

Chapter 1

PURPOSE AND NEED FOR A GENERAL MANAGEMENT PLAN



Photo by: NPS Resource Management Staff

Buck Island

Buck Island Reef National Monument
Draft General Management Plan/
Environmental Impact Statement

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CHAPTER 1 PURPOSE AND NEED FOR A GENERAL MANAGEMENT PLAN

A GUIDE TO THIS DOCUMENT

Organization of this document is in accordance with the Council on Environmental Quality's implementing regulations for the National Environmental Policy Act and the National Park Service's Director's Order on "Environmental Analysis" (DO-12). Each of the five chapters is briefly described below.

Chapter 1: Introduction sets the framework for this document. This chapter provides a description of the park, why the plan is being prepared, and what needs it must address. It gives guidance for the alternatives that are considered, which are based on the legislated mission of Buck Island Reef National Monument, its purpose, the significance of its resources, special mandates and administrative commitments, servicewide mandates and policies, and other planning efforts in the area. The chapter also details the planning opportunities and issues raised during public meetings and planning team efforts. This chapter concludes with a statement of the scope of the environmental impact analysis — specifically, what impact topics were or were not analyzed in detail.

Chapter 2: Alternatives, including the preferred alternative, begins by describing the management prescriptions and zones developed for the future management of Buck Island Reef National Monument. An overview of how the alternatives were developed and a description of each alternative are provided. Alternative A is the continuation of current management and trends in the park (or the No Action Alternative). Alternatives B, C, and D are the action alternatives. These alternatives respond to presidential proclamation expanding the park and designation as a "no take" Marine Reserve. The environmentally preferred alternative is also described.

Mitigation measures proposed to minimize or eliminate the impacts of some proposed actions are described just before the discussion of future studies and/or implementation plans that will be needed. Evaluation of the environmentally preferred alternative is followed by a summary table of the alternative actions and the environmental consequences of implementing those alternative actions.

Chapter 3: Affected Environment describes those areas and resources that would be affected by implementing actions in the various alternatives. The topics addressed include natural resources, cultural resources, visitor use and experience, and park operations.

Chapter 4: Environmental Consequences analyzes the impacts of implementing the alternatives. Each impact topic described in Chapter 3 is analyzed. Methods used for assessing the impacts in terms of the intensity, type, and duration of each impact topic are outlined.

Chapter 5: Consultation and Coordination describes the history of public involvement and agency coordination conducted during the planning effort. Agencies and organizations that received copies of the document are also listed.

The Appendices present supporting information for the document, along with references, a glossary of terms, legislation, and pertinent supporting documentation.

INTRODUCTION

This *Draft General Management Plan / Environmental Impact Statement* presents and analyzes four alternative directions for future management and use of Buck Island Reef National Monument. Alternative B is the National Park Service's (hereafter referred to as NPS) preferred alternative. The potential environmental impacts of all alternatives have been identified and assessed.

General management plans are intended to be long-term documents that establish and articulate a management philosophy and framework for decision making and problem solving in national parks. General management plans are intended to provide guidance over a 20-year period.

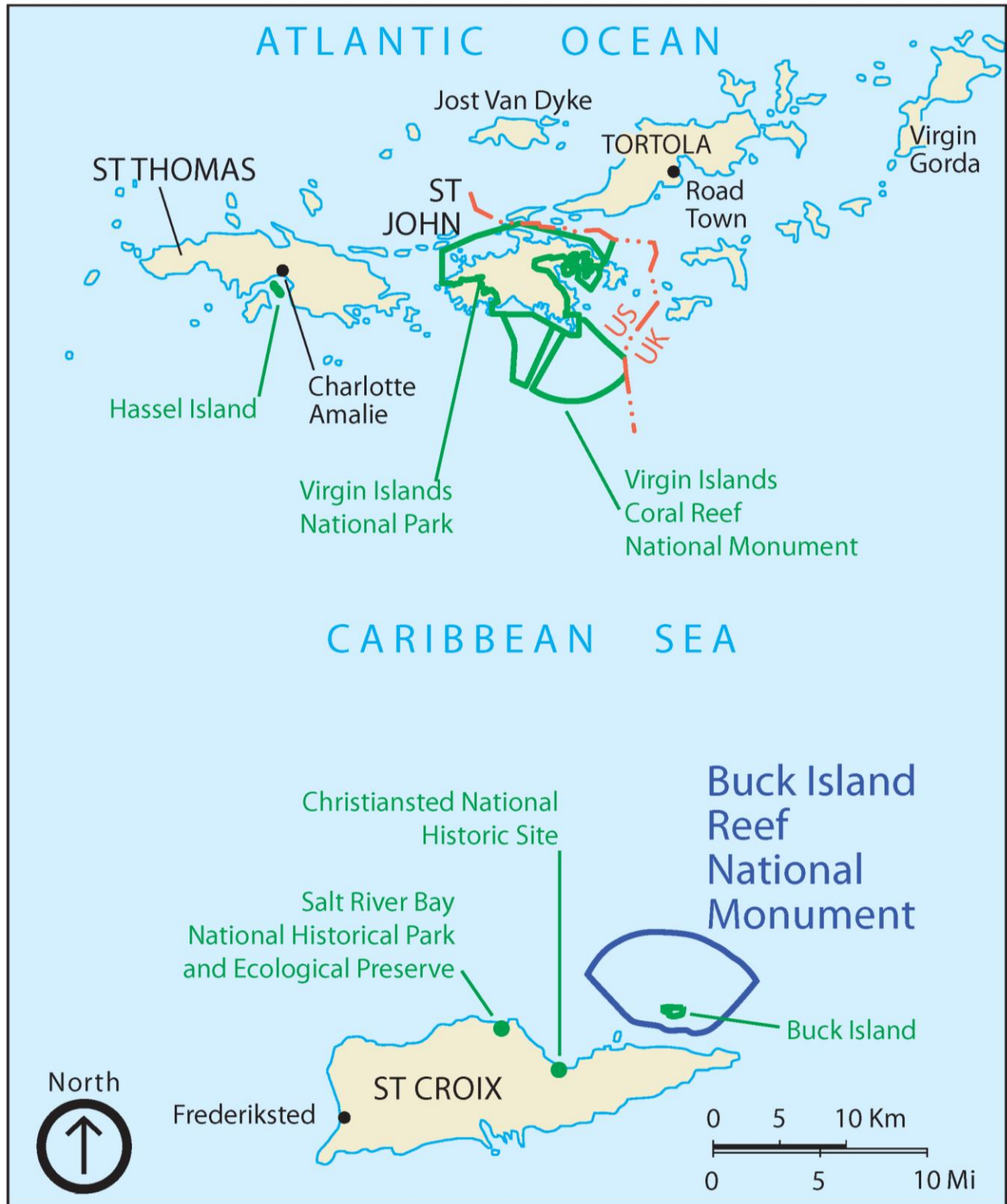
The detailed actions directed by general management plans or in subsequent implementation plans are intended to be accomplished over time. Implementation of the approved plan will depend on future funding and servicewide priorities. Approval of this *General Management Plan* does not guarantee that funding and staffing needed to implement the plan will be forthcoming. It is likely that all capital improvements will not be totally implemented during the life of this plan. Larger capital improvements may be phased over several years, and full implementation of this plan could be many years into the future.

The term *park* is used to refer to all units of the National Park System, including national monuments. The terms *park* or *monument* are used throughout this document to refer to Buck Island Reef National Monument.

Brief Description of Buck Island Reef National Monument

Buck Island Reef National Monument consists of approximately 19,015 land and water acres north of the island of St. Croix in the U.S. Virgin Islands (Figure 1). The monument originally consisted of approximately 176 acres of land and 704 acres of water. It was established in 1961 by Presidential Proclamation (No. 3443) for the purpose of “protecting Buck Island and its adjoining shoals, rocks, and undersea coral reef formations” and to preserve “one of the finest marine gardens in the Caribbean Sea” for the benefit and enjoyment of the people and to protect it from “despoliation and commercial exploitation.” In 1975, 30 acres of submerged lands east of the underwater trail area were added by Presidential Proclamation (No. 4346). Under the U.S. Coral Reef Initiative, the monument was expanded in 2001 by Presidential Proclamation (No. 7392) to include submerged lands totaling 19,015 acres, to bring into the monument “additional objects of scientific and historic interest, and provide necessary further protection for the resources of the existing monument and prohibit all extractive uses.” The expanded park and boundary are shown on Figure 2. The park is now one of only a few fully protected “no-take” marine reserves in the national park system.

An interim rule (36 Code of Federal Regulations Part 7) was published in the Federal Register on April 4, 2003 (effective May 5, 2003) prohibiting extractive uses (fishing, taking whelk, conch, lobster, etc.) and anchoring except in designated areas of deep sand by permit or in the event of emergencies (all other anchoring subject to permit), or for administrative purposes. The interim rule remains in effect until final regulations are adopted upon completion of this General Management Plan. The interim rule codifies the prohibition of extractive uses as outlined in Proclamation No. 7392 of 2001, and therefore, supersedes the limited authorization for extractive uses included in the proclamation of December 28, 1961 (No. 3443). Pertinent park legislation is provided in Appendix A.



