

Draft
General Management Plan /
Environmental Impact Statement
March 2012

Buck Island Reef National Monument

St. Croix, U.S. Virgin Islands



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**DRAFT
GENERAL MANAGEMENT PLAN /ENVIRONMENTAL IMPACT STATEMENT
BUCK ISLAND REEF NATIONAL MONUMENT
ST. CROIX, U.S. VIRGIN ISLANDS**

General management plans are long-term documents that establish and articulate a management philosophy and framework for decision making and problem solving in the parks. Buck Island Reef National Monument's last comprehensive management planning effort was completed in 1983. Since that time, many changes have taken place including the 2001 boundary expansion of the park from 880 acres to 19,015 acres, establishing the monument as a "no-take" marine reserve, federal listing of elkhorn and staghorn corals as federal threatened species, re-introduction of the federally endangered St. Croix ground lizard, and impacts to marine and coastal ecosystems associated with climate change, disease, and storms. The park faces new resource and other management challenges as a result of these and other changes. This General Management Plan provides management direction for the park for the next 15 to 20 years.

This document examines four alternatives for managing Buck Island Reef National Monument. The impacts of implementing each of the alternatives are also analyzed. One of the four alternatives is Alternative A, the "no-action alternative," that reflects current park conditions and management actions continued into the future. This alternative provides a baseline against which to compare the other alternatives. The remaining alternatives differ mainly in the type and level of access to the park and in particular, to Buck Island in terms of anchoring and/or mooring within the monument, number of vessels accommodated by each alternative, and number of staff proposed.

This General Management Plan / Environmental Impact Statement has been distributed to other agencies and interested organizations and individuals for their review and comment. The public comment period for this document will last for 60 days after the Environmental Protection Agency's notice of availability has been published in the Federal Register. Readers are encouraged to comment.

How to Comment: Comments may be submitted either over the Internet or in writing. Commenters are encouraged to use the Internet if at all possible. Please submit only one set of comments. To be sure that you are included on our mailing list, please provide your name and address on any correspondence. Internet comments may be submitted on the NPS planning, environment and public comment website at: <http://parkplanning.nps.gov/BUIS>. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Written comments may be sent to: Superintendent Joel A. Tutein, Buck Island Reef National Monument, 2100 Church Street, #100, Christiansted, VI 00820-4611.

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SUMMARY

BRIEF DESCRIPTION OF THE PARK

Buck Island Reef National Monument (hereafter also referred to as the monument or park) 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.” The park consists of 19,015 land and water acres north of the island of St. Croix in the U.S. Virgin Islands. The park supports many terrestrial and marine threatened and/or endangered species (migratory humpback and pilot whales, dolphins, least terns, four species of sea turtles, St. Croix ground lizard, and elkhorn and staghorn corals). 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 / ENVIRONMENTAL IMPACT STATEMENT

General management plans are required for all units of the national park system and are intended to establish future management direction. This General Management Plan provides comprehensive guidance for perpetuating natural systems, preserving cultural resources, and providing opportunities for quality visitor experiences at Buck Island Reef National Monument. This general management plan establishes the management framework for the park, addresses changing issues and conditions, incorporates new resource information, and provides management direction for new park waters.

Although a general management plan provides the analysis and justification for future funding, the plan in no way guarantees that money will be forthcoming. Requirements for additional data for legal compliance and competing national park priorities can delay implementation of actions. Full implementation of a plan could lie many years in the future.

MANAGEMENT ZONES

Management zones and prescriptions indicate how different areas of the park would be managed. The following five management zones were created for the park: Resource Protection Zone, Anchoring Zone, Island Discovery Zone, Recreation Zone, and Marine Hazard Zone. The focus of the Resource Protection Zone is on resource preservation, protection, and scientific research. The Anchoring Zone allows boaters to anchor in deep sand in designated areas with a permit. The Island Discovery Zone represents areas that allow a range of recreational and self-discovery activities in a relatively undisturbed natural environment on Buck Island. The Recreation Zone focuses on beach, near-shore, and off-shore areas surrounding Buck Island that offer a variety of recreational opportunities, including swimming, snorkeling, SCUBA diving, vessel mooring, beach walking, picnicking, and use of picnic tables, shelter, and barbeque grills. The Marine Hazard Zone focuses on sensitive marine areas where vessel navigation is hazardous due to shallow reef complexes.

