



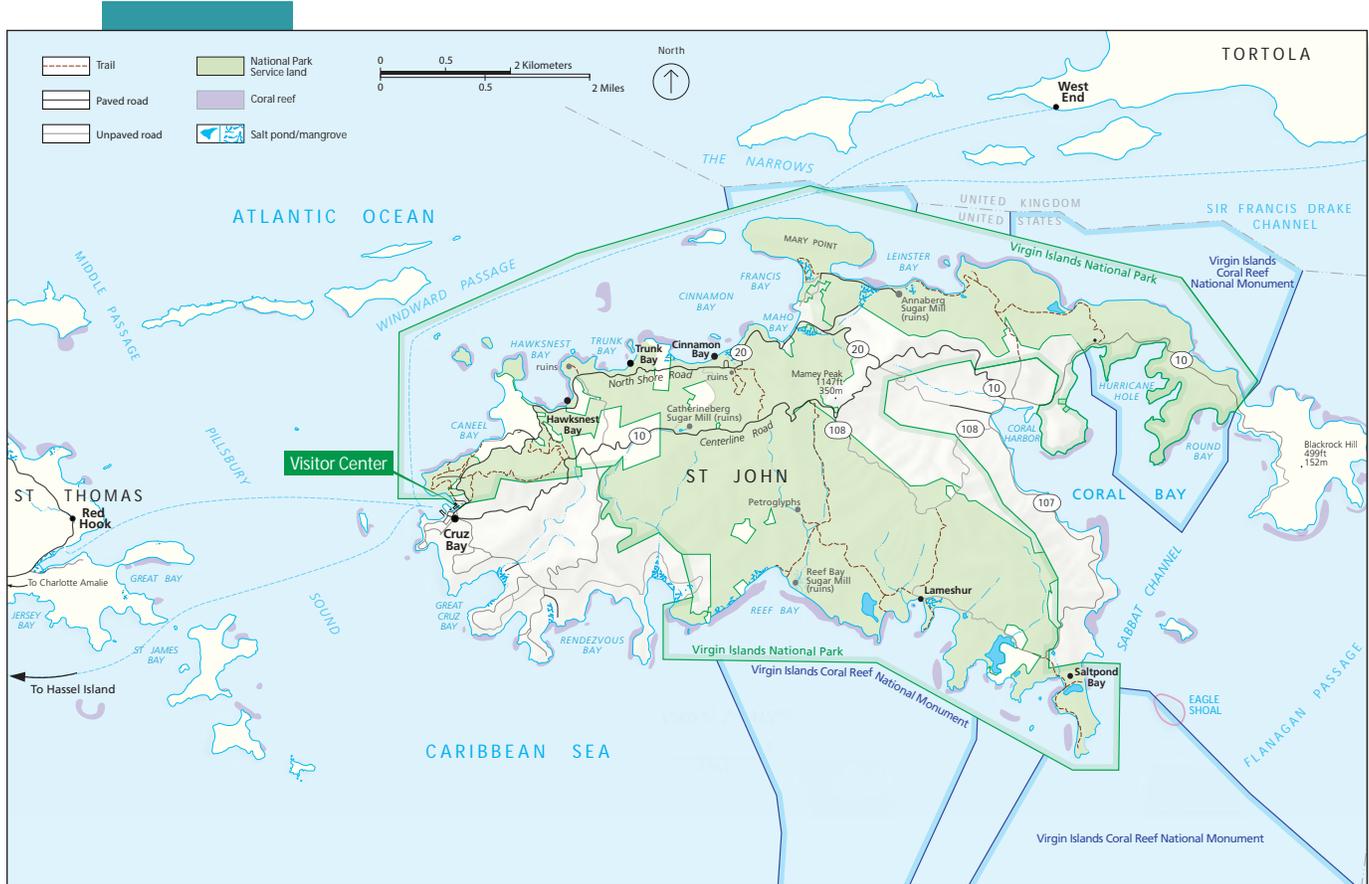
Foundation Document

Virgin Islands National Park | Virgin Islands Coral Reef National Monument

U.S. Virgin Islands

December 2016

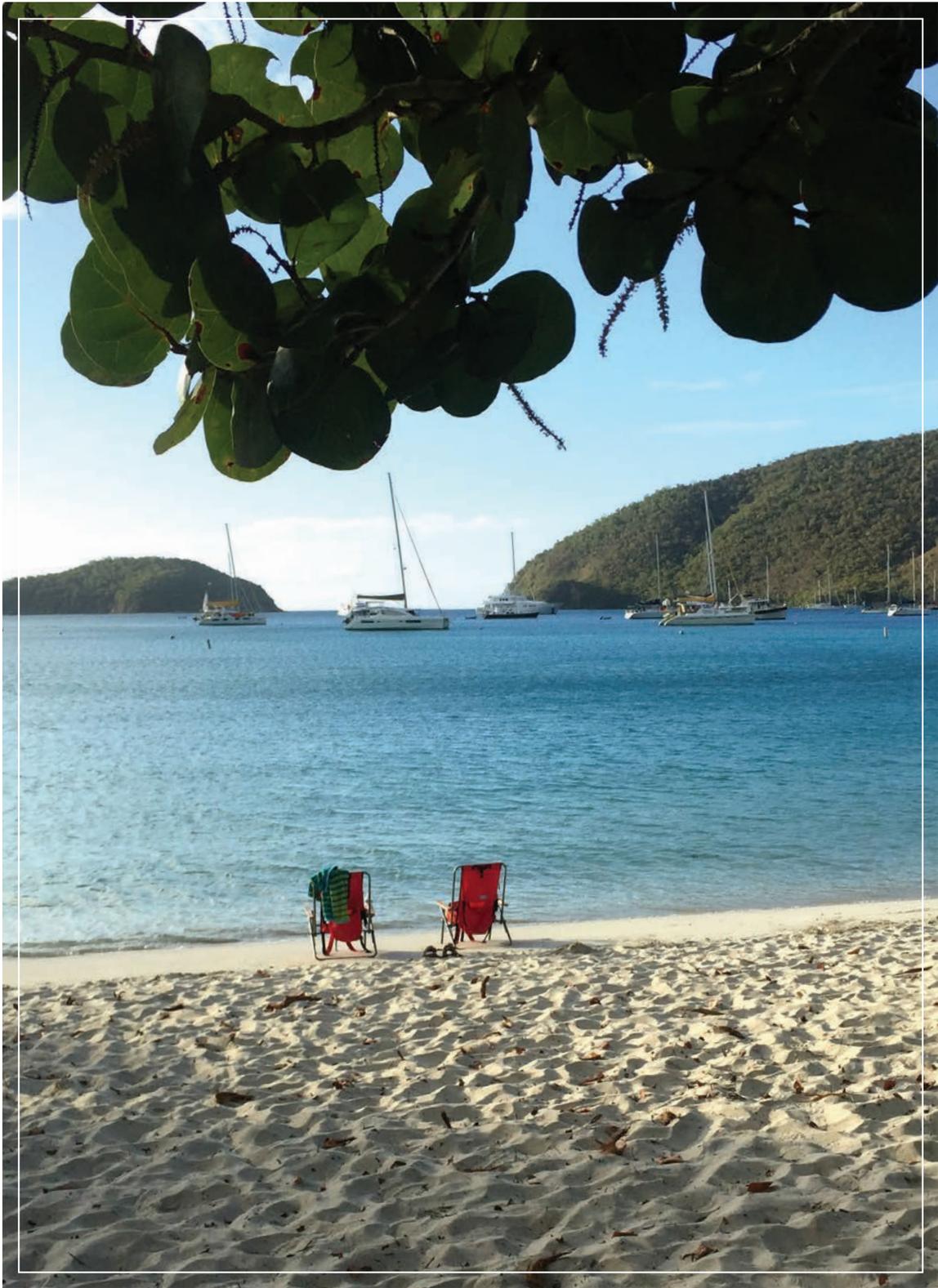




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Mission of the National Park Service

The National Park Service (NPS) preserves unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations. The National Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.

The NPS core values are a framework in which the National Park Service accomplishes its mission. They express the manner in which, both individually and collectively, the National Park Service pursues its mission. The NPS core values are:

- **Shared stewardship:** We share a commitment to resource stewardship with the global preservation community.
- **Excellence:** We strive continually to learn and improve so that we may achieve the highest ideals of public service.
- **Integrity:** We deal honestly and fairly with the public and one another.
- **Tradition:** We are proud of it; we learn from it; we are not bound by it.
- **Respect:** We embrace each other's differences so that we may enrich the well-being of everyone.

The National Park Service is a bureau within the Department of the Interior. While numerous national park system units were created prior to 1916, it was not until August 25, 1916, that President Woodrow Wilson signed the National Park Service Organic Act formally establishing the National Park Service.

The national park system continues to grow and comprises more than 400 park units covering more than 84 million acres in every state, the District of Columbia, American Samoa, Guam, Puerto Rico, and the Virgin Islands. These units include, but are not limited to, national parks, monuments, battlefields, military parks, historical parks, historic sites, lakeshores, seashores, recreation areas, scenic rivers and trails, and the White House. The variety and diversity of park units throughout the nation require a strong commitment to resource stewardship and management in order to ensure both the protection and enjoyment of these resources for future generations.