Regional Location Map

Figure 1

Buck Island Reef National Monument
U.S. Department of the Interior - National Park Service





Figure 2

Map of Buck Island Reef National Monument
 Buck Island Reef National Monument
 U.S. Department of the Interior - National Park Service

The park's outstanding resources provide ample opportunities for education and scientific research. The 176-acre Buck Island and 18,035-acre surrounding coral reef and marine environment support a large variety of native terrestrial and marine species. Many threatened and endangered species use and live in the waters within the monument, including migratory humpback and pilot whales, dolphins, brown pelicans, least terns, and four species of sea turtles.

Buck Island will be one of two federally protected areas that will support the federally endangered St. Croix ground lizard re-introduced to the park in 2007. The park, established for its elkhorn coral barrier reef that surrounds two-thirds of the island, now includes extensive habitat (over 4,000 acres) for two listed species of coral: elkhorn and staghorn, unique coral formations, and an extensive array of reef fishes and marine invertebrates. The park also contains important cultural resources, including remains from prehistoric occupation and use (ceramic and shell middens), wrecks of two eighteenth century slave ships—the Mary and General Abercrombie—and archeological sites from Danish rule in the eighteenth and nineteenth centuries.

PURPOSE OF THE GENERAL MANAGEMENT PLAN

The approved *General Management Plan* will be the basic document for managing Buck Island Reef National Monument for the next 20 years. The purposes of this *General Management Plan* are as follows:

- Confirm the purpose, significance, and special mandates of Buck Island Reef National Monument.
- Clearly define future resource conditions and visitor uses and experiences to be achieved for Buck Island Reef National Monument.
- Provide a framework for managers to use when making decisions about how to best protect Buck Island Reef National Monument's resources; how to provide quality visitor uses and experiences; how to manage visitor use; and what kinds of facilities, if any, to develop in/near Buck Island Reef National Monument.
- Ensure that this foundation for decision making has been developed in consultation with interested stakeholders and adopted by NPS leadership after an adequate analysis of the benefits, impacts, and economic costs of alternative courses of action.

The legislation that established the NPS as an agency provides fundamental direction for the administration of Buck Island Reef National Monument (and other units and programs of the national park system). This *General Management Plan* builds on existing laws and the legislation that established Buck Island Reef National Monument to provide a vision for the park's future. The "Servicewide Mandates and Policies" section of this *General Management Plan* calls the reader's attention to topics that are important to understanding the management direction for the park. Table 1 summarizes the topics and conditions that management is striving to achieve. Appendix B provides more detail on the laws or policies directing management actions. The alternatives in this *General Management Plan* address the desired conditions that are not mandated by law or policy and must be determined through a planning process.

Table 1. Desired Conditions and Applicable Laws and Policies Summarized by Impact Topic

TOPIC	DESIRED CONDITIONS	APPLICABLE LAWS AND POLICIES
Relations with Private and Public Organization, Owners of Adjacent Land, and Governmental Agencies	<p>The Buck Island Reef National Monument is managed as part of a greater ecological, social, economic, and cultural system.</p> <p>Good relations are maintained with the surrounding communities, agencies, 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.</p> <p>Because Buck Island Reef National Monument is an integral part of larger regional environment, the NPS works cooperatively with others to anticipate, avoid, and resolve potential conflicts, and protect Buck Island Reef National Monument resources. Regional cooperation involves territorial, federal, and local agencies, and all other concerned parties.</p>	<p>NPS Management Policies</p> <p>NPS Organic Act</p> <p>Director's Order 17: NPS Tourism</p> <p>Director's Order 75A: Civic Engagement and Public Involvement</p>
Natural Resources		
General Natural Resources / Restoration	<p>Native species populations that have been severely reduced in or extirpated from Buck Island Reef National Monument are restored where feasible and sustainable.</p> <p>Populations of native plant and animal species function in as natural condition as possible except where special considerations are warranted.</p>	<p>NPS Management Policies</p> <p>NPS Organic Act</p> <p>Executive Order 13112</p> <p>40 CFR par 24</p> <p>Director's Order 77: Natural Resource Management Reference Manual</p>
Natural Lightscape / Night Sky	<p>Excellent opportunities to see the night sky are available. Artificial light sources, both within and outside Buck Island Reef National Monument, do not unacceptably adversely affect opportunities to see the night sky.</p>	<p>NPS Management Policies</p> <p>NPS Organic Act</p> <p>Director's Order 13A: Environmental Management Systems</p>
Soundscape	<p>Park natural soundscape resources encompass all natural sounds, including the physical capacity for transmitting those natural sounds and the interrelationships among park natural sounds of different frequencies and volumes. The NPS will preserve, to the greatest extent possible, the natural soundscape of the park.</p>	<p>NPS Management Policies</p> <p>NPS Organic Act</p> <p>36 CFR 2.12: Audio Disturbances</p> <p>Director's Order 47: Sound Preservation and Noise Management</p>
Native Vegetation and Wildlife	<p>The NPS will maintain as parts of the natural ecosystem, all native plants and wildlife in the park.</p>	<p>NPS Management Policies</p> <p>NPS Organic Act</p> <p>Migratory Bird Treaty Act</p> <p>Executive Order 13112</p> <p>40 CFR part 24</p> <p>National Invasive Species Act of 1996</p> <p>Director's Order 77: Natural Resource Management Reference Manual</p>

Table 1. Desired Conditions and Applicable Laws and Policies Summarized by Impact Topic (Continued)

TOPIC	DESIRED CONDITIONS	APPLICABLE LAWS AND POLICIES
Marine Resources	<p>Natural resources will be managed to preserve fundamental physical and biological processes, as well as individual species, features, and plant and animal communities.</p> <p>A “no take” marine reserve will be managed to enhance the conservation of our Nation’s natural and cultural marine heritage and the ecologically and economically sustainable use of the marine environment for future generations.</p>	<p>NPS Management Policies NPS Organic Act Clean Water Act Rivers and Harbors Appropriation Act of 1899 Coastal Zone Management Act of 1972 Magnuson-Stevenson Fisheries Management and Conservation Act Marine Mammal Protection Act of 1972 Clean Vessel Act of 1992 National Invasive Species Act of 1996 Marine Protection, Research and Sanctuaries Act Migratory Marine Game-Fish Act Fish and Wildlife Coordination Act Coral Reef Conservation Act of 2000 Federal Aid in Sport Fish Restoration Act Executive Orders: 13089, 13158, 13352 Director’s Order 77:Natural Resource Management Reference Manual Virgin Islands Code (various titles/chapters, primarily Title 12)</p>
Soils / Sand	<p>The NPS actively seeks to understand and preserve the soil and sand resources of Buck Island Reef 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.</p> <p>Natural soil and sand resources and processes function in as natural a condition as possible, except where special considerations are allowable under policy.</p>	<p>NPS Management Policies NPS Organic Act Coastal Zone Management Act Virgin Islands Code, Title 12 Section 910</p>
Threatened and Endangered Species	<p>Federal and territory-listed threatened and endangered species and their habitats are protected and sustained.</p> <p>Native threatened and endangered species populations that have been severely reduced in or extirpated from the Buck Island Reef National Monument are restored where feasible and sustainable.</p>	<p>NPS Management Policies NPS Organic Act Endangered Species Act Virgin Islands Code, Title 12, Chapter 2</p>
Water Resources	<p>Surface water and groundwater are protected, and water quality meets or exceeds all applicable water quality standards.</p> <p>NPS and NPS-permitted programs and facilities are maintained and operated to avoid pollution of surface water and groundwater.</p>	<p>Clean Water Act of 1972 NPS Organic Act Executive Order 11514 NPS Management Policies Clean Vessel Act of 1992 Executive Order 12088 Director’s Order 83: Public Health</p>

Table 1. Desired Conditions and Applicable Laws and Policies Summarized by Impact Topic (Continued)