ALTERNATIVES

The National Park Service (NPS) developed all alternatives with substantial public, interagency, and NPS staff participation. Four alternatives have been developed for managing visitor use and resources at Buck Island Reef National Monument. Each alternative provides a different management approach. The alternatives were based on the park’s purpose and significance, legal mandates, public views, and information on visitor use and park resources. The alternatives are: Alternative A – the No Action

Alternative, Alternative B (the preferred alternative), Alternative C, and Alternative D. The Marine Hazard Zone and Resource Protection Zone would be the same under Alternatives B, C, and D.

Alternative A – No-Action

Alternative A consists of a continuation of current management practices at the current levels of enforcement, resource management, and education and outreach/ interpretive activities. No new zones would be created under Alternative A.

Alternative A would involve continued use of the existing 22-acre anchoring area located off West Beach in areas of deep sand by permit only. The underwater trail and mooring area (with ten moorings) and the two SCUBA moorings north of the underwater trail would continue to be used and managed as they are now. Up to eight additional moorings would be installed for administrative use only. In addition, all current land-based facilities, marine facilities, and the existing hiking trail on Buck Island, would continue to be provided and maintained at current levels.

Beach use would be continued with access via the existing anchoring area. Shoreline bow and stern anchoring practices would be expected to continue, except during certain nesting periods when areas of the beach are closed off for sensitive species, such as terns and sea turtles. Permits would be issued for anchoring areas to protect sensitive resources such as seagrasses. As seagrass beds recover, the availability of anchoring locations is expected to decrease. Non-native invasive species, including the lionfish would continue to be monitored and removed in accordance with current management documents and policies.

Park staff conducts extensive research and monitoring, resource protection, and management activities, which would be expected to continue at existing levels. However, there is an ever-increasing demand for more research and monitoring associated with protection of threatened coral species, the effects of coral bleaching and diseases, monitoring of the endangered St. Croix ground lizard, threatened and endangered sea turtle nesting and foraging populations, enforcement of the park as a “no-take” marine reserve, delineating resources within the expanded park boundaries, and numerous other park management concerns. With these increased demands, some existing programs would be expected to be adversely affected, and the number of new programs would not be expected to increase.

The park would continue its partnerships and research activities to the extent that staffing levels would allow. Efforts to work with the territorial government, other agencies, and universities to research, map, and monitor resource conditions would be expected to continue, and the levels of such activity would be expected to be maintained at current levels due to staff constraints.

Education and outreach activities would continue to be conducted primarily from NPS facilities located at Christiansted National Historic Site, as well as by park rangers and by park concessioners. Park concessioners would continue to operate by concession contracts to provide visitor access to Buck Island Reef National Monument. No new programs would be implemented and there would be no increase in visitor services.

The amount of ranger presence, activity, and enforcement would be expected to remain near existing levels. Ranger patrols at Buck Island and throughout the park are limited due to staffing constraints, and this condition would be expected to continue.

Alternative B – the Preferred Alternative

Alternative B would likely result in a greater degree of resource protection while maintaining visitor use and park experiences. Alternative B provides for moorings and limited opportunities for anchoring for vessels at designated locations. Alternative B would provide increased resource protection by phasing out the existing 22-acre anchoring area along the West Beach of Buck Island over a 10-year period as moorings are installed. Installation of moorings and phasing out of the

majority of anchoring in the park will reduce the adverse effects of anchoring resulting in less stress to ecological communities and healthier marine resources that may better cope with stresses related to climate change. The projected changes, such as sea level rise, frequency and duration of storms, coastal erosion, and acidification, all contribute to conditions that may change the seagrass community over time, and therefore where anchoring would be most appropriate. Alternative B provides the ability to adapt to such changes and protect seagrasses, while providing continued access.

