negotiate tire tracks and ruts may increase the  
39 susceptibility of hatchlings to dehydration and  
40 depredation during migration to the ocean (Hosier  
41 *et al.* 1981). Driving on the beach can cause sand  
42 compaction, which may result in adverse impacts  
43 on nest site selection, digging behavior, clutch  
44 viability, and emergence by hatchlings,  
45 decreasing nest success and directly killing pre-  
46 emergent hatchlings (Mann 1977, Nelson and  
47 Dickerson 1987, Nelson 1988).

48  
49 The physical changes and loss of plant cover  
50 caused by vehicles on dunes can lead to various  
51 degrees of instability and therefore encourage  
52 dune migration. As vehicles move either up or  
53 down a slope, sand is displaced downward,

54 lowering the trail. Since the vehicles also inhibit  
55 plant growth, and open the area to wind erosion,  
56 dunes may become unstable, and begin to  
57 migrate. Unvegetated sand dunes may continue to  
58 migrate across stable areas as long as vehicle  
59 traffic continues. Vehicular traffic through dune  
60 breaches or low dunes on an eroding beach may  
61 cause an accelerated rate of overwash and beach  
62 erosion (Godfrey *et al.* 1978). If driving is  
63 required, the area where the least amount of  
64 impact occurs is the beach between the low and  
65 high tide water lines. Vegetation on the dunes can  
66 quickly reestablish provided the mechanical  
67 impact is removed. The NPS has prepared a  
68 Biological Assessment for the species presented  
69 in the analysis portion of Alternative A and  
70 submitted it to the USFWS. The NPS will  
71 implement necessary mitigations and continue  
72 with current closures and management for the  
73 protection of these species. The park has  
74 implemented Endangered Species Protection  
75 Protocols (see Chapter 3), such as night closure of  
76 the beach during sea turtle nesting season, daily  
77 surveys for sea turtle nests, closure for least tern  
78 nesting, a conservation zone for the protection of  
79 dune species (Anastasia Island Beach Mouse,  
80 Eastern Indigo Snake, Gopher Tortoise), and  
81 regular patrols of the beach and dune system.  
82 These protocols provide necessary and adequate  
83 protection to the threatened and endangered  
84 species known to live and nest within the park.  
85 Future consultation with the U.S. Fish and  
86 Wildlife Service would be necessary to determine  
87 necessary mitigation for the protection of these  
88 species if an ORV regulation is pursued and if it is  
89 approved.

90  
91 While access to public lands improves the  
92 experience of ORV users, motorized access to  
93 sensitive environments, such as coastal  
94 ecosystems, can pose a threat to sensitive species  
95 that rely on the beach habitat. Loud engines in  
96 quiet environments can disturb wildlife and affect  
97 visitor enjoyment for those who use parks as  
98 places of peace and solace (Proescholdt 2007). If  
99 Alternative C were to be selected and an ORV  
100 regulation pursued and approved, a thorough  
101 environmental analysis would occur prior to  
102 implementation.

103  
104 **Cumulative Impacts.** Cumulative impacts would  
105 generally be the same as under Alternative B.  
106 The actions contained in Alternative C could

1 contribute a minor to moderate increment to this  
2 cumulative impact if an ORV regulation were to  
3 be approved.

4  
5 **Conclusion.** Under Alternative C, impacts on fish  
6 and wildlife would be local, short- and long-term,  
7 direct and indirect, minor to moderate, and both  
8 beneficial and adverse. Impacts would result  
9 primarily from modifications of the natural  
10 environment to accommodate new trails,  
11 expanded parking lots (the two beach parking  
12 areas on the east and west sides of Highway A1A  
13 – not the visitor center parking lot or the  
14 Mantanzas ramp parking area), and visitor  
15 circulation patterns. Minor adverse impacts to  
16 soil, water quality, and vegetation would result in  
17 minor adverse effects on some fish and wildlife  
18 species. In contrast, the removal of exotics would  
19 result in minor beneficial effects on some wildlife  
20 species. This alternative would result in long-  
21 term, moderate, adverse cumulative impacts on  
22 fish and wildlife. The actions contained in  
23 Alternative C would contribute a minor to  
24 moderate increment to this cumulative impact. If  
25 this alternative were selected, NPS would seek to  
26 promulgate an ORV regulation with an ORV plan  
27 and environmental impact statement that would  
28 fully assess the effects of re-established driving  
29 on the beach under a number of alternative  
30 scenarios.

31  
32 **Water Quality.** Impacts would include those  
33 from Alternative A (continue current  
34 management). Additional impacts could occur  
35 from the use of herbicides to control nonnative  
36 vegetation and the addition of parking areas /  
37 impervious surfaces and associated runoff. To  
38 mitigate impacts from herbicides, the NPS would  
39 use the appropriate class of herbicide for the  
40 vegetation setting in question, would strictly  
41 adhere to application directions, and would use  
42 appropriate best management practices.  
43 Additional impacts could occur due to the use of  
44 ORVs when a regulation is pursued and if it is  
45 approved. Impacts resulting from the effort to  
46 obtain authority to allow ORV use on the beach,  
47 should such an effort be successful, would be  
48 determined as part of the ORV plan,  
49 environmental impact statement and related  
50 rulemaking process, Alternative C would result in  
51 impacts to hydrology and water quality that are  
52 negligible to minor, long-term, indirect, and  
53 adverse. Overall, impacts to water quality would

54 be local, short- and long-term, direct, minor, and  
55 adverse. These impacts would be partially  
56 mitigated by use of best management practices  
57 during clearing and site recovery.

58  
59 **Cumulative Impacts.** Cumulative impacts would  
60 generally be the same as under Alternative B.  
61 The actions contained in Alternative C would  
62 contribute a minor increment to this adverse  
63 cumulative impact.

64  
65 **Conclusion.** Under Alternative C, impacts on  
66 water quality would be local, short- and long-  
67 term, minor, and adverse. There would be a long-  
68 term, adverse cumulative impact on water quality  
69 in the watershed. The intensity of the impact is  
70 unknown. The actions contained in Alternative C  
71 would contribute a minor increment to this  
72 cumulative impact. Impacts would be partially  
73 mitigated by use of best management practices  
74 during clearing and site recovery.

## 75 76 **Floodplains**

77  
78 **Analysis.** Impacts would be the same as those  
79 from Alternative A and B (continue current  
80 management). Ground disturbance would result  
81 in floodplain impacts because all of Fort  
82 Matanzas is in a 100-year floodplain with a wave  
83 velocity hazard zone extending from the beach on  
84 Anastasia Island to AIA and following around  
85 Matanzas Inlet. Depending on where additional  
86 parking construction would occur, the impacts to  
87 floodplains could be more or less. Overall,  
88 however impacts to floodplain functions would be  
89 negligible to minor.

90  
91 **Cumulative Impacts.** Cumulative Impacts  
92 would be the same as under Alternative A and B.  
93 The actions contained in Alternative C would  
94 contribute a very small increment to this  
95 cumulative impact.

96  
97 **Conclusion.** Impacts to floodplain functions  
98 under Alternative C would be local, direct and  
99 indirect, negligible to minor, and adverse.  
100 Impacts to infrastructure in the event of flooding  
101 would be short- and long-term, moderate to  
102 major, and adverse.

## 103 104 **Wetlands**

105

1 **Analysis.** Impacts would be the same as those  
2 from Alternative A and B. Collectively, impacts  
3 on wetlands under Alternative C would continue  
4 to be long-term, minor, adverse, beneficial, and  
5 localized.

6  
7 **Cumulative Impacts.** Cumulative Impacts  
8 would be the same as under Alternative A and B.

9  
10 **Conclusion.** Under Alternative C, past impacts  
11 on wetlands would continue and would be long-  
12 term, minor, adverse, and localized. There would  
13 be a long-term, minor to major, adverse  
14 cumulative impact on wetlands. The actions  
15 contained in Alternative C would not contribute  
16 any new impacts to this cumulative impact.

## 17 **Soundscape / Natural Sounds**

18  
19  
20 Alternative C would have the same effects to the  
21 natural sounds of the park as Alternative B with  
22 the emphasis on the preservation of the park's  
23 cultural environment. Alternative C includes  
24 measures to increase interpretation of the cultural  
25 environment, expand parking lots (the two beach  
26 parking areas on the east and west sides of  
27 Highway A1A – not the visitor center parking lot  
28 or the Mantanzas ramp parking area), add new  
29 trails, and improve visitor circulation patterns.  
30 Alternative C would also include actions to seek  
31 the authority to permit use of ORVs on the  
32 Anastasia Island beach within the boundary of the  
33 National Monument. The construction of new  
34 trails, potential increase in interpretive programs,  
35 and potential changes to visitor circulation would  
36 contribute a noticeable increase in sounds related  
37 to human activity on the natural and cultural  
38 environment of the park. These sounds would  
39 include construction activities during the time and  
40 in the immediate area of construction that would  
41 result in temporary and minor adverse effects.  
42 Effects would be apparent to those visitors  
43 seeking natural quiet, the sounds of the ocean, and  
44 the wildlife of a coastal environment. The effects  
45 of sounds attributable to the re-establishment of  
46 beach driving at Fort Matanzas, should  
47 Alternative C be selected and should the effort to  
48 promulgate a special regulation be successful,  
49 would be analyzed in detail in the required ORV  
50 plan and environmental impact statement that  
51 would be part of the rulemaking process.

52

53 **Cumulative Impacts.** Cumulative impacts would  
54 be the same as those discussed under Alternative  
55 B. The continuous sources of sound in the area  
56 are not likely to change significantly or decrease  
57 from the current levels and result in a moderate  
58 adverse effect to natural sounds in the area. This  
59 alternative would contribute some additional  
60 human generated sounds to other past, present and  
61 reasonably foreseeable project sounds, so there  
62 would be minor additional cumulative impact on  
63 the natural soundscape resulting from  
64 implementing this alternative.

65 **Conclusion.** Alternative C would have a long-  
66 term, minor adverse effect from ongoing visitor  
67 and park management sources and a temporary,  
68 minor adverse effect to the soundscape during the  
69 time of construction related to the expansion of  
70 the parking lots (the two beach parking areas on  
71 the east and west sides of Highway A1A – not the  
72 visitor center parking lot or the Mantanzas ramp  
73 parking area) and new trails. Effects on the  
74 soundscape from the potential re-establishment of  
75 beach driving following the promulgation of a  
76 rulemaking, should it be successful, would be  
77 determined through the preparation of an ORV  
78 plan and environmental impact statement.

79

## 80 **Visitor Use and Experience**

81  
82 **Analysis.** Impacts would generally be the same  
83 as Alternative A and B, except that  
84 implementation of Alternative C would include  
85 enhanced opportunities throughout the park  
86 interpreting the park's evolution and  
87 development, the addition of new trails, changes  
88 in visitor circulation patterns, more interpretive  
89 emphasis on the cultural history than the natural  
90 history of the site, and removal of vegetation to a  
91 greater extent for parking lot expansion. In  
92 addition, the park would explore adaptive reuse of  
93 the existing New Deal era visitor center,  
94 minimizing changes to the surrounding natural  
95 environment. Visitors may have vehicle access to  
96 the beach if Alternative C is selected and if the  
97 promulgation of a special regulation to permit  
98 beach driving is successful. In addition, the  
99 environmental analysis in the required ORV Plan  
100 would have to demonstrate no impairment of  
101 resources. There would be a focus on the north  
102 end of the Anastasia Island (west of A1A) section  
103 of the park with the New Deal era visitor center  
104 and interpretation of the land donations and other

1 activities of St. Augustine organizations to restore  
2 and commemorate the Fort for local residents and  
3 tourists.

4  
5 Overall, enhanced appreciation of the historic  
6 scene, improved visitor circulation, new  
7 opportunities for trail walks, and continued  
8 availability of varied recreational opportunities  
9 would result in long-term, beneficial impacts to  
10 visitor use and experience.

11  
12 Under Alternative C, personal vehicular access to  
13 the Fort Matanzas beach would initially continue  
14 to be prohibited in accord with current law,  
15 regulation, NPS policy and presidential executive  
16 orders. However, the NPS would attempt to  
17 promulgate a regulation to permit beach driving  
18 within limits and conditions that would be  
19 established as part of the rulemaking process. If  
20 the regulation were to be approved, the effects on  
21 visitor use and experience would be analyzed in  
22 detail in the ORV plan and environmental impact  
23 statement that would be required as part of the  
24 process.

25  
26 **Cumulative Effects.** Regional growth is  
27 expected to result in increased development in the  
28 vicinity of the monument. The use of vehicles on  
29 the beach is allowed just north of the park  
30 boundary. Combining the long-term, beneficial  
31 effects and long-term minor to moderate adverse  
32 effects of implementing Alternative C with the  
33 effects of other past, present, and reasonably  
34 foreseeable actions described above, the  
35 cumulative impact on visitor use and experience  
36 in the park would be long-term, and beneficial or  
37 adverse, depending on the beach experience  
38 desired by the visitor. The actions contained in  
39 Alternative C would contribute minor to moderate  
40 impacts to cumulative effects.

41  
42 **Conclusion.** Impacts to visitor use and  
43 experience would stem primarily from the  
44 expansion of existing parking lots (the two beach  
45 parking areas on the east and west sides of  
46 Highway A1A – not the visitor center parking lot  
47 or the Mantanzas ramp parking area) and the  
48 adaptive reuse of the visitor center. Impacts would  
49 be local, short- and long-term, moderate, and both  
50 beneficial and adverse, depending on a given  
51 visitor’s individual preferences. The impacts on  
52 visitor use and experience due the potential re-  
53 establishment of beach driving would be

54 determined in detail as part of the required  
55 rulemaking process which includes an ORV plan  
56 and an environmental impact statement.

## 57 58 **Socioeconomic Environment**

59  
60 **Analysis.** Under Alternative C, visitation is  
61 unlikely to increase to any appreciable degree  
62 over current levels, but may increase some due to  
63 population growth. Impacts to the local economy  
64 from increased visitation-related spending would  
65 be long-term, direct and indirect, negligible, and  
66 beneficial. There is a possibility of a loss of  
67 visitation, particularly from those who are  
68 currently enjoying the beach without the conflict  
69 of ORV use.

70  
71 **Local Economy Employment.** Five new  
72 permanent jobs would be created under  
73 Alternative C for law enforcement, interpretation,  
74 and maintenance. As a result, St. Johns County  
75 would realize very minor measurable long-term  
76 changes to its employment levels and long-term  
77 impacts resulting from Alternative C would be  
78 localized and beneficial. In addition, there may be  
79 a realization of short-term hiring due to the  
80 construction resulting from the expansion of the  
81 parking lots and the reuse of the visitor center;  
82 however, any impact would be negligible to  
83 minor. Short-term impacts of Alternative C  
84 would be localized and beneficial.

85  
86 **Housing.**  
87 Because Alternative C would entail hiring  
88 additional permanent staff, demand for residential  
89 housing would likely increase subject to the new  
90 employees relocation. Short-term impacts  
91 resulting from Alternative C would be localized  
92 and beneficial.

93  
94 **Sales.** Under Alternative C, total sales of goods  
95 and services in St. Johns County, as a result of  
96 visitor spending, would likely increase a small  
97 amount over the life of this plan. Because  
98 Alternative C would result in only a small  
99 increase in sales revenue, long-term impacts  
100 would be localized, negligible, and beneficial.

101  
102 **Cumulative Impacts.** The action area for  
103 evaluating cumulative impacts on the  
104 socioeconomic environment is St. Johns County.  
105 The implementation of Alternative C does not  
106 have a strong likelihood of attracting significant

1 numbers of new visitors and locals to the  
2 monument. Relatively steady to slightly  
3 increased visitation would translate into slightly  
4 increased spending in the area, resulting in  
5 negligible beneficial impacts for St. Johns County  
6 in terms of employment, housing, and taxable  
7 annual sales. Combining the likely effects of  
8 implementing Alternative C with the effects of  
9 other past, present, and reasonably foreseeable  
10 actions described above, the cumulative  
11 socioeconomic impacts would be localized,  
12 moderate, and beneficial. Alternative C would  
13 contribute a negligible increment to this  
14 cumulative impact.

15  
16 **Conclusion.** Because there would be only slight  
17 increases to visitor spending or park expenditures  
18 within St. Johns County under Alternative C,  
19 long-term and short-term impacts on the  
20 socioeconomic environment would be localized,  
21 negligible, and beneficial. As a result, county  
22 employment, housing, and sales would not be  
23 measurably affected. In terms of cumulative  
24 impacts, long-term and short-term impacts would  
25 be localized, moderate, and beneficial. Alternative  
26 C would contribute a negligible increment to this  
27 total cumulative effect.

## 28 29 30 **Park Operations**

31  
32 **Analysis.** The impacts of Alternative C on park  
33 operations would include those of Alternative A  
34 and B. Four new permanent employees would be  
35 necessary to implement Alternative C. This  
36 additional staffing would have minor to moderate  
37 beneficial effects on operations from the point of  
38 view of effectively achieving critical park work  
39 goals and objectives. The impacts on park  
40 operations resulting from re-established driving  
41 on the beach, should Alternative C be selected  
42 and should the effort to promulgate a regulation  
43 permitting beach driving be successful, would be  
44 determined in detail in the required ORV plan and  
45 environmental impact statement.

46  
47 **Cumulative Impacts.** Same as Alternative A and  
48 B.

49  
50 **Conclusion.** Operation of existing and projected  
51 visitor and administrative facilities in the  
52 monument would result in minor, long-term,  
53 neutral impacts on NPS operations. The

54 cumulative impacts of Alternative C and other  
55 reasonably foreseeable future actions required of  
56 park staff would be minor to moderate, long-term,  
57 and neutral.

## 58 59 **Transportation**

60  
61 **Analysis.** The impacts would be the same as  
62 those listed under Alternative B; however, the  
63 effect to transportation could vary depending on  
64 the extent of the expanded parking. The increase  
65 in parking would be beneficial to overall  
66 circulation through the park and to and from the  
67 beach. The temporary effects from the rerouting  
68 of traffic during the construction of extended  
69 parking would be short-term, minor, and adverse.  
70 The effects from the reinstatement of ORV use on  
71 the beach, should Alternative C be selected,  
72 would be determined in the resulting ORV plan  
73 and environmental impact statement.

74  
75 **Cumulative Impacts.** Previous parking lot  
76 expansion has provided the opportunity for more  
77 parking since the absence of on-beach parking.  
78 Although vegetation was removed for the  
79 construction, the park was able to transplant some  
80 species. When added to the congestion of tourist  
81 traffic to and from St. Augustine, the additional  
82 congestion at the park would continue to add a  
83 negligible to minor effect.

84  
85 **Conclusion.** Although the direct effects of  
86 construction would be noticeable due to rerouting  
87 of traffic, the effect would be temporary. The  
88 result of additional parking would alleviate some  
89 congestion at the park. The effects of Alternative  
90 C would be short-term, minor and long-term,  
91 beneficial. The cumulative impacts of Alternative  
92 C and other reasonably foreseeable future and  
93 past actions regarding transportation would be  
94 long-term, minor, and adverse.

## 95 96 **Effects on Energy Requirements and 97 Conservation Potential**

98  
99 Under Alternative C, no major new facilities  
100 would be developed, thereby eliminating any new  
101 long-term energy requirements for facility  
102 construction and maintenance. Some fuel would  
103 be consumed in the course of restoring historic  
104 sites and views and installing new recreational  
105 facilities, but the amounts would be minor. Public  
106 use of the monument would remain at about its

1 current level. The fuel and energy consumed by  
2 visitors traveling to the monument would not be  
3 likely to increase because visitation is not likely to  
4 increase substantially. Energy would still be  
5 consumed to maintain existing facilities and for  
6 resource management of the monument.

### 7 **Unavoidable Adverse Impacts**

8  
9 Unavoidable adverse impacts are defined as  
10 impacts that cannot be fully mitigated or avoided.  
11 Adverse impacts on natural and cultural resources  
12 and visitor experience could occur in some areas  
13 throughout the monument, resulting from limited  
14 public use or NPS management activities.

### 16 **Irretrievable or Irreversible 17 Commitments of Resources**

18  
19 Under Alternative C, the energy requirements  
20 identified above would result in an irreversible  
21 commitment of resources. There would be no  
22 permanent effects on monument resources.

### 25 **Relationship between Local Short- 26 Term Uses of the Environment and 27 Maintenance or Enhancement of 28 Long-Term Productivity**

29  
30 In this alternative, most of the monument would  
31 be protected in a natural state and would maintain  
32 its long-term productivity. Only a small  
33 percentage of the monument would be maintained  
34 as developed areas.



**Fort Matanzas Visitor Center**

## CHAPTER 5 – CONSULTATION AND COORDINATION

### 1 BRIEF HISTORY OF PUBLIC 2 INVOLVEMENT

#### 3 4 *The Final General Management*

5 *Plan/Environmental Impact Statement* for Fort  
6 Matanzas National Monument represents thoughts  
7 of the NPS, park staff, state and local agencies  
8 and organizations, and the public. Consultation  
9 and coordination among the agencies and the  
10 public were vitally important throughout the  
11 planning process. Public meetings and  
12 newsletters were used to keep the public informed  
13 and involved in the planning process. A mailing  
14 list was compiled that consisted of members of  
15 governmental agencies, organizations, businesses,  
16 legislators, local governments, and interested  
17 citizens.

18  
19 The consultation and civic engagement process  
20 began with a series of meetings with NPS subject  
21 matter experts and managers in the Southeast  
22 Regional Office in Atlanta in June and in St.  
23 Augustine in August of 2001. Meetings with  
24 various local agency and organization  
25 representatives were held in March and April  
26 2002. Agencies and organizations consulted  
27 during this period included various tour bus  
28 companies, historical societies, State and Federal  
29 agencies, the Chamber of Commerce, the St.  
30 Augustine Visitors and Conventions Bureau, the  
31 St. Johns County Planning Department, the St.  
32 Augustine City Manager's office, the Historic  
33 District Manager, and the St. Augustine Police  
34 Chief, among others.

35  
36 The planning team kept the public informed and  
37 involved in the planning process through public  
38 meetings and through the distribution of  
39 newsletters. Representatives of governmental  
40 agencies, organizations, businesses, legislators,  
41 local governments, and interested citizens  
42 contributed their names and addresses to a  
43 mailing list for the project. The NPS published a  
44 notice of intent to prepare the GMP/EIS in the  
45 Federal Register on March 28, 2002.

46  
47 Newsletter No.1 described the planning effort and  
48 solicited public input. Public open house  
49 meetings were held at the St. Augustine Beach

50 City Hall on May 29 and 30, 2002. The NPS  
51 received comments in the meetings and in  
52 response to the first newsletter. At this point, due  
53 to an unforeseen shift in management priorities,  
54 the project was put on hold until August 2007  
55 when another scoping newsletter restarted the  
56 project. Public meetings were held on September  
57 18 and 19, 2007 at the University of Florida  
58 Whitney Laboratory for Marine Bioscience. In  
59 March 2008, a newsletter presenting the  
60 preliminary management alternatives was  
61 published and distributed. This newsletter was  
62 also posted on the National Monument's  
63 GMP/EIS website. On March 19 and 20, 2008,  
64 the planning team presented the preliminary  
65 alternatives to the public at the St. Augustine  
66 Beach City Hall to provide direct opportunities  
67 for the public to hear descriptions of and to  
68 comment on the proposed alternatives.

69  
70 All comment letters received from agencies and  
71 organizations have been posted to the PEPC  
72 internet site (<http://parkplanning.nps.gov/foma> )  
73 for public inspection.

74  
75 A report titled "*Comments and Responses on*  
76 *the Fort Matanzas National Monument Draft*  
77 *General Management Plan / Environmental*  
78 *Impact Statement*" is included at the end of this  
79 chapter. The report summarizes the substance  
80 of the comments received during this draft  
81 review period and provides a collection of  
82 National Park Service responses to the various  
83 categories of concerns that commenters raised.

### 84 85 **CONSULTATIONS WITH OTHER** 86 **AGENCIES AND ORGANIZATIONS**

#### 87 88 **U.S. Fish and Wildlife Service,** 89 **Section 7 Consultation**

90  
91 During the preparation of this document, NPS  
92 staff has coordinated formally with the U.S. Fish  
93 and Wildlife Service in Jacksonville, Florida  
94 throughout the planning process. The Fish and  
95 Wildlife Service also provided a list of federal  
96 threatened and endangered species that might be  
97 in or near the National Monument (Appendix E).

1  
2 In accordance with the Endangered Species Act  
3 and relevant regulations at 50 *CFR* Part 402, the  
4 NPS determined that development and approval  
5 of the management plan is not likely to adversely  
6 affect any federally threatened or endangered  
7 species and requested written concurrence with  
8 that determination from the U.S. Fish and  
9 Wildlife Service.

10  
11 The NPS will continue to consult with the Fish  
12 and Wildlife Service on future actions conducted  
13 under the framework described in this GMP/EIS.

#### 14 15 **Florida State Historic Preservation 16 Officer, Section 106 Consultation**

17  
18 Section 106 of the NHPA requires Federal  
19 agencies to take into account the effects of their  
20 undertakings on historic properties and afford the  
21 Advisory Council on Historic Preservation a  
22 reasonable opportunity to comment on such  
23 undertakings (16 USC 470, et seq.). NPS staff  
24 has coordinated informally with the Florida  
25 SHPO's office.

26  
27 Under the terms of the 2008 Programmatic  
28 Agreement among the NPS, the Advisory  
29 Council on Historic Preservation, and the  
30 NCSHPO, the NPS will consult with SHPOs on  
31 projects reviewed in accordance with the  
32 procedures set forth in Section IV of the  
33 Agreement.

#### 34 **Florida Department of 35 Environmental Protection, Coastal 36 Management Program**

37  
38 The federal Coastal Zone Management Act  
39 (1972), through its Federal Consistency  
40 Provisions, gives the state the ability to require  
41 that all federal activities in the state be consistent  
42 with the state's Coastal Management Program.  
43 Florida's management program was approved by  
44 the National Oceanic and Atmospheric  
45 Administration in 1981. The Florida program  
46 consists of a network of 11 state agencies and 4 of  
47 the 5 water management districts to

- 48 • to ensure the wise use and protection of
- 49 the state's water, cultural, historic, and
- 50 biological resources,
- 51 • to minimize the state's vulnerability to
- 52 coastal hazards,

- 53 • to ensure compliance with the state's
- 54 growth management laws,
- 55 • to protect the state's transportation
- 56 system,
- 57 • and to protect the state's proprietary
- 58 interest as the owner of sovereign
- 59 submerged lands.

60  
61 The state's coastal zone includes the area  
62 encompassed by the state's 67 counties and its  
63 territorial seas. Therefore, federal actions that  
64 occur throughout the state are reviewed by the  
65 state for consistency with the Florida Coastal  
66 Management Program.

67  
68 For direct federal activities, the state is required  
69 by the Coastal Zone Management Act to complete  
70 its review and provide the federal agency with its  
71 federal consistency concurrence within 60 days  
72 following the receipt of the required information.  
73 If the state does not provide the federal agency  
74 with its federal consistency concurrence or  
75 objection within 60 days, the federal action is  
76 presumed to be consistent with the Florida  
77 Coastal Management Program. Information for  
78 consistency determination is submitted to the  
79 Florida State Clearinghouse, which is in the  
80 Department of Environmental Protection. The  
81 state clearinghouse serves as the single point of  
82 contact for the receipt of documents that require  
83 federal consistency review. The State  
84 Clearinghouse is the only entity legally authorized  
85 to accept information and/or materials on behalf  
86 of the state that require federal consistency  
87 review.

88  
89 The National Park Service has requested a  
90 consistency determination for the federal Coastal  
91 Zone Management Act via the Florida State  
92 Clearinghouse program of the Florida Department  
93 of Environmental Protection. The National Park  
94 Service proposes no development in any area of  
95 the National Monument that would conflict with  
96 the coastal management program.

#### 97 98 **Tribal Consultations**

99  
100 In accordance with the various laws, policies, and  
101 Executive Orders concerning government-to-  
102 government consultation with and outreach to  
103 Federally recognized tribal governments, the  
104 Superintendent of Fort Matanzas National  
105 Monument sent letters to the tribal representatives

1 inviting their participation in the park’s GMP  
2 process. There was no interest in formal  
3 consultations regarding Fort Matanzas National  
4 Monument.

## 5 6 **COMMENTS AND RESPONSES ON THE** 7 **FORT MATANZAS DRAFT GENERAL** 8 **MANAGEMENT PLAN /** 9 **ENVIRONMENTAL IMPACT** 10 **STATEMENT**

### 11 **INTRODUCTION**

12 On June 22, 2012, Fort Matanzas National  
13 Monument (the monument) released the Draft  
14 General Management Plan / Environmental  
15 Impact Statement (GMP/EIS) for public review  
16 and comment. The GMP/EIS was available  
17 locally at the park and on the National Park  
18 Service (NPS) planning website  
19 (<http://parkplanning.nps.gov/foma>). The public  
20 was invited to submit comments on the Plan/EIS  
21 through August 20, 2012.

22  
23 During the public comment period, 1,857 pieces  
24 of correspondence (including 1,676 form letters  
25 from Audubon of Florida supporters) were  
26 entered into the Planning, Environment, and  
27 Public Comment (PEPC) system, either through  
28 direct entry by commenter or uploading hard copy  
29 letters or electronic correspondence. While private  
30 individuals submitted most of the correspondence,  
31 one conservation organization, state government  
32 agencies, and federal government agencies also  
33 submitted correspondence. 98% of commenters  
34 were from Florida, 1.1% from Georgia and the  
35 remaining from various states throughout the  
36 Unites States.

### 37 **Summary of Public Concerns**

38 A large portion of the comments received were  
39 about the current ban on beach driving at Fort  
40 Matanzas. Some commenters want the ban to end  
41 so that driving on the beach is again allowed,  
42 while others want the ban to continue into the  
43 future. The public also provided comments on  
44 other topics related to the plan. Commenters  
45 provided suggestions for and comments on the  
46 alternatives, possible impacts to local economies,  
47 levels of impact analysis concerning possible  
48 future construction projects, monitoring and  
49 protection of special or endangered species,  
50 protection of natural and cultural resources, and

51 management actions for the national monument to  
52 consider.

### 53 **The Comment Analysis Process**

54 Comment analysis is a process used to compile  
55 and correlate similar public comments into a  
56 format that the planning team can use to organize,  
57 clarify, and address technical information  
58 pursuant to National Environmental Policy Act  
59 (NEPA) regulations. The process also aids the  
60 planning team in identifying the topics and issues  
61 to be evaluated and considered throughout the  
62 planning process. The process includes six main  
63 components:

- 64
- 65 1. employing a comment database for  
66 comment management
- 67 2. developing a coding structure
- 68 3. reading and coding public comments
- 69 4. interpreting and analyzing the comments  
70 to identify issues and themes, which  
71 includes drafting concern statements
- 72 5. responding to comments
- 73 6. preparing a comment analysis and  
74 response report
- 75

76 A coding structure was developed to help sort  
77 comments into logical groups by topic. The  
78 coding structure was derived from an analysis of  
79 the comments, the range of topics discussed  
80 during internal NPS scoping, and past public  
81 involvement. The coding structure was designed  
82 to capture all comment content rather than to  
83 restrict or exclude any ideas. In order to organize  
84 all of the comments in a clear and concise manner  
85 for inclusion in the comment analysis and  
86 response report, the planning team created  
87 response topics that are organized by similar  
88 themes and issues.

89  
90 The National Park Service PEPC database was  
91 used to manage the comments received. After  
92 reading the correspondence, the planning team  
93 assigned codes to statements made by the public  
94 in their letters, at the public meetings, in their e-  
95 mail messages, and on the written comment form.  
96 All comments—those of a technical nature;  
97 opinions, feelings, and preferences of one element  
98 or one potential alternative over another; and  
99 those of a personal or philosophical nature—were  
100 considered and analyzed and have been used to  
101 help create the final GMP/EIS.