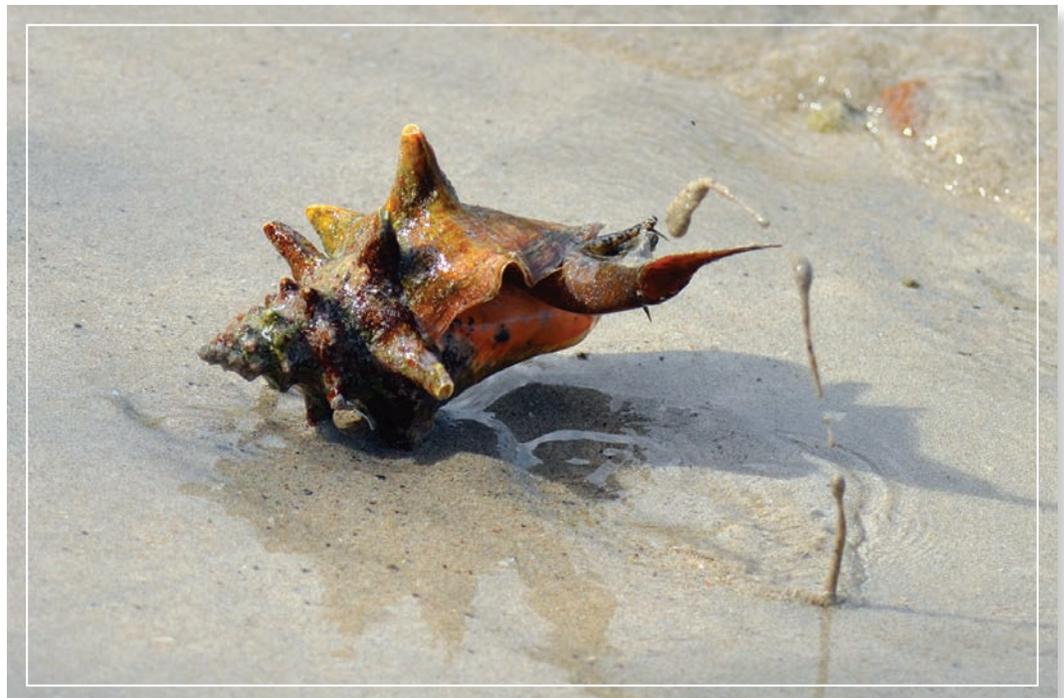
The arrowhead was authorized as the official National Park Service emblem by the Secretary of the Interior on July 20, 1951. The sequoia tree and bison represent vegetation and wildlife, the mountains and water represent scenic and recreational values, and the arrowhead represents historical and archeological values.

Introduction

Every unit of the national park system will have a foundational document to provide basic guidance for planning and management decisions—a foundation for planning and management. The core components of a foundation document include a brief description of the park as well as the park’s purpose, significance, fundamental resources and values, other important resources and values, and interpretive themes. The foundation document also includes special mandates and administrative commitments, an assessment of planning and data needs that identifies planning issues, planning products to be developed, and the associated studies and data required for park planning. Along with the core components, the assessment provides a focus for park planning activities and establishes a baseline from which planning documents are developed.

A primary benefit of developing a foundation document is the opportunity to integrate and coordinate all kinds and levels of planning from a single, shared understanding of what is most important about the park. The process of developing a foundation document begins with gathering and integrating information about the park. Next, this information is refined and focused to determine what the most important attributes of the park are. The process of preparing a foundation document aids park managers, staff, and the public in identifying and clearly stating in one document the essential information that is necessary for park management to consider when determining future planning efforts, outlining key planning issues, and protecting resources and values that are integral to park purpose and identity.

While not included in this document, a park atlas is also part of a foundation project. The atlas is a series of maps compiled from available geographic information system (GIS) data on natural and cultural resources, visitor use patterns, facilities, and other topics. It serves as a GIS-based support tool for planning and park operations. The atlas is published as a (hard copy) paper product and as geospatial data for use in a web mapping environment. The park atlas for Virgin Islands National Park and Virgin Islands Coral Reef National Monument can be accessed online at: <http://insideparkatlas.nps.gov/>.



Part 1: Core Components

The core components of a foundation document include a brief description of the park, park purpose, significance statements, fundamental resources and values, other important resources and values, and interpretive themes. These components are core because they typically do not change over time. Core components are expected to be used in future planning and management efforts.

Brief Description of the Parks

Located on St. John, U.S. Virgin Islands, Virgin Islands National Park was established in 1956 and comprises more than half of the mountainous island's land area. The park includes most of the north shore and most of the central and southeast portions of the island, including 7,259 acres of terrestrial and shoreline habitat and 5,650 acres of adjacent submerged lands (offshore underwater habitat, added to the park in 1962). The park also includes 128 acres on Hassel Island in Charlotte Amalie Harbor on St. Thomas, which was added in 1978. In 2001, Virgin Islands Coral Reef National Monument was established to protect an additional 12,708 acres of submerged lands and associated marine resources around the island. In sum, the National Park Service manages almost 58 percent of the land area of St. John and more than 18,000 acres of offshore underwater habitat.

The park and monument offer protection to coral reefs, seagrass beds, mangroves, and other marine habitats that support sea turtles, corals, and other marine life. Virgin Islands National Park also protects some of the last remaining native tropical dry rain forest in the Caribbean. In 1976, Virgin Islands National Park was designated as an International Biosphere Reserve by the United Nations Educational, Scientific and Cultural Organization (UNESCO). The park was one of the first protected areas in the world to receive this designation. Of the hundreds of UNESCO biosphere reserves worldwide, the park is 1 of only 30 reserves containing both marine and terrestrial ecosystems. It provides vital habitat for approximately 130 bird species, 400 reef-associated fish species, 17 species of whales and dolphins, 13 reptile species, numerous sponges, and more than 45 stony coral species. A number of marine and terrestrial species within the boundaries of the park and monument are federally listed as endangered or threatened.

The park units' cultural resources are abundant and diverse, including prehistoric archeological sites, hundreds of historic structures, offshore shipwrecks, and museum collections that encompass artifacts dating as far back as 840 BC. The Virgin Islands have been inhabited for at least 3,000 years, beginning with hunter-gatherers of the Archaic Period. Settlement continued throughout prehistory and ended with the development of the Taino culture, the pre-Columbian people who were present when Columbus explored the New World. When Europeans arrived, the Virgin Islands became a melting pot, inhabited by people from around the world who came to make a new life on the islands. These colonial settlements date from the 17th century through the 19th century. Visitors can explore the ruins of hundreds of historic structures to get a sense of this rich history.



Park Purpose

The purpose statement identifies the specific reason(s) for establishment of a particular park. The purpose statements for Virgin Islands National Park and Virgin Islands Coral Reef National Monument were drafted through a careful analysis of their enabling legislation and presidential proclamation and the legislative history that influenced their development. Virgin Islands National Park was established when the enabling legislation adopted by Congress was signed into law on August 2, 1956, and Virgin Islands Coral Reef National Monument was established by presidential proclamation on January 17, 2001 (see appendix A for enabling legislation and subsequent amendments). The purpose statement lays the foundation for understanding what is most important about the park.

Virgin Islands National Park

The purpose of VIRGIN ISLANDS NATIONAL PARK is to preserve and protect for public benefit and inspiration outstanding scenic features, Caribbean tropical marine and terrestrial ecosystems in their natural conditions, and cultural heritage from pre-Columbian through Danish colonial times.



Virgin Islands Coral Reef National Monument

The purpose of VIRGIN ISLANDS CORAL REEF NATIONAL MONUMENT is to preserve and protect coastal mangroves, shallow-water reefs, and sea grass beds spanning from the bays of Hurricane Hole to the deep water coral reefs, fish, and bottom communities of the shelf edge surrounding St. John, U.S. Virgin Islands—furthering the protection and stewardship of the resources in Virgin Islands National Park.



Park Significance

Significance statements express why a park’s resources and values are important enough to merit designation as a unit of the national park system. These statements are linked to the purposes of both Virgin Islands National Park and Virgin Islands Coral Reef National Monument, and are supported by data, research, and consensus. Statements of significance describe the distinctive nature of the park and why an area is important within a global, national, regional, and systemwide context. They focus on the most important resources and values that will assist in park planning and management.

The following significance statements have been identified for Virgin Islands National Park and Virgin Islands Coral Reef National Monument. (Please note that the sequence of the statements does not reflect the level of significance.)

1. Virgin Islands National Park and Virgin Islands Coral Reef National Monument provide outstanding opportunities for education and scientific research that are essential to understanding Caribbean history and promoting the sustainability of tropical marine and terrestrial ecosystems.
2. Virgin Islands National Park was designated in 1976 by the United Nations Educational, Scientific and Cultural Organization as the first biosphere reserve representing the Lesser Antilles. Virgin Islands National Park is one of the few biosphere reserves in the world to have both significant marine and terrestrial resources.
3. Virgin Islands National Park contains most terrestrial ecosystem types within the biologically rich Lesser Antilles, including the largest and most intact dry tropical forests remaining in the Caribbean. These ecosystem types provide key wintering habitat for neotropical migratory birds as well as a wide range of habitat for other plants and animals.
4. Virgin Islands National Park and Virgin Islands Coral Reef National Monument collectively protect Caribbean shallow and deep water coral reefs, including exceptional coral and mangrove communities at Hurricane Hole. These reefs provide habitat for hundreds of species of fish and uncounted species of invertebrates and form exceptionally diverse ecosystems that have evolved over thousands of years.
5. Virgin Islands National Park and Virgin Islands Coral Reef National Monument collectively preserve an exceptional array of prehistoric and historic sites that continue to define the human interactions and history unique to the region. The cultural heritage of the diverse peoples who inhabited the islands, from the first inhabitants to the prominent colonial powers and the African slave trade, speaks to today’s visitors and community.
6. Virgin Islands National Park provides unparalleled opportunities to experience scenic views of natural and cultural features of St. John and Hassel Island—from historic ruins and forested hillsides and peaks to undeveloped beaches. The clear turquoise water of the park and monument creates the backdrop for these iconic scenes.