TOPIC	DESIRED CONDITIONS	APPLICABLE LAWS AND POLICIES
Wetlands	<p>The natural and beneficial values of wetlands are preserved and enhanced.</p> <p>The NPS 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.</p> <p>The NPS 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.</p> <p>The NPS compensates for remaining unavoidable adverse impacts on wetlands by restoring wetlands that have been previously degraded.</p>	<p>NPS Management Policies</p> <p>NPS Organic Act</p> <p>Clean Water Act</p> <p>Rivers and Harbors Appropriation Act of 1899</p> <p>Executive Order 11990</p> <p>Director’s Order 77-1: Wetland Protection</p>
Cultural Resources		
Archeological Resources	<p>Archeological sites are identified and inventoried and their National Register of Historic Places significance is determined and documented.</p> <p>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 mitigating measures for register-eligible sites are developed in consultation with the Virgin Islands State Historic Preservation Office and the Advisory Council on Historic Preservation (as appropriate). Mitigation may include a variety of measures ranging from avoidance to data recovery, and is generally included in a memorandum of agreement.</p> <p>Artifacts, materials, and records resulting from data recovery are curated and conserved as provided for in 36 Code of Federal Regulations 79. Some archeological sites that can be adequately protected may be interpreted to visitors.</p> <p>These requirements are specified in Director’s Order 28, 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.</p>	<p>NPS Management Policies</p> <p>NPS Organic Act</p> <p>National Historic Preservation Act</p> <p>National Environmental Policy Act</p> <p>National Parks Act of August 25, 1916</p> <p>The Antiquities Act of 1906</p> <p>Archeological and Historic Preservation Act; Standards and Guidelines for Federal Agency Historic Preservation Programs pursuant to the National Historic Preservation Act (63 FR 20495-20508)</p> <p>Archaeological Resources Protection Act</p> <p>Executive Order 11590</p> <p>Executive Order 13007</p> <p>36 CFR 800</p> <p>36 CFR 79</p> <p>Director’s Order #4: Diving Management</p> <p>Director’s Order #12: Conservation Planning, Environmental Impact Analysis, and Decision-making and its accompanying Handbook</p> <p>Director’s Order #28: Cultural Resource Management Guidelines</p> <p>Abandoned Shipwreck Act Guidelines</p> <p>Nationwide Programmatic Agreement to Implement Section 106 under the NHPA of 1966 (2008)</p> <p>Secretary of the Interior’s Standards and Guidelines for Archeology and Historic Preservation (1983)</p> <p>NPS Cultural Resource Management</p>

Table 1. Desired Conditions and Applicable Laws and Policies Summarized by Impact Topic (Continued)

TOPIC	DESIRED CONDITIONS	APPLICABLE LAWS AND POLICIES
		Handbook U.S. Virgin Islands Antiquities and Cultural Properties Act (Act No. 6234, Bill No. 22-0112 to amend Title 29 of the Virgin Islands Code)
Historic Structures	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 the Treatment of Historic Properties (36 Code of Federal Regulations 68)</i> , (unless it is determined through a formal process that disturbance or natural deterioration is unavoidable).	NPS Management Policies NPS Organic Act National Historic Preservation Act National Environmental Policy Act National Parks Act of August 25, 1916 The Antiquities Act of 1906 Archeological and Historic Preservation Act; Standards and Guidelines for Federal Agency Historic Preservation Programs pursuant to the National Historic Preservation Act (63 FR 20495-20508) Executive Order 11590 Executive Order 13007 36 CFR 800 Director's Order #4: Diving Management Director's Order #28: Cultural Resource Management Guidelines Nationwide Programmatic Agreement to Implement Section 106 under the NHPA of 1966 (2008) Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (1983) Abandoned Shipwreck Act Guidelines NPS Cultural Resource Management Handbook U.S. Virgin Islands Antiquities and Cultural Properties Act (Act No. 6234, Bill No. 22-0112 to amend Title 29 of the Virgin Islands Code)
Ethnographic Resources	All ethnographic resources determined eligible for listing or listed on the National Register of Historic Places are protected. If disturbance of such resources is unavoidable, formal consultation with the Advisory Council for Historic Preservation and, as appropriate, with the state historic preservation officer is conducted. This consultation is in accordance with the National Historic Preservation Act and the Advisory Council for Historic Preservation implementing regulations and programmatic agreement.	NPS Management Policies NPS Organic Act National Historic Preservation Act Archaeological Resources Protection Act National Environmental Policy Act Director's Order 28B: Ethnography Program
Museum Collections	All museum collections such as artifacts, specimens, field notes, and manuscripts are documented,	NPS Management Policies NPS Organic Act

Table 1. Desired Conditions and Applicable Laws and Policies Summarized by Impact Topic (Continued)

TOPIC	DESIRED CONDITIONS	APPLICABLE LAWS AND POLICIES
	<p>inventoried, catalogued, preserved, and protected, and provision is made for their access to and use for exhibits, research, and interpretation.</p> <p>The qualities that contribute to the significance of collections are protected in accordance with established standards.</p>	<p>Museum Act of 1955 as amended, 16 USC 18f, 18f-2—18f-3</p> <p>36 CFR 79</p> <p>Director's Order 24: NPS Museum Collections Management</p> <p>NPS Museum Handbook</p>
Cultural Landscapes	<p>Cultural landscape inventories are conducted to identify landscapes potentially eligible for listing in the National Register, and to assist in future management decision for landscapes and associated resources, both cultural and natural. The preservation, rehabilitation, restoration, or reconstruction of cultural landscapes is undertaken in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes and 2006 Management Policies.</p>	<p>NPS Management Policies</p> <p>NPS Organic Act</p> <p>National Historic Preservation Act (Sections 106 and 110)</p> <p>National Park's Act of August 15, 1916</p> <p>Executive Order 11593</p> <p>36 CFR 800</p> <p>Director's Order 28: Cultural Resource Management Guideline</p> <p>Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Treatment of Cultural Landscapes (1992)</p> <p>Programmatic MOA among the NPS, Advisory Council on Historic Preservation, and the National Council of State Historic Preservation Officers (1995)</p>
Visitor Use and Experience		
Visitor Use and Experience	<p>Buck Island Reef National Monument resources are conserved "unimpaired" for the enjoyment of future generations. Visitors have opportunities for forms of enjoyment that are uniquely suited and appropriate to the superlative natural and cultural resources found in the Buck Island Reef National Monument. No activities occur that would cause derogation of the values and purposes for which the park has been established.</p> <p>The types and levels of visitor use are consistent with the desired resource and visitor experience conditions prescribed.</p> <p>Buck Island Reef National Monument visitors will have opportunities to understand and appreciate the significance of the monument and its resources and to develop a personal stewardship ethic.</p> <p>To the extent feasible, programs, services, and facilities in the monument are accessible to and usable by all people, including those with disabilities.</p>	<p>NPS Management Policies</p> <p>NPS Organic Act</p> <p>National Park System General Authorities Act</p> <p>Americans with Disabilities Act</p> <p>36 CFR Parts 1,3, and 7: Boating and Water Use Activities</p> <p>Director's Order 12: Conservation Planning, Environmental Impact Analysis, and Decision Making</p>
Commercial Services	<p>Same as Visitor Use and Experience and Park Use Requirements above.</p> <p>All commercial services must be authorized, must be necessary and/or appropriate, and must be</p>	<p>NPS Management Policies</p> <p>NPS Concessions Management Improvement Act of 1998</p> <p>NPS Organic Act</p>

Table 1. Desired Conditions and Applicable Laws and Policies Summarized by Impact Topic (Continued)

TOPIC	DESIRED CONDITIONS	APPLICABLE LAWS AND POLICIES
	economically feasible. Appropriate planning must be done to support commercial services authorization. Commercial services are provided in a manner consistent with the mission of the park.	National Park System General Authorities Act
Public Health and Safety	To the extent feasible, programs, services, and facilities in the monument are accessible and provided in a safe manner. All decisions regarding Buck Island Reef National Monument operations, facilities management, and development— from the initial concept through design and construction — reflect sound public health and safety principles.	NPS Management Policies NPS Organic Act Council on Environmental Quality regulations as part of the National Environmental Policy Act Director’s Orders 50B, 50C, 58, and 83

This *General Management Plan* does not describe how particular programs or projects should be prioritized or implemented; those decisions will be addressed in more detailed future planning efforts. All future plans will tier from the approved *General Management Plan*.

Need for the Plan

This new *General Management Plan* for Buck Island Reef National Monument is needed because the last comprehensive planning effort for the monument was completed in 1983. Much has changed since then, including patterns of visitor use, prohibition of all extractive uses within the park’s boundaries, listing of species within the park in accordance with the Endangered Species Act, expansion of the monument’s boundaries from 880 acres to 19,015 land and water acres, coral bleaching and other threats associated with climate change. The Proclamation (3443) stipulated that a management plan also be completed. These changes have major implications on how visitors use the monument and the facilities needed to support those uses, how resources are managed, and how the NPS manages its operations.

A general management plan is also needed to meet the requirements of the National Parks and Recreation Act of 1978 and NPS policy, which mandate the development of a general management plan for every park in the national park system.

FOUNDATION FOR PLANNING AND MANAGEMENT

Park Mission

The mission of Buck Island Reef National Monument is to protect, preserve, manage, and interpret the monument’s seascapes, scenic views, and unique natural and cultural resources unimpaired for the education, enjoyment, and inspiration of present and future generations.

Purpose

Purpose statements for Buck Island Reef National Monument reaffirm the reasons for which the park was set aside as a unit of the national park system. Purpose statements are grounded in an analysis of the park’s legislation and legislative history, providing a strong foundation for directing future park management and use.