1 After reading the comments, the planning team  
2 coded comments as either substantive or  
3 nonsubstantive. A substantive comment, as  
4 defined in the NPS Director’s Order 12 Handbook  
5 (section 4.6A), is a comment that:

- 6
- 7     ▪ questions (with a reasonable basis) the  
8 accuracy of information presented in the  
9 EIS
- 10    ▪ questions (with a reasonable basis) the  
11 adequacy of the environmental analysis
- 12    ▪ presents reasonable alternatives other  
13 than those presented in the EIS
- 14    ▪ causes changes or revisions in the  
15 proposal

16

17 As further stated in Director’s Order 12,  
18 substantive comments “raise, debate, or question a  
19 point of fact or policy. Comments in favor of or  
20 against the proposed action or alternatives, or  
21 comments that only agree or disagree with NPS  
22 policy, are not considered substantive.” Typically,  
23 only those comments considered to be substantive  
24 are analyzed and used to create concern  
25 statements for NPS response; however, some non-  
26 substantive issues were identified for response  
27 during this process.

28

29 Then, all substantive comments were categorized  
30 and grouped by similar themes. The themes were  
31 then summarized using a concern statement that is  
32 representative of many comments. In this  
33 comment analysis and response report, concern  
34 statements are organized under broad topical  
35 categories.

36

37 As required under the NEPA process, the National  
38 Park Service has responded to all substantive  
39 comments raised by the public as part of  
40 finalizing the GMP/EIS. In this report, the  
41 planning team provided responses to the  
42 substantive comments and indicated, where  
43 appropriate, how the text in the final  
44 environmental impact statement was revised. In  
45 addition, the non-substantive comments that were  
46 identified as being of high importance to the  
47 public or needing clarification are also responded  
48 to in this report.

## 50 Definitions of Terms

51 **Correspondence:** A correspondence is the  
52 entire document received from a commenter. It

53 can be in the form of a letter, e-mail, written  
54 comment form, note card, open house transcript,  
55 or petition.

56 **Comment:** A comment is a portion of the text  
57 within a correspondence that addresses a single  
58 subject or issue. It could include such information  
59 as an expression of support or opposition to the  
60 use of a potential management tool, additional  
61 data regarding the existing condition, or an  
62 opinion debating the adequacy of an analysis.

63

64 **Code:** A grouping that is centered on a common  
65 subject.

66

67 **Concern Statement:** Concern statements  
68 summarize the issues identified by each code.  
69 Each code is further characterized by concern  
70 statements to provide a better focus on the content  
71 of comments. Some codes may require multiple  
72 concern statements, while others do not. In cases  
73 where no comments were received on an issue,  
74 the issue was not identified or discussed in this  
75 report.

76

77 **Nonsubstantive Comment:** As stated in the  
78 NPS Director’s Order 12 Handbook (section  
79 4.6A), comments in favor of or against the  
80 proposed action or alternatives, or comments that  
81 only agree or disagree with NPS policy, are  
82 considered non-substantive.

83

84 **Substantive Comment:** A substantive  
85 comment, as defined in the NPS Director’s Order  
86 12 Handbook (section 4.6A), is a comment that  
87 does one or more of the following:

- 88
- 89     ▪ questions (with a reasonable basis) the  
90 accuracy of information presented in the  
91 environmental impact statement
- 92     ▪ questions (with reasonable basis) the  
93 adequacy of the environmental analysis
- 94     ▪ presents reasonable alternatives other  
95 than those presented in the environmental  
96 impact statement
- 97     ▪ causes changes or revisions in the  
98 proposal

## 99 Agency Consultation and coordination

100 Federal and state agencies affirmed their  
101 concurrency on the Draft GMP/EIS. The EPA  
102 gave the plan a “Lack of Objections” rating. The

1 Florida Fish and Wildlife Conservation  
2 Commission found the plan to be consistent with  
3 their authorities under Chapter 379, Florida  
4 Statutes. The US Fish and Wildlife Service found  
5 that alternative B, the environmentally preferred  
6 alternative, either would have no effect or would  
7 not be likely to affect the main species listed in  
8 the plan adversely. The Florida State Historic  
9 Preservation Office concurs with the management  
10 actions contained in alternative B of the plan. The  
11 Florida Department of Environmental Protection  
12 found the proposed federal activities in this plan  
13 are consistent with the Florida Coastal  
14 Management Program. The National Marine  
15 Fisheries Service of NOAA supports the preferred  
16 alternative and the decision to continue the ban on  
17 beach driving.

## 18 **NPS Response to Public Comments**

19 Comments that contain substantive points  
20 regarding information in the draft GMP/EIS or  
21 comments that need clarification are extracted  
22 below. A concern statement has been developed  
23 to summarize the comments. A response follows  
24 these concerns, sometimes multiple concern  
25 statements are addressed with one response. All  
26 comment letters from government agencies have  
27 been scanned and are included in Chapter 5.

28  
29 Where appropriate, text in the *Fort Matanzas*  
30 *National Monument Draft General Management*  
31 *Plan / Environmental Impact Statement* has been  
32 revised to address comments and changes, as  
33 indicated in the following responses.

34  
35 Concern statements and responses are listed  
36 below. Concerns statements have been organized  
37 under topical areas. At times, one response  
38 addresses multiple concern statements.

## 40 **Summary Concern and Response about** 41 **Beach Driving**

42  
43 **CONCERN:** A large portion of the comments  
44 received were about the current ban on beach  
45 driving at Fort Matanzas. Some commenters want  
46 the ban to end so that driving on the beach is  
47 again allowed, while others want the ban to  
48 continue into the future. Individuals who want  
49 beach driving to be allowed often stated that  
50 without beach driving, reaching the inlet for  
51 fishing is very difficult, particularly for elderly or  
52 disabled persons. Commenters said that the

53 national monument is obligated to provide  
54 adequate beach access, via beach driving, to  
55 visitors with disabilities. In addition, commenters  
56 questioned the reasons for banning beach driving  
57 and asked park staff to supply data and analysis  
58 on the impacts of beach driving. Individuals who  
59 do not want beach driving to be allowed or  
60 considered in the future raised concerns over  
61 human safety and possible impacts to wildlife and  
62 vegetation caused by cars. Many of these  
63 commenters also stated that their visitor  
64 experiences have improved since the ban on  
65 beach driving and therefore do not want it to be  
66 allowed in the future.

67 **RESPONSE:** The National Park Service  
68 recognizes that beach vehicle use at Fort  
69 Matanzas National Monument has previously  
70 been a customary means of access for sport  
71 fishermen and other recreational users, has long  
72 facilitated the transport of personal gear and  
73 equipment, and has enabled elderly and disabled  
74 visitors to more easily access and experience the  
75 national monument's beaches. However,  
76 consistent with law, regulation, and policy (see  
77 appendix E of the general management plan), the  
78 National Park Service currently has no legal  
79 authority to permit driving off designated roads  
80 within the national monument. Closure of the Fort  
81 Matanzas beaches to vehicles (completed in  
82 January 2010) will continue unless and until such  
83 time that authority to permit off-road driving on  
84 the beach is legally granted. While many disabled  
85 or elderly visitors will not be able to access the  
86 inlet without a vehicle, the northern end of the  
87 national monument is accessible to anyone who  
88 can drive to the ramp parking area or the beach  
89 immediately north of the park boundary.  
90 Depending on the individual's capability, they can  
91 walk to or be assisted to a spot where surf fishing  
92 and other beach activities are readily available.

93  
94 In addition to providing for visitor use, NPS  
95 managers must address the requirements for  
96 resource protection that stem from the overall  
97 mission of the National Park Service and the  
98 specific purpose of Fort Matanzas to "conserve  
99 resources within the park for the benefit of future  
100 generations through a comprehensive program of  
101 preservation, management, interpretation, and  
102 education." Vehicle use places nesting birds and  
103 other coastal species at risk, and can damage  
104 important wildlife habitat that sustains threatened

1 and endangered species. Such impacts to wildlife  
2 and habitat have been documented at Fort  
3 Matanzas and are supported by scientific data on  
4 this topic. Appendix G, containing additional  
5 narrative and references, has been added to the  
6 document to address this comment.

7 For these and other reasons (e.g., public safety  
8 concerns) the National Park Service continues to  
9 support the preferred alternative (B) from the  
10 draft general management plan that does not  
11 permit public beach driving. Irrespective of the  
12 amount, location or seasonality of beach driving,  
13 the National Park Service is following both legal  
14 and scientific evidence that such use is not  
15 acceptable.

16 Below, specific concern statements relating to  
17 beach driving are presented along with NPS  
18 responses to those concerns. Topics outside of  
19 beach driving are also then presented.

## 20 21 **1. Beach Driving**

### 22 **a. Approves of Beach Driving**

#### 23 **i. New Alternatives or Elements**

24 **CONCERN:** Commenters shared a proposal to  
25 allow driving on half of the beach, with the bridge  
26 dividing the point where beach driving should  
27 end. Additionally, signs would be posted on the  
28 bridge that would advise visitors to not drive west  
29 of the bridge. Commenter felt this would allow  
30 both an area for driving and keep an area  
31 protected from driving.

32  
33 **CONCERN:** Commenters suggested various ideas  
34 on beach driving being allowed on a seasonal  
35 basis to accommodate fishermen and disabled  
36 persons. One commenter suggested the beach be  
37 open a few days a week and every other weekend  
38 to driving. One commenter recommended that  
39 beach driving be allowed, but only during a  
40 specific season (October to February) so that  
41 disabled persons could still access desired fishing  
42 areas.

43  
44 **CONCERN:** Commenters proposed that beach  
45 driving could continue with little or no impact on  
46 natural resources if cars are kept off the dunes.  
47 Commenters suggested using driving poles to  
48 demarcate the areas where cars would not be  
49 allowed and to patrol the dunes.

50

51 **RESPONSE:** Beach driving is prohibited at Fort  
52 Matanzas because the National Park Service  
53 currently lacks legal authority to permit. It has  
54 been determined that beach driving violates  
55 Executive Order 11644, "Use of Off-Road  
56 Vehicles on Public Lands," as amended; NPS  
57 regulations at 36 Code of Federal Regulations  
58 (CFR) 4.10; and St. Johns County ordinances 97-  
59 34 (June 24, 1997). Under these current laws and  
60 policies, driving on the beach within the boundary  
61 of the national monument is prohibited. Beach  
62 driving is also prohibited south of Matanzas  
63 Ramp (the entrance to the beach from the  
64 highway) under current state law and county  
65 ordinance. A federal regulation on beach driving  
66 within Fort Matanzas or other national  
67 monuments, along with an amended county  
68 ordinance, would be required for beach driving to  
69 occur in the future.

70 Some of those who commented on the plan  
71 suggested compromise solutions to partially limit  
72 or restrict vehicle use in a manner that protects  
73 resources and safely accommodates pedestrian  
74 visitors. At this time, providing limited or  
75 periodic beach driving is not feasible due to both  
76 legal and regulatory factors cited above as well as  
77 the potential adverse impacts on wildlife and  
78 human safety. The National Park Service supports  
79 Alternative B, the preferred alternative, and with  
80 the adoption of that alternative beach driving,  
81 even if limited or temporary, will not be  
82 permissible. If, in the future laws and regulations  
83 change, an off-road vehicle (ORV) management  
84 plan would be conducted and such variations of  
85 beach driving would be considered and assessed.

#### 86 **ii. Impact Analysis and Methods** 87 **Used for the GMP**

88 **CONCERN:** Commenters asked that supporting  
89 data concerning beach driving impacts on  
90 resources be included in the final GMP/EIS.  
91 Commenters contend that sufficient data was not  
92 presented in order to support the ban on beach  
93 driving contained in alternatives A and B.  
94 Specifically, commenters want to see scientific  
95 data concerning counts of threatened or  
96 endangered species from before and after the  
97 beach driving ban was put into effect. One  
98 commenter asserts that declines in species are  
99 related to natural processes rather than being  
100 human caused.

1 **RESPONSE:** The decision to end beach driving  
2 at Fort Matanzas was made after review of current  
3 laws and regulations. It has been determined that  
4 beach driving violates Executive Order 11644, as  
5 amended, NPS regulations at 36 CFR 4.10, and  
6 St. Johns County ordinances 97-34 (June 24,  
7 1997). Under these current laws and policies,  
8 driving on the beach within the boundary of the  
9 national monument is prohibited. A federal  
10 regulation on beach driving within Fort Matanzas  
11 or national monuments, along with an amended  
12 county ordinance, would be required for beach  
13 driving to occur in the future. If such policy  
14 change does occur in the future, the National Park  
15 Service would begin the process of creating an  
16 off-road vehicle plan. That planning process  
17 would investigate potential impacts to resources  
18 caused by beach driving.

19  
20 The selection of Alternative B as the NPS  
21 preferred alternative was accomplished using a  
22 decision-making process called Choosing By  
23 Advantages (CBA). This process is a rational  
24 method for evaluating the importance of the  
25 advantages between the different alternatives and  
26 then comparing those advantages to the costs of  
27 the alternatives. The selection was not based on  
28 the impact of driving on threatened and  
29 endangered species alone. Other factors  
30 considered were impacts on cultural resources  
31 associated with the park's National Register  
32 Historic District, educational and interpretive  
33 opportunities, and public safety and welfare.

34  
35 Finally, an appendix (Appendix G) has been  
36 added that contains references to a large number  
37 of scientific studies from various locations on the  
38 Atlantic Coast and the Gulf Coast that document  
39 impacts of driving on the ecology of ocean  
40 beaches. It is too soon to have enough data to  
41 determine the impacts of the beach driving ban on  
42 the populations of threatened and endangered  
43 species at Fort Matanzas. The National Park  
44 Service is committed to monitoring threatened  
45 and endangered species that are present within  
46 park units. The NPS Inventory and Monitoring  
47 program determines status of site-specific species  
48 as well as trends over large areas. Long-term  
49 changes, whether from the beach driving ban,  
50 natural processes, or otherwise, are monitored and  
51 evaluated at Fort Matanzas through this program.  
52 For more information on this program visit  
53 <http://science.nature.nps.gov/im/index.cfm>.

54  
55  
56  
57

### iii. Park Operations: Guiding Policies, Regulations, and Laws

58 **CONCERN:** Commenters contend that the intent  
59 with which park lands were transferred to the  
60 National Park Service will not be fulfilled with  
61 alternatives that ban driving. Therefore,  
62 commenters want beach driving to be reinstated at  
63 Fort Matanzas.

64 **RESPONSE:** The boundary of Fort Matanzas was  
65 expanded in 1948 and additional lands were  
66 donated to the National Park Service in 1962. As  
67 a unit of the national park system, Fort Matanzas  
68 is required to follow federal laws and regulations,  
69 even if they are enacted after land transfers. The  
70 deed from the 1962 land donation does not  
71 specify that the previous owners desired beach  
72 driving to continue. The most relevant clause of  
73 the deed specifying how resources should be  
74 managed states that “. . . hereinafter described  
75 lands are conveyed for park purposes, and said  
76 lands are being conveyed to facilitate  
77 development and protection of the Fort Matanzas  
78 National Monument.” The NPS believes that the  
79 intent under which lands were added to the park  
80 are in fact being fulfilled, as the purpose and  
81 significance of the park will be protected and  
82 continued upon implementation of the GMP/EIS.

83  
84 It has been determined that beach driving violates  
85 Executive Order 11644, as amended, NPS  
86 regulations at 36 CFR 4.10, and St. Johns County  
87 ordinances 97-34 (June 24, 1997). Under these  
88 current laws and regulations, driving on the beach  
89 within the boundary of the national monument is  
90 prohibited. Beach driving is also prohibited south  
91 of Matanzas Ramp (the entrance to the beach  
92 from the highway) under the current state law and  
93 county ordinance. A federal regulation on beach  
94 driving within Fort Matanzas or other national  
95 monuments, along with an amended county  
96 ordinance, would be required for beach driving to  
97 occur in the future. If such policy change does  
98 occur in the future, the National Park Service  
99 would reference the suggestions made by  
100 commenters during a formal off-road vehicle  
101 (ORV) management plan.

102  
103 **CONCERN:** Commenters argue that Fort  
104 Matanzas is legally obligated to provide adequate

1 beach access to its visitors by the Americans with  
2 Disabilities Act. Commenters stated that current  
3 parking is too limited and find the boardwalk to  
4 be too long to adequately provide access for both  
5 abled and disabled persons who wish to fish at  
6 Fort Matanzas. Commenters believe that, for a  
7 variety of reasons mentioned, beach driving  
8 should be reestablished.

9  
10 **RESPONSE:** Although the Americans with  
11 Disabilities Act does not apply to federal  
12 agencies, the Rehabilitation Act of 1973 requires  
13 the National Park Service to provide disabled  
14 visitors with reasonable access to services and  
15 programs. The National Park Service recognizes  
16 that beach vehicle use at Fort Matanzas National  
17 Monument has previously been a customary  
18 means of access for sport fishermen and other  
19 recreational users, has long facilitated the  
20 transport of personal gear and equipment, and has  
21 enabled elderly and disabled visitors to more  
22 easily access and experience the national  
23 monument's beaches.

24  
25 However, after an extensive review of laws and  
26 policies, it has been determined that the National  
27 Park Service currently has no legal authority to  
28 permit driving off designated roads within the  
29 national monument. Further, the National Park  
30 Service has reviewed laws concerning  
31 accessibility (Public Law 90-480, the  
32 Architectural Barriers Act; and Public Law 93-  
33 112, the Rehabilitation Act of 1973). The  
34 regulations (Section 1018.2) that establish  
35 accessibility guidelines pursuant to the  
36 Architectural Barriers Act (ABA) for camping  
37 facilities, picnic facilities, viewing areas, outdoor  
38 recreation access routes, trails, and beach access  
39 routes that are constructed or altered by or on  
40 behalf of the Federal Government require the  
41 National Park Service to connect an accessible  
42 entry point to the high tide level at tidal beaches.  
43 The boardwalk at the southern parking lot on the  
44 east side of Highway A1A is an accessible path to  
45 the beach. The National Park Service will comply  
46 with the Section 1018.2 requirement.

#### 47 48 **iv. Visitor Opportunities and** 49 **Experience Issues**

50 **CONCERN:** Commenters state that by not  
51 allowing beach driving, the National Park Service  
52 is restricting visitation at the monument.

53 Commenters stated that without vehicles, some  
54 visitors will not be able to reach the inlet and will  
55 be denied the beach experience.

56  
57 **CONCERN:** Commenter states that prohibiting  
58 driving on the beach unfairly impacts the elderly  
59 and those with disabilities who need a vehicle to  
60 access the inlet. Additionally, those who might be  
61 able to make the walk to the inlet would not be  
62 able to bring beach and fishing gear because it  
63 would be too strenuous without a vehicle.

64  
65 **CONCERN:** Commenter states that allowing  
66 vehicles provides a better visitor experience  
67 because of the ease of access to the beach and the  
68 inlet and because it is easier to carry beach and  
69 fishing gear. Commenter states the distance is too  
70 far to carry all this equipment.

71  
72 **RESPONSE:** The National Park Service  
73 recognizes that beach vehicle use at Fort  
74 Matanzas National Monument has previously  
75 been a customary means of access for sport  
76 fishermen and other recreational users, has long  
77 facilitated the transport of personal gear and  
78 equipment, and has enabled elderly and disabled  
79 visitors to more easily access and experience the  
80 national monument's beaches. However,  
81 consistent with law, regulation, and policy (see  
82 appendix E of the general management plan), the  
83 National Park Service currently has no legal  
84 authority to permit driving off designated roads  
85 within the national monument. Closure of the Fort  
86 Matanzas beaches to vehicles (completed in  
87 January 2010) will continue unless and until such  
88 time that authority to permit off-road driving on  
89 the beach is legally granted. While many disabled  
90 or elderly visitors will not be able to access the  
91 inlet without a vehicle, the northern end of the  
92 national monument is accessible to anyone who  
93 can drive to the ramp parking area or the beach  
94 immediately north of the park boundary.  
95 Depending on the individual's capability, they can  
96 walk to or be assisted to a spot where surf fishing  
97 and other beach activities are readily available.

98  
99 In addition to providing for visitor use, NPS  
100 managers must address the requirements for  
101 resource protection that stem from the overall  
102 mission of the National Park Service and the  
103 specific purpose of Fort Matanzas to "conserve  
104 resources within the park for the benefit of future  
105 generations through a comprehensive program of

1 preservation, management, interpretation, and  
2 education.” Vehicle use places nesting birds and  
3 other coastal species at risk, and can damage  
4 important wildlife habitat that sustains threatened  
5 and endangered species. For these and other  
6 reasons (e.g., public safety concerns) the National  
7 Park Service continues to support the preferred  
8 alternative (B) from the draft general management  
9 plan that does not permit public beach driving.

10 **v. Socioeconomics: Impacts of**  
11 **Proposal and Alternatives**

12 **CONCERN:** One commenter stated that not  
13 allowing beach driving causes negative impacts to  
14 local businesses because restrictions to beach  
15 driving will deter tourists.

16  
17 **RESPONSE:** Beach driving was discontinued  
18 because of current laws and regulations and was  
19 therefore not evaluated for specific economic  
20 impacts. If laws and regulations were to change in  
21 the future, local economics would be considered  
22 when conducting an off-road vehicle (ORV)  
23 management plan.

24  
25 **b. Disapproves of Beach Driving**  
26 **i. Park Operations: Guiding**  
27 **Policies, Regulations, and Laws**

28 **CONCERN:** Comments contend that beach  
29 driving should not be considered at Fort Matanzas  
30 because it would require an act of Congress to be  
31 legal. Commenters believe that process is too  
32 costly and counters previous legislation.

33  
34 **RESPONSE:** Fort Matanzas National Monument  
35 is not actively seeking to reestablish beach  
36 driving. Beach driving is no longer allowed at  
37 Fort Matanzas because of current laws, rather than  
38 because of existing or potential impacts to  
39 resources. It has been determined that beach  
40 driving violates Executive Order 11644, as  
41 amended, NPS regulations at 36 CFR 4.10, and  
42 St. Johns County ordinances 97-34 (June 24,  
43 1997). Under these current laws and policies,  
44 driving on the beach within the boundary of the  
45 national monument is prohibited. Beach driving is  
46 also prohibited south of Matanzas Ramp (the  
47 entrance to the beach from the highway) under  
48 current state law and county ordinance. A federal  
49 regulation on beach driving within Fort Matanzas

50 or other national monuments, along with an  
51 amended county ordinance, would be required for  
52 beach driving to occur in the future. If such policy  
53 change does occur in the future, the costs  
54 associated with implemented beach driving would  
55 include an off-road vehicle (ORV) management  
56 plan. Neither the federal regulation nor  
57 development of an ORV management plan would  
58 require an act of Congress.

59 **ii. Visitor Opportunities and**  
60 **Experience Issues**

61 **CONCERN:** Commenters state that visitor  
62 experience on the beach is much safer without  
63 vehicles and contends there is a large liability  
64 with allowing vehicles on the beach. Since  
65 vehicles have been removed, commenters report  
66 that their beach experience has greatly improved.

67  
68 **CONCERN:** Commenter states that vehicles  
69 detract from the overall experience at the beach.  
70 The vehicles are loud and smelly and the overall  
71 size of the monument is small and cannot sustain  
72 such a large impact.

73 **RESPONSE:** In addition to providing for visitor  
74 use, NPS managers must address the requirements  
75 for resource protection that stem from the overall  
76 mission of the National Park Service and the  
77 specific purpose of Fort Matanzas to “conserve  
78 resources within the park for the benefit of future  
79 generations through a comprehensive program of  
80 preservation, management, interpretation, and  
81 education.” Vehicle use places nesting birds and  
82 other coastal species at risk, and can damage  
83 important wildlife habitat that sustains threatened  
84 and endangered species. For these and other  
85 reasons (e.g., public safety concerns) the National  
86 Park Service continues to support the preferred  
87 alternative (B) from the draft general management  
88 plan that does not permit public beach driving.

89  
90 **iii. Socioeconomics: Impacts of**  
91 **Proposal and Alternatives**

92 **CONCERN:** Commenters stated the belief that if  
93 beach driving is allowed at Fort Matanzas, park  
94 operation costs will increase. Commenters cited  
95 costs of smoothing car tracks for turtles,  
96 patrolling, and rights of way as requiring large  
97 amounts of money that could better be spent  
98 elsewhere at the monument. Commenters urged

1 the park to practice fiscal conservation in these  
2 tough economic times.

3  
4 **CONCERN:** One commenter stated that allowing  
5 beach driving will cause negative impacts to local  
6 businesses by encouraging an influx of visitors to  
7 the area.

8  
9 **RESPONSE:** Concerning increased costs  
10 associated with beach driving, operational costs at  
11 Fort Matanzas increase in response to the  
12 recreational use and enforcement activities more  
13 than resource management activities. There would  
14 be some additional resource costs required with  
15 vehicles on the beach. Under the preferred  
16 alternative, beach driving would continue to be  
17 prohibited and therefore costs associated with  
18 managing driving would not exist. As for  
19 concerns over impacts to the economies of local  
20 communities, beach driving was discontinued  
21 because of current laws and regulations and was  
22 therefore not evaluated for specific economic  
23 impacts. If laws and regulations were to change in  
24 the future, local economics would be considered  
25 when conducting an off-road vehicle (ORV)  
26 management plan.

27  
28 It is anticipated that implementing the preferred  
29 alternative of the GMP/EIS will positively impact  
30 the local community. For instance, under this  
31 alternative, permanent jobs could be created at  
32 Fort Matanzas and temporary jobs could be  
33 created if construction projects occur. The  
34 national monument also anticipates visitation and  
35 visitation-related spending in local communities  
36 will increase as the local and national population  
37 increases.

## 38 2. New Alternatives or Elements

39 **CONCERN:** The Environmental Protection  
40 Agency (EPA) recommended that the National  
41 Park Service should, instead of expanding parking  
42 at the monument, look to partner with outside,  
43 adjacent state and local agencies to share parking  
44 and provide a shuttle to the monument.

45  
46 **RESPONSE:** The national monument is always  
47 looking for creative and effective partnerships  
48 with nearby communities and organizations and  
49 will keep this suggestion in mind if such a system  
50 is identified as being feasible in the future.  
51 Currently, such a shuttle system has been

52 determined to be unfeasible, largely for two  
53 reasons. First, visitors are often going to the beach  
54 in order to fish. The gear needed for fishing is not  
55 conducive to a shuttle vehicle. Second, in order  
56 for a shuttle system to work one or more large  
57 parking lots would be needed for visitors to park  
58 at before boarding the shuttle to the national  
59 monument. A lack of such large parking lots in  
60 the nearby area makes a shuttle system  
61 impracticable.

62  
63 **CONCERN:** The U.S. Fish and Wildlife Service  
64 (USFWS) noted that they have previously  
65 supplied comments on a draft alternative  
66 (alternative D) which is no longer included in the  
67 draft GMP/EIS. They direct the National Park  
68 Service to their previous comment about measures  
69 (including permitting) that could avoid, minimize,  
70 and mitigate protected species if beach driving  
71 were to be allowed in the future.

72  
73 **RESPONSE:** In 2008, the National Park Service  
74 asked for comments on preliminary alternative  
75 concepts. The comments received on those  
76 preliminary concepts shaped the draft GMP/EIS  
77 rather than serving as a previous version of it. Fort  
78 Matanzas appreciates the comments and  
79 suggestions made by the Florida Fish and Wildlife  
80 Conservation Commission then and now, and like  
81 all comments, have been reviewed and considered  
82 as part of this planning process.

## 83 3. Impact Analysis and Methods Used 84 for the GMP

85  
86 **CONCERN:** The Environmental Protection  
87 Agency commented that options for addressing  
88 the inadequate visitor center were presented in the  
89 purpose and need sections of the document.  
90 However, an evaluation of all of those options  
91 was not presented in the alternatives analysis. The  
92 Environmental Protection Agency recommends  
93 that all visitor center options be carried forward  
94 into chapter 2 of the document, or an explanation  
95 of why they were not carried forward be included.

96  
97 **RESPONSE:** The examples of how the visitor  
98 center could be improved were mentioned in the  
99 beginning of the document to demonstrate the  
100 variety of approaches that would be considered by  
101 Fort Matanzas. In order to address this comment,  
102 language has been added in chapter 2, under  
103 alternative descriptions and in alternatives and

1 actions considered but dismissed, that clarifies  
2 why those specific visitor center improvement  
3 options were not carried forward from chapter 1.  
4

5 **CONCERN:** The Environmental Protection  
6 Agency found it difficult to compare  
7 environmental impacts among the three  
8 alternatives in the draft GMP/EIS. The agency  
9 found discussions and evaluations of proposed  
10 parking and bus space expansions to be  
11 inconsistent between “Chapter 2, the  
12 Alternatives,” and “Chapter 4, Environmental  
13 Consequences.” They note that at times the  
14 impacts of actions, such as parking expansion,  
15 were discussed in chapter 4, but not discussed in  
16 chapter 2 or vice versa. In addition to changing  
17 the text to be consistent, the Environmental  
18 Protection Agency recommends that the various  
19 areas of parking expansion be quantified by acres  
20 for each alternative.

21  
22 **RESPONSE:** Within this GMP/EIS planning  
23 process, specific construction (implementation)  
24 level impacts of general proposals contained in  
25 the alternatives are not typically carried forward  
26 into the impact analysis section of the plan.  
27 Rather, that level of detail is determined during  
28 later planning efforts that examine specific  
29 options, possibilities, impacts, and mitigations of  
30 any action being considered.

31  
32 To address this comment, clarifying statements  
33 have been added to the alternatives descriptions in  
34 regard to parking expansion proposals. In  
35 addition, text in chapters 2 and 4 have been  
36 modified to ensure that the topic of parking  
37 expansion is covered consistently in both  
38 chapters.

39  
40 **CONCERN:** The Environmental Protection  
41 Agency recommends that the final GMP/EIS  
42 quantify future impacts associated with actions by  
43 expanding indicators and standards. Specifically  
44 speaking to issues surrounding parking, the  
45 Environmental Protection Agency recommends  
46 that indicators and standards that support desired  
47 conditions be quantified and analyzed as impacts  
48 for each alternative. They recommend that the  
49 plan include numbers such as how many cars can  
50 be parked in parking lots for each alternative and  
51 how many fishermen are displaced because of the  
52 beach driving ban.

53

54 **RESPONSE:** EPA comments are pointing to two  
55 different parts of the GMP/EIS that, while  
56 connected, operate separately within the context  
57 of impact analysis.

58

59 Within chapter 2, the alternatives, management  
60 zones, and associated alternative management  
61 strategies are identified. Zoning is the method  
62 used by the National Park Service to describe the  
63 appropriate variety of resource conditions and  
64 visitor experience to be achieved and maintained  
65 under different areas of the national monument.  
66 Chapter 2 describes the overall intent or concept  
67 of each alternative within the management zones.  
68 This description includes potential management  
69 strategies (such as increased development to  
70 support more recreation opportunities). These  
71 management strategies are generally described  
72 given the programmatic and general nature of the  
73 general management plan. These actions are  
74 analyzed for their impact to resources in chapter  
75 4. The level of analysis is commensurate with the  
76 level of anticipated impact of the actions and the  
77 general nature of the plan. This impact analysis  
78 fulfills NEPA requirements for Fort Matanzas to  
79 discuss the environmental impacts of a proposed  
80 federal action.

81

82 The adaptive management strategies developed  
83 within the user capacity framework are not  
84 analyzed in the impact analysis. Those adaptive  
85 management strategies relating to visitor-caused  
86 impacts may be put into place at the national  
87 monument regardless of which alternative is  
88 adopted, if it is determined that desired conditions  
89 are not being met. Although these adaptive  
90 management strategies are a suite of tools that  
91 could be used in the future, these strategies might  
92 require additional planning and compliance with  
93 the National Environmental Policy Act if  
94 implemented at a later time. The need for  
95 additional compliance if some of these strategies  
96 need to be implemented in the future is noted in  
97 the mitigation measures common to all action  
98 alternatives section of chapter 2.