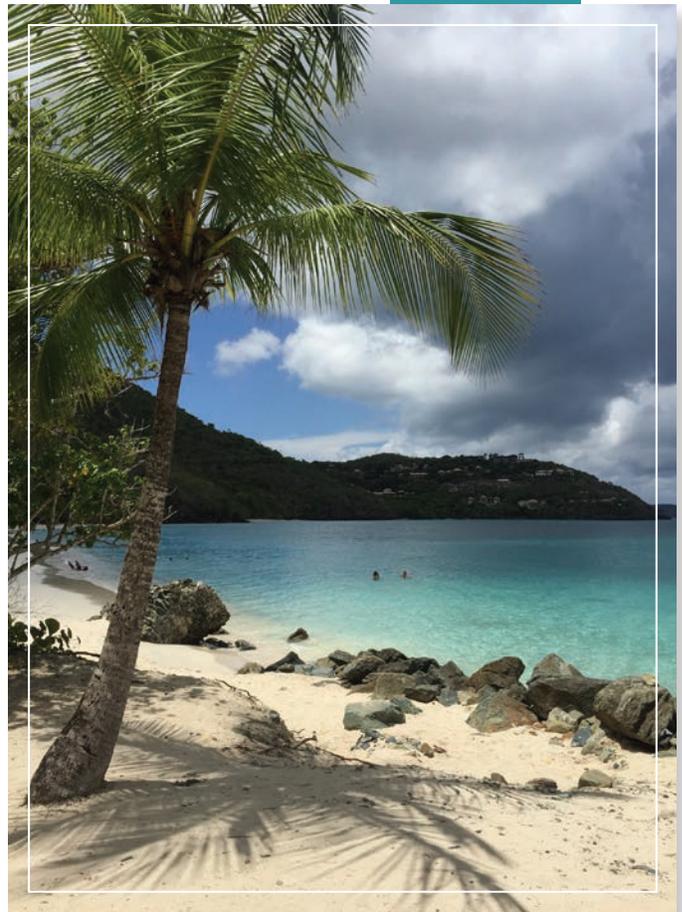
Fundamental Resources and Values

Fundamental resources and values (FRVs) are those features, systems, processes, experiences, stories, scenes, sounds, smells, or other attributes determined to warrant primary consideration during planning and management processes because they are essential to achieving the purpose of the park and maintaining its significance. Fundamental resources and values are closely related to a park's legislative purpose and are more specific than significance statements.

Fundamental resources and values help focus planning and management efforts on what is truly significant about the park. One of the most important responsibilities of NPS managers is to ensure the conservation and public enjoyment of those qualities that are essential (fundamental) to achieving the purpose of the park and maintaining its significance. If fundamental resources and values are allowed to deteriorate, the park purpose and/or significance could be jeopardized.

The following fundamental resources and values have been identified for Virgin Islands National Park and Virgin Islands Coral Reef National Monument:

- Marine Ecosystems.** Marine ecosystems found throughout Virgin Islands National Park and Virgin Islands Coral Reef National Monument include a complex mosaic of benthic habitats extending from shoreline beaches to aquatic areas 180 feet deep. Included in the brilliant blue waters of the park and monument is a diverse and complex system of coral reefs, as well as adjacent environments such as sandy bottoms, seagrass beds, and mangrove forests. These interconnected habitats support tens of thousands of species, from microscopic plankton to great whales. An extensive diversity and abundance of flora and fauna include several rare, threatened, and endangered species. The park is a member of the National System of Marine Protected Areas and is designated as a Man and the Biosphere Reserve that is representative of the Lesser Antilles.
- Terrestrial Ecosystems.** Although about 75% of the island's original tropical forests described in the earliest accounts were cleared by early European settlers in the 1700s, the forest ecosystems have rebounded and today exhibit varying degrees of revegetation, ranging from recently disturbed to late-secondary successional forests, including large regenerated tracts at least 200 years old. Along the outer fringe of these terrestrial ecosystems are 168 acres of marine wetlands that consist of mangroves, salt ponds, and intertidal habitats. In total, 11 unique vegetation types have been mapped, including mangroves, salt flats, pastures, upland moist forest, gallery moist forest, basin moist forest, dry evergreen forest, dry thicket and scrub, thorn and cactus, disturbed vegetation, and rock and coastal hedge. The largest and most intact remaining dry tropical forests in the Lesser Antilles are within park boundaries. These habitats support more than 747 species of vascular plants (more than 640 native species), 6 native bat species, 195 bird species, numerous endemic reptilian and amphibian species, and countless species of terrestrial invertebrates. The park contains 56 plant species of concern, including 2 species endemic to the island of St. John and the largest global populations of two federally listed endangered species.





- **Hurricane Hole.** Hurricane Hole in Virgin Islands Coral Reef National Monument contains the most extensive and pristine remaining mangrove habitats in the entire U.S. and British Virgin Islands. The area supports more than 30 coral species, including some rare species, and serves as a nursery area that supports numerous juvenile fish and shellfish. It is also the subject of ongoing marine research on coral responses to changing climate. A complete inventory of the area has not been done. A new genus and species of polychaete worm was identified in 2014. Hurricane Hole currently serves as a storm mooring for vessels during hurricane season.
- **Evidence of Pre-Columbian Taino Indians.** Scattered throughout St. John are almost 3,000 years of prehistoric sites that define human migration and the development of Taino culture, including archeological sites and villages of pre-Columbian Taino peoples who occupied the island from about 840 BC through European contact. Archeological investigations at Cinnamon Bay, Trunk Bay, and other sites on St. John have contributed to a greater understanding of the island's prehistory, as well as the religious, ceremonial, and social development of the Taino culture prior to the arrival of Europeans. The Reef Bay petroglyph site, recognized as one of the best preserved ancient rock art sites in the Caribbean, is also a significant link to understanding the pre-Columbian social interactions between the Lesser and Greater Antilles. These sites have dramatically increased understanding of the indigenous inhabitants of St. John and neighboring Caribbean islands, as well their ancient ceremonial rock art.
- **Diverse Historic Landscape.** More than 200 historic sites with thousands of historic structures make up a complex cultural landscape that spans the periods of early Spanish, English, French, Dutch, and Danish privateers who first settled here. The infrastructure for a rich plantation economy was built during Danish rule using forced labor in the form of enslaved persons, primarily from Africa during the 18th and early 19th centuries. Each year new historic sites are discovered, adding to a long list of 17th and 18th century sites documenting one of the best preserved historic colonial island landscapes.



- Hassel Island.** Strategically situated along the western edge of St. Thomas's harbor, 135-acre Hassel Island provides a glimpse into prehistory and history of the Lesser Antilles. Prehistoric sites on Hassel Island are representative of human occupation of the Virgin Islands prior to European contact. In addition, archeological sites and historic structures reflect the expansion of the Danish colonial plantation system through the 18th and 19th centuries. Other sites on the island include those related to the British occupation of Hassel Island as well as preserved remnants of the only Napoleonic War sites on U.S. soil. These Napoleonic War sites represent one of the most diverse military landscapes of this era in the Caribbean and include forts and batteries, barracks, hospitals, a pharmacy, guardhouses, magazines, wharfs, blacksmith works, cookhouses, latrines, cisterns, and a cemetery.

Historical remains on Hassel Island also reflect the mid-19th century shipping and maritime refitting industries. For example, the Creque Marine Railway hauled out and serviced ships from around the world and is one of the oldest and largest surviving marine railways in the world. Britain's Royal Mail Steam Packet Company was one of the first successful international mail delivery services using steamships, and the Virgin Islands was a focal point for the delivery of passengers and mail across the Americas.

- Scenic Viewscape.** Scenic resources are a defining feature of Virgin Islands National Park, as stated in the park's legislation. Park visitors can enjoy outstanding scenic views from ridge to reef, including sparkling blue water, coral gardens, white beaches, and green mountains and valleys with tropical forest vegetation. There are views from scenic overlooks, scenic panoramas of seascapes and cultural landscapes, and historic structures and ruins. This unique combination of scenic resources is an important part of the park experience. Clean air and lack of development, both inside and outside of the park, enhance the color and contrast of landscape features for unobstructed views. The designation of Virgin Islands National Park as Class I under the Clean Air Act requires enhanced protection of these spectacular scenic views.
- Dark Night Skies and Natural Sounds.** Visitors to Virgin Islands National Park and Virgin Islands Coral Reef National Monument have opportunities to experience solitude due to the park and monument's remoteness and limited development. Quiet beaches and an abundance of hiking trails allow visitors to experience areas where natural sounds predominate. The clean air and limited artificial lighting and relative lack of development, both inside and outside of the park, allow visitors to see great distances deep into the night sky.

Other Important Resources and Values

Virgin Islands National Park and Virgin Islands Coral Reef National Monument contain other resources and values that are not fundamental to the purposes of the parks, and may be unrelated to their significance, but are important to consider in planning processes. These are referred to as “other important resources and values” (OIRV). These resources and values have been selected because they are important in the operation and management of the parks, and warrant special consideration in park planning.

The following other important resources and values have been identified for Virgin Islands National Park and Virgin Islands Coral Reef National Monument:

- Opportunities for Scientific Study.** The range of habitats and historic sites in and around the park and monument provide a natural and cultural outdoor laboratory for research and learning that attracts attention from the worldwide scientific community. More research is conducted on coral reefs around the island of St. John than at most other locations in the Caribbean, due in large part to the park’s commitment to long-term monitoring. The National Park Service has a memorandum of understanding with the University of the Virgin Islands, which owns the facilities and operates the Virgin Islands Environmental Research Station via a third-party contractor. The Virgin Islands Environmental Research Station, which sits on park lands in the Lameshur area, serves as a biology field station and eco-camp for both researchers and students. Opportunities exist for active community involvement that supports resource stewardship across diverse audiences encompassing the Virgin Islands, the Caribbean, and the world. In terms of cultural and archeological research, the Archaeology Laboratory at Cinnamon Bay attracts students from around the world to study the diverse cultural sites of the park. The historic landscape is filled with sites from the development of prehistoric culture to early European and African settlements that offer opportunities for research on slavery, epidemic hospitals, fortifications, shipwrecks, plantations, maritime operations, and industrial evolution, and subsistence farming.
- Outdoor Recreation.** Each year more than 450,000 visitors enjoy and experience all that Virgin Islands National Park and Virgin Islands Coral Reef National Monument have to offer, including an abundance of recreational opportunities. Many visitors participate in boating, snorkeling, diving, hiking, camping, picnicking, photography, wildlife observation, night-sky viewing, swimming, and fishing. These opportunities support a number of local businesses and concession operations and contribute significantly to the local tourism-based economy.



Interpretive Themes

Interpretive themes are often described as the key stories or concepts that visitors should understand after visiting a park—they define the most important ideas or concepts communicated to visitors about a park unit. Themes are derived from, and should reflect, park purpose, significance, resources, and values. The set of interpretive themes is complete when it provides the structure necessary for park staff to develop opportunities for visitors to explore and relate to all park significance statements and fundamental and other important resources and values.