The purpose of Buck Island Reef National Monument is to:

- Preserve and protect the island and tropical marine ecosystem, including coral reefs, seagrass beds, octocoral hardbottom, sand communities, algal plains, shelf edge, and oceanic habitats;
- Protect threatened and endangered species and enhance their habitats and survivability;
- Enhance the health and diversity of fisheries resources through their protection;

- Protect and manage terrestrial and submerged cultural resources; and
- Preserve this area of outstanding scientific, aesthetic, and educational importance for the benefit and enjoyment of the people now and for the future.

Significance

Significance statements capture the essence of Buck Island Reef National Monument's importance to the nation's natural and cultural heritage. Significance statements describe the monument's distinctiveness and help to place Buck Island Reef National Monument within its regional, national, and international contexts. Significance statements answer various questions, such as "Why are Buck Island Reef National Monument's resources distinctive?" "What do they contribute to our natural and cultural heritage?" Defining the significance of the monument's resources helps managers to make decisions that preserve the resources and the values necessary to accomplish Buck Island Reef National Monument's purpose.

The significance statements for Buck Island Reef National Monument are as follows:

- Buck Island and its surrounding coral barrier reef formations constitute one of the finest marine gardens in the Caribbean and support countless species of reef fishes, invertebrates, plants, sea birds, and marine mammals and reptiles.
- The monument's tropical marine ecosystems are a continuum of coral reefs (patch, spur and groove, deep and wall), unusual "haystacks" of elkhorn coral, seagrass beds, octocoral hardbottom, sand, algal plains, shelf edge, and open ocean, and provide habitats that are essential for sustaining fragile communities of plants and animals.
- Several threatened and endangered species forage, breed, nest, rest, or calve in the waters within the monument, including humpback whales, pilot whales, dolphins, brown pelicans, least terns, and the hawksbill, leatherback, loggerhead, and green sea turtles. Buck Island is the only completely protected habitat that will support the globally endangered St. Croix ground lizard.
- The monument contains the wrecks of two eighteenth century slave ships, the Mary and General Abercrombie, other yet unidentified shipwrecks, and terrestrial archeological sites associated with Danish sovereignty in the eighteenth and nineteenth centuries.
- The monument offers outstanding opportunities for education and scientific research due to the diversity, complexity, and relationship of the natural resources and provides a dynamic laboratory for study and learning.

SPECIAL MANDATES AND ADMINISTRATIVE COMMITMENTS

Special mandates and administrative commitments refer to park-specific requirements. These formal agreements are often established concurrently with the creation of a unit of the national park system. Special mandates for the park reflect the park's status as a "no take" marine reserve, prohibiting extractive uses and prohibiting anchoring except in designated areas in deep sand.

The interim rule (36 Code of Federal Regulations Part 7) that was published in the Federal Register (effective May 2003) prohibits extractive uses (fishing, taking whelk, conch, lobster, etc.) and anchoring except in areas of deep sand, in the event of emergencies (all other anchoring subject to permit), or for administrative purposes. The interim rule remains in effect until final regulations are adopted upon completion of this General Management Plan.

Written comments on the interim rule were solicited from all interested parties. Comments that were received on the interim rule provided part of the basis of scoping for the General Management Plan. Such comments were also considered during the development of the plan. Comments were also solicited and received as part of the broader General Management Plan scoping process. The

publishing of the interim rule and adoption of final regulations is conducted in accordance with the Administrative Procedures Act. The Secretary of the Interior determined under 5 U.S.C 553 (b) (B) and 318 DM 5.3 that it was not in the public interest to delay the effective date of the interim rule to accommodate notice and comment procedures for the following reasons:

- The Proclamation (No. 7392 of 2001) clearly outlines the limits of the Secretary of the Interior's discretion in disallowing extractive uses at the monument. The interim rule codifies the prohibitions of extractive uses outlined in the Proclamation and public comment will be useful only as to the few narrow exceptions allowed under the Proclamation.
- Delaying implementation of the Proclamation (No. 7392 of 2001) may lead to confusion about what law applies in the park unit and could result in harm to the objects protected by the Proclamation.
- Immediate action was necessary to effectuate the purpose for which the Proclamation (No. 7392 of 2001) was issued (protecting the objects within the monument).

Comments on the interim rule received to date included the desire to maintain fishing in the park and disagreement with the interim rule; the economic hardship of no extractive use; and the desire to minimize the extent of the prohibition of extractive use within all park boundaries. The interim rule codifies the prohibition of extractive uses as outlined in Proclamation No. 7392 of 2001, and therefore supersedes the limited authorization for extractive uses included in the proclamation of December 28, 1961 (No. 3443).

Comments regarding anchoring in the park were raised during the planning process and were considered during scoping and the development of alternatives as described in Chapter 2. Planning issues and concerns addressed and those not considered further are described in the subsection entitled, Planning Issues and Concerns within this chapter.

Service-wide Laws and Policies

This section identifies what must be done at Buck Island Reef National Monument to comply with federal laws and policies of the NPS. Many of the monument's 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 and the Antiquities and Cultural Properties Act of the Virgin Islands); 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 already prescribe such actions. 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, Executive Order 11990 addressing the protection of wetlands; Coral Reef Protection, Executive Order 13089 (1998) that establishes policies and actions needed to address growing threats to the nation's coral reefs; Executive Order 13158 that establishes a national system of marine protected areas, and Executive Order 13352 that addresses cooperative conservation.

By enacting the NPS Organic Act of 1916 (Organic Act), Congress directed the U.S. Department of Interior and the NPS to manage units “to conserve the scenery and the natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such a manner and by such a means as will leave them unimpaired for the enjoyment of future generations” (16 United States Code, Section 1). Congress reiterated this mandate in the Redwood National Park Expansion Act of 1978 by stating that NPS must conduct its actions in a manner that will ensure no “derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress” (16 United States Code, Section 1a-1).

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

The NPS also established policies for all units under its stewardship. These are identified and explained in a guidance manual entitled *NPS Management Policies 2006* (NPS 2006a). The management alternatives considered in this document incorporate and comply with the provisions of these mandates and policies, and director’s orders (DO).

Public Law 95-625, the National Park and Recreation Act, requires preparation and timely revision of a general management plan for each unit of the national park system. Section 604 of the National Park and Recreation Act outlines several requirements for general management plans, including measures for the protection of the area’s resources and “indications of potential modifications to the external boundaries of the unit and the reasons therefore.” NPS Management Policies 2006 adopted in 2006 reaffirm this legislative directive.

To understand the implications of a management alternative, it is important to combine the servicewide mandates and policies with the management actions described in an alternative. Table 1 summarizes some of the most pertinent servicewide mandates and policy topics related to planning and managing Buck Island Reef National Monument and the desired conditions the park is striving to achieve. Appendix B expands on this information by citing the law or policy directing these actions. The alternatives in this *General Management Plan* address the desired conditions not mandated by law and policy and which must be determined through a planning process.

BOUNDARY ADJUSTMENTS

As part of general management planning, the NPS is required to identify and evaluate boundary adjustments that may be necessary or desirable to carry out the purposes of the park. Boundary adjustments may be recommended to:

- Protect significant resources and values, or to enhance opportunities for public enjoyment related to park purposes,
- Address operational and management issues, such as the need for access or the need for boundaries to correspond to logical boundary delineations such as topographic or other natural features or roads, or
- Otherwise protect park resources that are critical to fulfilling park purposes.

All recommendations for boundary changes must meet NPS criteria for consideration. There are no boundary adjustments under consideration for Buck Island Reef National Monument.

PLANNING ISSUES AND CONCERNS

Introduction

During the summer of 2004, the general public, NPS staff, representatives from territorial, federal and other agencies, and representatives from various organizations identified various issues and concerns during scoping (early information gathering) meetings conducted for this *General Management Plan*. An issue is defined as an opportunity, conflict, or problem regarding the use or management of public lands. Comments were solicited at public meetings, through planning newsletters, fact sheets, and on the park's website (see Chapter 5 Consultation and Coordination).

Comments received during the scoping process demonstrated there is much the public likes about the management, use, and access of Buck Island Reef National Monument. In general, the issues and concerns that emerged involved determining the appropriate visitor use, types, and levels of access via anchoring and /or mooring, types of visitor services and activities, and resource protection. The *General Management Plan* alternatives provide strategies for addressing the issues within the context of the park's purpose, significance, and special mandates.

Issues and Concerns to be Addressed

The range of planning issues and concerns that were discussed with the park staff, stakeholders, and the general public during the planning process include:

- Moorings: number, location, and use.
- Anchoring: location, number, and size of vessels that may anchor. Practice of shoreline bow and stern anchoring and resource protection. Safety concerns getting to the beach from offshore moorings.
- Identification of boundaries.
- Visitor Use and Experience: recreational opportunities.
- Education and Outreach: type, location, and amount. Improved signage.
- Protect Resources: balance resource protection and use.
- Enforcement: need to increase park ranger presence on Buck Island, park waters, and provide consistency; posting of rules.