99

100 Concerning available parking spaces, Fort  
101 Matanzas has not adopted an indicator and  
102 standard relating to the number of parking  
103 spaces because only indicators that were  
104 considered high priority visitor use-related issues  
105 were identified for inclusion in the general  
106 management plan. If resource impacts relating to

1 parking availability at Fort Matanzas become a  
2 more significant concern in the future, indicators  
3 and standards would be identified. The indicators  
4 and standards developed within the user capacity  
5 section of chapter 2 would be used to adaptively  
6 manage impacts specifically caused by visitor use.  
7 Indicators are the measureable variables that track  
8 visitor-related impacts over time; standards are  
9 the minimum acceptable condition for the  
10 indicator variables. Standards and adaptive  
11 management strategies may vary by management  
12 zone to maintain the desired conditions set forth  
13 by the alternatives. The impacts from banning  
14 beach driving are not included in the plan since  
15 this regulation was already in place at the time of  
16 plan initiation and is therefore outside the scope  
17 of actions included in this general management  
18 plan. If the regulation on beach driving needs to  
19 be changed in the future, additional planning and  
20 compliance would be completed to analyze  
21 associated impacts to the change in regulation.  
22

23 **CONCERN:** The Environmental Protection  
24 Agency recommends that the National Park  
25 Service develop indicators that measure changes  
26 in protected species populations (such as the black  
27 skimmer and least tern) in the face of the recently  
28 enacted beach-driving ban. The agency cites that  
29 due to the long-term nature of beach driving,  
30 changes in species populations would be valuable  
31 to collect.  
32

33 **RESPONSE:** Fort Matanzas and the National  
34 Park Service are committed to thoroughly  
35 monitoring and collecting data on protected  
36 species. Current wildlife monitoring efforts at  
37 Fort Matanzas include but are not limited to  
38 Piping Plovers, Wood Storks, the Anastasia Island  
39 Beach Mouse, and several listed sea turtles. It is  
40 important to note that funding and staffing are  
41 unfortunate but realistic limitations for extensive  
42 monitoring programs. Routine monitoring at Fort  
43 Matanzas is conducted by the NPS Inventory and  
44 Monitoring program, Southeast Coast Network.  
45 This program coordinates with parks and partners  
46 to understand and preserve the many important  
47 and unique resources present on the southeast  
48 coast. For more information on this program,  
49 please visit  
50 <http://science.nature.nps.gov/im/units/secn/index.cfm>.  
51  
52

53 Concerning EPA specific comments about black  
54 skimmers and least terns, the national monument  
55 routinely monitors nesting sea turtles and nesting  
56 sea birds. Least terns nesting within Fort  
57 Matanzas are monitored and measures are taken  
58 to protect these nests. Although black skimmers  
59 have been observed in large numbers resting on  
60 sand bars, there have been no nests for this  
61 species observed on land managed by Fort  
62 Matanzas. Black skimmers typically rest in  
63 colonies on bare sand flats above the high tide  
64 line, as do least terns. The nesting preferences of  
65 these two bird species are also similar; therefore,  
66 the measure taken to protect nesting least terns  
67 will also benefit any black skimmers that nest on  
68 NPS lands. If black skimmers are found to be  
69 nesting on NPS lands, additional protective  
70 measures and monitoring frameworks would be  
71 updated accordingly.  
72

73 Concerning the EPA suggestion of developing  
74 specific indicators and standards that measure  
75 changes in protected populations, at this time the  
76 national monument believes the three indicators  
77 developed in the GMP/EIS are protective of  
78 desired conditions relating to protected species.  
79 Indicators and standards are adaptive management  
80 techniques that relate directly to impacts caused  
81 by visitor use. If a protected species population  
82 changes, and the cause is found to be tied to  
83 visitor use, the management strategies found in  
84 table 2 will be implemented to reduce that impact.  
85 The impacts from banning beach driving is not  
86 included in the plan since this regulation was  
87 already in place at the time of plan initiation and  
88 is therefore outside the scope of actions included  
89 in this general management plan. If the regulation  
90 on beach driving needs to be changed in the  
91 future, additional planning and compliance would  
92 be completed to analyze associated impacts to the  
93 change in regulation.  
94

95 **CONCERN:** The Florida Department of  
96 Environmental Protection notes that the draft  
97 GMP/EIS does not include sufficient details about  
98 parking lots proposed for expansion. They found  
99 it difficult to assess whether future construction  
100 would impact wetlands or surface water without  
101 clear descriptions of the locations and extents of  
102 potential parking lot expansion. They advise that  
103 the National Park Service is required to provide  
104 detailed plans for construction for proposed work  
105 in order for mitigation of impacts to be identified.

1  
2 **RESPONSE:** The GMP/EIS does not include  
3 specific building “footprints” or detailed locations  
4 for facilities that are identified as potential new  
5 construction under any alternative. That level of  
6 detail would be determined in a future planning  
7 process, which would not only identify detailed  
8 options for such construction, but would also  
9 assess potential impacts and identify mitigation  
10 measures for potential actions. The NPS will  
11 coordinate with the Florida Department of  
12 Environmental Protection in the future on  
13 potential construction related impacts to wetlands  
14 and surface waters. For clarification, additional  
15 explanatory language regarding compliance  
16 concerning relevant environmental and historic  
17 preservation laws has been added to chapter 1  
18 within the purpose of the plan section.

19  
20 **CONCERN:** The Environmental Protection  
21 Agency identified content that they believe should  
22 be expanded on or added to the final GMP/EIS.  
23 The agency recommends that further clarification  
24 on identified environmental impacts be made.  
25 Specifically, they recommend that levels of  
26 impact (local, short and long term, direct, adverse,  
27 etc.) be defined and explained, specifically in the  
28 context of the purpose and significance of Fort  
29 Matanzas. The Environmental Protection Agency  
30 also recommends that current and future impacts  
31 be quantified (i.e., number of acres that currently  
32 have invasive species and why that number has an  
33 adverse impact).

34  
35 **RESPONSE:** The GMP/EIS defines the terms  
36 used for levels of impact in chapter 4 under the  
37 “Identification of Impacts” section. In the NPS  
38 process for creating and writing general  
39 management plans, levels of impact are not  
40 specifically correlated to potential impacts to the  
41 purpose or significance of a park unit. However,  
42 table 1 within the GMP/EIS identifies servicewide  
43 mandates, laws, and policies that must be  
44 achieved in order for the purpose and significance  
45 of Fort Matanzas to be accomplished.

46  
47 Concerning the EPA recommendation to quantify  
48 and analyze future impacts, the GMP/EIS process  
49 does not describe how particular actions should be  
50 implemented. While the GMP/EIS describes the  
51 types of future actions that may occur at the  
52 national monument, it does not analyze the  
53 impacts of those actions because the details of the

54 action will not be known until future planning  
55 efforts determine the specific location, building  
56 footprint, and design details of a project. At that  
57 time, impacts from the project will be analyzed  
58 and any mitigation for adverse impacts will be  
59 identified.

60  
61 Along the same lines, the impacts of future  
62 actions cannot be quantified (such as acres of  
63 expected invasive species) as the details of those  
64 actions, and therefore their impacts or results, will  
65 be determined at a later time. The national  
66 monument currently monitors and manages  
67 resource impacts such as invasive species.

#### 68 69 **4. Park Operations: Guiding Policies, 70 Regulations, and Laws**

71 **CONCERN:** One commenter suggested that the  
72 park consider providing wheelchairs that can be  
73 used on sand in order to provide sufficient access  
74 for disabled people.

75  
76 **RESPONSE:** Fort Matanzas National Monument  
77 appreciates suggestions from the public on  
78 creative ways that the monument can improve  
79 access to visitors. This and other tools will be  
80 evaluated by the park and implemented if and  
81 where appropriate.

#### 82 83 **5. Cultural and Natural Resources**

84 **CONCERN:** The U.S. Fish and Wildlife Service  
85 recognized that expansion of parking areas may  
86 occur upon implementation of the draft GMP/EIS  
87 and remind the National Park Service of its  
88 obligation to consult with their agency before  
89 such construction to ensure protection of many  
90 species and other natural resources.

91 **CONCERN:** A commenter noted (in support of  
92 alternative A) that vehicle use on the beaches  
93 could potentially disturb archeological resources  
94 as well as result in other environmental impacts.

95  
96 **CONCERN:** The Florida state historic  
97 preservation office (SHPO) expressed support of  
98 alternative B, noting that the park would complete  
99 cultural resource surveys and consult with the  
100 SHPO as necessary for specific ground-disturbing  
101 undertakings.

1 **CONCERN:** The Florida Department of  
2 Environmental Protection noted that several  
3 historic resources have been recorded in the park,  
4 and that many other unrecorded resources may  
5 also be present. They remind the park that cultural  
6 resource surveys must be conducted prior to any  
7 new construction or excavation on park lands.

8  
9 **RESPONSE:** Table 1 of the general management  
10 plan identifies the NPS commitment to identify,  
11 inventory, document, and protect cultural  
12 resources (archeological resources, historic  
13 structures, cultural landscapes, ethnographic  
14 resources, and museum collections) prior to any  
15 ground disturbance, construction, or other  
16 potentially adverse actions.

17  
18 National Park Service staff would continue to  
19 consult with the Florida SHPO, associated tribes,  
20 and other concerned parties, as appropriate, with  
21 regard to project undertakings that may  
22 potentially affect archeological and/or other  
23 cultural resources in the park. Consultation would  
24 be carried out in accordance with section 106 of  
25 the National Historic Preservation Act. As more  
26 detailed construction or implementation plans are  
27 developed, NPS staff would assess and conduct  
28 cultural resource surveys of project areas, as  
29 needed, to ensure that should significant cultural  
30 resources be identified, they would be adequately  
31 protected from project impacts. Data recovery or  
32 other mitigation measures would be carried out if  
33 avoidance could not be achieved.

34  
35 National Park Service staff would also further  
36 consult with the U.S. Fish and Wildlife Service  
37 under section 7 of the Endangered Species Act  
38 and in accordance with provisions of the National  
39 Environmental Policy Act regarding future  
40 actions that result from implementation of the  
41 NPS preferred alternative. Consultation would  
42 occur early in the development of implementation  
43 planning to avoid or minimize possible impacts to  
44 sensitive habitat and threatened and endangered  
45 species. Potential future actions that would likely  
46 require separate section 7 consultation include  
47 expansion of existing parking areas along  
48 Highway A1A. In addition to consultation with  
49 the U.S. Fish and Wildlife Service, NPS staff  
50 would further consult with the Florida Fish and  
51 Wildlife Conservation Commission prior to  
52 potential habitat disturbance for parking area  
53 expansion or other facility improvements, as well

54 as to explore collaborative management and  
55 research opportunities.

## 56 57 **6. Visitor Opportunities and** 58 **Experiences**

59 **CONCERN:** One commenter proposed that an  
60 accessible parking lot be built at the north end of  
61 the Highway A1A bridge, with an accessible path  
62 that leads directly to the inlet beach area in order  
63 to accommodate disabled fisherman and other  
64 persons.

65  
66 **RESPONSE:** Fort Matanzas National Monument  
67 is always looking for creative and practical ways  
68 to enhance visitor experiences. At this time, the  
69 commenter's suggestion may not be feasible  
70 because the area in question is highly sensitive  
71 habitat for endangered species such as the  
72 Anastasia Island Beach Mouse and nesting sea  
73 birds, coastal dynamics are constantly changing  
74 the distribution of sand on the southern tip of  
75 Anastasia Island and the depth and path of the  
76 inlet itself, and there would be serious right-of-  
77 way and connection questions to be resolved  
78 where the bridge would tie into any potential  
79 parking area. Finally there would be difficult and  
80 expensive engineering questions to be resolved to  
81 build a parking area on that sensitive slope.

82  
83 **CONCERN:** The Environmental Protection  
84 Agency finds that the draft GMP/EIS does not  
85 adequately address the larger issue of public  
86 access to the beach. The agency acknowledges  
87 that the plan recognizes and speaks to increased  
88 pressures on parking availability due to expanded  
89 development in the area. They recommend that  
90 the park develop and measure indicators  
91 associated with parking issues and expand  
92 discussions in the plan on how regional growth  
93 will impact available parking and, in turn, the  
94 park itself.

95  
96 **RESPONSE:** The GMP/EIS provides guidance  
97 for the national monument over the next several  
98 years. Part of the guidance in the plan directs Fort  
99 Matanzas to "participate in all transportation  
100 planning forums that may result in links to parks  
101 or impact park resources. Working with federal,  
102 tribal, state, and local agencies on transportation  
103 issues, the National Park Service seeks reasonable  
104 access to parks, and connections to external and  
105 alternative transportation systems." This language

1 is contained in table 6 of the GMP/EIS, which  
2 lists servicewide mandates and policies pertaining  
3 to Fort Matanzas National Monument. As  
4 regional and local transportation planning efforts  
5 occur, the monument will participate when and  
6 however possible.

## 7 **7. Suggested Changes/Additions to** 8 **the GMP**

10 **CONCERN:** A number of commenters identified  
11 editorial items that need to be updated in the plan.  
12 Topics included clarifications of how specific  
13 species use the park's beach for migration and  
14 wintering habitat, updating Latin names of species  
15 listed in the plan, and mentioning the red knot in  
16 portions of the plan that discusses wildlife found  
17 in the park.

18  
19 **RESPONSE:** The national monument appreciates  
20 the effort that went into identifying the needed  
21 changes and has updated the final GMP/EIS  
22 accordingly.

23  
24 **CONCERN:** The Environmental Protection  
25 Agency suggested that the final GMP/EIS include  
26 the topics of the natural environment's health and  
27 the challenges of partnering. The agency  
28 recommends that discussions on issues and  
29 concerns raised during public meetings be  
30 addressed in the alternatives section of the plan as  
31 well.

32  
33 **RESPONSE:** In chapter 1 of the GMP/EIS, the  
34 planning issues/concerns section describes the  
35 issues the planning team has received from the  
36 public during scoping for this planning process.  
37 The issues raised during the scoping process  
38 directly shaped how the alternatives were  
39 developed in the draft GMP/EIS. Substantive  
40 issues that were gathered during the public  
41 comment period for the GMP/EIS have been  
42 analyzed. Any changes to the document that  
43 resulted from public input have been made. This  
44 public comment analysis report describes the  
45 issues (concern statements) gathered from the  
46 public and how the national monument has  
47 replied.

## 48 49 **8. Suggested Park Management** 50 **Strategies and Actions**

51 **CONCERN:** One commenter recommended that  
52 the national monument explore partnership  
53 opportunities as a way to alleviate issues such as  
54 access to fishing areas. The commenter suggested  
55 that the National Park Service partner with St.  
56 Johns County to connect NPS trails to the  
57 Southeast Intracoastal Waterway Park as a way to  
58 provide additional parking for and access to the  
59 monument.

60  
61 **RESPONSE:** Fort Matanzas has previously  
62 discussed this option. While the park supports this  
63 idea, there are some logistics that may make such  
64 a connection difficult. Private property separates  
65 the Southeast Intracoastal Waterway Park and  
66 Fort Matanzas; however, it may be possible to  
67 connect the two over a narrow strip of NPS land  
68 along the Matanzas River. However, such a  
69 connection would have to be a boardwalk placed  
70 over wetlands that are not in the Fort Matanzas  
71 boundary; therefore, the park could not contribute  
72 financially to such a project. If such a connection  
73 were to occur, parking issues may not be  
74 alleviated due to limited parking at the Southeast  
75 Intracoastal Waterway Park; however, the  
76 connection could be a great partnership  
77 opportunity.

78  
79 **CONCERN:** The Environmental Protection  
80 Agency suggests that the National Park Service  
81 consider developing partnerships around the issue  
82 of climate change. The agency suggests that  
83 partnerships could include monitoring and  
84 research to assess the impacts of climate change  
85 as well as identify adaptive management and  
86 mitigation strategies.

87  
88 **RESPONSE:** The National Park Service has a  
89 robust climate change analysis and adaptation  
90 program. For more information on the climate  
91 change program visit their website:  
92 <http://www1.nrintra.nps.gov/climatechange/planni>  
93 [ng.cfm](http://www1.nrintra.nps.gov/climatechange/planni). In addition to the climate change  
94 program, the NPS Inventory and Monitoring  
95 Network specifically monitors environmental vital  
96 signs in park units to track the effects of climate  
97 change. Vital signs include topics such as sea  
98 level rise along shorelines and in salt marshes, as  
99 well as changes in wildlife presence and diversity  
100 over time. Concerning partnerships, the national  
101 monument is always interested in exploring  
102 potential partnership opportunities and welcomes  
103 suggestions from the public at any time.

1  
2 **CONCERN:** Commenters, including the Florida  
3 Department of Environmental Protection and the  
4 Florida Fish and Wildlife Conservation  
5 Commission, encouraged the National Park  
6 Service to develop a fire management plan for  
7 Fort Matanzas. Commenters noted that the  
8 National Park Service requires such plans of all  
9 park units. Commenters also noted the positive  
10 effects to species, such as the Florida scrub-jay,  
11 that fire management will have.

12  
13 **RESPONSE:** Based in part on the findings of a  
14 completed study (at Cumberland Island National  
15 Seashore) of the role of natural fire in sustaining a  
16 southeastern barrier island ecosystem, Fort  
17 Matanzas National Monument would consider the  
18 use of prescribed fire and/or mechanical thinning  
19 to restore coastal scrub habitat that has become  
20 overgrown in recent years. In conformance with  
21 NPS management policies and other authorities,  
22 Fort Matanzas staff would consider the use of  
23 prescribed fire in partnership with other resource  
24 management agencies.

25  
26 Although Fort Matanzas National Monument  
27 currently has a fire management plan, the plan  
28 only addresses fire suppression activities. The  
29 park relies primarily on the local fire department  
30 for suppression assistance. The current fire  
31 management plan does not allow prescribed  
32 burning as a vegetation or resource management  
33 tool. However, because of the documented  
34 benefits of prescribed fire for improving  
35 ecosystem health and for other considerations  
36 such as structural and visitor safety, NPS  
37 managers would consider the controlled use of  
38 prescribed fire. Prior to the decision to implement  
39 a prescribed fire program, Fort Matanzas staff  
40 would assess the anticipated environmental,  
41 socioeconomic, and other effects associated with  
42 prescribed fire as part of vegetation resource  
43 stewardship and/or other planning efforts.

44  
45 **CONCERN:** The Audubon Florida encourages  
46 the park to determine why Wilson's plovers  
47 currently have poor nesting productivity at Fort  
48 Matanzas. Further, they suggest the park manage  
49 for potential causes of poor nesting productivity  
50 such as predation.

51  
52 **RESPONSE:** Wilson's plovers are one of the  
53 main species monitored at Fort Matanzas. In the

54 past two years alone, nest and chick numbers have  
55 more than doubled (for example: 5 fledglings in  
56 2011, 15 nests in 2012). These numbers are  
57 comparable with other areas of nesting in Florida.  
58 The park will continue to monitor these species  
59 and encourage their nesting.

60  
61 **CONCERN:** The Audubon Florida encourages  
62 the park to undertake management actions that  
63 will encourage the black skimmer to rest on the  
64 beach. They state that such efforts would help  
65 support the conservation efforts for this species  
66 throughout the state of Florida.

67  
68 **RESPONSE:** Least terns nesting within Fort  
69 Matanzas are monitored and measures are taken  
70 to protect these nests. Although black skimmers  
71 have been observed in large numbers resting on  
72 sand bars, there have been no nests for this  
73 species observed on land managed by Fort  
74 Matanzas. Black skimmers typically nest in  
75 colonies on bare sand flats above the high tide  
76 line, as do least terns; therefore, the measures  
77 taken to protect nesting least terns will also  
78 benefit any black skimmers that nest on NPS  
79 lands. If black skimmers are found to be nesting  
80 on NPS lands, additional protective measures and  
81 monitoring frameworks would be updated  
82 accordingly.

83  
84 **CONCERN:** The Florida Department of  
85 Environmental Protection and the Florida Fish  
86 and Wildlife Conservation Commission both  
87 encourage the National Park Service to continue  
88 surveying and monitoring listed species  
89 populations (such as the Anastasia Island beach  
90 mouse and least terns) in Fort Matanzas and to  
91 continue efforts to protect those species.

92  
93 **RESPONSE:** Fort Matanzas National Monument  
94 and the National Park Service are committed to  
95 monitoring and protecting listed species  
96 populations. Within the GMP/EIS, the mitigation  
97 measures common to all action alternatives  
98 section of chapter 2 addresses this topic. Under  
99 the specific category of threatened and  
100 endangered species and species of concern, the  
101 GMP/EIS outlines strategies that would be taken  
102 to protect such species before and during any  
103 construction activities. This section describes key  
104 mitigation measures, including conducting  
105 surveys for rare, threatened, and endangered  
106 species, that serve to protect these species. The

1 mitigation measures relating to vegetation would  
2 also benefit protected species at Fort Matanzas.  
3  
4 The control and eradication of nonnative and  
5 nuisance species is an ongoing effort at Fort  
6 Matanzas. Table 1 in the GMP/EIS contains  
7 current laws and policies that the monument staff  
8 follows. To clarify the commitment of the  
9 monument staff to the control and eradication of  
10 nonnative and nuisance species, additional language  
11 has been added to table 1 under the topic of  
12 nonnative species that provides additional  
13 guidance and reference to the monuments efforts.  
14  
15 **CONCERN:** Audubon Florida suggests that the  
16 National Park Service seek authority for adjacent  
17 nearshore sovereignty of submerged lands from  
18 the State of Florida. They feel that doing so would  
19 address water-based activities that negatively  
20 impact park resources.  
21  
22 **CONCERN:** The National Oceanic and  
23 Atmospheric Administration (NOAA)  
24 recommends that the final GMP/EIS include a  
25 section on essential fish habitat. They find that the  
26 prevalence of beach, marsh, and intertidal habitat  
27 within the national monument warrants this  
28 inclusion.  
29  
30 **RESPONSE:** The possibility of seeking authority  
31 for submerged lands adjacent to Fort Matanzas  
32 has been considered by staff of the national  
33 monument. Due to a lack of interest and response  
34 from the State of Florida, NPS is no longer  
35 considering this option. Because the monument  
36 does not oversee any submerged lands, there is  
37 currently no suitable habitat for fish. Therefore,  
38 NOAA's recommendation of including a section  
39 on essential fish habitat is currently out of scope  
40 of the GMP/EIS planning area.  
41  
42 **CONCERN:** The Florida Fish and Wildlife  
43 Commission recommends that the final GMP/EIS  
44 express support for the reestablishment of the  
45 Matanzas Inlet Critical Wildlife Area (CWA).  
46 They feel that by expanding the CWA boundaries  
47 to include portions of Fort Matanzas, the two  
48 entities can work together to restrict public access  
49 to certain habitat areas.  
50  
51 **RESPONSE:** Subsequent to the release and  
52 public review of the draft GMP/EIS, park staff  
53 met with representatives of Florida Fish and

54 Wildlife Commission to discuss this topic. Fort  
55 Matanzas already posts and restricts access to the  
56 least tern nesting areas in conjunction with the  
57 commission each year. Expanding the boundary  
58 of the critical wildlife area involves a lengthy  
59 process and considerable effort, which does not  
60 result in a practical gain of protection. The  
61 commission stated that they would investigate the  
62 possibility of creating an amendment to the  
63 current critical wildlife area that would expand  
64 current coverage without having to do an official  
65 redesignation. In the meantime, all public access  
66 to the least tern nesting area, whether within the  
67 current CWA boundary or not, is restricted for the  
68 duration of the nesting season in order to protect  
69 this species.  
70  
71 **CONCERN:** One commenter suggests that Fort  
72 Matanzas place camouflaged composting or vault  
73 toilets near the beach parking areas to reduce  
74 impacts to beach dunes and improve visitor  
75 experience by decreasing the presence of human  
76 waste.  
77  
78 **RESPONSE:** The national monument recognizes  
79 the merits of this suggestion as a possible way to  
80 lessen the number of human waste incidents in the  
81 beach dunes. This suggestion, along with any  
82 others received from the public, will be  
83 considered by the monument. Fort Matanzas  
84 appreciates this suggestion and invites the public  
85 to provide feedback and suggestions to the  
86 monument at any time.  
87  
88 Table 18 on the following page provides a  
89 summary of the number of comments for each of  
90 22 comment codes that were developed to  
91 facilitate the public comment analysis. The codes  
92 correspond to descriptions that indicate the  
93 subject and nature of the comment. (Note: The  
94 total number of comments is greater than the  
95 number of individuals who commented because  
96 many correspondences addressed multiple  
97 subjects and thus multiple codes.)

**TABLE 18. CONTENT ANALYSIS REPORT**

<b>Code</b>	<b>Description</b>	<b>Number of Comments</b>
AL6000	Supports Alternative B- No Driving with possible parking expansion	1,748
AL8000	Does not support driving	1,730
WH4000	Wildlife And Wildlife Habitat: Impact Of Proposal And Alternatives	1,703
SG1000	Suggested park management strategies/actions	1,688
AL7100	Does not support Alternative C- Consider driving with larger parking expansion	1,687
IV100	ISSUES - Visitor use or experience issues	32
AL8100	Supports driving	26
AL5000	Supports No Action Alternative	20
AL7000	Supports Alternative C- Consider driving with larger parking expansion	16
PO1000	Park Operations: Guiding Policies, Regs And Laws	10
AL4000	Alternatives: New Alternatives Or Elements	9
GA3000	Impact Analysis: General Methodology For Establishing Impacts/Effects	7
CC1000	Consultation and Coordination: General Comments	7
SE4000	Socioeconomics: Impact Of Proposal And Alternatives	6
ED1000	Editorial	5
CR4000	Cultural Resources: Impact Of Proposal And Alternatives	3
TE4000	Threatened And Endangered Species: Impact Of Proposal And Alternatives	2
WQ4000	Water Resources: Impact Of Proposal And Alternatives	2
AL6100	Does not support Alternative B- No driving with possible parking expansion	1
NR1000	Impacts to natural resources and processes	1
VR4000	Vegetation And Riparian Areas: Impact Of Proposal And Alternatives	1
AL5100	Does not support No Action Alternative	1

# CONSULTATION LETTERS



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960  
August 15, 2012

Mr. David Libman  
National Park Service  
Regional Office,  
Planning & Compliance Division,  
100 Alabama St.  
1924 BLDG,  
Atlanta, GA 3030317

Subject: Control # DES 11-63: Fort Matanzas National Monument (NM) – General Management Plan (GMP) 12; Draft Environmental Impact Statement (DEIS). CEQ No. 20120195 & ERP No. NPS-E61082-FL.

Dear Mr. Libman:

To fulfill EPA's Clean Air Act (CAA) § 309 and National Environmental Policy Act § 102(2)(C) (NEPA) responsibilities, EPA reviewed the above DEIS for the proposed action: the GMP. We are giving this DEIS a "Lack of Objections" rating, see enclosed "Summary of the EPA Rating System." Included below are comments we believe will strengthen the final EIS (FEIS) to meet NEPA's mandate.

*Proposed Action:* the GMP will provide guidance for the next 20 plus years on perpetuating natural systems, preserving cultural resources, and providing a quality visitor-experience opportunity for this NM. According to the DEIS, any proposed development consistent with the proposed action would require feasibility studies, detailed planning, and environmental documentation. GMP implementation is dependent upon available resources and consequently may occur in phases over many years.

*Description:* Fort Matanzas consists of nearly 300 acres on Rattlesnake and Anastasia Islands, three historic structures: the Fort, Visitor Center, HQ administrative buildings, and the Johnson House, and the Matanzas Ramp: the Atlantic Ocean beach access road. The NM is located 14 miles south of the City of St. Augustine, Florida.

*Purpose & Need:* The GMP's purpose is to decide how the National Park Service (NPS) can best fulfill the NM's purpose, maintain its significance, and protect its resources unimpaired for the enjoyment of present and future generations. This action is needed to update the outdated 1982 Fort Matanzas GMP as both the National Parks and Recreation Act and NPS policy mandate development of a GMP for each park.

*Alternatives:* The DEIS indicates five issues helped to steer the development of preliminary alternatives.<sup>1</sup> The visitor center space inadequacy, the recent closure of the beach to driving off designated roads, the insufficient visitor parking, visitor concern over the natural environment's

<sup>1</sup> P. 19.

health, and the challenge of partnering with the neighboring state parks and forests, conservation areas, and preserves were the identified five issues.

**EPA Comments:** the GMP appears to provide minimal if any focus on visitor concern over the natural environment's health and the challenge of partnering with the local state parks and forests, conservation areas, and preserves. The GMP appeared to focus on a different issue: providing varying degrees of cultural and natural resource interpretation opportunities.

- EPA recommends the alternatives chapter (2) further address the issues concerning natural environment's health and the partnering challenge.
  - EPA suggests the NPS consider discussing in the FEIS the concerns raised during the public meetings and in the scoping comments and how the proposed GMP alternatives address these concerns.
- EPA suggests the NPS consider "climate change," likely a common concern to all entities mentioned, as a partnering opportunity for collaboration. For example, developing a partnership to share in the following activities:
  - monitor changes and associated impacts to define climate change related cause and effect relationships,
  - identify ecosystem services provided by all entities, e.g., flooding protection during severe events and the potential for being a CO<sub>2</sub> sink to facilitate the climate change adaption and mitigation at the regional level, and
  - research of potential climate change adaptation and mitigation strategies that could be used by all coastal entities in the southeast.

The DEIS discusses three alternatives: the no action alternative (A), NPS-preferred/the environmentally preferred alternative (B), and alternative C. The major differences between the three alternatives appear to center on three issues: the visitor center, parking space, and degree of cultural and natural resource interpretation opportunities.

**EPA Comment:** the DEIS identified four options for addressing the inadequate visitor center in the purpose and need chapter (1) but did not evaluate all of these in the alternatives evaluated in the alternatives chapter (2). Chapter 2 does not address two options: physically expanding the existing building or replacing it with a new facility. The no action alternative provides for the status quo while both alternatives B and C propose supplementing existing visitor center space with space added by adaptive re-use of existing structures.<sup>2</sup>

- EPA recommends Chapter 2 either discuss all four options for addressing the inadequate space or explain why the two options identified in Chapter 1 were not considered in the alternatives analysis in Chapter 2. EPA notes Chapter 2 did not discuss these two options in its section on alternatives considered but dismissed from detailed evaluation.<sup>3</sup>

*Environmental Impacts:* The majority the NM is located within the 100-year flood plain. The islands associated with the NM are barrier islands. Roughly half of the total park (147.4 acres) is mapped as wetlands and approximately 100 of these wetlands acres are on Rattlesnake Island. The main body of water in the vicinity of the Fort is the Matanzas River which is characterized as an estuarine, subtidal wetland with unconsolidated bottom.

<sup>2</sup> P. 21.

<sup>3</sup> P. 70.

**EPA Comment:** EPA finds it difficult to compare environmental impacts among the three alternatives evaluated. For example,

- Under the subheading “Potential Cultural Landscapes” (Alternative B), is the unexpected mention of a parking expansion for two bus spaces.<sup>4</sup>
  - The alternatives chapter (2) indicates the bus space expansion is proposed for alternative A<sup>5</sup> not B. Moreover, no discussion of the proposed bus spaces potential environmental impacts exists in the environmental consequences chapter (4) for alternative A.<sup>6</sup>
- The environmental consequence chapter (4) discusses additional impacts from construction of off-beach parking for both alternative A & B<sup>7</sup>, yet Chapter 2 does not indicate construction of off-beach parking will occur for either alternative.
  - Chapter 4 in its alternative A discussion<sup>8</sup> states, *Very few additional impacts to soils would result from clearing and construction for off-beach parking at the Matanzas ramp.*
  - Yet Chapter 2 indicates for
    - Alternative A, parking lot design changes have been implemented for safety and 2 bus spaces will be added to the visitor center parking lot,<sup>9</sup> and for
    - Alternative B, the number of parking lots in the existing parking foot print would be increased and expansion of other lots could occur.
      - EPA recommends the FEIS describe the degree of expansion, e.g., quantify (acres).
- EPA recommends the FEIS be written to improve upon the DEIS’ current alternative comparisons of environmental impacts.

**EPA Comment:** EPA recommends the DEIS quantify where possible the impacts and consider including in its GMP development obtaining any lacking data to quantify future impacts.

The GMP describes performance indicators and standards to ensure desired conditions are being attained, e.g., number of vehicles driving outside authorized areas, number of car clouting incidents, etc.,<sup>10</sup> but does not use these indicators to quantify impacts associated with the proposed action.

- The DEIS describes how many visitors come to the NM but doesn’t provide the number of cars to describe (quantify) the current impact and how the proposed alternatives will alleviate the current impact. Currently there are four parking lots available.
  - EPA recommends the EIS quantify where possible the anticipated environmental impacts associated with its proposed action. Examples of quantification are provided below recommended to be addressed in the EIS.
    - How many cars can be parked under alternative A, and expected to be parked under alternatives B, and C.
    - How many cars park on shoulders under alternative A, and expected to be parked under alternatives B, and C.