Opportunities for anchoring would be limited to up to five designated locations in deep sand, under emergency conditions, or for NPS administrative purposes, consistent with the regulations. Up to 45 new moorings would be provided off West Beach in place of the anchoring area. In addition, up to 10 new moorings would be provided southwest of the pier.

Alternative B allows for the continued use of existing recreational moorings (up to 10) located at the underwater trail as well as two SCUBA moorings. Up to 8 resource management moorings would be established for NPS administrative use. The total estimated number of vessels that could access Buck Island via moorings and limited anchoring would be approximately 72.

Beach access channels would be located north and south of the mooring area off West Beach to protect swimmers and snorkelers and prevent boater and swimmer conflicts. The northern beach access channel would consist of approximately 50 feet of beach frontage. The southern beach access channel would consist of approximately 100 feet of beach frontage. This would allow for safe passenger drop off and pick up. Beach use and many existing types of recreation would continue under Alternative B; however, shoreline bow and stern anchoring would not be appropriate. As with Alternative A, all current land-based facilities would continue to be provided and maintained. New facilities would consist of limited new trails, signage, and moorings. Limited new trail development would be appropriate to improve visitor experience, reroute to avoid dangerous vegetation or improve resource conditions.

Alternative B includes four of the five management zones: Recreation Zone, Marine Hazard Zone, Resource Protection Zone, and Island Discovery Zone. The sizes of the Recreation Zone, Marine Hazard Zone, and the Island Discovery Zone are similar across each of the action alternatives (Alternatives B, C, and D), and vary only due to changes to the Anchoring Zone (see Chapter 2). The Recreation Zone is larger in Alternative B than in any of the other action alternatives since it encompasses the area off West Beach.

Alternative B would provide increased opportunities for partnering with agencies and other organizations compared to Alternative A due to an anticipated increase of 6 full time resource management staff, or equivalents. In addition, increased levels of research and monitoring would be conducted to provide the data necessary to adapt the best management practices to avoid adverse effects to rare, threatened, or endangered species. Volunteer programs would continue and would have the potential to expand due to proposed increases to interpretive, enforcement, and resource management staff.

Education and outreach activities would continue to be conducted from Christiansted National Historic Site by rangers and concessioners. However, under Alternative B, there would also be increased opportunities for education and outreach activities to occur at Buck Island as well as increased opportunities for guided hikes. The level of ranger presence would increase within the park as proposed positions are filled.

Alternative C

Alternative C provides for bow and stern anchoring and new moorings off West Beach and southwest of the pier, allowing for both anchoring and mooring of vessels. Alternative C was created as the result of input from boaters and weekend recreational visitors. This input was provided after the preliminary alternatives were presented to the public in August 2005. Alternative C includes all five management

zones: Resource Protection Zone, Anchoring Zone, Island Discovery Zone, Recreation Zone, and Marine Hazard Zone.

The Anchoring Zone in Alternative C would provide an approximate 2-acre bow and stern Anchoring Zone at West Beach. Due to the dynamic nature of beach conditions at Buck Island, the extent of the Anchoring Zone may shift over time. Projected changes associated with climate change, including sea level rise, frequency and duration of storms, coastal erosion, and acidification all contribute to conditions over time. Alternative C provides the ability to adapt to such changes and protect seagrasses, while providing continued access.

An additional maximum of five deep sand anchoring locations would also be designated west of Buck Island for larger vessels (91 feet to 150 feet). Anchoring would be allowed by permit only in deep sand, including along the shoreline where anchors would be required to be buried in the sand to avoid tripping and falling hazards.

Up to 45 additional moorings would be provided in a designated area beyond the Anchoring Zone at West Beach to address overflow of users wanting access to West Beach. Beach access channels would be marked to provide safe access to the beach for users mooring outside the Anchoring Zone and to protect swimmers. The beach access channels would be located north and south of the Anchoring Zone, with the northern beach access channel providing approximately 50 feet of beach frontage, and the southern access channel providing approximately 100 feet of beach frontage.

The underwater trail mooring area would also be maintained similar to Alternative A, with up to ten moorings for the underwater trail, and two SCUBA moorings. Additional moorings (up to ten) would also be located southwest of the existing pier. Moorings (up to 8) would also be installed for NPS administrative use.