Decision points identify the key decisions that remain to be made after consideration of all laws, policies, and mandates. As with any decision-making process, there are key decisions that, once made, will determine the direction of subsequent decisions. Based on public comments and issues and NPS concerns, several decision points were identified. This *General Management Plan* focuses on alternative ways of addressing these decision points. Related issue categories are addressed by each decision point statement:

- Access: Given the existing legal, physical, and natural and cultural resource constraints specific to Buck Island Reef National Monument, to what extent can access be provided?
- Visitor Use: While protecting natural and cultural resources should visitor experiences, activities (commercial and non-commercial) and associated facilities be kept at present levels, reduced, or expanded?
- Management and Protection: What level of NPS presence is required to protect natural and cultural resources while providing and maintaining a quality visitor experience?
- Education / Partnerships: What levels of education / outreach and partnering programs should the NPS develop?

Issues and Concerns Not Addressed in the General Management Plan

Not all issues or concerns raised by the public are included in this *General Management Plan / Environmental Impact Statement*. Some issues raised by the public were not considered because they:

- Are already prescribed by law, regulation, or policy.
- Would be in violation of laws, regulations, or policies.
- Were at a level that was too detailed for a general management plan and are more appropriately addressed in subsequent planning documents.

This section briefly describes these issues, and the basis for excluding them from this *General Management Plan*.

- *Fishing / extractive use.* Many public comments addressed the desire to continue to be allowed to fish within park boundaries, to address the economic impact to local fishermen, to compensate local fisherman, and other related concerns. In accordance with Presidential Proclamation 7392 and the interim rule, all extractive uses are prohibited, and therefore the effects of prohibiting fishing / extractive use within the boundary are not further addressed. In addition, agency concerns were expressed to the park indicating the desire for NPS to address the effects on essential fish habitat from prohibiting fishing within the boundary of the monument, as well as the cumulative effects to the fishery resources in the St. Croix area. The purpose of this *General Management Plan / Environmental Impact Statement* is to assess the impact of future management actions at the park. It is not the expressed purpose of this plan to address the effects of implementation of the interim rule. The stipulations of the presidential proclamation and the interim rule are the foundation of the planning effort. These issues will not be assessed in this *General Management Plan / Environmental Impact Statement*.
- *The need for the Buck Island Reef National Monument.* The park's purpose statement is based on Buck Island Reef National Monument's legislation and legislative history and NPS policies and is described at the beginning of this chapter along with park significance statements. These statements are part of the foundation of this planning effort. The purpose of the *General Management Plan / Environmental Impact Statement* is to address proposed management actions.
- *Desire to anchor anywhere within the monument.* Presidential Proclamation No. 7392 specifically prohibits all boat anchoring, "provided that the Secretary may permit exceptions for emergency or authorized administrative purposes, and may issue permits for anchoring in deep sand bottom areas, to the extent that it is consistent with the protection of the objects" (i.e. resources identified in Proclamation 7392). This *General Management Plan* is prepared in accordance with Proclamation 7392 and interim rule.
- *Provision of free access for local visitors.* Buck Island Reef National Monument does not charge an entrance fee. Boat access to the park is provided via concession, private vessel, or special permit. Concession fees include transportation costs to transport visitors to the park for commercial services such as snorkeling, SCUBA, hiking, and other recreational use. Some administrative fees are required.
- *Provide details regarding placement, type, and number of moorings.* Specific details regarding the exact location, number, type of use, and placement of moorings will be provided in a separate Vessel Management Plan. The NPS is preparing a Vessel Management Plan in which the details of mooring installation, location, and purpose, as well as management issues regarding vessels, will be provided. The public will have an opportunity to comment during the preparation of the Vessel Management Plan and environmental assessment.

- *Establish a memorandum of agreement of some type to develop a cooperative working relationship between the NPS and the Virgin Islands Government to develop a territorial park system.* The NPS recognizes the value of cooperative agreements and cooperates with the Virgin Islands Government and many other organizations on many projects, some of which are identified in the section entitled, “Relationship of other Planning Efforts to this General Management Plan.” NPS individual partnering agreements would be addressed outside this general management planning process, and are not considered individual planning issues.
- *Help train and develop a management team within the Virgin Island Government, at the East End Marine Park.* The staff from Buck Island Reef National Monument were involved in the planning stages of East End Marine Park as described in the section, “Relationship of other Planning Efforts to this General Management Plan.” This cooperative effort would continue into the future as staff resources allow; however, specifics regarding training and development of a management team are outside the scope of this *General Management Plan*.
- *Relocation of fish attraction devices.* Several individuals who commented requested the relocation of fish attraction devices since they are located within park boundaries and fishing is now prohibited. The park worked with other agency officials regarding the relocation of these devices and subsequent to receiving these comments, all fish attraction devices have been removed.
- *Lighting of park’s boundary buoys.* Comments were received regarding the need to light the park’s boundary buoys. The U.S. Coast Guard is coordinating with the territorial Division of Fish and Wildlife to address this concern, as these buoys are for informational purposes and are not required to be lighted.

Impact Topics

Discussions during the early planning phases of preparation of this *General Management Plan / Environmental Impact Statement* identified the range of potential natural and cultural resources and elements of the human environment that might be of concern or might be affected by implementation of this *General Management Plan*. This review led to the selection of impact topics to be analyzed. The impact topics that were retained and dismissed, along with rationales, are presented in the following paragraphs. Relevant laws, regulations, and policies for each impact topic retained are described in Appendix B: Service-wide Mandates and Policies Pertaining to Buck Island Reef National Monument, and are summarized in Table 1 of this *General Management Plan*. The impact topics are described in accordance with Council on Environmental Quality guidelines for implementing the National Environmental Policy Act and NPS management policies.

Global climate change is expected to affect the park in several ways, and not all the effects are well understood. The range of effects include sea level rise, changes in sea water temperature, acidification, frequency and intensity of storms. The inter-relationship of all of these factors is also thought to be important, and is also poorly understood at the present time. An overview of climate change and related effects is provided in Appendix D. Some of the ways that climate change is expected to affect the park are summarized by impact topic.

Impact Topics Retained for Analysis

Impact topics retained for analysis are listed below:

Natural Resources

- Soils / Sand
- Water Resources
- Vegetation

- Wildlife
- Marine and Coastal Resources
 - Coral Reefs and Other Marine Communities
 - Shallow Water Coral Reef Communities
 - Seagrass Communities and Algal Plains
 - Sand Bottom Communities
 - Deep Reefs and Wall Reefs
 - Deep Water Abyssal Bottom Community
 - Deep Water Oceanic/Pelagic Community
- Fish/Aquatic Life
 - Fish
 - Essential Fish Habitat
 - Other Marine Animals
- Species of Concern
- Cultural Resources
- Soundscapes
- Scenic Resources
- Visitor Use and Experience
- Park Operations and Facilities
- Public Health and Safety
- Sustainability and Long-Term Management

Impact Topics Considered but Dismissed from Further Evaluation

Some impact topics commonly considered during the planning process were not relevant to the development of this *General Management Plan* because: (a) implementing the alternatives would have no effect or a negligible effect on the topic or resource, or (b) the resource does not exist in the Buck Island Reef National Monument. The impact topics considered and dismissed from further evaluation are listed below with a brief rationale for each topic.

Air Quality. Under each proposed management alternative for Buck Island Reef National Monument, visitor use and administrative operations would generate similar levels of air pollutant emissions from vessels and potential incidental use of motorized equipment. The NPS would follow established policy requiring the use of energy-efficient and environmentally friendly products and processes whenever possible. Although public visitation and vessel use are expected to increase during the next 20 years, levels of vehicle and vessel exhaust are not expected to dramatically increase or significantly contribute to regional air pollutant loads. This is due, in part, to the use of more efficient motorized vessels and mechanical tools. NPS will use sustainable practices wherever feasible. None of the identified air pollutant sources would generate enough quantities to require a permit. The impacts of these emissions are deemed to be short-term, and negligible on the local environment and regional air quality for all alternatives. Local air quality conditions would be expected to continue to be affected by African dust and sources from St. Croix. The management actions the park would take in terms of this *General Management Plan* would not affect these conditions. For these reasons, air quality is excluded from further analysis.

Geologic Resources. The geology of the monument would not be affected by any of the proposed management alternatives, and has not been included as an impact topic. There would be no geologic

hazards caused by any of the alternatives. None of the actions analyzed in this *General Management Plan* would affect geologic natural processes. There are no caves and/or karst environments present. The topic of soil has been retained as a separate impact topic due to concerns related to potential soil erosion associated with trail construction and use.

Coastal Processes. Coastal processes would not be affected by any of the proposed management alternatives, and has not been included as an impact topic. There would be alteration of the coastal environment related to storms, hurricanes, other natural events, and climate change. Although NPS management policies do allow for modifications to coastal dynamics in the event that coastal erosion and storm events have detrimental effects on park resources, this is not a practice that has been used at Buck Island Reef National Monument. Resource impacts may occur as a result of placement of anchors or moorings, and are discussed under the marine and coastal resources impact topic, as well as impacts related to sand communities and seagrasses; however, coastal processes would not be affected by management actions.