---

<sup>4</sup> P. 118.

<sup>5</sup> P. 39.

<sup>6</sup> PP. 105 – 116.

<sup>7</sup> P. 118.

<sup>8</sup> P. 107.

<sup>9</sup> P. 39.

<sup>10</sup> Table 2, pp. 31-32.

- EPA recommends the FEIS address the potential displacement of parking associated with the recent closure of the beach to driving/parking. For example, how many cars are being displaced from off-road/parking areas that now may require parking in the designated existing parking lots?
- The FEIS is encouraged to address whether there are outside parking lots where arrangements can be made to shuttle visitors. Could this be a partnering opportunity with the neighboring state parks, forests, conservation areas, reserves, other entities, etc., to share parking areas and shuttle visitors between these entities?
- The impacts associated with the closure of off-road vehicles has environmental impacts that EPA recommends be discussed in the DEIS. For example,
  - The DEIS indicates impacts to fishermen without quantifying how many fishermen are affected.
  - The DEIS should discuss the impacts associated from not having the fishermen drive off road. For example,
    - The DEIS describes *the ocean beach at Fort Matanzas provides a nesting area for the threatened loggerhead and endangered green and leatherback sea turtles, the ghost crab, least tern, Wilson's plover and other migratory shorebirds and seabirds, including the endangered piping plover.*"
    - The DEIS describes state-protected species, i.e., Black Skimmer and Least Tern, that prefer nesting on open sand on beaches.
    - EPA encourages NPS to develop indicators to measure changes in these protected species populations to describe future impacts associated with the recently enacted off-road vehicle closure. Particularly since driving on the beach has been occurring since the advent of the automobile, possibly prior to the NM's establishment in 1924, and large numbers of visitors have indicated their preference for retaining access by vehicle to the beach. This data would prove valuable for NEPA purposes should NPS reconsider and seek authority to permit driving on the beach.

**EPA Comment:** EPA recommends further clarification in the FEIS on the identified environmental impacts to the NM.

- For example Table 6, Summary of Impacts,<sup>11</sup> under the preferred and environmentally preferred alternative B, to plant communities and vegetation are described as "local, short- and long-term, direct, minor and adverse" when compared to the no action alternative A, "long-term, adverse, negligible to minor, and localized."
  - EPA suggests the FEIS explain what does this means in context of the NM and its mission and how this is it significant.
- For example, the DEIS describes invasion by exotic/nuisance species<sup>12</sup> but there is no information describing the status quo, e.g., how many acres are and how densely invaded (affected environment) by exotic/nuisance species. Nor explains why this is considered to be minor. And how is that expected to change with each alternative evaluated. EPA recommends the DEIS provide more quantification and explanation to better describe the impacts.

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<sup>11</sup> PP. 55 – 60.

<sup>12</sup> P. 108.

- EPA recommends the FEIS define its terminology, e.g., short and long term, adverse, negligible, minor, localized, significant impacts, etc., in context of each cultural and natural resource evaluated.

**EPA Comment:** EPA finds the one issue raised in the DEIS having the most potential to significantly impact the NM during the GMP's project life is the issue of increasingly diminished opportunities for the public to access the beaches, which is increasing parking pressures and collateral impacts upon the NM resource.

- The DEIS states *the resulting extra parking spaces would be beneficial to traffic circulation; however, parking would likely continue to be an issue for the park without significant increase in parking opportunities.*<sup>13</sup>
  - EPA's perspective is the above statement indicates the seriousness of the parking issue which does not appear to be addressed by the proposed action.
- The DEIS states *Public access to the beach is a growing problem in the area with the increase in condominiums; the public access areas have been diminished.*<sup>14</sup>
- EPA recommends the GMP include indicators to measure parking pressures upon the NM associated with declining public beach access associated with development.
- EPA recommends the GMP discuss how the NPS mission is impacted if it is the default option to providing public beach access to replace the access reduced by private development. The DEIS states *Regional growth is expected to result in increased development in the vicinity of the monument.*<sup>15</sup>
- EPA recommends the minor discussion contained in the DEIS' cumulative effects discussion be expanded to fully discuss the potential parking needs associated with loss of formerly public beach access and its associated impacts to the GMP's purpose: to decide how NPS can best maintain the NM's significance and protect its resources unimpaired for the enjoyment of present and future generations.

We thank you for the opportunity to review and comment on this DEIS. If you wish to discuss this matter further, please contact me (404-562-9611 or [Mueller.heinz@epa.gov](mailto:Mueller.heinz@epa.gov)) or Beth Walls (404-562-8309 or [walls.beth@epa.gov](mailto:walls.beth@epa.gov)) of my staff.

Sincerely,



Heinz J. Mueller, Chief  
NEPA Program Office  
Office of Policy and Management

Enclosure: EPA Rating System

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<sup>13</sup> P. 116.

<sup>14</sup> P. 102.

<sup>15</sup> P. 114.

## SUMMARY OF RATING DEFINITIONS AND FOLLOW UP ACTION <sup>1</sup>

### Environmental Impact of the Action

#### LO-Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

#### EC-Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impacts. EPA would like to work with the lead agency to reduce these impacts.

#### EO-Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

#### EU-Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

### Adequacy of the Impact Statement

#### Category 1-Adequate

The EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collecting is necessary, but the reviewer may suggest the addition of clarifying language or information.

#### Category 2-Insufficient Information

The draft EIS does not contain sufficient information for the EPA to fully assess the environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

#### Category 3-Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant

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<sup>1</sup> From EPA Manual 1640 Policy and Procedures for the Review of the Federal Actions Impacting the Environment.



## United States Department of the Interior

### U. S. FISH AND WILDLIFE SERVICE

7915 BAYMEADOWS WAY, SUITE 200  
JACKSONVILLE, FLORIDA 32256-7517

IN REPLY REFER TO:

**FWS Log Nos. 41910-2012-CPA-0027**

August 22, 2012

Mr. David Libman, GMP Project Manager  
National Park Service  
Southeast Regional Office  
Atlanta Federal Center, 1924 Building  
100 Alabama St., SW.  
Atlanta, Georgia 30303

Re: Review of Draft General Management Plan and Environmental Impact Statement for Fort Matanzas National Monument, St. Augustine, St. Johns County, Florida

Dear Mr. Libman:

Our office has reviewed your correspondence dated June 29, 2012 and its accompanying draft General Management Plan (GMP) and Environmental Impact Statement (EIS) for Fort Matanzas National Monument (Fort Matanzas). We coordinated previously with the National Park Service (NPS) in its initial document planning and preparation, and appreciate the opportunity for additional input under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*).

The draft GMP and EIS considers three alternatives for guiding the future management of Fort Matanzas over the next 20 years. Alternative A is the “no-action” alternative and describes how NPS currently manages Fort Matanzas. It includes a prohibition against beach driving. Alternative B, the NPS preferred alternative, is similar to “A” in that it retains the current natural resource conditions and associated management actions, including the beach driving ban, but differs in that there is increased emphasis on minimal modification of the natural environment, low impact recreational activities, and interpretation of natural resources. Alternative C places more emphasis on cultural history and park evolution, with commensurate increases in interpretative experiences that could include some expansion of recreational trail and board walk opportunities. It most notably would allow for some level of beach driving, but only following enactment of a special regulation, and completion of an Off-Road Vehicle (ORV) Plan and Environmental Impact Statement.

The lands comprising Fort Matanzas National Monument and its contiguous waters support diverse Federal Trust Resources. The maritime hammock, remnant coastal scrub, and coastal sand dune communities include numerous foraging and nesting migratory birds, the gopher tortoise (*Gopherus polyphemus*), a Federal candidate for listing, and the southernmost local population of the federally endangered Anastasia Island beach mouse (*Peromyscus polionotus phasma*). The mosaic of uplands and wetlands within and adjacent to Fort Matanzas combined are of sufficient size to support the federally threatened Eastern indigo snake (*Drymarchon corais couperi*). Sea turtle species that have or are capable of nesting on the Fort Matanzas ocean beach include the loggerhead (*Caretta caretta*), green (*Chelonia mydas*), leatherback (*Dermochelys coriacea*) and Kemp’s ridley (*Lepidochelys kempii*) sea turtles. The listed piping plover (*Charadrius melodus*) and red knot (*Calidris canutus rufa*), another candidate for Federal listing, use upper and lower beach habitat contiguous to Fort Matanzas, as well as emergent sand shoals within the Matanzas River and Matanzas Inlet adjacent to Fort Matanzas, for temporary roosting and foraging during their annual migrations. The endangered wood stork (*Mycteria americana*) uses

uplands and wetlands within park boundaries for roosting and foraging, respectively. The adjacent estuarine and marine waters support the listed West Indian (Florida) manatee (*Trichechus manatus latirostris*). Shorebirds of special note that nest within beach or dune habitats include the least tern (*Sterna antillarum*), Wilson's plover (*Charadrius wilsonia*), and willett (*Catoptrophorus semipalmatus*). Although the threatened Florida scrub-jay (*Aphelocoma coerulescens*) occurred on the property at one time, none have been observed in recent years (Kurt Foote, National Park Service, personal communication 2012).

Based on the diversity of species and habitats occurring within and adjacent to Fort Matanzas National Monument, and the descriptions of its proposed general management alternatives covering the next 20 years, we support NPS's selection of Alternative B as the preferred management alternative. That alternative provides the maximum protection and conservation of Federal Trust and other natural resources associated with the park. We recognize and accept the possibility of some parking lot expansion in lieu of driving and parking on the beach. We expect to work with NPS through section 7 consultation to avoid and minimize potential adverse effects to beach mice, sea turtles, and other species and their habitats from such expansions, or other specific actions arising from selection of this management alternative.

We have also reviewed the specific details of the draft GMP, and as a result are providing two attachments to this letter. Attachment A contains our recommendations for specific changes to the draft GMP. Attachment B is a list of our current office and regional points of contact for the conservation and recovery of listed species, their habitats, and other Federal Trust Resources. We recommend that NPS utilize these contacts for assistance before, during, and after the development of more detailed planning efforts intended to prioritize and implement the specific programs, projects, and actions arising from the GMP.

Thank you again for the opportunity to review and comment on the draft General Management Plan for Fort Matanzas National Monument. If you have any questions regarding this response, please contact Mr. John Milio of my staff at the address on the letterhead, by e-mail at [john\\_milio@fws.gov](mailto:john_milio@fws.gov), or by calling 904-731-3098.

Sincerely,



for David L. Hankla  
Field Supervisor

Encl as:

cc:

Cindy Fury, Leader  
Florida/Caribbean Field Office  
Migratory Bird Program, USFWS  
Tallahassee, FL

Scott Sanders, Director  
Office of Conservation Planning  
Florida Fish and Wildlife Conservation Commission  
620 South Meridian Street  
Tallahassee, Florida 32399

## ATTACHMENT A

### Specific Comments on Draft General Management Plan

Page 31, Table 2, column 1, row 1: Replace with “**Number of unauthorized vehicles and pedestrians within ‘authorized access only’ areas**”

Page 31, Table 2, column 3, row 1: Add “.....**and pedestrians**”

Page 33, lines 21 through.....: Include specific descriptions of the management zones

Page 84, Table 12, column 2, row 22: Replace “**coatwhip**” with “**coachwhip**”

Page 86, line 46: Delete “.....**which is enforced by the USFWS**”

Pages 86-87, Table 14: Delete references to Florida scrub-jay and hawksbill sea turtle

Page 110, Table 17: Delete references to Florida scrub-jay and hawksbill sea turtle

Page 128, line 5: Insert “The operation of motor vehicles on the beach affects sea turtle nesting by interrupting or striking a female turtle on the beach, headlights disorienting or misorienting emergent hatchlings, vehicles running over hatchlings attempting to reach the ocean, and vehicle tracks traversing the beach that interfere with hatchlings crawling to the ocean. Hatchlings appear to become diverted not because they cannot physically climb out of the rut (Hughes and Caine 1994), but because the sides of the track cast a shadow and the hatchlings lose their line of sight to the ocean horizon (Mann 1977). The extended period of travel required to negotiate tire tracks and ruts may increase the susceptibility of hatchlings to dehydration and depredation during migration to the ocean (Hosier *et al.* 1981). Driving on the beach can cause sand compaction which may result in adverse impacts on nest site selection, digging behavior, clutch viability, and emergence by hatchlings, decreasing nest success and directly killing pre-emergent hatchlings (Mann 1977, Nelson and Dickerson 1987, Nelson 1988).

The physical changes and loss of plant cover caused by vehicles on dunes can lead to various degrees of instability, and therefore encourage dune migration. As vehicles move either up or down a slope, sand is displaced downward, lowering the trail. Since the vehicles also inhibit plant growth, and open the area to wind erosion, dunes may become unstable, and begin to migrate. Unvegetated sand dunes may continue to migrate across stable areas as long as vehicle traffic continues. Vehicular traffic through dune breaches or low dunes on an eroding beach may cause an accelerated rate of overwash and beach erosion (Godfrey *et al.* 1978). If driving is required, the area where the least amount of impact occurs is the beach between the low and high tide water lines. Vegetation on the dunes can quickly reestablish provided the mechanical impact is removed.”

Page 148, Table: Delete references to Florida scrub-jay and hawksbill sea turtle

Page 149, lines 77-80: Provide update on 12-month status review finding on wood stork

Page 149, lines 86-88: Replace with “.....occurs primarily at the northern (Anastasia State Park and southern (Fort Matanzas) ends of its range, and at isolated sites in-between

Page 151, Lines 70-97: Delete

Page 152, lines 20-23: Delete, Include updated information-on the listing revision from the single global threatened species to a listing of nine Distinct Population Segments (DPS). Loggerheads that nest on Fort Matanzas National Monument belongs to the Northwest Atlantic Ocean DPS and are listed as threatened. More information can be found at the following weblink: <http://www.nmfs.noaa.gov/pr/pdfs/fr/fr76-58868.pdf>

Page 155, line 14: Update Federal status using the following link  
[http://www.fws.gov/northflorida/Releases-11/20110726\\_nr\\_Gopher\\_Tortoise-12-month\\_Warranted\\_but\\_Precluded\\_Finding\\_Eastern\\_Portion\\_of\\_range.html](http://www.fws.gov/northflorida/Releases-11/20110726_nr_Gopher_Tortoise-12-month_Warranted_but_Precluded_Finding_Eastern_Portion_of_range.html)

Page 158 – 159: Insert

Godfrey, P.J., S.P. Leatherman, and P.A. Buckley. 1978. Impact of off-road vehicles on coastal ecosystems. Pages 581-599 *in* Coastal Zone '78 Symposium on Technical, Environmental Socioeconomic and Regulatory Aspects of Coastal Zone Management. Vol. II, San Francisco, California.

Hughes, A.L. and E.A. Caine. 1994. The effects of beach features on hatchling loggerhead sea turtles. Pages 237 *in* Bjorndal, K.A., A.B. Bolten, D.A. Johnson, and P.J. Eliazar (compilers). Proceedings of the Fourteenth Annual Symposium on Sea Turtle Biology and Conservation. NOAA Technical Memorandum NMFS-SEFSC-351.

Mann, T.M. 1977. Impact of developed coastline on nesting and hatchling sea turtles in southeastern Florida. Unpublished Master of Science thesis. Florida Atlantic University, Boca Raton, Florida.

Nelson, D.A. and D.D. Dickerson. 1987. Correlation of loggerhead turtle nest digging times with beach sand consistency. Abstract of the 7th Annual Workshop on Sea Turtle Conservation and Biology.

Nelson, D.A. 1988. Life history and environmental requirements of loggerhead turtles. U.S. Fish and Wildlife Service Biological Report 88(23). U.S. Army Corps of Engineers TR EL-86-2 (Rev.)



## United States Department of the Interior

### U. S. FISH AND WILDLIFE SERVICE

7915 BAYMEADOWS WAY, SUITE 200  
JACKSONVILLE, FLORIDA 32256-7517

IN REPLY REFER TO:

FWS Log Nos. 04EF1000-20 12-CPA-0027/12-I-0250

August 31, 2012

Mr. David Libman, GMP Project Manager  
National Park Service  
Southeast Regional Office  
Atlanta Federal Center, 1924 Building  
100 Alabama St., SW.  
Atlanta, Georgia 30303

Re: Response to Request for Concurrence with Determination of Effects on Federally Listed Species for the Draft General Management Plan and Environmental Impact Statement (GMP/EIS): Fort Matanzas National Monument, St. Augustine, St. Johns County, Florida

Dear Mr. Libman:

Our office has reviewed your correspondence dated August 13, 2012 regarding the National Park Service's (NPS) selection of a preferred alternative for its draft GMP/EIS, and its effects on federally listed species that occur on Fort Matanzas. We provide the following comments in accordance with section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*).

Under preferred alternative B, the current ban on beach driving within Fort Matanzas would continue. To address this issue, alternative B considers potential minor expansions of existing parking areas on either side of Highway A1A. Its other features include continued natural resource inventory, monitoring, and mapping; removal of invasive, exotic, and nuisance species; and increased interpretation of the natural environment.

The NPS determined that alternative B would either not affect, or would not be likely to adversely affect, nesting and hatchling sea turtles, the eastern indigo snake, manatee, Anastasia Island beach mouse, wood stork, Florida scrub-jay, and piping plover. Given that Fort Matanzas is within the nesting range of the loggerhead (*Caretta caretta*), green (*Chelonia mydas*), leatherback (*Dermochelys coriacea*), and Kemp's ridley (*Lepidochelys kempii*) sea turtles, we expect no adverse effects to these species, and no effect for the Hawksbill sea turtle (*Eretmochelys imbricata*), which does not nest in northeast Florida. We concur with the determinations for the eastern indigo snake (*Drymarchon corais couperi*), West Indian (Florida) manatee (*Trichechus manatus latirostris*), beach mouse (*Peromyscus polionotus phasma*), and wood stork (*Mycteria americana*). Given their presence on beaches within Fort Matanzas, we expect the continued driving ban, pet policy, and control of invasive, exotic, and nuisance species will result in no adverse effects on wintering piping plovers (*Charadrius melodus*). The Florida scrub-jay (*Aphelocoma coerulescens*) is not currently present within Fort Matanzas or contiguous habitat. As a result, we expect the selection of preferred alternative B to have no effect on this species.

The Gopher tortoise (*Gopherus polyphemus*) is a candidate for Federal listing and no determination of effects is required at this time. The red knot (*Calidris canutus rufa*) is a migratory shorebird that occurs within and contiguous to Fort Matanzas, and is also a Federal candidate for listing. The NPS should monitor both species for any future change in their listing status.

Although this does not represent a biological opinion as described in section 7 of the Act, it does fulfill the requirements of the Act and no further action is required. The NPS in its GMP/EIS has indicated that it will undertake separate section 7 consultations with our office on future actions resulting from its implementation of the preferred alternative. In addition, selection of a different alternative or changes to the preferred alternative that results from public input may increase the risk of adverse effects from the GMP/EIS to a level at which take of federally listed species is reasonably certain to occur. Under such circumstances, or should there be changes to the listing status of the gopher tortoise and red knot, NPS should consider seeking the assistance of this office to ascertain if additional ESA consultation is needed prior to accepting the draft final GMP/EIS.

If you have any questions regarding this response, please contact Mr. John Milio of my staff at the address on the letterhead, by email ([john\\_milio@fws.gov](mailto:john_milio@fws.gov)) or by calling (904)-731-3098.

Sincerely,

  
for David L. Hankla  
Field Supervisor



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office  
263 13<sup>th</sup> Avenue South  
St. Petersburg, Florida 33701-5505  
(727) 824-5317; FAX (727) 824-5300  
<http://sero.nmfs.noaa.gov/>

August 17, 2012

F/SER47:GG/pw

(Sent via Electronic Mail)

Mr. Gordon Wilson, Superintendent  
Fort Matanzas National Monument  
8635 A1A South  
St. Augustine, FL 32080

Dear Mr. Wilson:

NOAA's National Marine Fisheries Service (NMFS) reviewed the National Park Service (NPS) Draft General Management Plan and Environmental Impact Statement for Fort Matanzas National Monument, St. Johns County, Florida. The NPS preferred alternative (Alternative B) would manage the National Monument in a manner consistent with its history as a small military outpost within a sometimes harsh, but rich natural environment. There would be minimal development of new facilities or expansion of existing facilities. 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. Under the NPS preferred alternative, there would be increased emphasis on the educating the public about the park's natural environment.

NMFS supports the NPS preferred alternative and the decision to continue the ban on beach driving within the park due to the potential for direct and indirect adverse impacts fish and wildlife from the physical disturbance of the vehicles. NMFS recommends the final Management Plan and Environmental Impact Statement include a section on Essential Fish Habitat (EFH) given the prevalence of beach, marsh, and intertidal habitat within the National Monument and nearby Matanzas Inlet. NMFS staff would be happy to assist NPS with development of this material, and NMFS looks forward to working with the NPS on living shoreline projects, similar to the ongoing project at Castillo de San Marco, as well as other habitat restoration and enhancement projects.

Thank you for providing the opportunity to comment on this project. Mr. George Getsinger, at our Marineland Office, is available if further assistance is needed. He may be reached at 9741



Ocean Shore Blvd, St. Augustine, Florida 32080, by phone at (904) 471-8674, or by email at [George.Getsinger@noaa.gov](mailto:George.Getsinger@noaa.gov).

Sincerely,



/ for

Virginia M. Fay  
Assistant Regional Administrator  
Habitat Conservation Division

cc:

NPS, [Gordon\\_Wilson@nps.gov](mailto:Gordon_Wilson@nps.gov), [Kurt\\_Foote@nps.gov](mailto:Kurt_Foote@nps.gov), [Jehu\\_Walker@nps.gov](mailto:Jehu_Walker@nps.gov),  
[David\\_Libman@nps.gov](mailto:David_Libman@nps.gov)  
EPA, [Eric.H.Hughes@usace.army.mil](mailto:Eric.H.Hughes@usace.army.mil)  
FWS, [John\\_Milio@fws.gov](mailto:John_Milio@fws.gov)  
SAFMC, [Roger.Pugliese@safmc.net](mailto:Roger.Pugliese@safmc.net)  
GTM NERR, [michael.shirley@dep.state.fl.us](mailto:michael.shirley@dep.state.fl.us)  
SFWMD, [cwentzel@sjrwmd.com](mailto:cwentzel@sjrwmd.com)  
NOAA PPI, [PPI.Nepa@noaa.gov](mailto:PPI.Nepa@noaa.gov)  
F, [nmfs.hq.nepa@noaa.gov](mailto:nmfs.hq.nepa@noaa.gov)  
F/SER, [nmfs.ser.eis@noaa.gov](mailto:nmfs.ser.eis@noaa.gov)  
F/SER47, [George.Getsinger@noaa.gov](mailto:George.Getsinger@noaa.gov)



Florida Fish and Wildlife Conservation Commission

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August 16, 2012

Ms. Sally Mann, Director  
Office of Intergovernmental Programs  
Department of Environmental Protection  
3900 Commonwealth Boulevard, Mail Station 47  
Tallahassee, FL 32399-3000  
[Sally.mann@dep.state.fl.us](mailto:Sally.mann@dep.state.fl.us)

Re: SAI #FL201207116294C – National Park Service – Draft General Management Plan/Environmental Impact Statement (Draft GMP/EIS) for Fort Matanzas National Monument, St. Johns County

Dear Ms. Mann:

Florida Fish and Wildlife Conservation Commission staff has reviewed the Draft General Management Plan/Environmental Impact Statement (GMP/EIS) for the Fort Matanzas National Monument. FWC staff provides the following comments, in accordance with the National Environmental Policy Act and the Coastal Zone Management Act/Florida Coastal Management Program.

**Background**

The National Park Service (NPS) has developed a draft General Management Plan (GMP)/Environmental Impact Statement (EIS) to provide guidance for the management of Fort Matanzas National Monument (hereinafter "Fort Matanzas") during the next 20 years. The purpose of the GMP is to provide comprehensive guidance for maintaining natural systems, preserving cultural resources, and providing opportunities for visitor experiences at Fort Matanzas. The existing GMP (approved in 1982) did not address many issues facing the park today. The currently proposed GMP/EIS analyzes three alternatives for management of Fort Matanzas:

1. Alternative A is the "no-action" alternative with continuation of existing management practices.
2. Alternative B is NPS' preferred alternative, which proposes:
  - a. Exploration of adaptive use of existing buildings to meet the needs of increased visitation
  - b. Additional parking spaces at the visitors' center within the footprint of the existing parking lots
  - c. Expansion of other existing parking lots if adverse impacts to natural resources can be avoided
  - d. Continuation of interpretation activities centered on the historical nature of the Fort
  - e. Expanded interpretation of the natural environment
  - f. Emphasis on low-impact recreation
3. Alternative C proposes:

- a. Further interpretive emphasis on the historical resources and cultural importance of Fort Matanzas and its structures
- b. Focus on the Anastasia Island section of Fort Matanzas, west of U.S. Highway A1A and the visitors' center
- c. Expansion of parking at the beach ramp, parking areas at the south end of Anastasia Island and the visitors' center
- d. Beach driving: this requires that NPS prepare, as a part of this EIS, an off-road vehicle plan and environmental impact analysis. This requirement, per Executive Order 1164 (1971), and as amended by Executive Order 11989 (1977), establishes limits and prohibitions on the use of off-road vehicles on public Federal lands, and mandates the development of an off-road vehicle plan and an environmental impact analysis be conducted if under consideration.

In 2008, NPS solicited comments on a previous version of a draft GMP/EIS for Fort Matanzas that included the above alternatives plus an additional Alternative D. Alternative D had proposed the expansion of visitor access areas and the continuation of beach driving; however, Alternative D was excluded from further consideration in the current GMP/EIS. In a letter dated June 12, 2008, FWC provided comments regarding the impacts of beach driving to wildlife and the management of natural resources. Further, FWC staff commented that, if beach driving were to be continued, the inclusion of measures to avoid, minimize, and mitigate the take of protected species, and/or permitting from both FWC and U.S. Fish and Wildlife Service may be necessary. FWC staff also recommended the re-establishment of the Matanzas Inlet Critical Wildlife Area (CWA) which could enhance management provisions of the GMP and protect natural resources.

#### **Comments and Recommendations**

We are supportive of the NPS's continued commitment to managing and preserving its natural and cultural resources, and for providing opportunities for a variety of visitor experiences. The Preferred Alternative emphasizes preservation, enhancement, and interpretation of the natural and cultural resources of Fort Matanzas, while also protecting state and federally listed species and their habitat. We support the Preferred Alternative and provide the following additional recommendations to aide in GMP implementation.

##### *Future Studies and Implementation Plans*

##### Fire Management Plan

The GMP/EIS identifies the need for more detailed studies and plans necessary for implementation, including the need for a fire management plan. The NPS requires all parks with vegetation that will sustain fire (such as coastal scrub) to have a fire management plan. The FWC supports this effort and encourages Fort Matanzas staff to partner with other agencies, such as the Florida Forest Service, St. Johns County, Anastasia State Park, Merritt Island National Wildlife Refuge, Canaveral National Seashore, and Guana Tolomato Matanzas National Estuarine Research Reserve, for assistance in managing the dune systems within Fort Matanzas.

Alternative mechanical management techniques could result in soil disturbance or impact wildlife habitat by affecting the stability of the coastal scrub and dune systems. In general, prescribed burning improves the herbaceous species coverage of habitats and would reduce the likelihood that the coastal scrub would succeed into a coastal hammock. In addition, a number of wildlife species [e.g., the gopher tortoise (*Gopherus polyphemus*; State-listed Threatened species) and the Anastasia Island beach mouse (*Peromyscus polionotus phasma*; Federally listed Endangered species)] are dependent upon the coastal scrub and dunes and could benefit from prescribed fire management.

#### Resource Stewardship Strategy

Fort Matanzas and the nearby Anastasia State Park are believed to be the only two sites in Florida currently considered viable to support long-term populations of the Anastasia Island beach mouse (*Peromyscus polionotus phasma*; Federally Endangered) (Frank and Humphrey 1996; Humphrey 1987; Humphrey 1992). Additionally, the Fort Matanzas beach includes important nesting habitat for least terns (*Sterna antillarum*; State-listed Threatened species) and other beach-nesting birds. We encourage Park staff to continue surveying and monitoring these species populations in Fort Matanzas. Also, continued efforts to control nuisance, exotic and predatory species will greatly benefit these habitats and associated endemic wildlife species.

Prior to any disturbance of natural habitat for the proposed expansion of parking areas or for enhancements to recreational or other facilities, we recommend that surveys be conducted to determine the abundance of beach mice at those sites and for other listed wildlife species. If take of listed wildlife cannot be avoided, please contact FWC to discuss minimization, mitigation or permitting alternatives.

#### *Critical Wildlife Area Designation*

FWC staff recommends that the GMP support FWC's re-establishment of the Matanzas Inlet CWA, with revised and expanded boundaries within Fort Matanzas. The current boundaries of the CWA limit management options and the ability to protect beach mice, gopher tortoises, least terns and other beach-nesting birds. Revised boundaries could encompass a larger portion of the park and the naturally shifting distributions of listed species and their habitats. Within CWA boundaries, we suggest that public access be restricted in posted portions of the CWA; such posting efforts could be coordinated with NPS staff. We also recommend that beach mouse habitat within dunes and coastal scrub be posted year-round. Shorebird and seabird nesting areas should continue to be posted seasonally (April – August) as is currently practiced. Additionally, the re-establishment of the CWA allows FWC law enforcement staff to better assist NPS staff and local law enforcement, leading to more effective protection measures for natural resources at Fort Matanzas.

FWC staff finds the proposed draft General Management Plan/Environmental Impact Statement for Fort Matanzas National Monument consistent with our authorities under Chapter 379, Florida Statutes. We appreciate the opportunity to continue to work with Fort Matanzas staff on the formulation of future management practices, wildlife surveys, and research opportunities. If you need any further assistance, please do not hesitate to

Sally Mann  
Page 4  
August 16, 2012

contact Jane Chabre either by phone (850) 410-5367 or at [FWCConservationPlanningServices@MyFWC.com](mailto:FWCConservationPlanningServices@MyFWC.com). If you have specific technical questions regarding the content of this letter, please contact Laura DiGruttolo at (386) 758-0525 or by email at [Laura.DiGruttolo@MyFWC.com](mailto:Laura.DiGruttolo@MyFWC.com).

Sincerely,



Bonita Gorham  
Land Use Planning Program Administrator  
Office of Conservation Planning Services

bg/jg/ld

ENV 1-2-2

Fort Matanzas National Monument Draft GMP – EIS\_16430\_081612

cc: David Libman, GMP Project Leader  
National Park Service  
Southeast Regional Office  
100 Alabama Street, 1924 Bldg.  
Atlanta, GA 30303  
[David\\_libman@nps.gov](mailto:David_libman@nps.gov)

Gordie Wilson, Superintendent  
Fort Matanzas National Monument  
8635 A1A South  
St. Augustine, FL 32080  
[Gordie\\_Wilson@nps.gov](mailto:Gordie_Wilson@nps.gov)

**References:**

- Frank, P.A. and S.R. Humphrey. 1996. Populations, habitat requirements, and management of the endemic Anastasia Island beach mouse (*Peromyscus polionotus phasma*), emphasizing the potential threat of exotic house mice (*Mus musculus*). Florida Game and Freshwater Fish Commission Nongame Project Report NG88-001. 46 pp.
- Humphrey, S.R. 1987. Status survey of seven Florida mammals. Florida Cooperative Fish and Wildlife Research Unit Tech. Rept. No. 25. Gainesville, FL. 39 pp.
- Humphrey, S.R. 1992. Anastasia Island Beach Mouse. Pages 94-101. In S.R. Humphrey, ed., Rare and Endangered Biota of Florida, Volume I: Mammals. University Presses of Florida. Gainesville. 392 pp.