Interpretive themes are an organizational tool that reveal and clarify meaning, concepts, contexts, and values represented by park resources. Sound themes are accurate and reflect current scholarship and science. They encourage exploration of the context in which events or natural processes occurred and the effects of those events and processes. Interpretive themes go beyond a mere description of the event or process to foster multiple opportunities to experience and consider the park and its resources. These themes help explain why a park story is relevant to people who may otherwise be unaware of connections they have to an event, time, or place associated with the park.

The following interpretive themes have been identified for Virgin Islands National Park and Virgin Islands Coral Reef National Monument:

- Virgin Islands National Park and Virgin Islands Coral Reef National Monument protect unique and diverse terrestrial and marine ecosystems representative of the Lesser Antilles and provide habitat critical for the survival of indigenous and migratory species, some of which are threatened and endangered.
- Virgin Islands National Park and Virgin Islands Coral Reef National Monument provide outstanding recreational, educational, inspirational, and scenic opportunities for park visitors to deepen their appreciation, understanding, and connection to natural and cultural resources found only in the Caribbean.
- Virgin Islands National Park provides a setting for exploring the experience of the enslaved Africans and learning about the layers of history and patterns of change within the institution of slavery over time in the West Indies when the Triangle Trade flourished.
- Virgin Islands National Park chronicles the history of indigenous cultures and human habitation and use of the U.S. Virgin Islands, from Pre-Columbian people 3,000 years ago through the Danish Colonization in 1917.
- Climate change jeopardizes the natural and cultural resources of the U.S. Virgin Islands by degrading the environment with increasingly severe and possibly more frequent storms and droughts, rising sea temperatures, and inundation of the coastline, all of which have the potential to affect quality of life and visitor experience.
- Research and monitoring are the driving forces in preserving, educating, and understanding Caribbean natural and cultural history, as well as promoting the sustainability of tropical marine and terrestrial ecosystems at Virgin Islands National Park and Virgin Islands Coral Reef National Monument for present and future generations.



Part 2: Dynamic Components

The dynamic components of a foundation document include special mandates and administrative commitments and an assessment of planning and data needs. These components are dynamic because they will change over time. New special mandates can be established and new administrative commitments made. As conditions and trends of fundamental and other important resources and values change over time, the analysis of planning and data needs will need to be revisited and revised, along with key issues. Therefore, this part of the foundation document will be updated accordingly.

Special Mandates and Administrative Commitments

Many management decisions for a park unit are directed or influenced by special mandates and administrative commitments with other federal agencies, state and local governments, utility companies, partnering organizations, and other entities. Special mandates are requirements specific to a park that must be fulfilled. Mandates can be expressed in enabling legislation, in separate legislation following the establishment of the park, or through a judicial process. They may expand on park purpose or introduce elements unrelated to the purpose of the park. Administrative commitments are, in general, agreements that have been reached through formal, documented processes, often through memorandums of agreement. Examples include easements, rights-of-way, arrangements for emergency service responses, etc. Special mandates and administrative commitments can support, in many cases, a network of partnerships that help fulfill the objectives of the park and facilitate working relationships with other organizations. They are an essential component of managing and planning for Virgin Islands National Park and Virgin Islands Coral Reef National Monument.

Special Mandates

Virgin Islands National Park

- **U.S. Code—Virgin Islands National Park (16 USC 398e).**
 - a. Protects customary uses or access for bathing and fishing, “subject to such regulations as the Secretary of the Interior may find reasonable and necessary for protection of natural conditions and prevention of damage to marine life and formations.”
 - b. “Notwithstanding any provision of law to the contrary, no [entrance or admission] fee or charge shall be imposed for entrance or admission into the Virgin Islands National Park.”
- **Commercial Activities.** Managed as summarized in the *Virgin Islands National Park Commercial Services Plan* (2001). All commercial activities in the park must be authorized by a written agreement (36 CFR 5.3). These include concession contracts and permits for incidental businesses, special uses, rights-of-way, and cooperating associations. Concessions contracts and letters of authorization are in place for Cinnamon Bay Campground, food services at Trunk Bay, and water sport activities for Caneel Bay Resort. The majority of commercial activities in the park are authorized under incidental business permits. Special use permits are issued as short- and long-term permits for such activities as filming, weddings, parties, and races.



- **Caneel Bay Resort Retained Use Estate.** In 1983, Jackson Hole Preserve (JHP) acting on behalf of Laurance Rockefeller, donated the lands (128.7 acres) and some improvements at the Caneel Bay Resort to the National Park Service. As a condition of that donation, JHP and any future owners received a 40-year Retained Use Estate (RUE) on the property and improvements. The RUE indicates that the owner and all future owners or agents can operate the resort and conduct activities on the property without “authoritative control or oversight by the Secretary; owner/operator may make additions, changes, renovations and alterations to the premises at its sole discretion for the term of the RUE”; and that the National Park Service (grantee) “shall have no responsibility with respect to the protection of visitors to the premises.
- **Caneel Bay Resort Lease Authorization.** In 2010, Congress authorized the National Park Service to explore the feasibility of entering into a long-term lease (40 years) with the current owner of Caneel Bay Resort (Public Law 111-261). As of 2016, an environmental assessment for the lease had been completed, and the National Park Service was negotiating the terms of lease with the current owner.
- **Park Road Maintenance.** In 1961 the National Park Service committed via letters between the NPS director and the governor of the Virgin Islands to improve and maintain certain roads in the park. The letters identify specific roads that will be maintained by the park and those the territory will maintain within park boundaries.
- **Protection Alternatives—Federal, State, and Local Laws.** Title 36, Chapter 1, of the *Code of Federal Regulations* contains NPS rules and regulations for resource protection in Virgin Islands National Park. Most of the general regulations in that chapter apply, and regulations specific to the park are in section 7.74.

Other authorities involved with enforcing laws related to resource protection, including enforcement on park lands, include the U.S. Coast Guard and U.S. Customs. Environmental laws and regulations of the Territory of the Virgin Islands may be enforced in the park by the territorial government but not by the National Park Service.



- **Deed of Gift.** This deed of gift from Jackson Hole Preserve, Incorporated, to the United States of America, signed November 21, 1956, contains the following provision: “Said premises are hereby conveyed subject to the condition that in the event said premises, or any part thereof, shall cease to be part of a National Park, then said premises or part thereof which cease to be part of a National Park shall thereupon revert back to the GRANTOR, except that the specific part of said premises underlying and any capital improvements which may be constructed by the GRANTEE shall not be subject to reversion under this paragraph.”
- **Clean Air Act.** Under the Clean Air Act Amendments of 1977 (42 USC 7401 et seq.), Virgin Islands National Park is designated a Class I area. This designation provides special protection for air quality, sensitive ecosystems and clean, clear views. Under section 169A of those amendments, “Congress declares as a national goal the prevention of any existing impairment of visibility in mandatory class I Federal areas which impairment results from manmade air pollution.”

Virgin Islands Coral Reef National Monument

- **Presidential Proclamation 7399.** Pursuant to this presidential proclamation by William J. Clinton, which establishes the monument, interim regulations (36 CFR Part 7) published in the *Federal Register* (effective May 5, 2003) prohibit extractive uses (with a few exceptions including bait fishing) and dredging, excavation, or filling operations; protect all wrecks or abandoned waterborne craft and cargo; prohibit anchoring except during emergency situations; and require boats to follow U.S. Coast Guard and territorial regulations.

For more information about existing administrative commitments for Virgin Islands National Park and Virgin Islands Coral Reef National Monument, please see appendix B.

Assessment of Planning and Data Needs

Once the core components of part 1 of the foundation document have been identified, it is important to gather and evaluate existing information about the park's fundamental and other important resources and values, and develop a full assessment of the park's planning and data needs. The assessment of planning and data needs section presents planning issues, the planning projects that will address these issues, and the associated information requirements for planning, such as resource inventories and data collection, including GIS data.

There are three sections in the assessment of planning and data needs:

1. analysis of fundamental and other important resources and values
2. identification of key issues and associated planning and data needs
3. identification of planning and data needs (including spatial mapping activities or GIS maps)

The analysis of fundamental and other important resources and values and identification of key issues leads up to and supports the identification of planning and data collection needs.