As climate changes occur over the coming decades, globally averaged sea level may rise between 0.19 and 0.58 meters (7.5 inches and 1.9 feet) by the year 2100 (Meehl et al. 2007). The park will allow natural processes to continue to occur. Management actions will not affect coastal processes. The effects of climate change are addressed by impact topic. In addition, an overview describing climate change is provided in Appendix D.

Prime and Unique Farmlands. The Council on Environmental Quality's 1980 memorandum on prime and unique farmlands states that prime farmlands have the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops. Unique agricultural land is land other than prime farmland used for production of specific high-value food and fiber crops. Both categories require that the land be available for farming uses. Lands within Buck Island Reef National Monument are not available for farming uses, nor do they meet these definitions. This impact topic was dismissed from further consideration.

Paleontological Resources are not known to occur within the park, and therefore this impact topic was not considered further.

Water Quantity or Flow was dismissed as an impact topic as none of the management alternatives would affect water quantity or flow. In addition, water rights and concerns are not an issue as water is not provided within the monument, nor would any management alternative affect water rights issues.

Wetlands in the national park system units are protected and managed in accordance with Executive order 11990, Wetland Protection, and NPS Director's Order 77-1 and NPS Management Policies 2006 (NPS 2006a). This guidance requires the NPS to protect and enhance natural wetland values and requires the examination of impacts on wetlands. It is NPS policy to avoid affecting wetlands and to minimize impacts when they are unavoidable. Under all alternatives in this plan, activities and facilities would be sited to avoid any impacts to the salt pond at Buck Island Reef National Monument. No developments or other management actions in the alternatives would be proposed in areas known to contain wetlands. Therefore, this topic will not be analyzed further.

Floodplains would continue to be affected by natural conditions such as storm surges and flooding; however, park management actions would not affect floodplain values, nor are any Federal Emergency Management Agency floodplains identified within the monument.

Exotic Species are assessed through a separate NPS management plan, the *Exotic Plant Management Plan/Environmental Impact Statement*. Management actions would not affect the treatment of these species; the *General Management Plan* is consistent with the *Exotic Plant Management Plan*. Treatment of exotic species would also be addressed under the Resource Stewardship Strategy. Therefore, this topic was not further assessed.

Lightscares, which are the natural resources and values that exist in the absence of human-caused light, are affected by those that moor overnight within the park boundary. Lights from vessels mooring overnight within the park boundary are not unusual, and are considered part of the landscape and are expected. The local St. Croix boating community would not find these sights to be adverse. These effects are considered short-term and negligible and would not be considered to adversely interfere with the ambient light, or night sky. The presence of large or super cruise ships on the horizon will be addressed in the Vessel Management Plan.

Wilderness is not designated with Buck Island Reef National Monument, and is therefore not included as an impact topic.

Wild and Scenic Rivers are not designated within Buck Island Reef National Monument, and is therefore not included as an impact topic.

Other Unique Landforms, Ecologically Critical Areas, National Natural Landmarks were dismissed from further consideration. Aside from designated Essential Fish Habitat which is addressed in the Fish / Aquatic Life section of Chapter 3 and Chapter 4, the alternatives being considered would not affect any designated ecologically critical areas, wild and scenic rivers, or other unique natural resources, as referenced in the Wild and Scenic Rivers Act, *Management Policies 2006*, 40 *Code of Federal Regulations* 1508.27, or the 62 criteria for national natural landmarks.

Historic Structures or Buildings. In terms of cultural resources, there are no extant historic structures or buildings on Buck Island. The island's structural ruins are included as part of the discussion of archeological resources. Therefore, the impact topic of historic structures and buildings will be dismissed from further analysis.

Cultural Landscapes have not been inventoried or evaluated within Buck Island Reef National Monument, and no such landscapes have been identified within the park. A cultural landscape by definition occupies a geographic area that incorporates natural and cultural elements associated with a historic activity, event, or person, and cultural landscapes typically include patterns of settlement or land use, systems of circulation and transportation, buildings and structures, open space, etc. As noted above, no historic structures are located on Buck Island. Buck Island was used as a strategic signaling station for defense and transportation purposes. The island was also used by prehistoric peoples from St. Croix for fishing, gathering turtles and eggs, birds, and other resources.

Early in its history, the island was stripped of its lignum vitae and other valuable timber, and by 1948 goat grazing had reduced the island to a more tropical dry forest / desert scrub-like appearance. Several old tamarind trees (thought to be over 250 years old) can possibly be "attributed to the period Johan Deidrich owned the island (1754) or perhaps earlier, such as during the French occupation of St. Croix when Buck Island was known as Isle Verte" (NPS 2004b). After grazing was discontinued in the 1950s, some natural vegetation began to recover but non-native plants and animals proliferated. The types and proportions of plants present today reflect continuing management efforts by the NPS to control invasive, exotic plants and restore historic vegetation such as lignum vitae.

A cultural landscape study/inventory is recommended to document the use of Buck Island over time, and is included in the "Relationship of Other Planning Efforts to this General Management Plan" section of this chapter. The activities proposed under any of the management alternatives would not significantly alter the landscape of Buck Island. Current activities, including terrestrial trail and recreational beach use, would be expected to continue into the future. No activities are planned that would adversely affect the cultural landscape as understood to date. For these reasons "Cultural Landscapes" has been dismissed as an impact topic in this *General Management Plan*.

Ethnographic Resources. Ethnography is concerned with peoples whose life ways are traditionally associated with resources under NPS stewardship. Some contemporary groups and communities are permitted by law, regulation, or policy to pursue customary religious, subsistence, or other cultural

uses of park resources with which they are traditionally associated (NPS 1997). This association should have endured for at least two generations. As described above under the topic of Cultural Landscapes, traditional associations of Caribbean peoples to Buck Island are, at best, tenuous. For example, most of the archeological sites on the island are associated with Euroamerican ownership; one site dates to prehistoric times. Buck Island was unoccupied for most of the last 300 years, and was used primarily for fishing, wood cutting, and raising livestock. Wood cutting and livestock raising ended more than 40 years ago, and by law, fishing is no longer allowed within the park boundaries. The NPS continues to work with interested groups to help ensure any ethnographic resource concerns are identified. The topic of ethnographic resources will not be further evaluated.

Indian Trust Resources / Sacred Sites have not been identified within the boundary of the park. The Federal Indian Trust responsibility is a legally enforceable fiduciary obligation on the part of the United States to protect tribal lands, assets, resources, and treaty rights. There are no living populations of American Indians in the Virgin Islands, nor are there federally recognized Native American nations in the Virgin Islands. This impact topic was eliminated from further consideration.

Museum collections would be addressed in a similar fashion under any of the alternatives. All alternatives would identify the need to continue and improve protection of the museum collection in an environment that protects them from degradation, maintains their regional context and research value, and provides access for scholars, a long-term, minor benefit to collections. Any activity that would require Section 106 compliance would likely result in some collections. Collections are currently housed at Christiansted National Historic Site, St. Croix, or the Southeast Archeological Center, Tallahassee, Florida. Natural history specimens are also stored at other NPS repositories. Museum collections would continue to be managed in a similar manner under all alternatives, and since few actions disturbing existing conditions are proposed, impacts are assumed to be negligible to minor across alternatives. Therefore, museum collections is dismissed as an impact topic.

The **Socioeconomic Environment / Land Use**, in terms of induced changes in land use outside the park boundary, would not be affected by any of the management alternatives, nor would there be effects to adjacent landowners or nonfederal property owners. There are no inholdings, or nonfederal property owners within the park boundary. The management alternatives would not affect land use plans, policies, or controls on St. Croix or the marine environment. The management alternatives would not conflict with the East End Marine Park or territorial plans. Therefore, land use, adjacent landowners, nonfederal property owners, and conflicts with other plans are impact topics that are eliminated from further consideration.

The management alternatives would not affect the **population density and growth** of St. Croix or the Virgin Islands; therefore, this impact topic was eliminated from further consideration. Nor would there be effects to community services or public services and utilities since there are no services to Buck Island and the park. There would be no more than 9 new employees proposed under any of the alternatives and, therefore, effects to **local employment** would be negligible. This impact topic was not further assessed.

Concession services are addressed under several different impact topics, including visitor use and park operations.

Environmental justice as defined by Executive Order 12898, requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities.

For the purpose of fulfilling Executive Order 12898, in the context of the National Environmental Policy Act, the alternatives addressed in this plan were assessed during the planning process. It was determined that none of these alternatives would result in disproportionately high direct or indirect

adverse effects on any minority or low-income populations or community. The following information contributed to this conclusion:

- The developments and actions in the alternatives would not result in any identifiable human health effects. Therefore, there would be no direct or indirect effects on human health within any minority or low-income populations or community.
- The impacts on the natural and physical environment that would occur due to any of the alternatives would not disproportionately adversely affect any minority or low-income populations or community, or be specific to such populations or communities.