## Florida Department of Environmental Protection

Marjory Stoneman Douglas Building  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399-3000

Rick Scott  
Governor

Jennifer Carroll  
Lt. Governor

Herschel T. Vinyard Jr.  
Secretary

August 21, 2012

Mr. David Libman, Project Manager  
Southeast Regional Office  
National Park Service  
100 Alabama Street SW, 1924 Bldg.  
Atlanta, GA 30303

RE: National Park Service – Draft General Management Plan and  
Environmental Impact Statement for Fort Matanzas National  
Monument – St. Johns County, Florida.  
SAI # FL201207116294C

Dear Mr. Libman:

The Florida State Clearinghouse has coordinated a review of the referenced Draft General Management Plan/ Environmental Impact Statement (GMP/ EIS) under the following authorities: Presidential Executive Order 12372; § 403.061(42), *Florida Statutes*; the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended; and the National Environmental Policy Act, 42 U.S.C. §§ 4321-4347, as amended.

The Florida Fish and Wildlife Conservation Commission (FWC) offers the following comments and recommendations on the Draft GMP/ EIS for Preferred Alternative B:

- The National Park Service (NPS) requires all parks with vegetation that will sustain fire (such as coastal scrub) to have a fire management plan. The FWC supports this effort and encourages Fort Matanzas staff to partner with other resource management agencies for assistance in managing the dune systems within Fort Matanzas.
- FWC encourages NPS staff to continue surveying and monitoring listed species populations in Fort Matanzas. Also, continued efforts to control nuisance, exotic and predatory species will greatly benefit these habitats and associated endemic wildlife species. If take of listed wildlife species cannot be avoided during construction or management activities, please contact the FWC to discuss minimization, mitigation or permitting alternatives.
- FWC staff recommends that the GMP support the FWC's re-establishment of the Matanzas Inlet Critical Wildlife Area (CWA), with revised and expanded boundaries within Fort Matanzas. Within the CWA boundaries, staff recommends

[www.dep.state.fl.us](http://www.dep.state.fl.us)

Mr. David Libman  
August 21, 2012  
Page 2 of 3

posting certain habitat areas and suggests that public access be restricted in posted portions as coordinated with NPS staff.

The FWC appreciates the opportunity to continue to work with the NPS on the formulation of future management practices, wildlife surveys and research opportunities. Please see the enclosed FWC letter for additional details regarding the issues listed above. If you have specific technical questions or need further assistance, please contact Ms. Laura DiGruttolo at (386) 758-0525 or [Laura.DiGruttolo@MyFWC.com](mailto:Laura.DiGruttolo@MyFWC.com).

The Florida Department of Environmental Protection's (DEP) Northeast District Office in Jacksonville notes that the Draft GMP/EIS did not include a clear description of the location or extent of the proposed parking lot expansion project or a current wetland delineation to determine whether the proposed construction activities would involve impacts to wetlands. Activities that impact wetlands or surface waters or increase the amount of impervious surface will require an Environmental Resource Permit from the DEP Northeast District Office. Staff advises that the applicant would need to provide a proposed work plan, wetland delineation and mitigation proposal for any potential impacts to wetlands. Please contact Ms. Connie Weibel for additional information and assistance at (904) 256-1652.

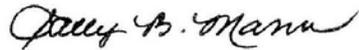
The Florida Department of State (DOS) has reviewed the Draft GMP/EIS and notes that several historic resources are recorded within the park, and other unrecorded resources may be present. Although staff concurs with the planned management actions, cultural resource surveys will be necessary prior to any new construction or excavation on park lands. Such projects will require review by the DOS Review and Compliance Section. Please refer to the enclosed DOS letter for further details.

Based on the information contained in the Draft GMP/EIS and the enclosed agency comments, the state has determined that, at this stage, the proposed federal activities are consistent with the Florida Coastal Management Program (FCMP). To ensure the project's continued consistency with the FCMP, the concerns identified by our reviewing agencies must be addressed prior to project implementation. The state's continued concurrence will be based on the activities' compliance with FCMP authorities, including federal and state monitoring of the activities to ensure their continued conformance, and the adequate resolution of issues identified during this and subsequent regulatory reviews. The state's final concurrence of the project's consistency with the FCMP will be determined during the environmental permitting process in accordance with Section 373.428, *Florida Statutes*, if applicable.

Mr. David Libman  
August 21, 2012  
Page 3 of 3

Thank you for the opportunity to review the Draft GMP/EIS. Should you have any questions regarding this letter, please contact Ms. Suzanne E. Ray at (850) 245-2172.

Yours sincerely,



Sally B. Mann, Director  
Office of Intergovernmental Programs

SBM/ser  
Enclosures

cc: Scott Sanders, FWC  
Sheena Chin-Greene, DEP Northeast District  
Laura Kammerer, DOS

Florida State Clearinghouse



Project Information	
Project:	FL201207116294 C
Comments Due:	08/16/2012
Letter Due:	09/04/2012
Description:	NATIONAL PARK SERVICE - DRAFT GENERAL MANAGEMENT PLAN/ENVIRONMENTAL IMPACT STATEMENT FOR FORT MATANZAS NATIONAL MONUMENT - ST. JOHNS COUNTY, FLORIDA.
Keywords:	NPS - DRAFT GMP/EIS FOR FORT MATANZAS NATIONAL MONUMENT - ST. JOHNS CO.
CFDA # :	15.916
Agency Comment s:	
FISH and WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION	
<p>The FWC offers the following comments and recommendations on the Draft GMP/EIS for Preferred Alternative B: - The National Park Service (NPS) requires all parks with vegetation that will sustain fire (such as coastal scrub) to have a fire management plan. The FWC supports this effort and encourages Fort Matanzas staff to partner with other resource management agencies for assistance in managing the dune systems within Fort Matanzas. - FWC encourages NPS staff to continue surveying and monitoring listed species populations in Fort Matanzas. Also, continued efforts to control nuisance, exotic and predatory species will greatly benefit these habitats and associated endemic wildlife species. If take of listed wildlife species cannot be avoided during construction or management activities, please contact the FWC to discuss minimization, mitigation or permitting alternatives. - FWC staff recommends that the GMP support the FWC's re-establishment of the Matanzas Inlet Critical Wildlife Area (CWA), with revised and expanded boundaries within Fort Matanzas. Within the CWA boundaries, staff recommends posting certain habitat areas and suggests that public access be restricted in posted portions as coordinated with NPS staff. FWC appreciates the opportunity to continue to work with the NPS on the formulation of future management practices, wildlife surveys and research opportunities. Please see the enclosed FWC letter for additional details regarding the issues listed above. If you have specific technical questions or need further assistance, please contact Ms. Laura DiGruttolo at (386) 758-0525 or Laura.DiGruttolo@MyFWC.com.</p>	
TRANSPORTATION - FLORIDA DEPARTMENT OF TRANSPORTATION	
No Comments from FDOT District Two.	
NE FLORIDA RPC - NORTHEAST FLORIDA REGIONAL PLANNING COUNCIL	
The Draft Plan/EIS was found to be consistent with the goals and policies of the Northeast Florida Strategic Regional Policy Plan.	
ST. JOHNS - ST. JOHNS COUNTY	
No Comments	
ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION	
<p>The DEP's Northeast District Office in Jacksonville notes that the Draft GMP/EIS did not include a clear description of the location or extent of the proposed parking lot expansion project or a current wetland delineation to determine whether the proposed construction activities would involve impacts to wetlands. Activities that impact wetlands or surface waters or increase the amount of impervious surface will require an Environmental Resource Permit from the DEP Northeast District. Staff advises that the applicant would need to provide a proposed work plan, wetland delineation and mitigation proposal for any potential impacts to wetlands. Please contact Ms. Connie Webel for additional information and assistance at (904) 256-1652.</p>	
STATE - FLORIDA DEPARTMENT OF STATE	
<p>The DOS has reviewed the Draft GMP/EIS and notes that several historic resources are recorded within the park, and other unrecorded resources may be present. Although staff concurs with the planned management actions, cultural resource surveys will be necessary prior to any new construction or excavation on park lands. Such projects will require review by the DOS Review and Compliance Section.</p>	
ST. JOHNS RIVER WMD - ST. JOHNS RIVER WATER MANAGEMENT DISTRICT	
SRWMD does not have any comments.	



Florida Fish and Wildlife Conservation Commission

Commissioners  
**Kenneth W. Wright**  
Chairman  
Winter Park

**Kathy Barco**  
Vice Chairman  
Jacksonville

**Ronald M. Bergeron**  
Fort Lauderdale

**Richard A. Corbett**  
Tampa

**Allese P. "Liesa" Priddy**  
Immokalee

**Charles W. Roberts III**  
Tallahassee

**Brian S. Yablonski**  
Tallahassee

Executive Staff  
**Nick Willey**  
Executive Director  
**Greg Holder**  
Assistant Executive Director  
**Karen Ventimiglia**  
Chief of Staff

Office of the Executive Director  
**Nick Willey**  
Executive Director

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Hearing/speech-impaired:  
(800) 955-8771 (T)  
(800) 955-8770 (V)

MyFWC.com

August 16, 2012

Ms. Sally Mann, Director  
Office of Intergovernmental Programs  
Department of Environmental Protection  
3900 Commonwealth Boulevard, Mail Station 47  
Tallahassee, FL 32399-3000  
[Sally.mann@dep.state.fl.us](mailto:Sally.mann@dep.state.fl.us)

Re: SAI #FL201207116294C – National Park Service – Draft General Management Plan/Environmental Impact Statement (Draft GMP/EIS) for Fort Matanzas National Monument, St. Johns County

Dear Ms. Mann:

Florida Fish and Wildlife Conservation Commission staff has reviewed the Draft General Management Plan/Environmental Impact Statement (GMP/EIS) for the Fort Matanzas National Monument. FWC staff provides the following comments, in accordance with the National Environmental Policy Act and the Coastal Zone Management Act/Florida Coastal Management Program.

**Background**

The National Park Service (NPS) has developed a draft General Management Plan (GMP)/Environmental Impact Statement (EIS) to provide guidance for the management of Fort Matanzas National Monument (hereinafter "Fort Matanzas") during the next 20 years. The purpose of the GMP is to provide comprehensive guidance for maintaining natural systems, preserving cultural resources, and providing opportunities for visitor experiences at Fort Matanzas. The existing GMP (approved in 1982) did not address many issues facing the park today. The currently proposed GMP/EIS analyzes three alternatives for management of Fort Matanzas:

1. Alternative A is the "no-action" alternative with continuation of existing management practices.
2. Alternative B is NPS' preferred alternative, which proposes:
  - a. Exploration of adaptive use of existing buildings to meet the needs of increased visitation
  - b. Additional parking spaces at the visitors' center within the footprint of the existing parking lots
  - c. Expansion of other existing parking lots if adverse impacts to natural resources can be avoided
  - d. Continuation of interpretation activities centered on the historical nature of the Fort
  - e. Expanded interpretation of the natural environment
  - f. Emphasis on low-impact recreation
3. Alternative C proposes:

- a. Further interpretive emphasis on the historical resources and cultural importance of Fort Matanzas and its structures
- b. Focus on the Anastasia Island section of Fort Matanzas, west of U.S. Highway A1A and the visitors' center
- c. Expansion of parking at the beach ramp, parking areas at the south end of Anastasia Island and the visitors' center
- d. Beach driving: this requires that NPS prepare, as a part of this EIS, an off-road vehicle plan and environmental impact analysis. This requirement, per Executive Order 1164 (1971), and as amended by Executive Order 11989 (1977), establishes limits and prohibitions on the use of off-road vehicles on public Federal lands, and mandates the development of an off-road vehicle plan and an environmental impact analysis be conducted if under consideration.

In 2008, NPS solicited comments on a previous version of a draft GMP/EIS for Fort Matanzas that included the above alternatives plus an additional Alternative D. Alternative D had proposed the expansion of visitor access areas and the continuation of beach driving; however, Alternative D was excluded from further consideration in the current GMP/EIS. In a letter dated June 12, 2008, FWC provided comments regarding the impacts of beach driving to wildlife and the management of natural resources. Further, FWC staff commented that, if beach driving were to be continued, the inclusion of measures to avoid, minimize, and mitigate the take of protected species, and/or permitting from both FWC and U.S. Fish and Wildlife Service may be necessary. FWC staff also recommended the re-establishment of the Matanzas Inlet Critical Wildlife Area (CWA) which could enhance management provisions of the GMP and protect natural resources.

#### **Comments and Recommendations**

We are supportive of the NPS's continued commitment to managing and preserving its natural and cultural resources, and for providing opportunities for a variety of visitor experiences. The Preferred Alternative emphasizes preservation, enhancement, and interpretation of the natural and cultural resources of Fort Matanzas, while also protecting state and federally listed species and their habitat. We support the Preferred Alternative and provide the following additional recommendations to aide in GMP implementation.

##### *Future Studies and Implementation Plans*

##### Fire Management Plan

The GMP/EIS identifies the need for more detailed studies and plans necessary for implementation, including the need for a fire management plan. The NPS requires all parks with vegetation that will sustain fire (such as coastal scrub) to have a fire management plan. The FWC supports this effort and encourages Fort Matanzas staff to partner with other agencies, such as the Florida Forest Service, St. Johns County, Anastasia State Park, Merritt Island National Wildlife Refuge, Canaveral National Seashore, and Guana Tolomato Matanzas National Estuarine Research Reserve, for assistance in managing the dune systems within Fort Matanzas.

Alternative mechanical management techniques could result in soil disturbance or impact wildlife habitat by affecting the stability of the coastal scrub and dune systems. In general, prescribed burning improves the herbaceous species coverage of habitats and would reduce the likelihood that the coastal scrub would succeed into a coastal hammock. In addition, a number of wildlife species [e.g., the gopher tortoise (*Gopherus polyphemus*; State-listed Threatened species) and the Anastasia Island beach mouse (*Peromyscus polionotus phasma*; Federally listed Endangered species)] are dependent upon the coastal scrub and dunes and could benefit from prescribed fire management.

#### Resource Stewardship Strategy

Fort Matanzas and the nearby Anastasia State Park are believed to be the only two sites in Florida currently considered viable to support long-term populations of the Anastasia Island beach mouse (*Peromyscus polionotus phasma*; Federally Endangered) (Frank and Humphrey 1996; Humphrey 1987; Humphrey 1992). Additionally, the Fort Matanzas beach includes important nesting habitat for least terns (*Sterna antillarum*; State-listed Threatened species) and other beach-nesting birds. We encourage Park staff to continue surveying and monitoring these species populations in Fort Matanzas. Also, continued efforts to control nuisance, exotic and predatory species will greatly benefit these habitats and associated endemic wildlife species.

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#### Critical Wildlife Area Designation

FWC staff recommends that the GMP support FWC's re-establishment of the Matanzas Inlet CWA, with revised and expanded boundaries within Fort Matanzas. The current boundaries of the CWA limit management options and the ability to protect beach mice, gopher tortoises, least terns and other beach-nesting birds. Revised boundaries could encompass a larger portion of the park and the naturally shifting distributions of listed species and their habitats. Within CWA boundaries, we suggest that public access be restricted in posted portions of the CWA; such posting efforts could be coordinated with NPS staff. We also recommend that beach mouse habitat within dunes and coastal scrub be posted year-round. Shorebird and seabird nesting areas should continue to be posted seasonally (April – August) as is currently practiced. Additionally, the re-establishment of the CWA allows FWC law enforcement staff to better assist NPS staff and local law enforcement, leading to more effective protection measures for natural resources at Fort Matanzas.

FWC staff finds the proposed draft General Management Plan/Environmental Impact Statement for Fort Matanzas National Monument consistent with our authorities under Chapter 379, Florida Statutes. We appreciate the opportunity to continue to work with Fort Matanzas staff on the formulation of future management practices, wildlife surveys, and research opportunities. If you need any further assistance, please do not hesitate to

Sally Mann  
Page 4  
August 16, 2012

contact Jane Chabre either by phone (850) 410-5367 or at [FWCConservationPlanningServices@MyFWC.com](mailto:FWCConservationPlanningServices@MyFWC.com). If you have specific technical questions regarding the content of this letter, please contact Laura DiGruttolo at (386) 758-0525 or by email at [Laura.DiGruttolo@MyFWC.com](mailto:Laura.DiGruttolo@MyFWC.com).

Sincerely,



Bonita Gorham  
Land Use Planning Program Administrator  
Office of Conservation Planning Services

bg/jg/ld

ENV 1-2-2

Fort Matanzas National Monument Draft GMP – EIS\_16430\_081612

cc: David Libman, GMP Project Leader  
National Park Service  
Southeast Regional Office  
100 Alabama Street, 1924 Bldg.  
Atlanta, GA 30303  
[David\\_libman@nps.gov](mailto:David_libman@nps.gov)

Gordie Wilson, Superintendent  
Fort Matanzas National Monument  
8635 A1A South  
St. Augustine, FL 32080  
[Gordie\\_Wilson@nps.gov](mailto:Gordie_Wilson@nps.gov)

**References:**

- Frank, P.A. and S.R. Humphrey. 1996. Populations, habitat requirements, and management of the endemic Anastasia Island beach mouse (*Peromyscus polionotus phasma*), emphasizing the potential threat of exotic house mice (*Mus musculus*). Florida Game and Freshwater Fish Commission Nongame Project Report NG88-001. 46 pp.
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- Humphrey, S.R. 1992. Anastasia Island Beach Mouse. Pages 94-101. In S.R. Humphrey, ed., Rare and Endangered Biota of Florida, Volume I: Mammals. University Presses of Florida. Gainesville. 392 pp.



FLORIDA DEPARTMENT OF STATE

RICK SCOTT
Governor

KEN DETZNER
Secretary of State

Mr. David Libman
National Park Service
Southeast Regional Office
100 Alabama Street, 1924 Bldg.
Atlanta, GA 30303

RECEIVED

July 12, 2012

JUL 18 2012

DEP Office of
Intergov't Programs

Re: SHPO Project #: 2012-3148/ Received: July 6, 2012
National Park Service - Draft General Management Plan and Environmental Impact Statement
for Matanzas National Monument
St. Johns County

Dear Mr. Libman:

Our office reviewed the referenced project for possible impact to historic properties listed, or eligible for listing, in the National Register of Historic Places, or otherwise of historical, architectural or archaeological value. The review was conducted in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended and 36 CFR Part 800: Protection of Historic Properties.

We have reviewed the Draft General Management Plan and Environmental Impact Statement for Matanzas National Monument. We note that several historic resources are recorded within the park, and other unrecorded resources may be present. We concur with the planning of management actions as outlined in Alternative B. However, cultural resource surveys will be necessary prior to any new construction or excavation on park lands and such projects will require review by this office. We look forward to further consultation as individual projects arise.

For any questions concerning our comments, please contact Deena Woodward, Historic Sites Specialist at 850.245.6333, or by electronic mail at deena.woodward@dos.myflorida.com. We appreciate your continued interest in protecting Florida's historic properties.

Sincerely,

Laura A. Kammerer

Laura A. Kammerer
Deputy State Historic Preservation Officer
For Review and Compliance

Pc: Lauren Milligan, Florida State Clearinghouse/SAI #: FL201207116294C/SHPO #: 2012-3193



DIVISION OF HISTORICAL RESOURCES
R. A. Gray Building • 500 South Bronough Street • Tallahassee, Florida 32399-0250
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August 10, 2012

Lauren P. Milligan  
Florida State Clearinghouse  
Florida Department of Environmental Protection  
3900 Commonwealth Boulevard, MS 47  
Tallahassee, Florida 32399-3000

**SAI #** FL201207116294C  
**NEFRC #** FSC-12-0001

**Project Description:** National Parks Service – Draft General Management Plan/Environmental Impact Statement for Fort Matanzas National Monument – St. Johns County, Florida.

Attn: Florida State Clearinghouse

Pursuant to the provisions of Presidential Executive Order 12372, Governor's Executive Order 95-359 and Chapter 29E-6 Florida Administrative Code, the staff of the Northeast Florida Regional Council (NEFRC) reviewed the above listed Draft Plan/EIS. The Draft Plan/EIS was also reviewed based on the NEFRC Strategic Regional Policy Plan, and it was found to be consistent with the goals and policies.

All the best,

Eric B. Anderson, Regional Planner  
Intergovernmental Coordination & Review  
Northeast Florida Regional Council

**RECEIVED**

AUG 20 2012

DEP Office of  
Intergov't Programs



## FLORIDA DEPARTMENT OF STATE

**RICK SCOTT**  
Governor

**KEN DETZNER**  
Secretary of State

Mr. David Libman  
National Park Service  
Southeast Regional Office  
100 Alabama Street, 1924 Bldg.  
Atlanta, GA 30303

July 12, 2012

Re: SHPO Project #: 2012-3148/ Received: July 6, 2012  
National Park Service - Draft General Management Plan and Environmental Impact Statement  
for Matanzas National Monument  
St. Johns County

Dear Mr. Libman:

Our office reviewed the referenced project for possible impact to historic properties listed, or eligible for listing, in the National Register of Historic Places, or otherwise of historical, architectural or archaeological value. The review was conducted in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended and 36 CFR Part 800: Protection of Historic Properties.

We have reviewed the Draft General Management Plan and Environmental Impact Statement for Matanzas National Monument. We note that several historic resources are recorded within the park, and other unrecorded resources may be present. We concur with the planning of management actions as outlined in Alternative B. However, cultural resource surveys will be necessary prior to any new construction or excavation on park lands and such projects will require review by this office. We look forward to further consultation as individual projects arise.

For any questions concerning our comments, please contact Deena Woodward, Historic Sites Specialist at 850.245.6333, or by electronic mail at [deena.woodward@dos.myflorida.com](mailto:deena.woodward@dos.myflorida.com). We appreciate your continued interest in protecting Florida's historic properties.

Sincerely,

Laura A. Kammerer  
Deputy State Historic Preservation Officer  
For Review and Compliance

Pc: Lauren Milligan, Florida State Clearinghouse/SAI #: FL201207116294C/SHPO #: 2012-3193



DIVISION OF HISTORICAL RESOURCES  
R. A. Gray Building • 500 South Bronough Street • Tallahassee, Florida 32399-0250  
Telephone: 850.245.6333 • Facsimile: 850.245.6436 • [www.flheritage.com](http://www.flheritage.com)  
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## **APPENDIX A: PREPARERS AND CONSULTANTS**

David Libman, Planning Team Leader, NPS, Southeast Region  
Ben West, Chief, Planning and Compliance Division, NPS, Southeast Region  
Richard Sussman, Chief (retired), Planning and Compliance Division, NPS, Southeast Region  
Amy Wirsching, Planner, NPS, Southeast Region  
Mark Kinzer, Environmental Protection Specialist, Southeast Region  
Jami Hammond, Regional Environmental Coordinator, Southeast Region  
Cynthia Walton, Historian, Southeast Region  
Zackary Ray, former Graduate Student Intern, NPS, Southeast Region  
Gordon Wilson, Superintendent, Fort Matanzas NM  
Andrew Rich, Site Manager, Fort Matanzas NM  
Linda Chandler, Park Ranger (retired), Interpretation, Fort Matanzas NM  
Jehu Walker, Facility Manager (retired), Fort Matanzas NM

### Consultants:

Timothy Pinion, NPS, Southeast Region, Wildlife Biologist  
Brian Coffey, NPS, Southeast Region, Historian  
John Milio, U.S. Fish and Wildlife Service, North Florida Ecological Services Office  
Michael Stevens, U.S. Department of the Interior, Office of the Regional Solicitor, Attorney  
Kelly Donahue, NPS, Denver Service Center, Planning  
Susan McPartland, NPS, Denver Service Center, Planning  
Joanne Cody, NPS, Denver Service Center, Design and Construction

**INTENTIONALLY LEFT BLANK**

## APPENDIX B: SERVICEWIDE MANDATES AND POLICIES

1 Laws and executive orders that apply to the  
2 management of Fort Matanzas National  
3 Monument are provided below.

### 4 5 **FORT MATANZAS NATIONAL** 6 **MONUMENT SPECIFIC LEGISLATION** 7 **AND EXECUTIVE ORDERS**

8  
9 Presidential Proclamation No. 1713 (43 Stat.  
10 1968), October 15, 1924 – Established Fort  
11 Matanzas National Monument under the authority  
12 of the Antiquities Act of 1906 (16 USC 431–433).

13  
14 Executive Order No. 6166 of June 10, 1933 and  
15 Executive Order No. 6228 of July 28, 1933  
16 (5 U.S.C Secs. 124-132) transferred Fort  
17 Matanzas National Monument from the War  
18 Department to the National Park Service.

19  
20 Presidential Proclamation No. 2114 (49 Stat.  
21 3433), January 9, 1935 – Expanded the  
22 boundaries of the Fort Matanzas NM on Anastasia  
23 Island.

24  
25 Presidential Proclamation No. 2773 (62 Stat.  
26 1491), March 24, 1948 – Expanded the boundary  
27 of Fort Matanzas NM on Rattlesnake Island.

28  
29 Public Law 106-524 (114 Stat. 2493), November  
30 22, 2000 – Expanded the boundary of Fort  
31 Matanzas NM by 70 acres to include land  
32 previously donated during the 1960s.

33 Executive Order No. 11644 of February 8, 1972  
34 established limits and prohibitions on the use of  
35 off-road vehicles on public (Federal) lands.

36 Executive Order No. 11989 of May 24, 1977  
37 amended Executive Order No. 11644.

38 Executive Order No. 13186 of January 10, 2001  
39 established responsibilities of Federal Agencies to  
40 protect migratory birds.

### 41 **NATIONAL PARK SERVICE ENABLING** 42 **LEGISLATION**

43 Act of August 25, 1916 (National Park Service  
44 Organic Act); Public Law 64-235; 16 United  
45 States Code Section 1 et seq. as amended

46 Reorganization Act of March 3, 1933; 47 Stat.  
47 1517

48 General Authorities Act, October 7, 1976; Public  
49 Law 94-458; 90 Stat. 1939; 16 United States Code  
50 1a-1 et seq.

51 Act amending the Act of October 2, 1968  
52 (commonly called Redwoods Act), March 27,  
53 1978; Public Law 95-250; 92 Stat. 163; 16 United  
54 States Code Subsection(s) 1a-1, 79a-q

55 National Parks and Recreation Act, November 10,  
56 1978; Public Law 95-625; 92 Stat. 3467; 16  
57 United States Code 1 et seq.

### 58 **OTHER LAWS AFFECTING NPS** 59 **OPERATIONS**

#### 60 **Accessibility**

61  
62 Architectural Barriers Act of 1968; Public Law  
63 90-480; 82 Stat. 718; 42 United States Code 4151  
64 et seq.

65 Rehabilitation Act of 1973; Public Law 93-112;  
66 87 Stat. 357; 29 United States Code 701 et seq. as  
67 amended by the Rehabilitation Act Amendments  
68 of 1974; 88 Stat. 1617

#### 69 **Cultural Resources**

70 American Indian Religious Freedom Act; Public  
71 Law 95-341; 92 Stat. 469; 42 United States Code  
72 1996

73 Antiquities Act of 1906; Public Law 59-209; 34  
74 Stat. 225; 16 United States Code 432; 43 CFR 3

75 Archeological and Historic Preservation Act of  
76 1974; Public Law 93-291; 88 Stat. 174; 16 United  
77 States Code 469

78 Archeological Resources Protection Act of 1979;  
79 Public Law 96-95; 93 Stat. 712; 16 United States  
80 Code 470aa et seq.; 43 CFR 7, subparts A and B;  
81 36 CFR 79

82 Indian Sacred Sites. Executive Order 13007. 3  
83 CFR 196 (1997).

84 National Historic Preservation Act as amended;  
85 Public Law 89-665; 80 Stat. 915; 16 United States  
86 Code 470 et seq.; 36 CFR 18, 60, 61, 63, 65, 79,  
87 800

88 Protection of Historic and Cultural Properties,  
89 Executive Order 11593; 36 CFR 60, 61, 63, 800;  
90 44 Federal Register 6068

1 Public Buildings Cooperative Use Act of 1976;  
2 Public Law 94-541; 90 Stat. 2505; 42 United  
3 States Code 4151-4156

4 **Natural Resources**

5 Analysis of Impacts on Prime or Unique  
6 Agricultural Lands in Implementing the National  
7 Environmental Policy Act; E.S. 80-3, 08/11/80,  
8 45 Federal Register 59109

9 Clean Air Act as amended; Public Law Chapter  
10 360; 69 Stat. 322; 42 United States Code 7401 et  
11 seq.

12 Coastal Zone Management Act of 1972 as  
13 amended; Public Law 92-583; 86 Stat. 1280; 16  
14 United States Code 1451 et seq.

15 Endangered Species Act of 1973, as amended;  
16 Public Law 93-205; 87 Stat. 884; 16 United States  
17 Code 1531 et seq.

18 Executive Order 11988: Floodplain Management;  
19 42 Federal Register 26951; 3 CFR 121 (Supp 177)

20 Executive Order 11990: Protection of Wetlands;  
21 42 Federal Register 26961; 3 CFR 121 (Supp 177)

22 Executive Order 11991: Protection and  
23 Enhancement of Environmental Quality

24 Executive Order 12898: Environmental Justice

25 Federal Caves Resource Protection Act of 1988

26 Federal Insecticide, Fungicide, and Rodenticide  
27 Act; Public Law 92-516; 86 Stat. 973; 7 United  
28 States Code 136 et seq.

29 Federal Water Pollution Control Act (commonly  
30 referred to as Clean Water Act); Public Law 92-  
31 500; 33 United States Code 1251 et seq. as  
32 amended by the Clean Water Act; Public Law 95-  
33 217

34 Fish and Wildlife Coordination Act of 1958 as  
35 amended; Public Law 85-624; 72 Stat. 563; 16  
36 United States Code 661 et seq.

37 Migratory Bird Conservation Act; Public Law  
38 Chapter 257; 45 Stat. 1222; 16 United States  
39 Code 715 et seq.

40 Migratory Bird Treaty Act of 1918; Public Law  
41 186; 40 Stat. 755

42 Magnuson-Stevens Fishery Conservation and  
43 Management Act

44 National Environmental Policy Act of 1969;  
45 Public Law 91-190; 83 Stat. 852; 42 United States  
46 Code 4321 et seq.

47 National Park System Final Procedures for  
48 Implementing Executive Order. 11988 and 11990  
49 (45 Federal Register 35916 as revised by 47  
50 Federal Register 36718)

51 Protection and Enhancement of Environmental  
52 Quality; Executive Order 11514 as amended,  
53 1970; Executive Order 11991; 35 Federal Register  
54 4247; 1977; 42 Federal Register 26967)

55 Resource Conservation and Recovery Act; Public  
56 Law 94-580; 30 Stat. 1148; 42 United States Code  
57 6901 et seq.