Similar to Alternative B, there would be increased opportunities for partnering with agencies and other organizations due to increased levels of resource management staff. In addition, increased levels of monitoring would be conducted to provide the data necessary to adapt the best management practices to avoid adverse effects to rare, threatened or endangered species. Volunteer programs would continue and would have the potential to expand due to proposed increases to interpretive, enforcement, and resource management staff - an anticipated increase of 8 full time staff, or equivalents.

Education and outreach activities would continue to be conducted from Christiansted National Historic Site by rangers and concessioners. In addition, under Alternative C, there would also be increased opportunities for education and outreach activities to occur at Buck Island as well as increased opportunities for guided hikes. The level of ranger presence would increase within the park as proposed positions are filled.

Alternative D

Alternative D provides for recreational opportunities similar to existing conditions under Alternative A, with the exception that shoreline bow and stern anchoring would be eliminated. Similar to Alternative C, Alternative D includes all five management zones: Resource Protection Zone, Anchoring Zone, Island Discovery Zone, Recreation Zone, and Marine Hazard Zone.

Alternative D would provide vessel access via an Anchoring Zone off the shore of West Beach. Alternative D provides the largest Anchoring Zone of all the action alternatives, with approximately 16 acres in this zone. However, the size of the anchoring zone would be based upon resource conditions and would be subject to change to protect resources. The extent of the Anchoring Zone may change over time to reflect changes in the conditions in this area. Seagrass recovery and projected climate changes such as sea level rise, frequency and duration of storms, coastal erosion, and acidification all contribute to conditions that may change the seagrass and sand community over time, and therefore

where anchoring would be most appropriate. Anchoring would be appropriate only in deep sand, by permit, and on a first come, first serve basis.

There would also be up to five deep water anchoring locations designated (same as Alternatives B and C). In addition, up to 45 new moorings would be provided in a designated area beyond the Anchoring Zone at West Beach.

The underwater trail mooring area would be maintained similar to Alternatives A, B, and C, with up to ten underwater trail area moorings and two SCUBA moorings. Additional moorings (up to ten) would also be located southwest of the existing pier. Up to eight moorings would also be installed for NPS administrative use.

Beach access channels would be marked to provide safe access to the beach for those mooring and anchoring similar to Alternatives B and C. Also similar to Alternatives B and C, there would be increased opportunities for partnering with local agencies and other organizations due to increased levels of resource management staff. In addition, increased levels of research and monitoring would be conducted to provide the data necessary to adapt the best management practices to avoid adverse effects to rare, threatened or endangered species. Volunteer programs would continue and would have the potential to expand due to proposed increases to interpretive, enforcement, and resource management staff.

Alternative D provides for a greater increase in park staff due to the projected need for more ranger support and visitor services. This alternative would require the higher degree of management due to the larger size of the Anchoring Zone and increased number of vessels. Additional staff would be needed for enforcing park regulations, conducting monitoring of resources, and increased public education and interpretation activities for greater numbers of potential visitors. Due to the estimated level of up to 112 vessels proposed under Alternative D, an anticipated increase of 9 full time staff, or equivalents would be required.

Education, outreach and interpretive activities would continue to be conducted from Christiansted National Historic Site by rangers and concessioners. In addition, under Alternative D, there would also be increased opportunities for education and outreach activities at Buck Island as well as increased opportunities for guided hikes.

ENVIRONMENTAL CONSEQUENCES

The process of determining environmental consequences included identifying the regulations and policies applicable to each impact topic, and then defining the methods to conduct the analysis. Impact thresholds for each impact topic are defined in terms of negligible, minor, moderate and major; and whether they would be short-term or long-term and adverse or beneficial effects. Cumulative effects were also assessed. The impact analysis compared future conditions under potential new types of management practices (action alternatives) to future conditions that would occur if current management practices were to continue unchanged (Alternative A, No Action). An overview of climate change is provided in Appendix D. Threats associated with climate change (for example sea level rise, water temperature increases, increased storm activity, acidification) are described under Chapter 3, Affected Environment and Chapter 4, Environmental Consequences, including cumulative impacts, by impact topic.