Analysis of Fundamental Resources and Values

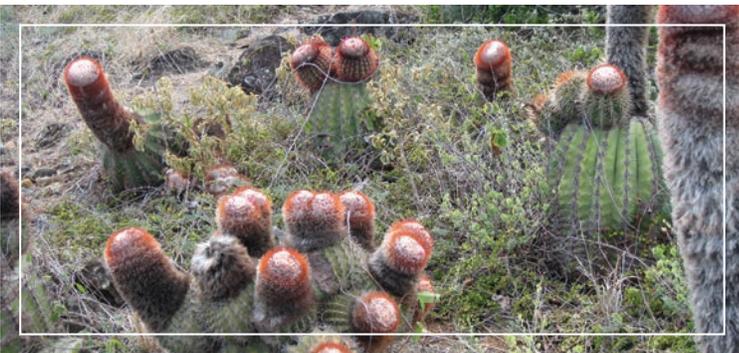
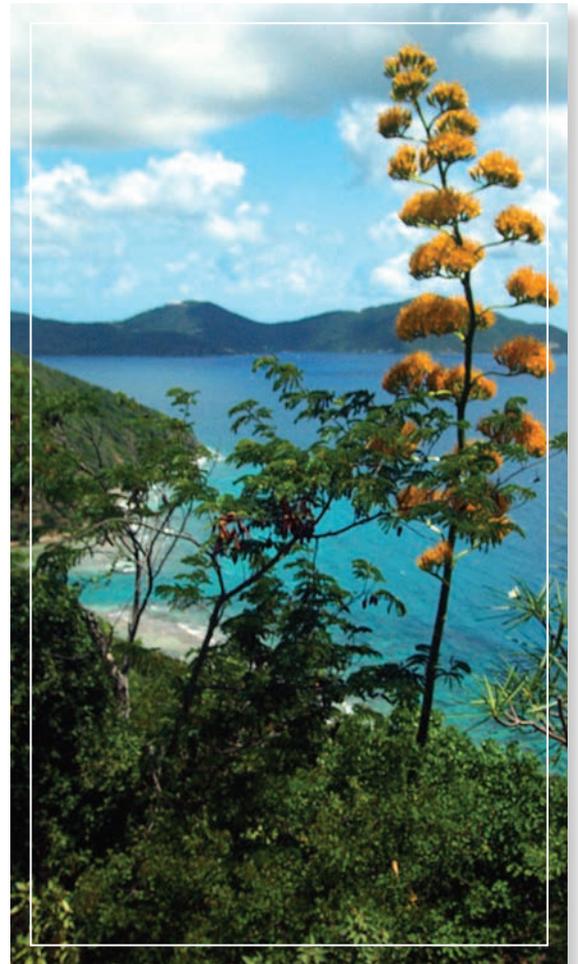
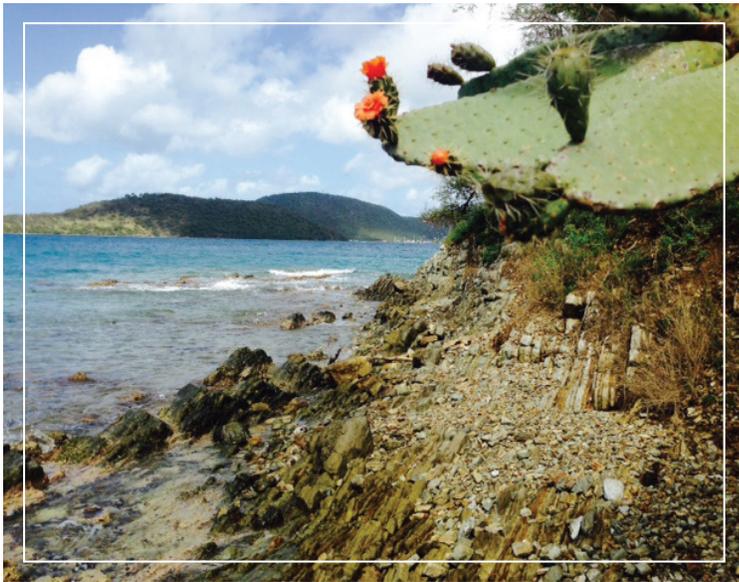
The fundamental resource or value analysis table includes current conditions, potential threats and opportunities, planning and data needs, and selected laws and NPS policies related to management of the identified resource or value.



Fundamental Resource or Value	Marine Ecosystems
Related Significance Statements	Significance statements 1, 2, 4, and 6.
Current Conditions and Trends	<p>Conditions</p> <ul style="list-style-type: none"> • Coral reefs and associated communities are a major part of the marine ecosystem. • Reefs provide habitat for a variety of marine species. • Some reefs within the park experienced an average 60% decline in coral cover from 2005 to 2007, primarily from coral disease. • Threatened elkhorn coral is increasing in some areas, and coral cover is stable or increasing at long-term monitoring sites as of 2015. • The park continues to conduct long-term monitoring as part of the NPS Inventory & Monitoring Program for coral reef habitat and the marine ecosystem. • Coral reefs are important in the promotion and development of tourism. • The abundance and distribution of marine mammals in U.S. territorial waters of the Caribbean are poorly understood. At least 17 species of whales and dolphins, including the federally listed humpback whale, have been reported in the region. • Water quality is monitored at three locations on the north shore of the park. • Sediment runoff from roads and development in the park and on private property may have resulted in an overall reduction in water clarity and nutrient loading of park marine waters in some areas. • Marine boundaries for the park and monument have not been clearly delineated. <p>Trends</p> <ul style="list-style-type: none"> • The long-term fish monitoring, co-located with the NPS Inventory & Monitoring Program coral monitoring sites, shows that total reef fish biomass has increased from 1989 to 2014. During this time, there have been no significant trends in fish species richness or abundance. • Invasive species such as lionfish and nonnative seagrasses are increasing in abundance. • More coral species known to occur within the park and monument are either being listed or considered for listing on the federal threatened and endangered species list. • More coral bleaching episodes and disease outbreaks are expected. • Sedimentation is increasing. • Marine debris from both off-shore and local sources is increasing. • There has been sargassum in high amounts in some years. • Visitation is increasing, especially related to boating and other water-based recreation. • Water temperatures are increasing.
Threats and Opportunities	<p>Threats</p> <ul style="list-style-type: none"> • Natural disturbances, such as hurricanes, are harming mangroves, coral reefs, and seagrass beds. Large storms are likely to increase under climate change. • Invasive species outcompete native species. The invasive seagrass <i>Halophila stipulacea</i> is spreading through the Eastern Caribbean and on St. John, competing with native seagrass. This is likely to be exacerbated by climate change. The full range of ecological ramifications, both positive and negative, is not yet known. • Lionfish negatively affect native species through competition and predation. This issue has been amplified because lionfish populations are increasing. • Turtle nesting sites are raided by humans and invasive terrestrial species. • Marine wildlife are affected by the presence of trash, debris, abandoned fishing gear (e.g., nets and fish, crab, and lobster traps), and abandoned boats, as well as ocean dumping.

Fundamental Resource or Value	Marine Ecosystems
<p>Threats and Opportunities</p>	<p>Threats (continued)</p> <ul style="list-style-type: none"> • There have been instances of poaching of marine invertebrates, such as conch and lobster. • Law enforcement, maintenance capabilities, and long-term scientific monitoring of resources are hindered by declines in operational funding. • Inadequate boundary delineation may contribute to unauthorized activities within the park and monument. • Navigational error and lack of knowledge of shallow, sensitive reef areas cause boat groundings and physical damage to coral reefs. • Overfishing and anchor damage to reefs and seagrass negatively affect fish, corals, seagrass, and other benthic resources. • Vessel discharges can impact water quality and introduce invasive species. • Climate change will have a range of effects on the park and monument, including increases in sea surface temperature, ocean heat content, and ocean acidification. Changes in sea level, oceanic circulation/current, and carbon inventories could also occur. • Coral bleaching, which can contribute to coral disease and mortality, has been documented in some areas. Increases in ocean temperature are expected to increase the incidence of coral bleaching events and disease prevalence. • Permits for two large marinas in Coral Bay are currently being reviewed by the U.S. Army Corps of Engineers. The potential impact of these developments on the resources in Hurricane Hole or on visitor experience has not been evaluated. The size and number of vessels in the area would have a long-term negative impact on monument resources, particularly in Hurricane Hole. • Sedimentation and nutrient runoff adversely affect marine resources. • Snorkelers and scuba divers can step on, kick, or otherwise inadvertently damage fragile coral and other reef organisms. • Coral disease will continue to kill corals. • Long-range transport of dust from Africa containing viable bacteria and fungi, nutrients, metals, and persistent organic pollutants (e.g., pesticides, PAHs, PCBs) can impact the marine ecosystem. A particular soil fungus in the dust causes sea fan disease that can result in coral mortality. <p>Opportunities</p> <ul style="list-style-type: none"> • Increase enforcement of regulations that prevent damage to the marine ecosystem and conduct more regularly scheduled damage assessments. • Develop educational videos and multimedia presentations for visitors, hotels, travel venues, and others describing sensitive marine resources and need for increased awareness. • Conduct educational outreach to increase awareness of marine ecosystem. An improved marine guide has been published. • Increase partnerships related to social media and education. • Increase long-term monitoring of marine ecosystem resources. • Expand outreach to schools through programs such as “adopt-a-reef.” • Provide virtual educational resources related to marine ecology and research. • Identify and fill gaps in benthic mapping. • Improve marine guide to include boundaries and guidance in the Superintendent’s Compendium. • Improve display of marine boundaries in Google Maps, GPS charts, and National Oceanic and Atmospheric Administration guides. • Develop stronger ties to nonprofit groups such as the Caribbean Invasive Lionfish Response Program, Island Green Living Association, and others. • Work with Island Green Living Association on recycling initiatives. • Develop process for collecting more complete visitor statistics.

Fundamental Resource or Value	Marine Ecosystems
<p>Data and/or GIS Needs</p>	<ul style="list-style-type: none"> • Long-term natural resource monitoring in Virgin Islands Coral Reef National Monument. • Mapping and monitoring of marine and terrestrial invasive species. • Fishing and illegal collecting impact study. • Water quality study. • Species surveys and distribution maps. • Water circulation study.
<p>Planning Needs</p>	<ul style="list-style-type: none"> • Visitor use management plan. • Boundary marking plan. • Vessel management plan. • Planning for adaptation to climate change.
<p>Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance</p>	<p>Laws, Executive Orders, and Regulations That Apply to the FRV</p> <ul style="list-style-type: none"> • Clean Water Act of 1972, as amended • Clean Air Act (42 USC 7401 et seq.) • Coastal Zone Management Act of 1972 • Endangered Species Act of 1973, as amended • Fish and Wildlife Coordination Act • Magnuson-Stevenson Fisheries Management and Conservation Act • Marine Mammal Protection Act of 1972 • Marine Protection, Research and Sanctuaries Act • Migratory Marine Game-Fish Act • National Marine Sanctuary Act • Rivers and Harbors Appropriation Act of 1899 • Sustainable Fisheries Act • Executive Order 12962, "Recreational Fisheries" • Executive Order 13089, "Coral Reef Protection" • Executive Order 13158, "Marine Protected Areas" • Executive Order 13352, "Facilitation of Cooperative Conservation" • Executive Order 13547, "Stewardship of the Ocean, Our Coasts, and the Great Lakes" • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" • Virgin Islands Code (various titles/chapters, primarily title 12) <p>NPS Policy-level Guidance (NPS Management Policies 2006 and Director's Orders)</p> <ul style="list-style-type: none"> • NPS Management Policies 2006 (§1.6) "Cooperative Conservation Beyond Park Boundaries" • NPS Management Policies 2006 (§4.1) "General Management Concepts" • NPS Management Policies 2006 (§4.1.4) "Partnerships" • NPS Management Policies 2006 (§4.4.1) "General Principles for Managing Biological Resources" • NPS Management Policies 2006 (§4.7) "Air Resource Management" • NPS Management Policies 2006 (§4.7.2) "Weather and Climate" • NPS Management Policies 2006 (§4.8.1.1) "Shorelines and Barrier Islands" • Director's Order 77: <i>Natural Resource Protection</i> • Policy Memoranda 12-02: "Applying NPS Management Policies in the Context of Climate Change" • NPS <i>Natural Resource Management Reference Manual 77</i>



Fundamental Resource or Value	Terrestrial Ecosystems
Related Significance Statements	Significance statements 1, 2, 3, and 6.
Current Conditions and Trends	<p>Conditions</p> <ul style="list-style-type: none"> • Vegetation continues to regenerate following deforestation that occurred during the colonial era, when almost 90% of the forest's vegetation was removed. • Invasive plants are threatening native vegetation species. • Terrestrial vegetation has been inventoried and mapped. • The boundary of the park is irregular, and the park contains many inholdings and private property. Ownership boundaries are poorly delineated/marked. • Funding to adequately control nonnative plant and animal species is not currently available. <p>Trends</p> <ul style="list-style-type: none"> • Visitation is increasing, which is evident on trails, at beaches, and at cultural sites. • Vehicular traffic, particularly larger vehicles and vehicle rentals, is increasing. • Ecological succession of native forests continues to progress from clear-cutting done during plantation days. • Erosion is increasing, primarily due to increased development on St. John. • Artificial light and noise are increasing due to increased development.