58 Rivers and Harbors Act of 1899; 33 United States  
59 Code Chapter 425, as amended by Public Law 97-  
60 332, October 15, 1982 and Public Law 97-449; 33  
61 United States Code 401-403

62 Water Resources Planning Act of 1965 (Public  
63 Law 89-80; 42 United States Code 1962 et seq.)  
64 and Water Resource Council's Principles and  
65 Standards; 44 Federal Register 723977

66 Watershed Protection and Flood Prevention Act;  
67 Public Law 92-419; 68 Stat. 666; 16 United States  
68 Code 100186

69 **Other**

70 Administrative Procedures Act; 5 United States  
71 Code 551-559, 701-706

72 Concessions Policy Act of 1965; Public Law 89-  
73 249; 79 Stat. 969; 16 United States Code 20 et  
74 seq.

75 Department of Transportation Act of 1966; Public  
76 Law 89-670; 80 Stat. 931; 49 United States Code  
77 303

78 Energy Supply and Environmental Coordination  
79 Act of 1974

80 Executive Order 12003: Energy Policy and  
81 Conservation; 3 CFR 134 (Supp 1977); 42 United  
82 States Code 2601

83 Executive Order 12088: Federal Compliance with  
84 Pollution Control Standards

85 Executive Order 12372: Intergovernmental  
86 Review of Federal Programs; 47 Federal Register  
87 30959

88 Executive Order 13514 (2009) Federal Leadership  
89 in Environmental, Energy, and Economic

1 Performance and Executive Order 13653 (2013),  
2 Preparing the United States for the Impacts of  
3 Climate Change 9also, relevant Secretarial Orders  
4 3285 (2009) 3289(2010))  
5 Farmland Protection Policy Act PL-97-98  
6 Forest and Rangeland Renewable Resources  
7 Planning Act; Public Law 95-307; 92 Stat. 353;  
8 16 United States Code 1600 et seq.  
9 Freedom of Information Act; Public Law 93-502;  
10 5 United States Code 552 et seq.  
11 Intergovernmental Cooperation Act of 1968;  
12 Public Law 90-577; 40 United States Code 531-  
13 535 and 31 United States Code 6501-6508  
14 Intergovernmental Coordination Act of 1969; 42  
15 United States Code 4101, 4231, 4233  
16 Noise Control Act of 1972 as amended; Public  
17 Law 92-574; 42 United States Code 4901 et seq.  
18 Outdoor Recreation Coordination Act of 1963;  
19 Public Law 88-29; 77 Stat. 49  
20 Payment in Lieu of Taxes Act; Public Law 94-  
21 565; 90 Stat. 2662; 31 United States Code 6901 et  
22 seq.  
23 Surface Transportation Assistance Act of 1982;  
24 96 Stat. 2097; 23 United States Code 101; and  
25 many others  
26 Wildfire Disaster Recovery Act; Public Law 101-  
27 286

## 28 **Management Polices 2006**

29 This is an update to the *2001 Management*  
30 *Policies*. The policies are derived from the laws  
31 that have been enacted to establish and govern the  
32 NPS and the National Park System. This  
33 document serves as the basic, Servicewide policy  
34 manual used by park superintendents and other  
35 NPS managers to guide their decision-making.  
36 The manual prescribes policies which enable the  
37 NPS to preserve park resources and values  
38 unimpaired for the enjoyment of future  
39 generations, as required by law. The policies have  
40 been updated to keep pace with new laws that  
41 have been enacted, changes in technology and  
42 American demographics, and new understandings  
43 of the kinds of actions that are required to best  
44 protect the natural and cultural resources of the  
45 parks. The policies stress the importance of: using  
46 the parks for educational purposes; demonstrating  
47 environmental leadership in the parks; managing

48 park facilities and resources in ways that will  
49 sustain them for future generations of Americans  
50 to enjoy; and working with partners to help  
51 accomplish the NPS mission. The new  
52 Management Policies is available on the NPS  
53 website at  
54 <http://www.nps.gov/policy/MP2006.pdf> .

## 55 **Director's Order #12**

56 Director's Order #12 describes the policy and  
57 procedures by which the NPS will comply with  
58 NEPA. The Council on Environmental Quality,  
59 part of the Executive Office of the President, is  
60 the "caretaker" of National Environmental Policy  
61 Act. The National Park Service is required to  
62 abide by all National Environmental Policy Act  
63 regulations (40 CFR 1500-1508) and any other  
64 procedures and requirements imposed by other  
65 higher authorities, such as the Department of the  
66 Interior.

## 67 **Director's Order #24**

68 Director's Order #24: Museum Collections  
69 Management Director's Order 24 lays the  
70 foundation by which the NPS meets its  
71 responsibilities toward museum collections. This  
72 Director's Order provides policy guidance,  
73 standards, and requirements for preserving,  
74 protecting, documenting, and providing access to,  
75 and use of, NPS museum collections.

## 76 **Director's Order #28 (NPS 1998e)**

77 Director's Order #28, issued pursuant to 16  
78 United States Code (1 through 4), addresses  
79 cultural resource management. The National Park  
80 Service will protect and manage cultural resources  
81 in its custody through effective research,  
82 planning, and stewardship and in accordance with  
83 the policies and principles contained in the NPS  
84 Management Policies 2006.

## 85 **Director's Order #28A**

86 Director's Order #28A: Archeology provides a  
87 management framework for planning, reviewing,  
88 and undertaking archeological activities and other  
89 activities that may affect archeological resources  
90 within the National Park System.

## 91 **Director's Order # 47**

92 Director's Order #47, Soundscape Preservation  
93 and Noise Management, articulates NPS  
94 operational policies that will require, to the fullest  
95 extent practicable, the protection, maintenance, or

1 restoration of the natural soundscape resource in a  
2 condition unimpaired by inappropriate or  
3 excessive noise sources.

4 **Director’s Order #75A**

5 Director’s Order #75A, Civic Engagement and  
6 Public Involvement, clarifies and strengthens the  
7 commitment of the NPS to legally require public  
8 involvement and participation as it relates to  
9 accomplishing its mission and management  
10 responsibilities under the NPS Organic Act of  
11 1916.

12 **Directors Order #77-1**

13 Directors Order #77-1, Wetland Protection,  
14 establishes NPS policies, requirements, and  
15 standards for implementing Executive Order  
16 (E.O.) 11990: “Protection of Wetlands” (42 Fed.  
17 Reg. 26961). E.O. 11990 was issued by President  
18 Carter in 1977 in order “...to avoid to the extent  
19 possible the long and short-term adverse impacts

20 associated with the destruction or modification of  
21 wetlands and to avoid direct or indirect support of  
22 new construction in wetlands wherever there is a  
23 practicable alternative....”

24 **Directors Order #77-2**

25 Directors Order #77-2, Floodplain Management,  
26 applies to all NPS proposed actions, including the  
27 direct and indirect support of floodplain  
28 development, that could adversely affect the  
29 natural resources and functions of floodplains,  
30 including coastal floodplains, or increase flood  
31 risks. This Director’s Order also applies to  
32 existing actions when they are the subjects of  
33 regularly occurring updates of NPS planning  
34 documents.

35 This Director’s Order does not apply to historic or  
36 archeological structures, sites, or artifacts whose  
37 location is integral to their significance or to  
38 certain actions as specifically identified in  
39 Procedural Manual 77-2.

**APPENDIX C: STATEMENT OF FLOODPLAIN FINDINGS**

**Statement of Findings for  
Executive Order 11988, "Floodplain Management"  
Fort Matanzas National Monument  
General Management Plan**

Recommended:

Gordon J. Wilson 03/13/2013  
Superintendent, Fort Matanzas National Monument Date

Concurred:

F. Edwin Army 3/21/13  
Chief, Water Resources Division Date

Approved:

[Signature] 4/4/13  
Director, Southeast Region Date

1 **INTRODUCTION**

2  
 3 In accordance with Executive Order 11988,  
 4 “Floodplain Management” and National Park  
 5 Service Director’s Order Number 77-2 (NPS DO  
 6 77-2), the National Park Service has reviewed the  
 7 flood hazards in Fort Matanzas National  
 8 Monument (Monument) and has prepared this  
 9 “Statement of Findings” (SOF).

10  
 11 In examining the Monument, the structures at the  
 12 following sites were identified as being within a  
 13 regulatory 100-year floodplain:

- 14 • The coquina watchtower structure on
- 15 Rattlesnake Island;
- 16 • The visitor center complex on Anastasia
- 17 Island;
- 18 • the Johnson House on Anastasia Island;
- 19 • road segments;
- 20 • two parking areas;
- 21 • archeological sites; and
- 22 • docks.

23  
 24  
 25 It is important to note that NPS DO 77-2 does not  
 26 apply to historic or archeological structures, sites,  
 27 or artifacts whose location is integral to their  
 28 significance.

29  
 30 There are no other occupied structures within a  
 31 regulatory floodplain at these sites that warrant  
 32 inclusion in this flood hazard assessment.

33  
 34 This “Statement of Findings” focuses on  
 35 evaluating the flood hazards for the  
 36 aforementioned structures in the 100-year  
 37 floodplain. As a part of the effort to develop a  
 38 general management plan (GMP) for the  
 39 Monument, the “Statement of Findings” describes  
 40 the flood hazard, alternatives, and possible  
 41 mitigation measures for the continued use of this  
 42 area. Additional detail regarding the Monument

43 lands and resources, future actions to be taken in  
 44 the area, and environmental impacts may be found  
 45 in the *Final General Management /*  
 46 *Environmental Impact Statement (GMP/EIS).*

47  
 48 **DESCRIPTION OF THE SITES AND USES**

49  
 50 The following inventory of structures in the  
 51 floodplain at Fort Matanzas National Monument  
 52 is taken in large part from the monument’s List of  
 53 Classified Structures (LCS). The LCS is an  
 54 evaluated inventory of all historic and prehistoric  
 55 structures within the National Monument  
 56 boundary that have historical, architectural, and/or  
 57 engineering significance. The structures on the  
 58 LCS include Fort Matanzas on Rattlesnake Island.  
 59 Other structures are in the regulatory 100-year  
 60 floodplain under NPS ownership, but are not  
 61 included in the LCS.

62  
 63 **List of Classified Structures.** Fort Matanzas:  
 64 LCS ID Number 000350

65  
 66 Fort Matanzas is a coquina masonry structure  
 67 with a square plan, 120' on a side. Scarp walls 12'  
 68 high rise to a terreplein, with sentry box at  
 69 southwest, which covers 2/3 of the base. On the  
 70 western third is a 30' tower with a rooftop  
 71 observation platform.

72  
 73 Fort Matanzas is nationally significant as an  
 74 example of an eighteenth-century Spanish  
 75 fortification and for its associations with the  
 76 period of rivalry between Spain, France, and  
 77 England for control of North America.

78  
 79 **Archeological Sites.**

80  
 81 Archeological sites and descriptions are listed in  
 82 the table below.

83  
**TABLE 19 – ARCHEOLOGICAL SITES**

Site #	Site Name	Location	Description
8SJ28	North Midden	Rattlesnake Island, north of the fort	Shell midden containing artifacts related to the Spanish and British occupations of Fort Matanzas

Site #	Site Name	Location	Description
8SJ44B	Fort Matanzas	Rattlesnake Island	The site number refers to the archeological materials that are related to, but distinct from, the fort
8SJ90	Pompano Farm Midden	Anastasia Island, northern park boundary	Prehistoric shell midden
8SJ3231	West Midden	Rattlesnake Island, west of the fort	Shell midden with artifacts related to the Spanish and British periods of occupation
8SJ3233	Johnson House	Anastasia Island	Prehistoric and historic artifact scatter
8SJ3225	Visitor Center Site	Anastasia Island, parking lot vicinity	Prehistoric and historic midden; camp site
N/A	Marker Midden	Anastasia Island, at massacre marker	Prehistoric artifact scatter

1 **Other Structures**

2  
3 **Headquarters and Visitor Center.** The  
4 Headquarters and Visitor Center (HQ/VC) is  
5 located on Anastasia Island, on the west side of  
6 Highway A1A. The HQ/VC consists of two  
7 buildings: a multi-use building that serves as both  
8 the primary visitor contact point and park  
9 housing, and a secondary utility building that now  
10 serves as a ranger office. The main building is two  
11 stories, intersected by an arched breezeway on the  
12 ground level. The exterior walls on the first floor  
13 are constructed of coquina block masonry. The  
14 second floor is of wood frame construction faced  
15 with wood siding. The secondary utility building  
16 is located 50 feet to the north of the main  
17 building.

18  
19 **Johnson House.** In the 1960s, the scope of the  
20 park was greatly expanded with the donation by  
21 the Johnson family of most of the southern end of  
22 Anastasia Island, including the ocean side  
23 beaches, dunes, and maritime forests bisected by  
24 Highway A1A. Included in this donation was the  
25 Johnson family residence, which is located a few  
26 hundred feet south of the visitor center. The two-  
27 story house is currently used as park housing and  
28 is in good condition.

29  
30 The Johnson House is somewhat rambling and  
31 features a large number of double-hung sash  
32 windows. The house is constructed of wood and  
33 brick with a roof composed of asphalt shingled

34 gables. The west side of the house features an  
35 elongated covered porch that faces out to a lawn  
36 and the Matanzas River beyond. It is believed that  
37 there are portions of the house that date back  
38 more than 50 years. Additional research is  
39 necessary to determine the history and age of the  
40 structure.

41  
42 **GENERAL CHARACTERIZATION OF THE**  
43 **NATURE OF FLOODING AND**  
44 **FLOODPLAIN PROCESSES IN THE**  
45 **AREA**

46 Structures located in Fort Matanzas National  
47 Monument are dispersed across two islands,  
48 separated by the Matanzas River, and bordered by  
49 the Intracoastal Waterway and the Atlantic Ocean.  
50 A variety of flood hazard zones including, 100-  
51 year flood hazard zones, are dispersed throughout  
52 the National Monument. A levee protects Florida  
53 State Road A1A, which bisects Anastasia Island.  
54 The levee removes SR A1A, flood hazard zone X,  
55 from the 100-year floodplain. Immediately west  
56 of A1A is an elevated strip of land, flood hazard  
57 zone X, also removed from the 100-year  
58 floodplain on which the visitor center and  
59 maintenance facility is located. East of SR A1A  
60 is flood hazard zoned VE vulnerable to coastal  
61 flooding and wave velocity hazard. The  
62 remainder of Anastasia Island has a measured  
63 base flood elevation in the 100-year flood hazard  
64 zone AE. NPS structures include the Johnson  
65 House, road segments, docks, three parking areas,

1 and archeological sites. (Source: *St. Johns*  
2 *County Flood Zone Map dated 9/10/2008*, St.  
3 Johns County Graphic Information Systems  
4 Division – Data Source – Federal Emergency  
5 Management Agency [FEMA] 9-2-2004)

6 Rattlesnake Island is completely located within  
7 the 100-year flood hazard zone with the exception  
8 of a small higher elevation area well away from  
9 NPS structures. Fort Matanzas and documented  
10 archeological sites on Rattlesnake Island are  
11 located in the 100-year flood hazard zone AE.  
12 Both shorelines of the Matanzas River are  
13 constantly affected by tidal flows, which change  
14 four times daily with maximum tidal currents in  
15 excess of 5 knots and a tidal amplitude of 3 to 3.5  
16 feet. High tides in the spring and fall flood  
17 portions of Rattlesnake Island several times  
18 annually.

19  
20 The National Oceanic and Atmospheric  
21 Administration (NOAA) collects oceanographic  
22 and meteorological data (historical and real-time)  
23 from stations on major water bodies throughout  
24 the country. NOAA has specifically collected  
25 historical (limited) high/low water level data at  
26 two stations in the vicinity of Fort Matanzas: one  
27 station (8720651) is located approximately 5  
28 miles north of the fort on the Matanzas River in  
29 Crescent Beach, FL along the Route 206 bridge  
30 and the second station (8720692) is located at the  
31 Matanzas inlet (0.7 miles from the fort) along the  
32 Route A1A bridge. A data review of the minimum  
33 and maximum station elevations for both gauges  
34 from 2003 through 2005 provides a comparison  
35 for water elevations occurring at both locations  
36 (Table 1). The majority of the minimum values  
37 occurred between January and July of 2004 and  
38 the majority of the maximum values occurred  
39 from August through December of 2004. The  
40 maximum elevation value (ft) at the Crescent  
41 Beach station was 4.32 in September of 2004 and  
42 the minimum elevation value (ft) was -4.53 in  
43 April of 2004; this represents a maximum total  
44 elevation change in elevation of 8.85 ft in the  
45 Matanzas River at the Crescent Beach station in  
46 the year 2004. (Source: *Draft Environmental*  
47 *Assessment, Proposed Shoreline Stabilization*  
48 *Features and Boat Dock Replacement, Fort*  
49 *Matanzas National Monument*, National Park  
50 Service, June 2006).

51

## 52 **JUSTIFICATION FOR USE OF THE** 53 **FLOODPLAIN**

54

### 55 **Description of Preferred Alternative** 56 **and Why Facilities Would Be** 57 **Retained in the Floodplain**

58

59 Under the preferred alternative in the general  
60 management plan, all of the structures currently  
61 maintained by the NPS, the Visitor Center,  
62 Johnson House, Fort Matanzas, archeological  
63 sites, and associated structures are located within  
64 the 100-year floodplain. The justification for  
65 retaining these structures in their existing  
66 locations in the 100-year floodplain is as follows:

67

- 68 • The National Park Service is required by  
69 law and policy to maintain all historic  
70 structures in their present locations.  
71 Existing administrative structures (e.g.,  
72 park offices, maintenance facility, and  
73 visitor center) must remain on the island  
74 in order to manage resources effectively  
75 and serve visitors. The nearest non-  
76 floodplain site is miles away.
- 77 • Relocating the facilities and services at  
78 both sites may be infeasible and very  
79 costly, from both a financial cost  
80 perspective and from a level/quality of  
81 service perspective.
- 82 • All sites are located on disturbed ground.  
83 Moving the facilities would likely result  
84 in adverse impacts and the loss of other  
85 natural resource values in the area.

86

## 87 **DESCRIPTION OF SITE-SPECIFIC FLOOD** 88 **RISK**

89

90 The potential for storm surge associated with  
91 hurricanes and tropical storms is the primary  
92 flood risk for the structures on Anastasia Island  
93 and Rattlesnake Island. Anastasia and  
94 Rattlesnake Islands lie between the Atlantic  
95 Ocean and the Intracoastal Waterway with the  
96 Matanzas Inlet separating the two islands.  
97 Therefore, if the banks of the Intracoastal  
98 Waterway, Matanzas Inlet, or Atlantic Ocean are  
99 overtopped by storm surge, the structures at the  
100 site might be flooded from several directions.

101

102 The timing and duration of potential flooding at  
103 Anastasia and Rattlesnake Islands would vary

1 depending on the intensity of the storm causing  
2 water levels to rise. Typically, tropical storms  
3 would arise with sufficient advance warning to  
4 give persons working on the island hours or days  
5 to evacuate.

6  
7 Because of the site's location on the Matanzas  
8 Inlet, there are notable issues related to surface  
9 erosion and sediment deposition that could result  
10 from flooding. There could be some sediment and  
11 debris deposition at this site as a result of storm  
12 surge, and storm surge would likely have the  
13 energy to produce detectable erosion or  
14 channelization. Hydrologic changes resulting  
15 from geomorphic and erosion processes could  
16 occur, particularly in the form of channel changes  
17 to the Matanzas Inlet or Intracoastal Waterway.

## 18 **FLOOD MITIGATION MEASURES**

19  
20 The highest level of flood mitigation for  
21 Anastasia and Rattlesnake Islands would be to  
22 relocate the facilities and/or services out of the  
23 floodplain, i.e., off of the islands. This option is  
24 not currently feasible and has several costs  
25 associated with it. Thus, this option has not been  
26 chosen by the NPS. If or when non-historic  
27 structures reach their usable lifespan, or if a future  
28 flood results in severe damage, then the NPS  
29 should assess possibilities for relocating the  
30 facilities.

31  
32 The continued use of Anastasia and Rattlesnake  
33 Island, would necessitate the development (and  
34 future implementation) of an evacuation plan for  
35 the site. Given the nature of the flood risks  
36 associated with use of the island, the primary  
37 flood mitigation measure available to the NPS is  
38 the early, prompt, and safe evacuation of people  
39 working on the site. An evacuation plan would  
40 include strategies that ensure proper storm  
41 monitoring, emergency communication methods,  
42 effective evacuation routes, and timely emergency  
43 evacuation notification for staff and visitors.

44  
45 Because the island is connected by bridge to  
46 Florida State Road A1A, a convenient evacuation  
47 routes is available to staff or visitors on the island.  
48 Evacuees could seek higher ground by driving  
49 north or south along Florida State Road A1A to  
50 westerly roads running inland.

51  
52

53 The plan would be developed in concert with the  
54 protocol and strategy of the existing St. Johns  
55 County emergency management system and the  
56 National Weather Service. This St. Johns County  
57 emergency management system is already well  
58 developed and has proven to be very successful at  
59 providing people in the area with advanced  
60 warning of potential floods. During past floods,  
61 this emergency management system has given  
62 warning well in advance of storm activity, leaving  
63 ample time for evacuation.

64  
65 Once the plan is developed, all staff of the  
66 monument would be informed of the plan's  
67 details and their respective implementation  
68 responsibilities. Staff at all facilities would also be  
69 informed on how to appropriately disseminate  
70 evacuation information to visitors who may be at  
71 any of the facilities when a flood occurs.

## 72 **SUMMARY**

73  
74 The National Park Service has determined that  
75 there is no practicable alternative to maintaining  
76 the historic and administrative structures currently  
77 in use at Fort Matanzas National Monument. This  
78 determination is primarily based on the necessity  
79 of these facilities remaining in place to fulfill their  
80 essential functions, and the notable costs and  
81 impacts that would be incurred by moving and/or  
82 constructing these facilities in new locations  
83 outside the floodplain.

84  
85 The primary flood mitigation measure for Fort  
86 Matanzas National Monument is to develop an  
87 evacuation plan for all facilities at monument sites  
88 and keep all NPS staff informed of the plan.  
89 Although the sites are within areas subject to  
90 flooding, there would be ample time to warn staff  
91 and visitors using the facilities to evacuate the  
92 area. If a flood occurs, visitors and staff could  
93 evacuate to higher ground via Florida State Road  
94 A1A.

# APPENDIX D: DESCRIPTIONS OF FEDERAL AND STATE PROTECTED SPECIES

## FEDERALLY PROTECTED SPECIES

**TABLE 20 - FEDERALLY PROTECTED THREATENED AND ENDANGERED SPECIES AT FORT MATANZAS**

Scientific Name	Common Name	Federal Status	Federal Agency with Jurisdiction
<b>Birds</b>			
<i>Charadrius melodus</i>	Piping plover	Threatened	USFWS
<i>Mycteria americana</i>	Wood stork	Endangered	USFWS
<b>Mammals</b>			
<i>Peromyscus polionotus phasma</i>	Anastasia Island Beach Mouse	Endangered	USFWS
<i>Trichechus manatus latirostris</i>	West Indian (Florida) Manatee	Endangered/Critical Habitat Designated	USFWS
<b>Reptiles</b>			
<i>Caretta caretta</i>	Loggerhead sea turtle	Threatened	USFWS/NMFS
<i>Drymarchon corais couperi</i>	Eastern Indigo snake	Threatened	USFWS
<i>Chelonia mydas</i>	Green sea turtle	Endangered	USFWS/NMFS
<i>Dermochelys coriacea</i>	Leatherback sea turtle	Endangered	USFWS/NMFS
<i>Lepidochelys kempii</i> turtle	Kemp's Ridley sea turtle	Endangered	USFWS/NMFS

Source: U.S. Fish & Wildlife Service, North Florida Ecological Services Office, Federally Listed Species Website: <http://www.fws.gov/northflorida/CountyList/Johns.htm> , (Accessed 12-15-2010).

**1 Birds**

2  
 3 **Bald Eagle:** The bald eagle is the second largest  
 4 North American bird of prey, with an average 7-  
 5 foot wingspan. Bald eagles are opportunistic  
 6 foragers with a diet varying across a wide range  
 7 based on prey species available. They prefer fish,  
 8 but will eat a great variety of mammals,  
 9 amphibians, crustaceans, and birds, including  
 10 many species of waterfowl. Bald eagles are  
 11 monogamous and thought to mate for life unless  
 12 one mate dies. Bald eagles build large stick nests  
 13 lined with soft materials that are used for several  
 14 years by the same pair of eagles. In Florida,  
 15 breeding behaviors commence in September, and  
 16 young begin to fly at 11 or 12 weeks. The U.S.  
 17 Fish and Wildlife Service has announced a final  
 18 rule on two new permit regulations that would  
 19 allow for the take of eagles and eagle nests under  
 20 the Bald and Golden Eagle Protection Act (Eagle  
 21 Act). The final rule should be published in the  
 22 Federal Register on September 11, 2009.

23  
 24 Bald Eagles were removed from the endangered  
 25 species list in June 2007 because their populations  
 26 recovered sufficiently. However, the protections  
 27 under the Eagle Act continue to apply. When the  
 28 Bald Eagle was delisted, the Service proposed  
 29 regulations to create a permit program to

30 authorize limited take of Bald Eagles and Golden  
 31 Eagles where take is associated with otherwise  
 32 lawful activities.

33  
 34 The permits will authorize limited, non-  
 35 purposeful take of Bald Eagles and Golden  
 36 Eagles; authorizing individuals, companies,  
 37 government agencies (including tribal  
 38 governments), and other organizations to disturb  
 39 or otherwise take eagles in the course of  
 40 conducting lawful activities such as operating  
 41 utilities and airports. Most permits issued under  
 42 the new regulations would authorize *disturbance*.  
 43 In limited cases, a permit may authorize the  
 44 physical take of eagles, but only if every  
 45 precaution is taken to avoid physical take.  
 46 Removal of eagle nests would usually be allowed  
 47 only when it is necessary to protect human safety  
 48 or the eagles. (Source: U.S. Fish and Wildlife  
 49 Service North Florida Field Office Website:  
 50 <http://www.fws.gov/migratorybirds/baldeagle.htm>  
 51 ; Accessed 12-13-2010)

52  
 53 **Piping Plover:** The piping plover is a small,  
 54 stocky, sand-colored bird that resembles a  
 55 sandpiper. Adults have yellow-orange legs, a  
 56 black band across their foreheads from eye to eye,  
 57 and a black ring around the base of their necks.  
 58 The bird is named for its call notes, which are

1 often heard before the bird is actually seen. Piping  
2 plovers breed on coastal beaches in Canada.  
3 However, they winter primarily on the Atlantic  
4 coast from North Carolina to Florida, although  
5 some migrate to the Bahamas and West Indies.  
6 The 2009 Species Status Review of the piping  
7 plover from the U.S. Fish and Wildlife Service  
8 summarizes their situation as follows:

9  
10 “Habitat loss and degradation on winter and  
11 migration grounds from shoreline and inlet  
12 stabilization efforts, both within and outside of  
13 designated critical habitat, remain a serious threat  
14 to all piping plover populations.”

15  
16 “The threats of habitat loss and degradation, when  
17 combined with the threat of sea-level rise  
18 associated with climate change (WM 2.2.2.5\*),  
19 raise serious concerns regarding the ability of  
20 private beaches to support piping plovers over the  
21 long-term.”

22 \*This alphanumeric term refers to a section in the 2009  
23 Species Status Review cited above.

24  
25 “While public lands may not be at risk of habitat  
26 loss from private development, significant threats  
27 to piping plover habitat remain on many  
28 municipal, state, and federally owned properties.  
29 These public lands may be managed with  
30 competing missions that include conservation of  
31 imperiled species, but this goal frequently ranks  
32 below providing recreational enjoyment to the  
33 public, readiness training for the military, or  
34 energy development projects.” (Source: “Piping  
35 Plover (*Charadrius melodus*) 5-Year Review:  
36 Summary and Evaluation”, U.S. Fish and Wildlife  
37 Service, September 2009)

38  
39 **Wood Stork (*Mycteria Americana*):** The wood  
40 stork is a large, long-legged wading bird with  
41 white plumage except for iridescent black primary  
42 and secondary wing feathers and a short black  
43 tail. On adults, the rough, scaly skin of the head  
44 and neck is unfeathered and blackish in color, the  
45 legs are dark, and the feet are dull pink. The bill  
46 color is also blackish. It is the only stork to  
47 regularly occur and breed in the United States.  
48 Storks can be found feeding in shallow water in  
49 both freshwater and coastal wetlands, including  
50 tidal creeks and flats, marshes, cypress swamps,  
51 ponds, ditches, and flooded fields. The wood stork  
52 eats fish, small reptiles, amphibians, and  
53 mammals, as well as other aquatic organisms. It is  
54 more numerous in summer at Fort Matanzas,

55 indicating a fall migration to South Florida.  
56 Spring migration occurs during March and April.  
57 Following breeding, adults and young disperse  
58 widely and are often noted well outside their  
59 normal breeding range.

60  
61 The wood stork is listed as endangered on both  
62 the federal and state level. However, The U.S.  
63 Fish and Wildlife Service, on September 21,  
64 2010, announced in the Federal Register a 90-day  
65 finding on a petition to reclassify the United  
66 States breeding population of the wood stork from  
67 endangered to threatened under the Endangered  
68 Species Act of 1973, as amended. Based on that  
69 review the Service found that the petition  
70 presented substantial scientific or commercial  
71 information indicating that reclassifying the U.S.  
72 breeding population of the wood stork to  
73 threatened may be warranted. Therefore, Fish and  
74 Wildlife Service biologists conducted a 12-month  
75 comprehensive review of the species status during  
76 2012 and in January 2013 the Service proposed  
77 upgrading the wood stork’s status from  
78 endangered to threatened. The Service solicited  
79 public comments with a closing date of February  
80 2013 and as of August 2, 2013 a final  
81 determination on the final status has not been  
82 made (based on personal communication with Bill  
83 Brooks, U.S. Fish and Wildlife Service,  
84 Jacksonville, Florida).

## 85 86 **Mammals**

87  
88 **Anastasia Island Beach Mouse:** The Anastasia  
89 Island beach mouse is listed as federally  
90 endangered. This mouse occurs primarily at the  
91 northern (Anastasia State Park and southern (Fort  
92 Matanzas) ends of its range, and at isolated sites  
93 in-between. This species inhabits sand dunes,  
94 which are vegetated by sea oats and dune panic  
95 grass. Sometimes the mice use the former  
96 burrows of ghost crabs, but they usually dig their  
97 own. Burrow entrances are typically found on the  
98 sloping side of a dune at the base of a clump of  
99 grass. The burrows are used for nesting and food  
100 storage as well as a refuge. Breeding activities  
101 start in November and end in early January. The  
102 beach mice are primarily threatened by beach and  
103 residential development, which has eliminated  
104 suitable habitat. (Source: *Anastasia Island Beach  
105 Mouse, 5-Year Review: Summary and Evaluation*,  
106 U.S. Fish and Wildlife Service, Jacksonville

1 Ecological Services Field Office, Southeast  
2 Region, September 6, 2007)

### 4 **Marine Mammals**

6 **Blue Whale:** Blue whales are the largest animals  
7 to have ever lived on the earth. They eat tiny  
8 organisms like plankton and krill and live in pods,  
9 or small groups. They have two blowholes and a  
10 2-14 inch thick layer of blubber. These whales  
11 grow to around 80 feet long and can weigh up to  
12 120 tons. Females are larger than males. Blue  
13 whale's flippers are 8 feet long and they are very  
14 fast swimmers. These whales inhabit all oceans  
15 worldwide, excluding the polar seas. They do not  
16 usually live near coasts. These whales are listed as  
17 endangered in both Florida and the rest of the  
18 United States. Packs of killer whales have been  
19 known to attack and kill young blue whales and  
20 man also over hunted blue whales until 1966  
21 (NPCA 2005).

23 **Finback Whale:** Finback Whales are light grey  
24 with white bellies and occasional splashes of  
25 orange or yellow across the back. They do not lift  
26 their tails when diving and their blow is easily  
27 visible. They can grow to a maximum length of  
28 24 m. and their diet consists of schooling fish and  
29 krill. They are the second largest baleen whale  
30 and are fast, difficult to follow when traveling and  
31 not particularly active at the surface. These  
32 whales are endangered on the state and Federal  
33 level (NPCA 2005).

35 **Humpback Whale:** Humpback whales grow to  
36 be around 40-60 feet and are dark with white  
37 underbellies and flippers. Their flippers can reach  
38 a length of 15 feet and they lift their tails when  
39 they dive. Their dive durations range from four to  
40 ten minutes or longer.  
41 Humpback whales are very active at the surface  
42 and employ various means to fish such as bubble  
43 nets, bubble spirals, and their own flippers. These  
44 whales are endangered in both Florida and  
45 federally (NOAA 2005).

47 **Right Whale:** Northern right whales are now  
48 considered one of the most endangered large  
49 mammals in the world due to over hunting which  
50 ended in 1935. They are endangered both in  
51 Florida and federally. Today there are only around  
52 300 right whales left, making them close to  
53 extinction. These whales grow to around 55 feet

54 long and are black with a broad, flat back and no  
55 dorsal fin. Right whales have two blowholes and  
56 spout in a V-shaped blow. The right whale can  
57 grow up to 50 tons on a diet of zooplankton.  
58 These whales travel to the north Florida coast just  
59 off the shore at Fort Matanzas to give birth each  
60 year during the winter months. The waters of the  
61 southern U.S. are the only know calving ground  
62 for this species. This area is a small strip of water  
63 extending only 5-15 miles offshore from the  
64 Altamaha River in Georgia south to the Sebastian  
65 Inlet in Florida. Unfortunately, these waters  
66 contain shipping lanes and ports and today,  
67 collision with a ship causes 30 to 50 percent of  
68 whale deaths. (National Park Service, Fort  
69 Matanzas. Northern Right Whale Pamphlet).