When compared to Alternative A, action alternatives B, C and D provide enhanced protective measures by establishing management zones, instituting vessel size limitations by management zone, and increasing research, monitoring, enforcement, education, and partnering efforts that would provide beneficial effects.

The following is a summary of effects. All future development projects are subject to compliance with the National Environmental Policy Act, the National Historic Preservation Act and other appropriate

laws and regulations. Future project environmental reviews will be site specific and address natural and cultural resources, visitor experiences, and park operations.

Impacts of Alternative A:

Impacts to soil/ sand, water resources, vegetation and wildlife under the no action alternative, Alternative A, would generally be long- and short-term, negligible to minor and adverse due to the continuation of current management practices, policies, and park programs. Impacts to marine and coastal resources in terms of the shallow water coral reef community, sand bottom community, and seagrass and algal plain community would be long-term, moderate and adverse. Deeper habitats including the deep reefs and wall reefs, deep water abyssal bottom community and deep water oceanic/pelagic community would be negligible to minor and adverse. Impacts to fish and aquatic life would primarily be long-term, minor, and beneficial largely as a result of park management efforts as a “no take” marine reserve. Effects to essential fish habitat would range from long- and short-term, minor, and adverse due to vessel access and recreational use; and long- and short-term, moderate, and adverse due to illegal anchoring and fishing within the park. Impacts under Alternative A to threatened and endangered species would result in a “may affect, likely to adversely affect” determination under the Endangered Species Act for elkhorn and staghorn coral and “may affect/not likely to adversely affect” designation for sea turtles and the St. Croix ground lizard. Impacts to territory listed birds would be long- and short-term, negligible to minor, and adverse; and minor and beneficial for territory listed plant species.

Impacts to archeological resources within the park would primarily be long-term, moderate, and adverse due to human activities, natural processes, and lack of data. However, park management, interpretation, and visitor education efforts would have long-term, minor beneficial effects to archeological resources in the park.

Effects to the park’s soundscape, scenic resources, park operations and public health and safety would generally be long- and short-term, negligible to moderate and adverse. Under Alternative A, effects to visitor use and experience would generally be long-term, minor to major, beneficial and adverse due to individual preference for anchoring and the type of experience valued (more social versus anchorless and more protected), recreational opportunity, and access to orientation information and interpretation in the park.

Impacts of Alternative B:

Compared to Alternative A, eliminating the majority of anchoring, establishing management zones, establishing vessel size limits within zones, and increasing research, monitoring, enforcement, education, and partnering efforts have overall beneficial effects for the majority of impact topics. There would be long- and short-term moderate to major beneficial effects to the shallow water coral reef community, sand bottom community and seagrass and algal plain community as well as to fish and other marine animals. For deep reefs, wall reefs, abyssal bottom, oceanic/pelagic communities there would be long-term, negligible to minor and beneficial effects. Implementing Alternative B would have overall long-term, moderate beneficial effects to essential fish habitat. Overall impacts to soil/sand, water resources, vegetation and wildlife would be negligible to minor and both adverse and beneficial. Impacts to threatened and endangered species would result in a “may affect, not likely to adversely affect” determination under the Endangered Species Act. Territory listed species of concern would have long-term negligible to minor, beneficial and adverse effects.

Impacts to archeological resources would be long-term, minor, and adverse due to human activities, natural processes, and lack of data. Long-term moderate benefits would accrue from NPS management, interpretive, preservation, and protection efforts.

Impacts to soundscape would be long- and short-term, negligible to minor, and beneficial. Scenic resources would have long-term, minor, adverse effects. Under Alternative B, effects to visitor use and

access would be long- and short-term, moderate to major, adverse and beneficial due to individual preference for anchoring and degree of resource protection, recreational opportunity, and access to orientation information and interpretation in the park. Effects to park operations and facilities would be long- and short-term, major and beneficial; and impacts to public health and safety would primarily be long- and short-term, minor, and beneficial.