Fundamental Resource or Value	Terrestrial Ecosystems
<p>Threats and Opportunities</p>	<p>Threats</p> <ul style="list-style-type: none"> • Clearing of steep hillsides for residential development on St. John has resulted in an increase in erosion, runoff, and sedimentation. More than 80% of the island’s slopes are greater than 30 degrees. • Virgin Islands National Park is inhabited by numerous species of nonnative mammals (i.e., deer, hogs, goats, rats, and mongoose) that are severely impacting many indigenous species of plants and animals. • Poorly delineated and marked boundaries contribute to encroachment within the park boundary from development of inholdings and adjacent lands. • Pressure to create new roads or to open roads that have long been closed and used only as trails poses potential threats to visitor experience as well as terrestrial ecosystems. • Invasive plant species compete with native species for space, light, moisture, and nutrients. • Sea turtle and bird eggs are depredated by mongoose and other nonnative animals. • Poaching of bird eggs occurs on offshore cays. • Natural disturbances such as hurricanes and drought affect the terrestrial ecosystem. • Development on St. John is contributing to the degradation of mangroves, salt ponds, and wetlands outside the park boundary. • The effects of climate change and sea level rise include an increase in large storms, drought, invasive species, flooding, erosion, saltwater intrusion, and a northward shift in species ranges. • Unpaved roads both within and outside the park contribute to erosion. • Adjacent development and encroachment cause resource damage in some areas. • Nutrient loading is occurring as a result of septic systems, garbage, and other debris. • High numbers of vehicles and improper parking in many locations are destroying vegetation and damaging cultural resources. <p>Opportunities</p> <ul style="list-style-type: none"> • Inventory and monitor vegetation. • Develop educational videos and multimedia presentations for visitors, hotels, and travel venues describing sensitive terrestrial resources and need for increased awareness. • Increase education and awareness of park regulations and sensitive resources. • Schedule evening programs at the Cinnamon Bay amphitheater to provide educational and interpretive opportunities to campers and the general public. • Determine accurate boundaries and improve and more clearly delineate boundary signage. • Expand educational outreach through the use of social media or smartphone apps. • Reconstitute inventory and monitoring of the forest. • Increase ranger presence and enforcement of regulations (dependent on funding).
<p>Data and/or GIS Needs</p>	<ul style="list-style-type: none"> • Deer population study. • Traffic and circulation study. • Mapping and monitoring of marine and terrestrial invasive species. • Endemic and rare plant study. • Species surveys and distribution maps. • Tree study.

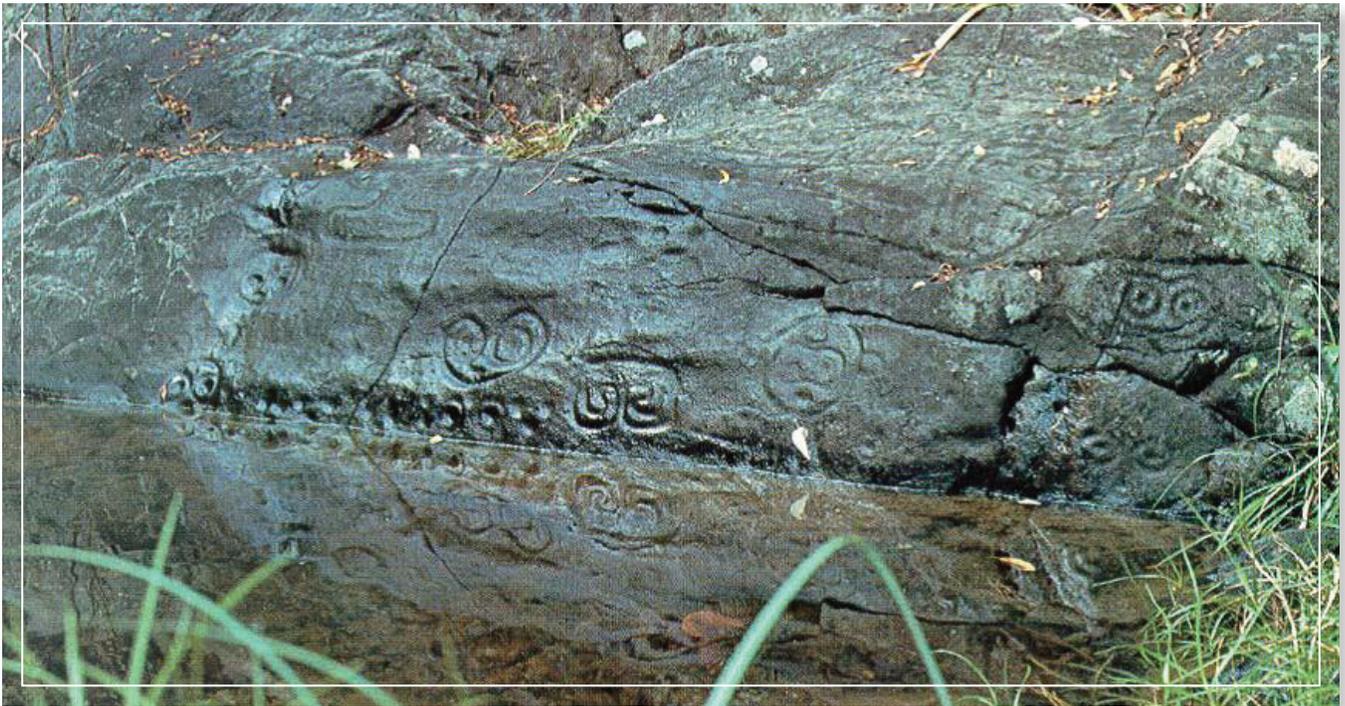
Fundamental Resource or Value	Terrestrial Ecosystems
<p>Planning Needs</p>	<ul style="list-style-type: none"> • Exotic terrestrial plant species management plan. • Deer management plan. • Donkey management plan. • Visitor use management plan. • Planning for adaptation to climate change.
<p>Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance</p>	<p>Laws, Executive Orders, and Regulations That Apply to the FRV</p> <ul style="list-style-type: none"> • Clean Air Act (42 USC 7401 et seq.) • Clean Water Act of 1972, as amended • Endangered Species Act of 1973, as amended • Migratory Bird Conservation Act of 1929, selected analyses • Migratory Bird Treaty Act of 1918, as amended • National Invasive Species Act of 1996 • Executive Order 11514, “Protection and Enhancement of Environmental Quality” • Executive Order 13112, “Invasive Species” • Secretarial Order 3289, “Addressing the Impacts of Climate Change on America’s Water, Land, and Other Natural and Cultural Resources” • Virgin Islands Code (various titles/chapters, primarily title 12, chapters 2 and 3) • “Rules Governing Issuance of and Administrative Hearings on Interim Status Corrective Actions Orders” (40 CFR part 24) <p>NPS Policy-level Guidance (NPS Management Policies 2006 and Director’s Orders)</p> <ul style="list-style-type: none"> • NPS <i>Management Policies 2006</i> (§1.6) “Cooperative Conservation Beyond Park Boundaries” • NPS <i>Management Policies 2006</i> (§4.1) “General Management Concepts” • NPS <i>Management Policies 2006</i> (§4.1.4) “Partnerships” • NPS <i>Management Policies 2006</i> (§4.4.1) “General Principles for Managing Biological Resources” • NPS <i>Management Policies 2006</i> (§4.6.4) “Floodplains” • NPS <i>Management Policies 2006</i> (§4.7) “Air Resource Management” • NPS <i>Management Policies 2006</i> (§4.7.2) “Weather and Climate” • NPS <i>Management Policies 2006</i> (§4.8.1.1) “Shorelines and Barrier Islands” • NPS <i>Management Policies 2006</i> (§4.9) “Soundscape Management” • NPS <i>Management Policies 2006</i> (§4.10) “Lightscape Management” • Director’s Order 18: <i>Wildland Fire Management</i> • Director’s Order 77: <i>Natural Resource Protection</i> • Director’s Order 77-2: <i>Floodplain Management</i> • Policy Memoranda 12-02: “Applying NPS Management Policies in the Context of Climate Change” • NPS Reference Manual 18: <i>Wildland Fire Management</i> • NPS <i>Natural Resource Management Reference Manual 77</i> • NPS Procedural Manual 77-1: <i>Wetland Protection</i> • NPS Procedural Manual 77-2: <i>Floodplain Management</i>