71 **Sei Whale:** Sei whales can grow to a length of 15  
72 m and are slate gray with occasional round scars.  
73 They do not lift their tails when diving and eat  
74 copepods and krill. These whales eat by skimming  
75 small plankton and are fast swimmers with a dive  
76 time of about 10 minutes. When they are on the  
77 surface, a "footprint" can be seen, which allows  
78 them to be tracked. These whales are endangered  
79 on both the state and federal level (NPCA 2005).

81 **Sperm Whale:** Sperm whales are tooth whales  
82 and live in pods. They have a single s- shaped  
83 blowhole that measures twenty inches long on the  
84 left side of their heads. The sperm whale has a  
85 four to 12 inch layer of blubber and they can grow  
86 to be 50 to 60 feet long and 40 to 50 tons, which  
87 makes them the largest of the toothed whales.  
88 Their four-chambered heart is an average of 277  
89 pounds. Sperm whales survive on mostly a diet of  
90 large squid and can eat a ton of food a day. They  
91 are found in many open oceans, both tropical and  
92 cool waters. They live at the surface of the ocean,  
93 but dive deeply to feed. These whales are  
94 endangered on both a state and federal level  
95 (NOAA 2005).

97 **West Indian Manatee:** The manatee is a large,  
98 herbivorous, aquatic mammal that inhabits coastal  
99 waters and rivers. The West Indian manatee's  
100 range is from the southern United States  
101 throughout the Caribbean Islands, Central  
102 America, and to northern South America. In the  
103 United States the manatee ranges up the eastern  
104 coastline into Georgia, the Carolinas, and beyond  
105 during warm months. In the Gulf they are  
106 occasionally sighted as far west as Texas. During

1 cold months manatees in the southern United  
2 States migrate to the warm waters of south  
3 Florida, or find a source of warm water such as  
4 artesian springs or industrial discharges.  
5  
6 Adults are typically 9-10 feet long and weigh  
7 around 1000 pounds. However, they may grow to  
8 over 13 feet and weigh more than 3500 pounds.  
9 Adults are gray in color, with very sparse fine  
10 hairs distributed over much of the body. Stiff  
11 whiskers grow around the face and lips. Algae  
12 growing on the dermis may make them appear  
13 green or brown. They have two fore limbs,  
14 usually with 3 or 4 nails, that they use for slow  
15 movements and to grasp vegetation while eating.  
16 They have a rounded flattened tail for swimming.  
17 The nostrils, located on the upper surface of the  
18 snout, tightly close with valves when underwater.  
19 While they can hold their breath for up to 20  
20 minutes they typically surface to breathe  
21 approximately every 3-5 minutes. Source: Florida  
22 Fish and Wildlife Commission website:  
23 <http://myfwc.com/wildlifehabitats/profiles/mammals/aquatic-mammals/manatee/>, Accessed 3-25-  
24 2011.  
25  
26  
27 The West Indian (Florida) manatee is both  
28 federally and state endangered. However, the 5-  
29 Year Status Review of the West Indian Manatee,  
30 signed by the Regional Director of the U.S. Fish  
31 and Wildlife Service on April 6, 2007,  
32 recommended downlisting the species from  
33 endangered to threatened. As of January 26, 2011  
34 no downlisting has occurred and the West Indian  
35 Manatee is still federally endangered.  
36  
37 The manatees are found in the Matanzas River in  
38 the spring and summer months. Observations of  
39 mating herds indicate that females mate with a  
40 number of males during their 2- to 4-week estrus  
41 period, and then they go through a pregnancy  
42 estimated to last 12 to 14 months (O'Shea 1992).  
43 Births occur during all months of the year with a  
44 slight drop during winter months. Manatees  
45 inhabit both salt and fresh water of sufficient  
46 depth (1.5 meters to usually less than 6 meters)  
47 throughout their range (FWCC 2005g). The  
48 aquatic habitats associated with the Matanzas  
49 River and the Matanzas Inlet are generally  
50 considered a part of the migratory corridor for this  
51 species rather than a long-term residence. This is  
52 because of the scarcity of sufficient forage and  
53 fresh water resources to support their extended

54 habitation within the vicinity of Fort Matanzas  
55 National Monument.

## 56 57 **Reptiles**

58  
59 **Green Turtles:** Green turtles live in estuarine and  
60 marine coastal and oceanic waters. These turtles  
61 come ashore at Fort Matanzas beaches from June  
62 to July to nest. Nesting occurs at night on the  
63 upper beach and sand dunes like the loggerhead.  
64 Hatchlings emerge and head toward sea  
65 approximately 60 days later from August through  
66 November. Large juveniles and adults feed on  
67 seagrasses and algae. Juveniles can be found in  
68 coastal bays, inlets, lagoons, and offshore warm  
69 reefs. The green turtle is listed as federally and  
70 state endangered. The 2007 Green Sea Turtle  
71 Endangered Species Act Five-Year Review  
72 recommended no change in the status of this  
73 species.  
74

75 **Kemp's Ridley Sea Turtle:** The Kemp's Ridley  
76 sea turtle is both federally and state endangered.  
77 The 2007 Kemp's Ridley Sea Turtle Endangered  
78 Species Act Five-Year Review recommended no  
79 change in the status of this species. Female turtles  
80 lay their eggs on beaches along the east coast of  
81 Mexico. Occasionally this turtle has been found  
82 on the beaches of Fort Matanzas after being  
83 injured by shrimp trapping nets (King and Krysko  
84 1999c).  
85

86 **Leatherback Sea Turtle:** Leatherback sea turtles  
87 are the largest of the three sea turtles occurring on  
88 the beaches at Fort Matanzas. They live in  
89 oceanic waters and come ashore at Fort Matanzas  
90 to nest on the beaches during the summer months.  
91 Hatchlings emerge and head toward sea  
92 midsummer to early fall. They feed primarily on  
93 jellyfish. This turtle is listed as endangered at both  
94 the federal and state level (King and Krysko  
95 1999b). The 2007 Leatherback Sea Turtle  
96 Endangered Species Act Five-Year Review  
97 recommended no change in the status of this  
98 species.  
99

100 **Loggerhead Sea Turtle:** The National Marine  
101 Fisheries Service (U.S. Department of Commerce,  
102 National Oceanic and Atmospheric  
103 Administration) and the U.S. Fish and Wildlife  
104 Service (U.S. Department of the Interior) jointly  
105 determined that the loggerhead sea turtle (*Caretta*  
106 *caretta*) is composed of nine distinct population

1 segments (DPSs) that constitute “species” that  
2 may be listed as threatened or endangered under  
3 the Endangered Species Act (ESA). On  
4 September 22, 2011 the two agencies issued a  
5 final rule listing four DSPs as threatened and five  
6 DSPs as endangered under the ESA. Loggerheads  
7 that nest on Fort Matanzas National Monument  
8 belong to the Northwest Atlantic Ocean DPS and  
9 are listed as threatened. Loggerheads live in  
10 marine coastal and oceanic waters. These turtles  
11 come ashore at night to nest on the beach at Fort  
12 Matanzas during May through August. The  
13 females nest on the upper beach or in the dunes.  
14 Hatchlings emerge at night approximately 50-60  
15 days later and find their way to the sea (July  
16 through November). Juveniles frequent coastal  
17 bays, inlets, and lagoons. Fort Matanzas is part of  
18 the largest loggerhead sea turtle rookery in the  
19 western Atlantic Ocean (FWCC 2005d).

20  
21 **Eastern Indigo Snake:** The Eastern indigo snake  
22 is listed as threatened at both the state and Federal  
23 levels. The 2008 Eastern indigo snake  
24 Endangered Species Act Five-Year Review  
25 recommended no change in the status of this  
26 species. Average adult size is 60-74 inches (152-  
27 188 cm); record is 103.5 inches (262.8 cm).  
28 Adults are large and thick bodied. The body is  
29 glossy black and in sunlight has iridescent blue  
30 highlights. The chin and throat is reddish or white,  
31 and the color may extend down the body. The  
32 belly is cloudy orange and blue-gray. The scales  
33 on its back are smooth, but some individuals may  
34 possess some scales that are partially keeled.  
35 There are 17 dorsal scale rows at mid-body. The  
36 pupil is round. Juveniles are black-bodied with  
37 narrow whitish blue bands. Eastern indigo snakes  
38 can be found in almost any habitat in Florida.  
39 They are non-venomous.

40 (Source:  
41 [http://ecos.fws.gov/speciesProfile/profile/speciesP](http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=C026)  
42 [rofile.action?spcode=C026](http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=C026) , Accessed  
43 01/03/2011).

## 44 45 **Fish**

46  
47 **Shortnose Sturgeon:** The shortnose sturgeon is  
48 one of the smallest varieties of sturgeons in the  
49 United States. This fish is listed as endangered in  
50 both the state of Florida and federally. This  
51 sturgeon only grows to a maximum of 3.5 feet in  
52 length and rarely reaches more than 14 pounds in  
53 weight. Unlike most fish that spawn every year,

54 the shortnose male sturgeons spawn every other  
55 year, and females spawn every third year. These  
56 fish are bottom feeders, and consume sludge  
57 worms, aquatic insect larvae, plants, snails,  
58 shrimp, and crayfish. The shortnose sturgeon is  
59 restricted to the Atlantic seaboard in North  
60 America, and can be found from the Saint John’s  
61 River in New Brunswick to the Saint John River  
62 in Florida. A combination of factors has led to  
63 the shortnose sturgeon’s endangered status, in the  
64 1800 and early 1900s, many larger tidal rivers  
65 served as dumping grounds for pollutants that led  
66 to major oxygen depletions and high fish  
67 D-1 losses. Also, the great demand for sturgeon  
68 eggs (or caviar) and the fish’s smoked flesh have  
69 led to overexploitation of the sturgeon population  
70 (USFWS 2005).

71  
72 **Smalltooth Sawfish:** The smalltooth sawfish is  
73 technically a ray; however this fish resembles a  
74 shark. It’s long, flat, snout or rostrum is  
75 embedded with sharp, tooth-like scales along both  
76 edges. Besides being found in the southeastern  
77 United States, they can be found in the Caribbean,  
78 Central America (along South America to mid  
79 Brazil), possibly in the Mediterranean Sea, along  
80 the African coast, and in the western Indo-Pacific.  
81 These fish can attain lengths of around 20 feet and  
82 weigh up to a ton. They are endangered both  
83 federally and in the state of Florida due to their  
84 tendency to become entangled in commercial  
85 fishing nets. At the same time, smalltooth sawfish  
86 can cause extensive damage with their teeth, so  
87 anglers have long regarded them as nuisances and  
88 there is a high tendency to kill them before these  
89 fish can cause any trouble (NOAA 2005).

## 90 91 **Seagrasses**

92  
93 **Johnson’s Seagrass:** This seagrass thrives in  
94 coastal lagoons in the intertidal zone. They need  
95 sandy bottoms to grow and are often found in  
96 deeper waters with other varieties of seagrass.  
97 Johnson’s seagrass is only found in southeastern  
98 Florida (FWCC 2005a). It has short, elliptical  
99 leaves that grow in pairs. The leaves reach around  
100 2.5 cm long and are up to 4 mm wide. These  
101 plants grow best in areas at high risk to damage  
102 from boat propellers and where there is water  
103 quality degradation. Johnson’s seagrass serves as  
104 a food resource for other threatened and  
105 endangered species such as the green sea turtle  
106 and the West Indian manatee. These plants do not

1 reproduce sexually; instead they spread their  
2 rhizomes. Due to limited range, high damage risk,  
3 and slow reproduction, these plants are considered  
4 threatened in Florida and on the federal level  
5 (NOAA 2005).

6  
7 On November 8, 2010 new threatened species  
8 rules approved by the Florida Fish and Wildlife  
9 Commission went into effect. All federally listed  
10 species that occur in Florida are now included on  
11 Florida's list as federally-designated endangered  
12 or federally-designated threatened species. In  
13 addition, the state has a listing process to identify  
14 species that are not federally listed but at risk of  
15 extinction. These species will be called State-  
16 designated Threatened. All state-designated  
17 species were grandfathered on the list and are  
18 currently undergoing status reviews. FWC will  
19 continue to maintain a separate Species of Special  
20 Concern category until all the species have been  
21 reviewed and those species either designated as  
22 threatened or endangered are removed from the  
23 list.

## 24 **SPECIES OF SPECIAL CONCERN**

### 25 **Fish**

26  
27 Atlantic sturgeon (*Acipenser oxyrinchus*)  
28 Blackmouth shiner (*Notropis melanostomus*)  
29 Bluenose shiner (*Pteronotropis welaka*)  
30 Crystal darter (*Crystallaria asprella*)  
31 Key silverside (*Menidia conchorum*)  
32 Harlequin darter (*Etheostoma histrio*)  
33 Lake Eustis pupfish (*Cyprinodon hubbsi*)  
34 Rivulus (*Rivulus marmoratus*)  
35 Saltmarsh topminnow (*Fundulus jenkinsi*)  
36 Southern tessellated darter (*Etheostoma olmstedii*  
37 *maculaticeps*)

### 38 **Amphibians**

39  
40 Florida bog frog (*Lithobates okaloosae*)  
41 Georgia blind salamander (*Haideotriton wallacei*)  
42 Gopher frog (*Lithobates capito*)  
43 Pine Barrens treefrog (*Hyla andersonii*)

### 44 **Reptiles**

45  
46 Alligator snapping turtle (*Macrochelys*  
47 *temminckii*)  
48 Barbour's map turtle (*Graptemys barbouri*)  
49 Florida brown snake (*Storeria victa*)-lower Keys

50 population only  
51 Florida Keys mole skink (*Eumeces egregius*  
52 *egregius*)  
53 Florida pine snake (*Pituophis melanoleucus*  
54 *mugitus*)  
55 Key ringneck snake (*Diadophis punctatus*  
56 *acricus*)  
57 Peninsula ribbon snake (*Thamnophis sauritus*  
58 *sackenii*)-lower Keys population only  
59 Red rat snake (*Elaphe guttata*)-lower Keys  
60 population only  
61 Rim rock crowned snake (*Tantilla oolitica*)  
62 Short-tailed snake (*Stilosoma extenuatum*)  
63 Striped mud turtle (*Kinosternon baurii*)-lower  
64 Keys population only  
65 Suwannee cooter (*Pseudemys suwanniensis*)

## 66 **Birds**

67  
68 American oystercatcher (*Haematopus palliatus*)  
69 Black skimmer (*Rynchops niger*)  
70 Brown pelican (*Pelecanus occidentalis*)  
71 Burrowing owl (*Athene cunicularia*)  
72 Florida sandhill crane (*Grus canadensis*  
73 *pratensis*)  
74 Least tern (*Sternula antillarum*)  
75 Limpkin (*Aramus guarana*)  
76 Little blue heron (*Egretta caerulea*)  
77 Marian's marsh wren (*Cistothorus palustris*  
78 *marianae*)  
79 Osprey (*Pandion haliaetus*)-Monroe County  
80 population only  
81 Reddish egret (*Egretta rufescens*)  
82 Roseate spoonbill (*Platalea ajaja*)  
83 Scott's seaside sparrow (*Ammodramus maritimus*  
84 *peninsulae*)  
85 Snowy egret (*Egretta thula*)  
86 Snowy plover (*Charadrius nivosus*)  
87 Southeastern American kestrel (*Falco sparverius*  
88 *paulus*)  
89 Tricolored heron (*Egretta tricolor*)  
90 Wakulla seaside sparrow (*Ammodramus*  
91 *maritimus juncicola*)  
92 White-crowned pigeon (*Patagioenas*  
93 *leucocephala*)  
94 White ibis (*Eudocimus albus*)  
95 Worthington's marsh wren (*Cistothorus palustris*  
96 *griseus*)

## 97 **Mammals**

98  
99 Big Cypress fox squirrel (*Sciurus niger avicennia*)  
100 Eastern chipmunk (*Tamias striatus*)  
101  
102

- 1 Everglades mink (*Neovison vison evergladensis*)
- 2 Florida black bear (*Ursus americanus floridanus*)
- 3 Florida mastiff bat (*Eumops glaucinus floridanus*)
- 4 Florida mouse (*Podomys floridanus*)
- 5 Homosassa shrew (*Sorex longirostris eonis*)
- 6 Sanibel Island rice rat (*Oryzomys palustris*
- 7 *sanibeli*)
- 8 Sherman's fox squirrel (*Sciurus niger shermani*)
- 9 Sherman's short-tailed shrew (*Blarina*
- 10 *carolinensis shermani*)

11

12 **Corals**

- 13
- 14 Pillar coral (*Dendrogyra cylindricus*)

15

16 **Mollusks**

- 17
- 18 Florida treesnail (*Liguus fasciatus*)

19

20 **Crustaceans**

- 21
- 22 Black Creek crayfish, also known as Spotted royal
- 23 crayfish (*Procambarus pictus*)
- 24 Santa Fe Cave crayfish (*Procambarus erythrops*)
- 25 (Source: Florida Fish and Wildlife Commission
- 26 Website:
- 27 [http://myfwc.com/WILDLIFEHABITATS/imperiledSpp\\_index.htm](http://myfwc.com/WILDLIFEHABITATS/imperiledSpp_index.htm) ; Florida's Threatened and
- 28 Endangered Species, Florida Fish and Wildlife
- 29 Commission, November 2010)
- 30

31

32

33 **STATE PROTECTED SPECIES**

34

35 **Black Skimmer:** The black skimmer is listed as a

36 species of concern by the FWCC. Black skimmers

37 and least, royal, and sandwich terns nest in

38 colonies in the open sand on beaches, sandbars,

39 and dredged material islands. Their nests are built

40 on the ground and often consist of simple scrapes

41 in the sand. Habitat loss from coastal development

42 has reduced the number of suitable nesting spots

43 for black skimmers. This permanent resident nests

44 May through August in Florida. Individuals from

45 northern states swell the Florida population in the

46 fall (August through October), and south Florida

47 birds move north in the state to breed (FBBA

48 2005d).

49

50 **Brown Pelican:** USFWS lists the brown pelican

51 as federally endangered, except in particular states

52 such as Florida and Alabama. Here, the FWCC

53 lists the brown pelican as a state species of

54 concern. The brown pelican is one of Florida's

55 largest shorebirds living exclusively in coastal

56 environments. It is the only pelican that skydives

57 for food, mainly menhaden and other herring

58 species. Brown pelicans breed in colonies, mostly

59 on small islands along the Intracoastal Waterway.

60 Egg-laying in brown pelicans generally happens

61 between December and February. Pelicans pair up

62 for one year, and both the male and female help

63 brood and rear the young, which fledge in about

64 76 days. Brown pelicans are often seen from the

65 dock of both Rattlesnake and Anastasia Islands

66 (FWCC 2005b, USFWS 1995).

67

68 **Least Tern:** The least tern is listed as state

69 threatened by the FWCC. This bird is commonly

70 found on the beach areas of Anastasia and

71 Rattlesnake Island during the spring and summer.

72 This bird prefers to nest in colonies on open,

73 shelly, or coarse sand beaches, which are flat with

74 sparse vegetation from April through August. The

75 nests consist merely of a shallow depression

76 scratched in the sand. Populations of least terns

77 were depleted after the turn of the century, when

78 they were hunted to harvest their features to

79 decorate women's hats. They have lost nesting

80 habitat due to beach development and an increase

81 in human activity on the beaches (FWCC 2005c).

82

83 **Snowy Egret:** The snowy egret, a state species of

84 concern, is commonly found throughout the year

85 on the coast of Rattlesnake and Anastasia Islands.

86 The snowy egret breeds from January through

87 August, nesting in colonies with other species of

88 waders in swamps and mangroves on islands or in

89 emergent vegetation over water. This bird forages

90 in both freshwater and saltwater habitats, where it

91 often pursues its prey, small fish, shrimp, and

92 small vertebrates (FBBA 2005a).

93

94 **White Ibis:** The white ibis, a state species of

95 concern, is commonly found on Rattlesnake and

96 Anastasia Islands. White ibises feed primarily on

97 aquatic prey, including crayfish, crabs, snakes,

98 anurans, and fish. They breed from March

99 through September in mixed colonies located over

100 standing water, within freshwater marshes or

101 ponds, or on coastal islands. Incubation requires

102 21 to 22 days, and the young leave their parents

103 when they are 40 to 50 days old (FBBA 2005b).

104

105 **Gopher Tortoise:** The gopher tortoise is listed as

106 threatened in Florida by the Florida Fish and

1 Wildlife Conservation Commission (FWCC). The  
2 U.S. Fish and Wildlife Service has added Gopher  
3 tortoises east of Mobile Bay to the list of  
4 candidate species eligible for Endangered Species  
5 Act (ESA) protection. In making this  
6 determination, the Service completed a  
7 comprehensive review – known as a 12-month  
8 finding – and found sufficient scientific and  
9 commercial data to propose listing the species as  
10 threatened or endangered throughout its range.  
11 However, the Service is precluded from  
12 beginning work immediately on a listing proposal  
13 because its limited resources must be devoted to  
14 other, higher priority actions. While candidate  
15 species receive no statutory protection under the  
16 ESA, inclusion on the candidate list promotes  
17 cooperative conservation efforts for these species.  
18 (Source:  
19 [http://www.fws.gov/northflorida/Releases-  
20 11/20110726\\_nr\\_Gopher\\_Tortoise-12-  
21 month\\_Warranted\\_but\\_Precluded\\_Finding\\_Easter  
22 n\\_Portion\\_of\\_range.html](http://www.fws.gov/northflorida/Releases-11/20110726_nr_Gopher_Tortoise-12-month_Warranted_but_Precluded_Finding_Easter_n_Portion_of_range.html) ) The gopher tortoise is  
23 one of the most abundant reptiles in Fort  
24 Matanzas. Gopher tortoises can be found in all  
25 open dry habitats, dunes, dunes meadows, and  
26 areas between patches of forest. Tortoises  
27 excavate deep burrows for refuge from predators,  
28 oldfields, and road shoulders for refuge from  
29 predators, weather, and fire; other species of  
30 animals, such as eastern diamondback  
31 rattlesnakes, indigo snakes, coachwhips, six-lined  
32 racerunners, and mice have been recorded sharing  
33 these burrows. Gopher tortoises feed on grasses,  
34 herbs, green brier, and cactus pads. Gopher  
35 tortoises are not aquatic species, but they  
36 occasionally are found floating in the Matanzas  
37 River and Intracoastal Waterways. During colder  
38 months, above-ground activity is greatly reduced;  
39 however burrows are relatively conspicuous year-  
40 round (FWCC 2005f).

## **APPENDIX E: HISTORY AND LEGISLATIVE BACKGROUND REGARDING DRIVING ON THE BEACH AT FORT MATANZAS NATIONAL MONUMENT**

1 **Establishment of the National Monument:** Fort  
2 Matanzas National Monument was established by  
3 Proclamation of President Calvin Coolidge on  
4 October 15, 1924 under the authority of the  
5 American Antiquities Act of 1906. The site  
6 consisted of one acre, within which stood a  
7 structure built by the Spanish in 1740 to protect  
8 the Matanzas Inlet. The fort is located on  
9 Rattlesnake Island in the Matanzas River about 14  
10 miles south of the historic district of St.  
11 Augustine, Florida. The War Department  
12 administered the site until it was transferred to the  
13 Department of the Interior, National Park Service,  
14 by Executive Orders of President Franklin D.  
15 Roosevelt. Presidential Proclamations in 1935 and  
16 1948 authorized the acquisition of additional  
17 acreage.

18  
19 In 1962 and 1963, two tracts of land, including  
20 nearly one mile of beachfront property on  
21 Anastasia Island, were donated to the NPS.  
22 Today, the park encompasses approximately 300  
23 acres--200 acres on Rattlesnake Island and 100  
24 acres on Anastasia Island. The eastern boundary  
25 of the Anastasia Island portion of the National  
26 Monument is the mean high water line of the  
27 Atlantic Ocean. The State of Florida owns the  
28 beach seaward of this line.

29  
30 **Background and Laws Relating to Beach**  
31 **Driving:** Public beach driving was allowed  
32 throughout St. Johns County before the  
33 establishment of Fort Matanzas National  
34 Monument. In 1941, the Florida legislature made  
35 the Atlantic Ocean beach within St. Johns County  
36 a public highway under county jurisdiction.  
37 However, during the 1980s, a series of state laws  
38 beginning in 1985, prohibited beach driving  
39 throughout Florida except for cleanup, repair, or  
40 public safety, although it left local governments  
41 with the power to authorize traffic on beaches  
42 within their jurisdiction. In 1997 St. Johns  
43 County adopted an ordinance opening specified  
44 areas of its beaches to motor vehicles (Ordinance  
45 97-34, June 24, 1997). However, the beach  
46 seaward of the Fort Matanzas boundary was not  
47 one of the areas where driving was authorized.

48

49 President Richard Nixon's Executive Order  
50 number 11644, issued February 8, 1972, directly  
51 governs the use of off-road vehicles (ORVs),  
52 which would include vehicles driven on the  
53 beach, in units of the National Park System. This  
54 Executive Order and the regulations established  
55 under it, prohibit the operation of motor vehicles  
56 in units of the National Park System except on  
57 park roads, in designated parking areas, and on  
58 routes and areas designated for ORV use. Finally,  
59 ORV routes and areas may only be established in  
60 national recreation areas, national seashores,  
61 national lakeshores, and national preserves. Fort  
62 Matanzas was established as a National  
63 Monument on a 1-acre site on Rattlesnake Island,  
64 which sits in the Matanzas River between  
65 Anastasia Island (the barrier island that faces the  
66 Atlantic Ocean to the east) and the Intracoastal  
67 Waterway to the west. Therefore, beginning in  
68 1985 both state law and Federal law, including  
69 presidential executive orders prohibited driving  
70 on the Atlantic Ocean beach south of the  
71 Matanzas ramp.

72  
73 **Current Status:** Visitation at Fort Matanzas was  
74 673,700 in 2010. Beach use constitutes  
75 approximately 80% of that total. The National  
76 Park Service has prepared this General  
77 Management Plan and Environmental Impact  
78 Statement for Fort Matanzas National Monument.  
79 Public meetings, held in March, 2008, provided  
80 opportunities for people to express their opinions  
81 and ideas regarding the management of the  
82 National Monument. In May of 2009 the park  
83 received a Freedom of Information Act request  
84 from a Florida resident with regard to beach  
85 driving. In September of 2009 the National Parks  
86 and Conservation Association and the Florida  
87 Audubon Society expressed concern that NPS  
88 failure to enforce the regulations restricting off-  
89 road driving on the beach could adversely impact  
90 resources. After consultation with the Southeast  
91 Regional office, and on the advice of legal  
92 counsel, the decision was made to close the beach  
93 to vehicles as of January 1, 2010.

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## APPENDIX G: IMPACTS AND MANAGEMENT OF OFF-ROAD VEHICLES

1 The following section has been reproduced in its  
2 entirety from Appendix A of the Final Off-Road  
3 Vehicle Plan and Environmental Impact  
4 Statement for Cape Hatteras National Seashore  
5 (NPS, November 2010). Although the literature  
6 review appeared in an off-road vehicle plan for  
7 Cape Hatteras National Seashore, the studies and  
8 data regarding impacts come from barrier island  
9 parks all along the Atlantic Coast from New York  
10 to Florida and the Gulf Coast (Gulf Islands  
11 National Seashore). Therefore, NPS believes that  
12 this material is equally applicable to the  
13 conditions at Fort Matanzas National Monument.

### LITERATURE REVIEW

17 While access to public lands improves the  
18 experience of ORV users, motorized access to  
19 sensitive environments, such as coastal  
20 ecosystems, can pose a threat to sensitive species  
21 that rely on the beach habitat. Other impacts from  
22 motorized access to public lands include adverse  
23 effects on water quality, adverse effects on  
24 vegetation, impacts to cultural resources,  
25 detraction from other visitors' enjoyment of  
26 public lands, and creation of law enforcement  
27 issues. ORVs can churn up and damage delicate  
28 soils (Proescholdt 2007; Ouren et al. 2007; Webb  
29 1982). Air quality can be negatively affected by  
30 exhaust fumes, oil, and dust resulting from ORV  
31 use (Taylor n.d.; Proescholdt 2007; Ouren et al.  
32 2007). Loud engines in quiet environments can  
33 disturb wildlife and affect visitor enjoyment for  
34 those who use parks as places of peace and solace  
35 (Proescholdt 2007). Park rangers surveyed during  
36 a 1999 study reported incidents where ORV use  
37 has destroyed or disturbed cultural resources that  
38 parks are bound by law to protect (Bluewater  
39 Network 1999). While it is unknown how many  
40 coastal park units were included in the study, it  
41 can be assumed that such issues also occur in  
42 coastal units where ORV traffic is allowed.

44 This literature review has been prepared to  
45 support the development of an ORV management  
46 plan at the [*Cape Hatteras National Seashore*]  
47 Seashore. The following sections summarize

48 available information related to the potential  
49 effects of ORV use on natural resources, such as  
50 wildlife habitat, aesthetics/sound, and vegetation,  
51 found in national park units with coastal sand  
52 dune ecosystems. Relevant water quality findings  
53 are also reported here. In addition, information on  
54 the effects of ORV use on socioeconomics and  
55 management issues are examined. Because the  
56 majority of the area administered as Cape  
57 Hatteras National Seashore is best described as a  
58 coastal beach environment, with the major issues  
59 for resource protection being the protection of  
60 threatened and endangered species and the  
61 maintenance of coastal wildlife habitat, this  
62 literature review focuses on impacts from ORV  
63 use in similar coastal environments.

### Wildlife and Wildlife Habitat

67 Numerous studies have detailed the impacts to  
68 wildlife of ORV use on public lands. Impacts  
69 generally described in these studies include direct  
70 mortality, harassment, noise effects, and habitat  
71 destruction. Specific risks to wildlife include  
72 injury during escape responses and, in severe  
73 cases, habitat avoidance and abandonment of  
74 young. Radle (2007) found that wildlife generally  
75 experience an increase in heart rate, as well as  
76 altered metabolism and hormone balance, when  
77 introduced to human-made noise. Noise from  
78 ORVs can affect the senses of animals that  
79 depend on hearing and vibration detection to  
80 survive (resulting in inability of wildlife to hear  
81 sounds important for mating, avoiding predators,  
82 and finding prey) (Berry 1980; Bury 1980;  
83 Bluewater Network 1999). ORVs also impact  
84 wildlife by destroying or fragmenting habitat.  
85 Much of the existing research has dealt  
86 specifically with the effects of vegetation damage  
87 by visitors and the associated impacts to wildlife  
88 habitat values (Monz et al. 2003). This has led  
89 some to conclude that the most effective strategies  
90 for avoiding habitat disturbance are outright road  
91 removal and the avoidance of new road  
92 construction in roadless or sparsely roaded areas  
93 (Trombulak and Frissell 2001; Walder n.d.).

1  
2 Park managers generally agree that intensive  
3 ORV use harms wildlife, including endangered  
4 species. From July to November of 1999,  
5 Bluewater Network conducted a survey of 108  
6 national park units regarding the use of all-terrain  
7 vehicles and other ORVs. While the number of  
8 surveys conducted at seashore units is not  
9 reported, among the issues cited by respondents  
10 was the use of ORVs resulting in collisions with  
11 and crushing of animals, destruction of habitat,  
12 and animals being frightened away from shelter or  
13 important habitat (Bluewater Network 1999).  
14  
15 Various studies have examined the effects of  
16 ORVs on intertidal invertebrates. Work done on  
17 high-energy beaches has suggested that life in the  
18 intertidal and supratidal areas may be far more  
19 abundant and varied than previously thought  
20 (Zaremba et al. 1973), and this life could be  
21 affected by ORV use. One study conducted at the  
22 Seashore (Landry 2004) documented recovery  
23 rates of ghost crab (*Ocypode quadrata*)  
24 populations following ORV impacts and high-  
25 energy weather events. Beach closures were  
26 initiated to study short-term effects and recovery  
27 rates. Sediment analysis and beach soil  
28 compaction differences in the ghost crab habitat  
29 were measured in both untraveled and travelled  
30 zones. The study found differences in crab burrow  
31 densities between closed and open beaches.  
32 Alternative time spans for beach closings varied  
33 in their effectiveness for promoting recovery at  
34 various beach areas.  
35  
36 Findings from a 1984 study conducted at nearby  
37 Cape Lookout (Wolcott and Wolcott 1984)  
38 examined impacts of ORV use on mole crabs  
39 (*Emerita talpoida*), coquina clams (*Donax*  
40 *variabilis*) and ghost crabs. Results indicated that  
41 ghost crabs were completely protected if borrows  
42 were at least 5 centimeters (2 inches) deep. The  
43 ghost crab creates burrows for shelter from heat  
44 and desiccation stress during summer daytime  
45 periods. Juveniles produce shallow J-shaped  
46 burrows with a mean depth of 160 millimeters  
47 (6.3 inches), while adults dig Y-shaped and spiral  
48 burrows with mean depths of 361 millimeters  
49 (14.2 inches) (Chan et al. 2006). The Wolcott  
50 study also found no damage to mole crabs or  
51 coquinas; however, crushing of ghost crabs by  
52 ORVs occurred during their nighttime feeding on  
53 the foreshore<sup>1</sup>. The study recommended

54 establishing a ban on ORV traffic on the foreshore  
55 between dusk and dawn to protect this species  
56 (Wolcott and Wolcott 1984).