Impacts of Alternative C:

Characteristics of Alternative C are generally similar to Alternative A providing for bow and stern anchoring yet with beneficial effects from enhanced protective measures including establishing management zones, instituting vessel size limitations by zone, and increasing research, monitoring, enforcement, education, and partnering efforts. Impacts to wildlife would be long-term, negligible and beneficial. Impacts to soil/sand, water resources and vegetation would be long-and short-term, negligible to moderate, and adverse. Impacts to marine and coastal resources would generally be long-term and beneficial (ranging from negligible to major), with the exception of the sand bottom community which would have long-term, minor adverse effects associated with bow and stern anchoring. The effects to fish and aquatic life, and essential fish habitat would be long-term, minor to moderate and beneficial. Impacts to threatened and endangered species managed under Alternative C would result in a “may affect, not likely to adversely affect” determination under the Endangered Species Act. Territory listed species of concern would have long-term, minor, beneficial and adverse effects.

Archeological resources would have long-term, minor, and adverse effects from human activities, and moderate benefits under Alternative C, resulting from management efforts, management zones, mitigation measures for development, proactive management, and enhanced opportunities for visitor education.

Impacts to soundscapes and scenic resources would be long- and short-term, minor, and adverse. Under Alternative C, effects to visitor use and access would be generally long- and short-term, minor to major adverse and beneficial due to individual preference for anchoring and degree of resource protection, recreational opportunity, and access to orientation information and interpretation in the park. Park operations and facilities and public health and safety would primarily be long- and short-term, moderate and negligible (respectively), and beneficial.

Impacts of Alternative D:

Under Alternative D, the effects to soil and sand, water resources, and vegetation, would generally be long- and short-term, minor to moderate and adverse. Effects to wildlife would be long-term, negligible, and adverse. Effects to marine and coastal resources in terms of the shallow water coral reef community and sand bottom community would be long-term, minor and adverse. Due to anchoring, the effects to the seagrass and algal plain community would be long-term, moderate, and adverse. Impacts to the deep water community types (reefs, abyssal bottom, oceanic/pelagic) would be long-term, negligible to minor, and beneficial. Impacts to fish/aquatic life and essential fish habitat would be long-term, minor to moderate, and beneficial. Threatened and endangered species managed under Alternative D would result in a “may affect, not likely to adversely affect” determination under the Endangered Species Act. Territory listed species of concern would have long- term, minor, beneficial and adverse effects.

Archeological resources would have long-term, minor, and adverse effects from human activities, and moderate benefits under Alternative D, resulting from management efforts, management zones, mitigation measures for development, proactive management, and enhanced opportunities for visitor education.

Impacts to soundscapes would be long- and short-term, minor to moderate, and adverse. Scenic resources would be the same as those described under Alternative B, long-term, minor, and adverse.

Under Alternative D, effects to visitor use and access would be generally long- and short-term, minor to major, adverse and beneficial due to individual preference for anchoring and degree of resource protection, recreational opportunity, and access to orientation information and interpretation in the park. Public health and safety park operations and facilities and would primarily be long- and short-term, negligible and minor (respectively), and adverse.

THE NEXT STEPS

After distribution of this Draft General Management Plan / Environmental Impact Statement, there will be a 60-day public review and comment period. After the comment period ends, the NPS planning team will evaluate all input received regarding the draft plan and incorporate any resulting changes into a Final General Management Plan / Environmental Impact Statement. Following distribution of the final plan and a 30-day no-action period, a record of decision will be signed by the NPS regional director documenting the NPS selection of an alternative for implementation. Although this General Management Plan / Environmental Impact Statement provides the analysis and justification for future proposals at Buck Island Reef National Monument, this plan does not guarantee future NPS funding. Many actions would be necessary to achieve the desired conditions for natural resources, cultural resources, recreational opportunities, and facilities as envisioned in this plan. The NPS will seek funding to achieve these desired conditions. Park managers will continue to pursue other options, including expanding the service of volunteers, drawing upon existing or new partnerships, and seeking alternative funding sources, including the philanthropic community. This General Management Plan / Environmental Impact Statement provides the framework from which these choices and decisions will be made.