Impacts on the socioeconomic environment due to the implementation of actions proposed in the alternatives would be negligible and such impacts would not be expected to substantially alter the physical and social structure of nearby communities in St. Croix or the Virgin Islands. Therefore, this topic will not be analyzed further.

Transportation. There is no vehicular transportation or sidewalks on Buck Island. Therefore, transportation issues addressed are in the context of access. Currently all access to the monument is provided by either private vessel or vessels operated by authorized concessions. During 2005, the highest monthly visitation at the monument was 6,000 visitors during the month of March. Therefore, the average visitation during the peak month would be approximately 200 visitors per day. If additional vessels are required to accommodate additional passengers in the future, it is assumed that the concessions would increase their fleets to meet these demands, providing that National Environmental Policy Act compliance has been undertaken to address user capacity. Concession operations related to visitor access are addressed under visitor use and access subsections of Chapters 3 and 4. Impacts would be considered long-term, negligible to minor and adverse and, therefore, this topic was dismissed from further analysis.

Energy Efficiency and Conservation Potential. Implementation of any of the action alternatives would result in similar amounts of fuels and energy being used. Under any alternative, the NPS would continue to implement its policies of reducing costs, eliminating waste, and conserving resources by using energy-efficient and cost-effective technology (NPS 2000a; 2006). The NPS would continue to look for energy-saving opportunities in all aspects of park operations. Because the NPS would promote energy efficiency in an equal manner under any alternative, this impact topic was dismissed from further consideration.

Natural or Depletable Resource Conservation Potential. There would be no discernable differences in natural or depletable resource conservation among the alternatives considered. Limited construction activities would involve installation of moorings, kiosks or trails, and allowance for anchoring. However, these effects are addressed in Chapter 4: Environmental Consequences. This impact topic was dismissed from further consideration.

Quality of the Built Environment. Limited construction (kiosks, trail work) would occur under any of the alternatives and would be built in harmony with the natural surroundings. These actions would cause negligible effects to the built environment, as the park currently has very limited development. Therefore, the quality of the built environment was dismissed from further analysis.

Public Services and Utilities. The management alternatives do not alter the services or location of the existing signal station on Buck Island. There are no other public services or utilities within the monument. This impact topic was dismissed from further consideration.

RELATIONSHIP OF OTHER PLANNING EFFORTS TO THIS GENERAL MANAGEMENT PLAN

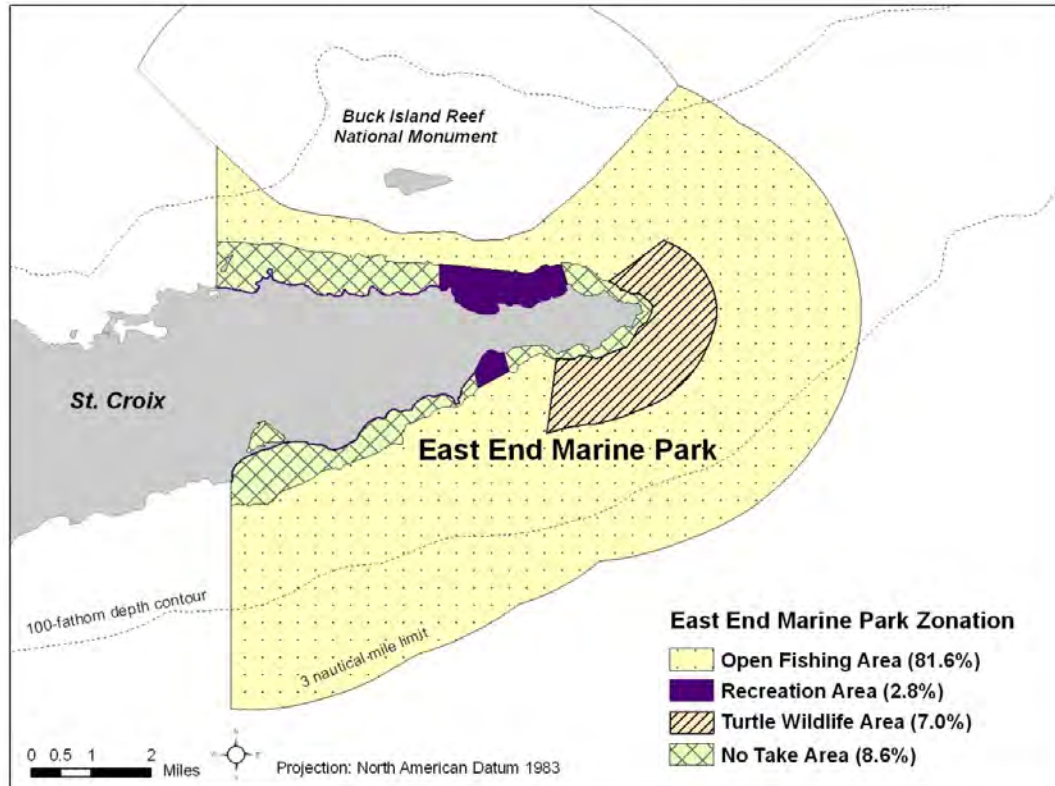
Many projects and plans that the NPS and other organizations have in place, are in progress, or planned for the near future, may affect the management direction and resulting actions proposed in this *General Management Plan*. As part of the analysis and consideration of potential impacts, the planning team identified the following relevant planning efforts. The list is not comprehensive, but provides an overview to show the connection between this General Management Plan and other planning and research entities.

- **Museum Collections Management Plan:** The NPS prepared a Museum Collections in 2004 for Buck Island Reef National Monument, Christiansted National Historic Site, and Salt River Bay National Historic Park and Ecological Preserve that addresses collections for the park in a comprehensive manner. The Regional and Servicewide Museum Collections Storage Plans (2007) and the park Museum Collection Plan (2004) guide management efforts for collections in the park. Actions proposed in this General Management Plan are consistent with these museum collections and storage plans.
- Buck Island Reef National Monument is responsive to the initiatives of the United States Coral Reef Task Force, an interagency body that works to develop and implement comprehensive, multi-disciplinary, and coordinated approaches to preserve and protect U.S. coral reef ecosystems, and encourage sound coral reef conservation practices globally. The Task Force is authorized under Executive Order 13089 (63 Federal Register 32701). The Task Force functions as a clearinghouse and coordinating mechanism for federal, State, and territorial agencies involved in coral reef ecosystem protection and management efforts. It also advises members concerning the impact of their actions and programs upon coral reefs, and encourages cooperation and partnerships to conserve coral reef ecosystems worldwide. Buck Island Reef National Monument's efforts related to the Task Force include coral reef mapping, monitoring, research, conservation, mitigation, restoration, training and education and outreach opportunities, and cooperation with other partners.
- The NPS cooperated with partners to implement the Ocean Park Stewardship 2006 to 2008 Action Plan. The strategy seeks to establish a seamless system of ocean parks, sanctuaries, refuges and reserves; discover, map and protect ocean parks; engage visitors in ocean park stewardship; and increase NPS technical capacity for ocean exploration and stewardship. The NPS is collaborating with the U.S. Geological Survey and the National Oceanic and Atmospheric Administration, universities, and others. The NPS will be working with these other partners under existing funding levels to implement this Action Plan. Action items pertaining to the park that have been prioritized for implementation include the following:
 - Execute a memorandum of understanding among the NPS, National Oceanic and Atmospheric Administration Sanctuaries, the National Estuarine Research Reserves System, and the U.S. Fish and Wildlife Service Refuge System.
 - Implement a cooperative law enforcement agreement with National Oceanic and Atmospheric Administration National Marine Sanctuaries Program.
 - Enter and maintain current park data in the national marine managed area inventory in cooperation with the joint Department of the Interior and National Oceanic and Atmospheric Administration Marine Protected Area Center.
 - Complete benthic habitat maps for ocean parks in cooperation with partners.
 - Assess conditions of 52 coastal park watersheds and water resources.
 - Enhance compliance with new marine reserves by providing education and outreach programs at Buck Island Reef National Monument and other marine reserves.