57  
58 Moss and McPhee (2006) compared ghost crab  
59 burrow counts on exposed sandy beaches off the  
60 coast of southeast Queensland in areas designated  
61 as “open” and “closed” to recreational ORV use  
62 and found that beaches where recreational ORV  
63 activity was present had significantly lower ghost  
64 crab abundance than beaches where ORV use was  
65 absent. Similarly, a study on North Stradbroke  
66 Island in Australia found crab densities to be  
67 significantly lower in areas subject to heavy beach  
68 traffic. While crab mortality declined with depth  
69 of burrows, burrowing only partially protected  
70 crabs. Crabs in shallow burrows of 5 centimeters  
71 (1.9 inches) were killed by 10 vehicle passes.  
72 While deep-living crabs (which burrowed to  
73 depths of least 30 centimeters [11.8 inches]) were  
74 not killed by ORVs, this subpopulation  
75 represented only half of the total population  
76 surveyed (Schlacher et al. 2007).

77  
78 Schlacher and others (2008) used surf clams  
79 (*Donax deltoides*) to investigate damages caused  
80 by vehicles to sandy shore invertebrates, and  
81 found that in situations where cars traversed soft  
82 sand and turned across the beach face, clams had  
83 some tolerance against vehicles at low traffic  
84 volumes (5 vehicle passes), but more than half of  
85 them were killed at higher traffic volumes (75  
86 passes). Van Der Merwe (1991) studied the  
87 effects of ORVs on four intertidal invertebrate  
88 species in South Africa: the gastropod *Bullia*  
89 *rhodostoma*, the bivalves *Donax serra* and *Donax*  
90 *sordidus*, the benthic mysid *Gastrosaccus*  
91 *psammodytes*, and the supralittoral isopod, *Tylos*  
92 *capensis*. All the above-named species except for  
93 the benthic mysid showed a high tolerance for  
94 vehicular disturbances. The supralittoral isopod  
95 demonstrated increasing damage as with more  
96 vehicle passes in the less compact sand above the  
97 drift line.

---

98  
99  
100 <sup>1</sup> Also known as the intertidal zone, the foreshore is  
101 defined as that part of the beach between the spring low  
102 water mark and the spring high water mark. The upper  
103 limits of the intertidal zone are defined by the uppermost  
104 wrack line. A wrack line is a line of stranded debris along  
105 a beach face marking the point of maximum run-up during  
106 a previous high tide, and there may be several on a beach.

1  
2 In a study of four beaches at Cape Cod and Fire  
3 Island National Seashores, Kluft and Ginsberg  
4 (2004), used analysis of variance as a statistical  
5 metric and found that invertebrates such as the  
6 talitrid amphipod (*Talorchestia longicornis*) and  
7 the lycosid spider (*Arcotosa littoralis*) were  
8 significantly more abundant in the wrackline in  
9 vehicle-free areas than in high-traffic zones. On  
10 sandy beaches, invertebrates such as gastropods  
11 and bivalves could be safe if buried beneath  
12 compact sand (which is common when the tide is  
13 out). Stephenson (1999), while not specifying  
14 particular invertebrate species, cited research that  
15 indicated a reduction in both the abundance and  
16 number of species of surface and subsurface  
17 invertebrates as a result of vehicles on coastal  
18 dunes. Crushing by vehicle wheels, destruction of  
19 the surface litter layer (where present), and the  
20 changes in soil properties and microclimate that  
21 accompany track creation, or the overall reduction  
22 in plant cover, all contribute to the negative  
23 response of these elements of the fauna.  
24 Invertebrates associated with the above-ground  
25 portions of plants also exhibited reductions in  
26 abundance and number of species as a  
27 consequence of vehicle impacts to the vegetation  
28 and microclimate of dunes (Stephenson 1999).  
29  
30 Bird species are also affected by ORV use on  
31 shoreline ecosystems. Historically, many beach-  
32 nesting waterbirds have shown population  
33 declines along the beaches of the Seashore in  
34 response to increased human disturbance,  
35 retreating to small soundside islands created from  
36 dredge material excavated from navigational  
37 channels. By the late 1970s, erosional forces and  
38 changes to dredging techniques had whittled away  
39 much of these refuges, leaving no choice for the  
40 birds but to return to ocean beaches. One such  
41 species of special concern is the piping plover  
42 (*Charadrius melodus*), which lays speckled eggs  
43 that are perfectly camouflaged in the beach sand.  
44 A two-year study of piping plovers along the New  
45 Jersey shore (Burger 1994) found that plovers  
46 forage along the tidal oceanfront, in the dunes,  
47 and in backbays, and their relative use of these  
48 habitats partially depends upon human presence.  
49 While on beaches with few people, plovers can  
50 spend 90 percent of time foraging, whereas on  
51 beaches with many people they may spend less  
52 than 50 percent of their foraging time in direct  
53 feeding behaviors (Burger 1994). Results of a

54 logistic regression analysis of the spatial  
55 distribution and productivity of piping plover  
56 nests in relation to proxy indicators of human  
57 disturbance on the barrier islands of Long Island,  
58 New York, indicated that for each additional  
59 kilometer of road within a 500-meter (1640-foot)  
60 radius, the likelihood of the presence of a plover  
61 nest decreased by up to 53%. Higher productivity  
62 appeared to be only slightly correlated with  
63 increasing distance from parking lots, roads, and  
64 residential areas. Moreover, no difference in mean  
65 productivity was observed among the levels of  
66 ORV access (Thomsen 2006).  
67

68 Among bird species, adverse reactions to human  
69 recreational activities have included nest  
70 desertion, temporary nest abandonment, and  
71 changes in foraging habits (Douglass et al. 1999).  
72 Comparing two beach plots open and closed to  
73 human traffic along North Carolina's Outer  
74 Banks, Collazo and others (1995) found that  
75 resting time of shorebirds was reduced by nearly  
76 50 % in areas open to human activity. Although  
77 some research indicates predators are the main  
78 cause of nest failure of shore-nesting birds,  
79 Stephenson (1999) identifies vehicle use as a  
80 major cause for reductions in reproductive  
81 potential of birds on both coastal dunes and  
82 shorelines. Similarly, Melvin and others (1994)  
83 described 14 incidents of direct piping plover  
84 mortality caused by ORVs in Massachusetts and  
85 New York from 1989 through 1993. They  
86 estimated the number of one-way vehicle passes  
87 per day during the period when mortality  
88 occurred, demonstrating that ORV use, even at  
89 levels of less than 10 vehicle passes per day, is a  
90 threat to unfledged piping plover chicks and  
91 adults during brood-rearing periods.  
92

93 An in-depth study of colonial waterbird  
94 reproductive success and population trends along  
95 the Atlantic coast, which involved field research  
96 at Cape Lookout National Seashore, revealed that  
97 American oystercatchers are also at risk in rapidly  
98 changing coastal ecosystems. The nest survival  
99 rate was calculated to be 0.928 per nest day (213  
100 nests lost during 2,961 nest-days of incubation),  
101 with the probability of a clutch surviving to  
102 hatching of 0.133 (Davis et al. 2001). A  
103 comparison of reproductive success of the  
104 American oystercatcher on three river islands in  
105 the lower Cape Fear of North Carolina with that  
106 of birds nesting on barrier island beach habitat of

1 Cape Lookout National Seashore (McGowan river  
2 island habitat than on the barrier beach habitat.  
3 ORV use was directly investigated in this study.  
4 The primary cause of nest failure on river islands  
5 was flooding, while the primary cause on barrier  
6 islands was mammalian predation. In their study  
7 of reproductive success of American  
8 oystercatchers along the Atlantic coast from Cape  
9 Fear to Cape Hatteras National Seashore, Simons  
10 and McGowan (2003) also identified predation as  
11 the major factor accounting for population  
12 decline. Patterson and others (1991) studied  
13 piping plovers on Assateague Island, Maryland, in  
14 1986–87 to estimate population size and to  
15 identify factors affecting productivity. The study  
16 found that predators accounted for most of the  
17 known causes of nest losses (91%), with only one  
18 nest lost due to direct human destruction and no  
19 evidence that suggested recreational disturbance  
20 was a factor affecting productivity.

21  
22 Detailed results of an analysis of eight seasons of  
23 reproductive success data at the Seashore found  
24 that mammalian predation accounted for 29 % of  
25 nest failures (McGowan 2004). The study also  
26 found that human disturbance, 24 % of which  
27 attributable to ORVs, increased the frequency of  
28 trips from the nest during incubation and could  
29 contribute to reduced oystercatcher hatching  
30 success (McGowan 2004). A recent study by  
31 Sabine (2005) involved video monitoring of 32  
32 American oystercatcher nests to document causes  
33 of nest failure at Cumberland Island National  
34 Seashore, Georgia. Predation was determined to  
35 be the primary cause of nest failure. Vehicle  
36 disturbances were also simulated by driving  
37 immediately below the high water line at  
38 approximately 50 meters (164 feet) seaward of  
39 nests in order to observe oystercatcher behavioral  
40 responses. Although the study found that  
41 vehicular activity reduced foraging behavior  
42 during brood rearing, results from the disturbance  
43 experiment indicated that oystercatchers were  
44 more sensitive to pedestrian disturbance than  
45 vehicle disturbance during incubation. McGowan  
46 and Simons (2006) also suggest that changes in  
47 incubation behavior might be one mechanism by  
48 which human recreation affects the reproductive  
49 success of American oystercatchers. While ATV  
50 traffic was positively associated with the rate of  
51 trips to and away from the nest, and negatively  
52 correlated with percent of time spent incubating,  
53 truck and pedestrian traffic had little measured

54 effect on incubation. Stolen (2003) studied the  
55 effects of passing vehicles on the foraging  
56 behavior of wading birds at the Merritt Island  
57 National Wildlife Refuge near Titusville, Florida,  
58 and found that foraging wading birds were more  
59 likely to be disturbed when vehicles slowed or  
60 stopped adjacent to them than when vehicles  
61 continued driving by. Experimental disturbance  
62 by a vehicle caused a significant depression in the  
63 foraging rates of the snowy egret (*Egretta thula*)  
64 and the great egret (*Ardea alba*) and non-  
65 significant reductions in foraging rates in the  
66 tricolored heron (*E. tricolor*). Nineteen percent of  
67 the birds flushed after being disturbed. Species  
68 reacted differently to disturbance as vehicles  
69 approached closer to nests. Tri-colored heron  
70 were the most sensitive to flushing; the great egret  
71 was intermediately sensitive; and the snowy egret  
72 was the least sensitive.

73  
74 In a study of shorebirds at South Core Banks,  
75 South Carolina, Tarr (2008) determined that  
76 vehicle disturbance influences shorebird use of  
77 ocean beach habitat for roosting during the  
78 nonbreeding season. This conclusion was based  
79 on the finding that shorebirds were abundant in  
80 areas where vehicle abundance was also relatively  
81 high, but their distribution among microhabitats  
82 was opposite that of vehicles. Vehicles were  
83 primarily located on dry sand, while shorebirds  
84 were typically found in the swash zone and wet  
85 sand microhabitats. When disturbance was  
86 introduced, microhabitat use shifted towards the  
87 swash zone. This study concluded that vehicle  
88 disturbance influences shorebird use of ocean  
89 beach habitat for roosting during the nonbreeding  
90 season. A study of the results of a ban on beach  
91 driving in 2001 on the South African coastline  
92 (Williams et al. 2004) found that in the first  
93 breeding season after the ban, there was an  
94 increase in breeding pairs for all five species in  
95 the study (two waders, two terns and a  
96 cormorant). Available data indicated that a 50-  
97 meter buffer distance around nests is adequate to  
98 prevent harassment of the majority of incubating  
99 piping plovers, as stated in the Piping Plover  
100 Revised Recovery Plan (USFWS 1996).  
101 However, fencing around nests should be  
102 expanded in cases where the standard 50-meter  
103 (164- foot) radius is inadequate to protect  
104 incubating adults or unfledged chicks from harm  
105 or disturbance. Impacts may result from species'  
106 inability to adapt to the pace of human

1 development. Loggerhead sea turtles, for instance,  
2 face many anthropogenic nesting threats,  
3 including beach armoring, beach nourishment,  
4 artificial lighting, commercial fishing, beach  
5 vehicular driving, and pollution (Nester 2006).

6  
7 Vehicles on the beach could negatively impact sea  
8 turtles by running over nests or nesting females,  
9 hatchlings, or stranded turtles that have washed  
10 ashore. In addition, ruts left by vehicles in the  
11 sand may prevent or impede hatchlings from  
12 reaching the ocean after they emerge from the  
13 nest. Hatchlings impeded by vehicle ruts are at  
14 greater risk of death from predation, fatigue,  
15 desiccation, and being crushed by vehicles. Sand  
16 compaction due to vehicles on the beach may  
17 hinder nest construction and hatchling emergence  
18 from nests. Driving directly over incubating egg  
19 clutches can cause sand compaction, which may  
20 decrease hatching success and directly kill pre-  
21 emergent hatchlings. Additionally, vehicle traffic  
22 on nesting beaches may contribute to erosion,  
23 especially during high tides or on narrow beaches  
24 where driving is concentrated on the high beach  
25 and foredune (USFWS 2008).

26  
27 Witherington (2003) cites challenges to  
28 loggerhead sea turtle (*Caretta caretta*)  
29 conservation: uncertainty over the historical  
30 abundance of loggerheads so that assessment of  
31 status can be made, and the incremental  
32 deterioration of suitable loggerhead nesting  
33 beaches through development (including coastal  
34 armoring and sources of beach lighting) and sea  
35 level rise. A 1996 report by the Florida  
36 Department of Environmental Protection explains  
37 that artificial lighting from a variety of sources on  
38 beaches tends to deter sea turtles from emerging  
39 from the sea to nest (Witherington and Martin  
40 1996). If sea turtles do nest on lighted beaches,  
41 hatchlings can be jeopardized as artificial lighting  
42 disrupts a critical nocturnal behavior of  
43 hatchlings, which will move toward artificial light  
44 sources instead of crawling from their nest to the  
45 sea. Artificial lighting has also been found to  
46 deter sea turtles from emerging from the water to  
47 nest. The increase of false crawls on ORV  
48 beaches may cause nesting turtles to expend  
49 additional energy. This energy could be put into  
50 egg production or growth. To evaluate the effect  
51 of driving ORVs on nesting activity, Nester  
52 (2006) compared driven and non-driven beaches,  
53 data on beach slope, sand compaction, beach

54 width, sand color, sand grain size, moisture  
55 content, incubation temperature, and pedestrian  
56 activity collected during the 2005 nesting season  
57 at Cape Lookout National Seashore, Cape  
58 Hatteras National Seashore, and Pea Island  
59 Wildlife Refuge, North Carolina. The study found  
60 that light intensities presented a significant factor  
61 in determining nesting or false crawls. False  
62 crawls were more likely on ORV beaches where  
63 light intensities from vehicles were found to be  
64 greater than those on non-ORV beaches. A  
65 resulting decline of 20% in production of female  
66 loggerhead turtles was estimated at these  
67 locations. Recommendations for mitigating the  
68 impacts of artificial lighting on sea turtles  
69 included installing timers and monitoring devices  
70 to minimize unnecessary lighting (Witherington  
71 and Martin 1996).

72  
73 ORV tracks interfere with the ability of hatchling  
74 loggerhead turtles to reach the ocean. By  
75 observing newly-hatched loggerhead turtles which  
76 were released to the intertidal beaches at Fort  
77 Fisher Beach in southeastern North Carolina and  
78 Cape Lookout Beach in coastal North Carolina,  
79 Hosier and others (1981) determined the effect of  
80 ORV tracks on the behavior and rate of sea-  
81 approach of these turtles. The extended period of  
82 travel required to negotiate suitable paths to the  
83 surf, together with the tendency to invert, may  
84 increase the susceptibility of loggerhead turtles to  
85 stress and predation during transit to the ocean  
86 when hatching on ORV-impacted beaches. Tracks  
87 in the sand may change the micro-topography as  
88 much as 10–15 centimeters (3.9–5.9 inches),  
89 which may serve as a significant impediment to  
90 the movement of hatchling turtles to the sea.  
91 Moreover, vehicle tracks generally run parallel to  
92 the beach, and can result in distances of 10–20  
93 meters (33–66 feet) where hatchlings cannot  
94 successfully negotiate such barriers, especially in  
95 coarse sands. At Cape San Blas, Florida, near  
96 Eglin Air Force Base, Cox and others (1994)  
97 examined hatchling tracks and observed four  
98 instances of sea turtle hatchlings being  
99 disorientated. Vehicle tracks were thought to be a  
100 contributing factor at two sites, causing some  
101 hatchlings to make a perpendicular diversion of  
102 more than 91 meters (300 feet) en route to the sea.  
103 Some hatchling tracks ended within vehicle  
104 tracks, which suggests that vehicle tracks may  
105 lengthen the time of critical exposure to beach  
106 predators, particularly ghost crabs.

1  
2 **Soils/Dune Ecosystems**  
3

4 Several studies of ORV impacts to coastal soils  
5 have focused on comparisons of soil  
6 characteristics between high-traffic areas versus  
7 non-traffic areas. One such study (Hosier and  
8 Eaton 1980) compared two barrier beaches in  
9 southeastern North Carolina. Less vegetation  
10 cover and fewer species were present on both  
11 dunes and grassland areas with vehicular traffic.  
12 To illustrate this, when quadrants containing  
13 vehicle tracks were removed from the analysis,  
14 the average vegetative cover of the dunes on the  
15 impacted beaches increased to that of the non-  
16 impacted beaches. The soil was also more  
17 compact where vehicular traffic had been most  
18 intense and where, it was suggested, this  
19 compaction may have been contributing to  
20 increasing salt flats in the area. Similarly, results  
21 of experimental testing of ORV impacts to coastal  
22 ecosystems of Cape Cod National Seashore  
23 between 1974 and 1977 (Leatherman and Godfrey  
24 1979) showed that the ecosystem most resistant to  
25 long-term vehicle impact was the intertidal ocean  
26 beach, while the most easily damaged were areas  
27 protected from the direct ocean waves by barrier  
28 dunes or other upland features (such as salt  
29 marshes and sand flats). ORV effects are longest  
30 lasting farthest from the source of new sand; the  
31 areas farthest away from new sand promote  
32 optimal growth of grasses. More specifically, the  
33 effects of vehicles on dunes depended on the  
34 portion of the dune that was impacted. At dune  
35 edges, fewer than 100 vehicle passes stopped  
36 seaward growth of grass. In the foredune region, a  
37 relatively low number of passes (50–200) reduced  
38 plant biomass to very low levels. Recovery of the  
39 grasses on the dunes varied with the exact  
40 location of the vehicle tracks. On the foredunes,  
41 where grass growth is lush and rapid due to fresh  
42 sand input, the impacted sites were almost  
43 completely recovered after three growing seasons.  
44 Findings demonstrated that environments that  
45 undergo the greatest physical changes, such as the  
46 intertidal ocean beach, appear to have the greatest  
47 tolerance to vehicle traffic.

48  
49 Studies on barrier islands have shown that  
50 although infrequent travel over dune vegetation  
51 had noticeable immediate impacts, permanent  
52 damage was ultimately caused by repeated travel  
53 over the same tracks (Judd et al. 1989). Impacts of

54 historic ORV use at Gulf Islands National  
55 Seashore included denudation of coastal dunes  
56 and resulting blowouts and interior flooding,  
57 which have flattened the interior island  
58 topography; and the creation of trails that  
59 contribute to erosion, further narrowing the island  
60 (Shabica 1979). In a similar study at Fire Island  
61 National Seashore in New York, Anders and  
62 Leatherman (1987) found that vehicular passage  
63 over the open beach displaces sand seaward and  
64 that ORV use levels could be contributing to the  
65 overall erosion rate by delivering large quantities  
66 of sand to the swash zone and affecting dune  
67 topography. Vehicle traffic resulted in a  
68 maximum of 0.75 meters (2.5 feet) of deposition  
69 in the zone of actual impact and a slight reduction  
70 in the elevation of the foredune. The results of 89  
71 field experiments to examine the effects of ORVs  
72 on the beach showed that slope, sand compaction,  
73 and the number of vehicle passes in the same  
74 track were the principal factors controlling the  
75 measured net seaward displacement of sand.

76  
77 Investigations made between 1973 and 1974  
78 found beach and foredune areas of North Padre  
79 Island along the mid-Texas coast to be greatly  
80 modified by vehicular traffic (McAtee and Drawe  
81 1981). The primary effects were reduced ground  
82 cover and reduced species diversity of vegetation  
83 in the foredune areas. As the intensity of human  
84 activity increased, dune elevation decreased.  
85 Increasing human activity also correlated to  
86 higher observed evaporation, soil pH, soil  
87 temperature, average wind velocity, atmospheric  
88 and soil salinity, and wind-carried sand particles  
89 near the ground surface.

90  
91 Liddle and Grieg-Smith (1975) demonstrated that  
92 below 18-centimeter (7-inch) depths, soils became  
93 less compacted as a result of vehicle use. But a  
94 study of vehicle impacts to sandy beaches on the  
95 east coast of Australia (Schlachter and Thompson  
96 2006) found that ORVs corrugated sand as deep  
97 as 28 centimeters (11 inches), with the deepest  
98 rutting occurring between the foredunes and the  
99 drift line. Off-road vehicles in this study were  
100 capable of disrupting from 5.8% to 9.4% of the  
101 available faunal habitat matrix (the top 30  
102 centimeters [11.8 inches] of the sand which  
103 contain the necessary conditions to support the  
104 study fauna) in a single day and routinely  
105 disturbed the drift line and the base of the  
106 foredunes. Belnap (1995) cited several causes of

1 desertification from off-road vehicle use,  
2 including soil compaction resulting in decreased  
3 water availability to vascular plants through  
4 decreased water infiltration. Soil loss can be  
5 further accelerated by wind and water erosion and  
6 decreased diversity and abundance of soil biota.

## 8 **Vegetation and Invasive Species**

10 Numerous studies describe the impacts of ORVs  
11 on vegetative communities, including both direct  
12 and indirect damage to vegetation by vehicle use.  
13 Research conducted in the late 1970s at Cape Cod  
14 National Seashore on the ecologic and  
15 geomorphic effects of ORVs on coastal  
16 ecosystems concluded that there is no “carrying  
17 capacity” for vehicular impact on coastal  
18 ecosystems, and even low-level impacts can result  
19 in severe environmental degradation. The most  
20 naturally unstable areas, such as the intertidal  
21 ocean beach, tend to be the least susceptible to  
22 damage due to the rapid pace of natural  
23 environmental change and recovery in these areas.  
24 Dunes can be quickly devegetated by vehicular  
25 passage, resulting in blowouts and sand migration.  
26 Of all the ecosystems evaluated, salt marshes and  
27 intertidal sand flats are the least tolerant of ORV  
28 impacts and should be closed to all vehicle traffic  
29 (Leatherman and Godfrey 1979). Similarly results  
30 were demonstrated in an experimental testing of  
31 ORV traffic on coastal ecosystems of Cape Cod  
32 National Seashore between 1974 and 1977  
33 (Godfrey et al. 1978). As detailed in the  
34 Soils/Dune Ecosystems section, this study found  
35 that even a relatively low number of vehicle  
36 passes can reduce plant biomass to very low  
37 levels in the foredune area.

39 At Cape Hatteras National Seashore, potential  
40 habitat for the seabeach amaranth includes coastal  
41 overwash flats at the accreting ends of the islands  
42 and lower foredunes and on ocean beaches above  
43 mean high tide (occasionally on sound-side  
44 beaches). In its known range, it often grows in the  
45 same areas selected for nesting by shorebirds such  
46 as plovers, terns, and skimmers. Intensive  
47 recreational use, both vehicular and pedestrian, is  
48 one factor that threatens the plant’s survival. Its  
49 stems are easily broken or crushed by foot traffic  
50 and tires, thus, even minor traffic can be  
51 detrimental during the growing season (USSWS  
52 1996).

54 Hosier (1980) cites several cases at the Seashore  
55 where vehicle impacts to vegetation have  
56 occurred, such as at Oregon and Ocracoke inlets  
57 where vehicle traffic has compacted sediments  
58 along the unvegetated portions of the beach and  
59 near Ocracoke Inlet. In these areas, sand flat  
60 vegetation has been altered by ORV tracks and  
61 chronic operation of ORVs has kept natural  
62 stabilizing vegetation from invading the flats.

64 A study of vehicle impacts to coastal dunes at Fire  
65 Island National Seashore, in which vegetation was  
66 monitored in both an experimental field test and a  
67 control before and after experimental vehicle  
68 impacts, revealed that low-level ORV use (one  
69 pass per week) is severely damaging to natural  
70 dune vegetation, and that a steepening of the dune  
71 profile occurred in the impacted zones due to  
72 higher rates of ORV-related erosion (Anders and  
73 Leatherman 1987). Another study of the response  
74 of grassy vegetation and soils of coastal sand  
75 dunes to varying degrees of vehicle use in  
76 Australia found that some species of grassy  
77 vegetation demonstrated decline, while others  
78 increased under moderate use (Liddle and Grieg-  
79 Smith 1975). The researchers also noted that  
80 while damage to plant shoots by vehicles was  
81 detrimental to plants, soil compaction alone could  
82 be beneficial in the sand dune habitat due to roots  
83 gaining greater access to higher moisture retaining  
84 soils beneath trampled areas. Similarly, results of  
85 a study at Cape Cod National Seashore, in which  
86 unstabilized and moderately stabilized dune sites  
87 were driven at varying levels of intensity,  
88 suggested that a single summer season of driving  
89 (300–700 passes) on a confined track through  
90 grass vegetation can completely destroy the  
91 above-ground portions but leave adequate  
92 underground roots and rhizomes for a small  
93 amount of vegetative regrowth after driving  
94 season ends in the late summer and fall (Brodhead  
95 and Godfrey 1977).

97 Three studies reviewed involved direct  
98 examination of vehicles to determine if they were  
99 potential distributors of exotic plant seeds. Osborn  
100 and others (2002) discuss a study that investigated  
101 the potential for seed transport into Kakadu  
102 National Park in Australia by means of tourist  
103 vehicles. The study concluded that vehicles were  
104 partially responsible for weed seed dispersal, but  
105 the low density of seeds found on the vehicles did  
106 not warrant the park taking preventative action.

1 Another study (Rooney 2005) compared soil  
2 samples taken from the undercarriage of ORVs to  
3 field surveys for seven invasive species in  
4 forested areas of Wisconsin. No evidence of  
5 actual invasive plant dispersal was noted;  
6 however, because invasive plants have seed traits  
7 that predispose them to dispersal, the study found  
8 that ORVs may occasionally contribute to long-  
9 distance dispersal events. This is further  
10 supported by a study conducted by the Montana  
11 Weed Control Association (Trunkle and Fay  
12 1991), which involved driving a vehicle 40 feet  
13 into a vegetated plot and then to various distances  
14 from the plot. Afterwards, plant material  
15 (including spotted knapweed (*Centaurea stoebe*)  
16 seeds) was collected from the undercarriage. At  
17 Cape Lookout National Seashore, Hosier (1980)  
18 found that deep ORV tracks trapped seeds of sea  
19 oats as they were blown across the beach. The  
20 captured seeds were then buried and began  
21 germination, but the vehicles subsequently  
22 churned up the sand and exposed the roots, thus  
23 destroying the plants.

24  
25 Lathrop (1983) found that in arid regions direct  
26 vehicle impacts constituted the primary means of  
27 vegetative destruction. The study showed that  
28 areas beyond the vehicle track width were also  
29 affected, although the degree of impact varied  
30 with conditions and intensity of vehicle use. The  
31 study demonstrated that concentrated current or  
32 recent use in localized areas (such as heavy  
33 weekend use) created the greatest reduction in  
34 vegetative cover. Also in a study of desert  
35 environments, Wilshire (1983) found that even a  
36 single pass of an ORV could destroy many types  
37 of annual and some perennial plants, although  
38 hundreds of passes may be required to destroy  
39 tough, deep-rooted shrubs.

#### 41 **Aesthetics/Sound**

42  
43 ORV use influences the character of the wild  
44 landscape and can result in conflicts between  
45 ORV users and other recreational users. With  
46 regard to ORV noise-related impacts to park  
47 resources, attempts have been made to qualify  
48 how visitor experiences in national parks are  
49 affected by the addition of mechanical versus  
50 natural sound that may come from ORV or other  
51 motorized vehicle use such as personal watercraft  
52 (PWC). A limited amount of study has been  
53 undertaken regarding ORV use and its impacts to

54 soundscapes in NPS units. Studies related to air  
55 tours and PWC are available but not directly  
56 relevant to ORV use at Cape Hatteras National  
57 Seashore.

58  
59 Gramann (1999) used many approaches to garner  
60 information from visitors about sound in NPS  
61 units to formulate a more precise picture of  
62 human reactions to sound. Overall, results showed  
63 that park users identify natural sounds as more  
64 enjoyable than mechanical sounds, but  
65 mechanical sounds do not always interfere with  
66 the user's experience. Visitor experience and  
67 sensitivity to mechanical sound are dependent on  
68 visitor expectations, group size, front or  
69 backcountry experience, and activity type. For  
70 example, a visitor in a group of three or more  
71 visiting a park for the first time in the front  
72 country and taking pictures may not be as  
73 sensitive to mechanical sounds as a lone hiker in  
74 the backcountry. People are generally tolerant of  
75 certain noise disturbances if they perceive them as  
76 necessary (e.g., helicopters conducting fire  
77 suppression activities). In this sense, the Gramann  
78 study indicated that it is important for sounds to  
79 be consistent with the visual setting within which  
80 they are heard. Variable noise disturbances may  
81 be more readily tolerated depending on the  
82 observer's perception of the setting. As a result,  
83 from a management perspective, some scenic  
84 overlooks and short front country trails may not  
85 require as much protection as backcountry locales  
86 where preserving the experience of natural sound  
87 is paramount to overall visitor experience  
88 (Gramann 1999).

#### 90 **Archeological Resources**

91  
92 Whether it is intentional or inadvertent, ORV use  
93 has the potential to affect archeological resources  
94 on public lands (BLM 2000; Lyneis et al. 1980;  
95 Schiffman 2005; Sowl and Poetter 2004; SUWA  
96 2002). Direct impacts result from the damage or  
97 destruction that occurs when ORVs drive over  
98 and/or near archeological sites. Site integrity, a  
99 necessary element for listing a cultural resource  
100 on the National Register of Historic Places, is also  
101 affected by the visible changes caused by vehicle  
102 tracks and erosion (Sowl and Poetter 2004).  
103 Studies conducted in the California desert note  
104 that ORVs provide access to previously  
105 inaccessible, remote areas as ORV users explore  
106 new terrain (Lyneis et al. 1980). According to the

1 BLM, this leads to increased visitation to lands  
2 previously used only by small numbers of hikers,  
3 and increases the intentional and inadvertent  
4 damage of archeological resources through  
5 surface disturbances (BLM 2000). ORVs have  
6 also enabled collectors and pothunters to reach  
7 these remote areas, which facilitates greater  
8 archeological resource damage from intentional  
9 collection and vandalism (BLM 2000; Schiffman  
10 2005; Lyneis et al. 1980; SUWA 2002).

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As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public land and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is on the best interests of all our people by encouraging Stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

NPS 348/106627 May 2012/Printed on recycled paper

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