Fundamental Resource or Value	Hurricane Hole
<p>Related Significance Statements</p>	<p>Significance statements 1, 2, 4, and 6.</p>
<p>Current Conditions and Trends</p>	<p>Conditions</p> <ul style="list-style-type: none"> • Baseline data exist for fishes and corals in Hurricane Hole, and a number of reference materials are available. • Some corals in Hurricane Hole may be more resilient to changing climate. • Hurricane Hole is used as a boat refuge during hurricane season. Permits for the moorings currently are at capacity. • Mooring facilities (day use) experience high levels of use during peak season. • The area serves as an important nursery for juvenile fish. • Water quality of Hurricane Hole is overall in good condition. • There is a lack of public understanding regarding the boundary between Virgin Islands National Park and Virgin Islands Coral Reef Monument in this area. • The mangroves in Hurricane Hole support a special abundance and diversity of coral, possibly unique in the Caribbean. • There are threatened and endangered species in Hurricane Hole. <p>Trends</p> <ul style="list-style-type: none"> • Park rangers have observed an increase in visitor interest in this area; more people are kayaking, snorkeling, paddle boarding, swimming, and boating. • Since the 1980s the abundance and perhaps diversity of corals has probably been increasing. • There is increased pressure for more commercial use agreements in the area, many of which could have impacts on resources.
<p>Threats and Opportunities</p>	<p>Threats</p> <ul style="list-style-type: none"> • Projected changes in sea level (0.67–0.72 feet by 2050) may lead to increased storm surge, loss of land and habitat, increased erosion, rising groundwater tables, salt water intrusion, changes to hydrologic regimes, and loss of freshwater ecosystems. These changes could have a range of effects on mangroves in Hurricane Hole. • Increased recreational use, including increased numbers of boats, tying up vessels to mangroves, and generating wakes, is disturbing mangrove communities. These activities can dislodge invertebrate and algal communities living on the submerged parts of the mangrove prop roots. • Natural disturbances, such as hurricanes and drought, harm mangroves, coral reefs, and seagrass beds. These threats are likely to be exacerbated by climate change. • Vessel anchoring can damage reefs. Recently installed storm moorings have improved conditions. • Water quality may be affected by boat discharge due to restricted water circulation associated with hydrological conditions in Hurricane Hole. • Permits for two large marinas in Coral Bay are currently being reviewed by the U.S. Army Corps of Engineers. The potential impact of these developments on the resources in Hurricane Hole or on visitor experience has not been evaluated. The size and number of vessels in the area would have a long-term negative impact on monument resources, particularly in Hurricane Hole. • Anchoring and vessel groundings can damage coral reefs. • Improper disposal of wastes and other pollutants in waters adjacent to the monument can affect water quality in Hurricane Hole. • Marine and residential development within adjacent watersheds contributes to erosion and affects water quality.

Fundamental Resource or Value	Hurricane Hole
<p>Threats and Opportunities</p>	<p>Threats (continued)</p> <ul style="list-style-type: none"> • Visitors frequently are unaware of, or fail to understand and obey, regulations aimed at protecting marine resources. The lack of a well-defined boundary between the park and monument and clarity about which regulations apply in each compounds the problem. • Invasive species such as the lionfish pose a significant threat to coral reef ecosystems. Lionfish have few natural predators and have negative effects on native species through competition and predation. • Law enforcement is hindered due to declines in operational funding. • Coral disease threatens corals and reefs. • Climate change will have a range of effects on the Hurricane Hole area, including increases in sea surface temperature, ocean heat content, and ocean acidification. Changes in sea level, oceanic circulation/current, pH level, and carbon inventories are also likely to occur. Visitation under climate change may increase, especially during the low season. • There have been instances of poaching of marine invertebrates, such as conch and lobster. • Coral bleaching has been documented in some areas; anticipated increases in ocean temperatures would increase the incidence of coral bleaching events. • Vessel discharges can affect water quality and introduce invasive species. • Potential sedimentation runoff and associated nutrient loading from adjacent development and unpaved roadways affects water quality. • Visitors who swim, snorkel, and dive step on, kick, or otherwise inadvertently damage fragile coral and other reef organisms. <p>Opportunities</p> <ul style="list-style-type: none"> • Expand inventory and monitoring of resources in Hurricane Hole. • Conduct additional research to better understand pre-Columbian use of Hurricane Hole. • Expand education and awareness of monument regulations and sensitive resources. • Increase monitoring of resource conditions and develop greatly needed baseline data. • Increase web education and other digital outreach. • Identify and conduct research on new species in the area. • Conduct additional research on the mangroves. • Improve storm mooring permit process. • Provide expanded interpretation regarding sensitivity of marine resources within Hurricane Hole. • Develop specific signage to delineate park and monument boundaries to notify visitors when they are in the monument. • Install corner buoys in the water and mark monument boundary. • Improve and expand park presence at Hurricane Hole. • Develop new partnerships for the area, using strategies such as bay hosts and volunteer interpreters. • Increase communication with the U.S. Virgin Islands Department of Planning and Natural Resources regarding adjacent watershed development and impacts.
<p>Data and/or GIS Needs</p>	<ul style="list-style-type: none"> • Water circulation study. • Long-term natural resource monitoring in Virgin Islands Coral Reef National Monument. • Mapping and monitoring of marine and terrestrial invasive species. • National Register of Historic Places nomination (for precolonial historic and archeological resources). • Mangrove habitat map of Hurricane Hole. • Comprehensive data on coral abundance and diversity. • Sea turtle survey in Hurricane Hole.

Fundamental Resource or Value	Hurricane Hole
<p>Planning Needs</p>	<ul style="list-style-type: none"> • Visitor use management plan. • Boundary marking plan. • Vessel management plan. • Planning for adaptation to climate change.
<p>Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance</p>	<p>Laws, Executive Orders, and Regulations That Apply to the FRV</p> <ul style="list-style-type: none"> • Clean Water Act of 1972, as amended • Coastal Zone Management Act of 1972 • Endangered Species Act of 1973, as amended • Fish and Wildlife Coordination Act • Magnuson-Stevenson Fisheries Management and Conservation Act • National Marine Sanctuary Act • Rivers and Harbors Appropriation Act of 1899 • Sustainable Fisheries Act • Executive Order 12962, "Recreational Fisheries" • Executive Order 13089, "Coral Reef Protection" • Executive Order 13158, "Marine Protected Areas" • Executive Order 13352, "Facilitation of Cooperative Conservation" • Executive Order 13547, "Stewardship of the Ocean, Our Coasts, and the Great Lakes" • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" • Virgin Islands Code (various titles/chapters, primarily title 12) <p>NPS Policy-level Guidance (NPS Management Policies 2006 and Director's Orders)</p> <ul style="list-style-type: none"> • NPS <i>Management Policies 2006</i> (§1.6) "Cooperative Conservation Beyond Park Boundaries" • NPS <i>Management Policies 2006</i> (§4.1) "General Management Concepts" • NPS <i>Management Policies 2006</i> (§4.1.4) "Partnerships" • NPS <i>Management Policies 2006</i> (§4.4.1) "General Principles for Managing Biological Resources" • NPS <i>Management Policies 2006</i> (§4.8.1.1) "Shorelines and Barrier Islands" • Director's Order 77: <i>Natural Resource Protection</i> • Policy Memoranda 12-02: "Applying NPS Management Policies in the Context of Climate Change" • NPS <i>Natural Resource Management Reference Manual 77</i>

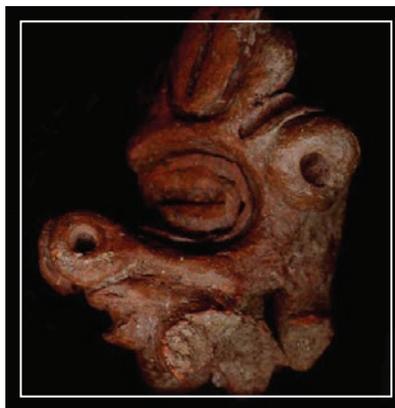




Fundamental Resource or Value	Evidence of Pre-Columbian Taino Indians
Related Significance Statements	Significance statement 5.
Current Conditions and Trends	<p>Conditions</p> <ul style="list-style-type: none"> • All known archeological sites are documented in the Archeological Sites Management Information System (ASMIS) database and GIS. • Baseline documentation for all known terrestrial archeological sites is underway. Archeological surveys and investigations are undertaken as needed to determine whether presently unknown archeological resources are present in the park, and any new sites are recorded and assessed for significance. • Resources to accommodate current archeological collections storage are inadequate. • It is estimated that 50% of terrestrial archeological sites and 20% of submerged archeological sites have been identified, mapped, and recorded. • Thirteen of the 22 prehistoric sites recorded on St. John are on NPS land. New prehistoric sites are discovered each year. Only 1 of these recorded sites—the Reef Bay petroglyphs—is currently listed in the National Register of Historic Places. Others may be eligible for national register listing. • Annaberg, Catherineberg, and Cinnamon Bay are among the most actively managed prehistoric and historic site locations. • The Cinnamon Bay site defines Taino development in the Virgin Islands. The Trunk Bay site defines development of the Monserrate era leading into Taino culture. The Rustenberg site may be the only preserved ceremonial ball court in the Virgin Islands. <p>Trends</p> <ul style="list-style-type: none"> • Interest in historic and prehistoric sites at the park is increasing, possibly due to more active heritage groups, interpretation through the heritage center, increased digital access to information, and so forth. • Ongoing degradation of nonmanaged sites by erosion is probably the result of precipitation and natural weathering.

Fundamental Resource or Value	Evidence of Pre-Columbian Taino Indians
<p>Threats and Opportunities</p>	<p>Threats</p> <ul style="list-style-type: none"> • Uncontrolled vegetative growth damages building foundations and walls and the integrity of archeological sites, especially at Virgin Islands National Park, because of especially rapid vegetative growth. • Land crabs create ground tunnels and dig into archeological sites. • Coastal erosion at sites along the shoreline damages cultural sites. Sea level rise is exacerbating erosion. • Looting and vandalism (e.g., graffiti) is occurring. • Inadvertent discoveries are occurring, whereby visitors bring in or collect artifacts. • Natural disasters, including earthquakes, tsunamis, and hurricanes, can threaten resources on the island. • Care of historic sites is hindered due to declines in operational funding. <p>Opportunities</p> <ul style="list-style-type: none"> • Expand interpretation at historic sites, including educational and student outreach (e.g., adopt-a-ruin program, “mini-mester” classes), which could increase stewardship of cultural resources. • Conduct additional research to better understand pre-Columbian use of Hurricane Hole. • Pursue use of remote learning opportunities and virtual interpretation. • Continue to work with partners such as the Friends of Virgin Islands National Park, St. John Historical Society, and St. Thomas Historical Trust to document and protect cultural resources. • Open heritage center at Cinnamon Bay more regularly to provide visitors with information on history and appropriate visitor behavior regarding treatment of cultural resources.
<p>Data and/or GIS Needs</p>	<ul style="list-style-type: none"> • Cultural resource stewardship assessment. • National Register of Historic Places nominations (for precolonial historic and archeological resources). • Submerged archeological resources studies. • LiDAR data for cultural sites.
<p>Planning Needs</p>	<ul style="list-style-type: none"> • Parkwide preservation maintenance plan. • Scope of collections statement. • Planning for adaptation to climate change.