- Initiate cooperative studies to evaluate performance of marine reserves.
- Ensure vital signs monitoring includes marine and estuarine resources.
- Work with partners to get digital boundaries of ocean parks on charts and maps.
- Engage visitors in ocean park stewardship by developing interpretive and educational materials on ocean parks for educators and other organizations.
- Create a communication strategy to better inform the public about ocean parks.
- Combine efforts with other agencies to reinvigorate the NPS Dive Program.
- Develop a “Restore and Protect Ocean Park Resources Initiative.”
- Describe and analyze ocean park jurisdictions, boundaries, authorities, and remedies.
- The park continues to conduct long-term monitoring as part of the NPS’s Inventory & Monitoring Program for Coral Reef Habitat and associated marine ecosystem. The monument, in conjunction with South Florida/Caribbean Inventory and Monitoring Program Network, conducted computer analysis of Aquamap coral reef monitoring data. Additional details regarding monitoring programs are provided in Chapter 3.
- The park coordinates with multiple universities for research, inventory, and monitoring programs, with an average of five to fifteen visiting researchers per year. For example, in 2003 park staff assisted with several projects, logistics, and support of research activities, including a University of Maine coral recruitment study, University of Central Florida Mus Population Study, and Acadia University/Government of the Virgin Islands Department of Planning and Natural Resources Division of Fish and Wildlife Reintroduction of St. Croix Ground Lizard Assessment.
- The park conducts bi-annual reef fish census in the park’s three major marine habitats (reef, sand, and seagrass) with their partner National Oceanic and Atmospheric Agency’s Biogeography Program. Over a two-week period, 120 sites are surveyed by divers using a visual/belt transect method to count reef fishes and collecting data on the habitat. These data are critical in establishing a baseline inventory and species status to monitor the effectiveness of the expanded park’s new regulations prohibiting all extractive uses, including fishing activities.
- The park continues post-eradication monitoring for the exotic tree rat and mouse populations. Bi-annual monitoring is conducted to ensure there has been no accidental reintroduction of rats. Continued cooperative volunteer efforts are encouraged in this *General Management Plan*.
- The park coordinates with other agencies to control non-native invasive species on land and in water, including the control of lion fish.
- The park continues to work with the St. Croix Marine Animal Stranding Network in cooperation with U.S. Fish and Wildlife Service, the Nature Conservancy, and Territorial Division of Fish & Wildlife.
- Buck Island Reef National Monument Sea Turtle Research Program is a research and monitoring program that conducts year round documentation of sea turtle nesting on monument beaches and beach forest habitat. During peak nesting season, July – October, park science staff and volunteer research assistants conduct a saturation tagging program for four species of sea turtles (leatherback, hawksbill, green, and most recently, loggerhead). This program includes such efforts as tracking long-term nesting female turtle reproductive history, nesting success, conducting threatened nest relocation, monitoring interactions with critical nesting habitat, post-storm erosion events, effect of temperature on hatchling sex ratio and hatch / emergence success, and a variety of research experiments, including radio and satellite

tracking of nesting females post-reproductive migrations, foraging habitats, growth rates, and genetics.

- The NPS and the Joint Institute for Caribbean Marine Studies are developing plans for a proposed Marine Research and Education Center at Salt River Bay National Historical Park and Ecological Preserve, St. Croix, Virgin Islands. The Center would promote the preservation and research of the sensitive and unique resources contained within Salt River Bay National Historical Park, which include coral reefs, over 400 species of reef fish, mangrove forests, and numerous prehistoric and colonial-era archeological sites and ruins. The Center would include multiple educational and research facilities, including classrooms, teaching labs, conference rooms, a library, an education center, dormitories, staff housing, a wet laboratory, and a marine operations facilities. Buck Island Reef National Monument is a prime research and education site for the NPS Salt River Marine Research and Education Center's consortium of universities.
- The Youth Conservation Corps Program introduces students and leaders to research, stewardship, education, and work activities within the park. Efforts of volunteers in the park are consistent with continued partnering and outreach efforts described in the General Management Plan.
- The park continues monitoring brown pelican and least tern seasonal nesting in cooperation with the Virgin Island Government Division of Fish and Wildlife and the U.S. Fish and Wildlife Service to conduct regular monitoring of least tern nesting on Buck Island and provide public outreach and education for visitors.
- Under Virgin Islands Code Annotated Title 12, Section 903-906, the Virgin Islands Coastal Zone Management Commission is responsible for the Coastal Zone Program and required to submit plans for review. The Division of Coastal Zone Management was reportedly revisiting the concept of a Territorial Park System and developed a "Management Framework for the Marine Protected Areas of the United States Virgin Islands." The St. Croix East End Marine Park (hereafter referred to as the East End Marine Park), a marine protected area, was established in 2003 and is managed by the Virgin Islands Department of Planning and Natural Resources under this program. The boundary of East End Marine Park, located at the East End of St. Croix in the U.S. Virgin Islands, extends out to the 3-nautical mile territorial boundary; Buck Island Reef National Monument abuts the boundary of the East End Marine Park (Figure 3). The NPS was involved in many planning workshops during establishment of the East End Marine Park, and continues its cooperation for the protection of resources in the marine park. The management actions proposed in the *General Management Plan* do not conflict with the goals and objectives of the East End Marine Park Management Plan.
- The U.S. Virgin Islands Department of Planning and Natural Resources established a Non-Point Source Program that administers grants and sets policies to mitigate non-point source pollution. The Program is supported by the Non-Point Source Pollution steering committee, a diverse group of individuals from the public and private sectors. The Program funds such initiatives as the Environmental Protection Handbook (Wright 2002), which serves as a guide for best management practices that should be used for all new construction. In addition, the Division of Environmental Protection added an Environmental Education and Outreach Program that has been involved in numerous outreach projects, including: used oil drives, elementary and high school presentations, environmental public service announcements, and the Non-Point Source Conference.

Figure 3. Map Depicting East End Marine Park and Buck Island Reef National Monument

(Source: DPNR 2005a)

THE NEXT STEPS

Following distribution of the *Draft General Management Plan / Environmental Impact Statement*, there will be a 60-day public review and comment period after which the NPS planning team will evaluate comments from other federal agencies, organizations, businesses, and individuals regarding the draft plan and incorporate appropriate changes into a *Final General Management Plan / Environmental Impact Statement*. The final plan will include letters from governmental agencies, any substantive comments on the draft document, and NPS responses to those comments. Following distribution of the *Final General Management Plan / Environmental Impact Statement* and a 30-day no-action period, a record of decision approving a final plan will be signed by the southeast NPS regional director. The record of decision will document the NPS selection of an alternative for implementation. With the signing of the record of decision, the plan can then be implemented.

IMPLEMENTATION OF THE PLAN

Implementation of the plan will largely depend on future funding. Approval of the plan does not guarantee that the funding and staffing needed to implement the plan will be forthcoming. Full implementation of the plan could extend many years into the future.

Implementation of the plan also could be affected by other factors. Once the plan has been approved, additional feasibility studies and more detailed planning and environmental documentation would be completed, as appropriate, before any proposed actions could be carried out. In addition, other agency consultation and coordination would occur. For example:

- Appropriate permits would be obtained before implementing actions (such as installation of moorings) that would affect resources or navigation;

- Appropriate federal and territorial agencies would be consulted concerning actions that could affect threatened and endangered species; and
- The territorial historic preservation office would be consulted concerning actions that could affect cultural resources.

These more detailed actions would tier from the *General Management Plan* and would describe specific actions managers intend to take to achieve desired conditions and long-term goals. Some of the future NPS planning efforts are described in the section that follows.

Future National Park Service Planning Efforts

Cultural Landscape Study/Inventory: This inventory is recommended to document the use of Buck Island over time. There are historic ruins on Buck Island that are the remains of a signal station and the signal keeper's residence. The signal station was a part of the 18th – 19th century transportation and defense system used for signaling to the fort in Christiansted of approaching ships and warning those ships of coral reefs. The report would also chronicle the use of Buck Island by prehistoric peoples that came from St. Croix over to Buck Island most likely to fish, gather turtles and eggs, and gather other food.

Vessel Management Plan: A Vessel Management Plan will be developed to provide details regarding the use of vessels within park waters and will be compatible with the *General Management Plan*. The Vessel Management Plan will include details on the use of moorings, navigational aids, any vessel limitations, and general guiding management strategies for vessels and their use in park waters. An environmental assessment would be prepared in conjunction with the Vessel Management Plan and there would be opportunity for public input.

Commercial Services Plan: Commercial visitor services planning will identify the appropriate role of commercial operations in the park. This level of planning will assist the park to achieve the desired visitor experiences identified in the *General Management Plan*, and integrate the results into other plans and planning processes. The concession management plan or commercial services plan will support the park's purpose and significance, resource values, and visitor experience objectives and be consistent with the park's legislation. The commercial services plan and other implementation plans will also identify whether proposed concession facilities and services are necessary and appropriate, and will consider alternatives.

Management / Recovery Plans for Threatened and Endangered Species: Recovery plans for threatened and/or endangered species, for example, elkhorn coral and staghorn coral, would be developed in coordination with other federal and territory agencies. The plans would comply with the Endangered Species Act. Actions identified in this *General Management Plan* are consistent with the Recovery Plan for the St. Croix Ground Lizard developed in 1983, and the Hawksbill Recovery Plan of 1993.

Resource Stewardship Strategy: Protection, research, and management of the park's natural resources and processes are essential for achieving the park's purpose and mission. A park-wide Resource Stewardship Strategy would address these issues and other scientific and legal requirements to promote understanding and management of park resources. This planning document would provide details on the strategies and actions necessary to address the park's most important resource management problems and research needs. Integral to this strategy would be the need to research the status of sensitive species in the park, including corals and the effects of coral bleaching. The Resource Stewardship Strategy would integrate the best available science and prescribe activities including inventories, research, monitoring, restoration, mitigation, protection, education and management of resource uses.

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