Fundamental Resource or Value	Evidence of Pre-Columbian Taino Indians
<p>Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance</p>	<p>Laws, Executive Orders, and Regulations That Apply to the FRV</p> <ul style="list-style-type: none"> • American Indian Religious Freedom Act of 1978 • Antiquities Act of 1906 • Archaeological Resources Protection Act of 1979 • Archeological and Historic Preservation Act of 1974 • Historic Sites Act of 1935 • Museum Properties Management Act of 1955, as amended • National Historic Preservation Act of 1966, as amended (54 USC 300101 et seq.) • Executive Order 13007, "Indian Sacred Sites" • Executive Order 13175 "Consultation and Coordination with Indian Tribal Governments" • Executive Order 11593, "Protection and Enhancement of the Cultural Environment" • "Curation of Federally-Owned and Administered Archaeological Collections" (36 CFR 79) • "Protection of Historic Properties" (36 CFR 800) • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" • U.S. Virgin Islands Antiquities and Cultural Properties Act of 1978 (No. 6234) • Virgin Islands Code (various titles/chapters, primarily title 29) • The Virgin Islands Antiquities Act of 1998 (title 29, chapter 17, sections 959 and 960) <p>NPS Policy-level Guidance (NPS Management Policies 2006 and Director's Orders)</p> <ul style="list-style-type: none"> • NPS Management Policies 2006 (chapter 5) "Cultural Resource Management" • Director's Order 24: <i>NPS Museum Collections Management</i> • Director's Order 28: <i>Cultural Resource Management</i> • Director's Order 28A: <i>Archeology</i> • Department of the Interior Policy on Consultation with Indian Tribes • Policy Memoranda 12-02: "Applying NPS Management Policies in the Context of Climate Change" • Programmatic Agreement Among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers for Compliance with Section 106 of the National Historic Preservation Act • <i>The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation</i> • <i>The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes</i> • NPS Museum Handbook, parts I, II, and III

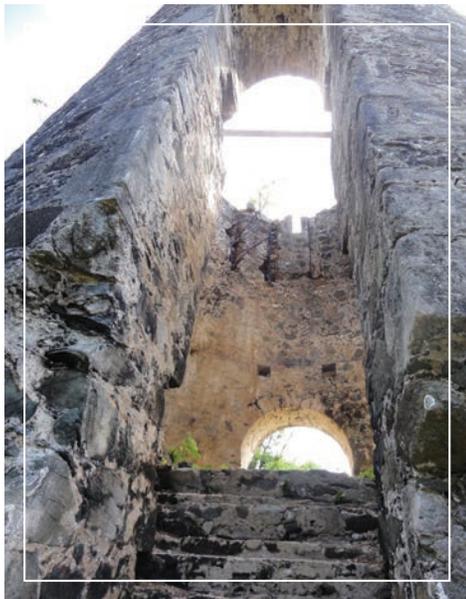




Fundamental Resource or Value	Diverse Historic Landscape
Related Significance Statements	Significance statement 5.
Current Conditions and Trends	<p>Conditions</p> <ul style="list-style-type: none"> • All known historic archeological sites are documented in the ASMIS database and GIS. • Approximately 30%–40% of terrestrial sites have been identified, mapped, and recorded. • Some high-profile cultural sites are regularly included in interpretive tours. • Annaberg, Catherineberg, and Cinnamon Bay are the most actively managed historic sites. • Few, if any, historical documentation reports have been completed for historic structures. • Baseline documentation of all known archeological sites is underway. • Danish interns who have done research in Danish archives and then ground truth the data at the park are working with park staff. • Underwater archeology surveys of Hurricane Hole and Johnson’s Reef have been conducted. • Visitor activities are managed to protect resources, both natural and cultural (e.g., mooring fields, demarcation buoys, channel markers). • Storage space for current collections is inadequate. <p>Trends</p> <ul style="list-style-type: none"> • Interest in historic and prehistoric sites at the park is increasing, possibly due to more active heritage groups, interpretation through the heritage center, increased digital access to information, and so forth. • Ongoing degradation of nonmanaged sites attributed to erosion by precipitation and natural weathering.

Fundamental Resource or Value	Diverse Historic Landscape
<p>Threats and Opportunities</p>	<p>Threats</p> <ul style="list-style-type: none"> • Uncontrolled vegetative growth damages building foundations and walls and the integrity of archeological sites especially at Virgin Islands National Park. • Land crabs create ground tunnels and dig into archeological sites. • Coastal erosion at sites along the shoreline damages cultural sites. Sea level rise is amplifying this issue. • Looting and vandalism (e.g., graffiti) occur. • Inadvertent discoveries occur because visitors bring in or collect artifacts. • Natural disasters, including earthquakes, tsunamis, and hurricanes, can threaten resources on the island. • Invasive species such as a wood weevil affect the integrity of historic structures. • Inappropriate visitor activities such as climbing threaten structures. • Care of historic sites is hindered due to declines in operational funding. • Climate change may increase large storms, flooding, erosion, invasive species, and a northward shift in ecosystems, all of which alter the historic landscape. <p>Opportunities</p> <ul style="list-style-type: none"> • Expand interpretation at historic sites, including educational and student outreach (e.g., adopt-a-ruin program, “mini-mester” classes), which could increase stewardship of cultural resources. • Pursue use of remote learning opportunities and virtual interpretation. • Continue to work with partners such as the Friends of Virgin Islands National Park, St. John Historical Society, and St. Thomas Historical Trust to document and protect cultural resources. • Open heritage center at Cinnamon Bay more regularly to provide visitors with information on history and appropriate visitor behavior regarding treatment of cultural resources. • Improve interpretive signage at cultural sites.
<p>Data and/or GIS Needs</p>	<ul style="list-style-type: none"> • CyArk data for historic structures. • Submerged archeological resources studies. • National Register of Historic Places nominations (for precolonial historic and archeological resources). • Cultural landscape inventories for key landscapes (other than Caneel Bay). • LiDAR data for cultural sites. • Cultural resource stewardship assessment.
<p>Planning Needs</p>	<ul style="list-style-type: none"> • Historic structure reports for key historic structures (i.e., Annaberg, Catherineberg, Cinnamon Bay, Trunk Bay, Reef Bay, Caneel Bay, Creque Marine Railway, Royal Mail, and batteries). • Cultural landscape reports for key historic landscapes (i.e., Annaberg, Catherineberg, Cinnamon Bay, Trunk Bay, Reef Bay, Caneel Bay, Creque Marine Railway, Royal Mail, and batteries). • Preservation maintenance plan for Caneel Bay. • Parkwide preservation maintenance plan. • Scope of collections statement. • Planning for adaptation to climate change.

Fundamental Resource or Value	Diverse Historic Landscape
<p>Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance</p>	<p>Laws, Executive Orders, and Regulations That Apply to the FRV</p> <ul style="list-style-type: none"> • Antiquities Act of 1906 • Archaeological Resources Protection Act of 1979 • Archeological and Historic Preservation Act of 1974 • Historic Sites Act of 1935 • Museum Properties Management Act of 1955, as amended • National Historic Preservation Act of 1966, as amended (54 USC 300101 et seq.) • Executive Order 11593, "Protection and Enhancement of the Cultural Environment" • "Curation of Federally-Owned and Administered Archaeological Collections" (36 CFR 79) • "Protection of Historic Properties" (36 CFR 800) • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" <p>NPS Policy-level Guidance (NPS Management Policies 2006 and Director's Orders)</p> <ul style="list-style-type: none"> • NPS Management Policies 2006 (chapter 5) "Cultural Resource Management" • Director's Order 24: <i>NPS Museum Collections Management</i> • Director's Order 28: <i>Cultural Resource Management</i> • Director's Order 28A: <i>Archeology</i> • Policy Memoranda 12-02: "Applying NPS Management Policies in the Context of Climate Change" • Policy Memoranda 14-02: "Climate Change and Stewardship of Cultural Resources" • Policy Memoranda 15-01: "Addressing Climate Change and Natural Hazards for Facilities" • Programmatic Agreement Among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers for Compliance with Section 106 of the National Historic Preservation Act • <i>The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation</i> • <i>The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes</i> • NPS Museum Handbook, parts I, II, and III



Fundamental Resource or Value	Hassel Island
Related Significance Statements	Significance statement 5.
Current Conditions and Trends	<p>Conditions</p> <ul style="list-style-type: none"> All known archeological sites are documented in the ASMIS database and in GIS. Approximately 30%–40% of terrestrial sites have been identified, mapped, and recorded. The park has been actively trying to complete baseline documentation for all sites. The park regularly works with Danish interns who have done research in Danish archives. They then ground truth the data at the park. The park has inadequate storage to accommodate current collections. <p>Trends</p> <ul style="list-style-type: none"> There is increased interest in historic and prehistoric sites at the park, which may be due to more active heritage groups, interpretation through the heritage center, increased digital access to information, etc. Ongoing degradation of nonmanaged sites attributed to erosion by precipitation and natural weathering.
Threats and Opportunities	<p>Threats</p> <ul style="list-style-type: none"> Uncontrolled vegetative growth damages building foundations, walls, integrity of archeological sites, etc. This is especially critical at Virgin Islands National Park. Land crabs create ground tunnels and dig into archeological sites. Coastal erosion at sites along the shoreline damages cultural sites. Sea level rise has amplified this issue. In addition to sea level rise and its associated effects, climate change may increase large storms, flooding, invasive species, and a northward shift in ecosystems. There has been looting and vandalism (e.g., graffiti) at Hassel Island sites. Inadvertent discoveries are occurring, whereby visitors bring in or collect artifacts. Natural disasters, such as earthquakes, tsunamis, and hurricanes, can threaten resources. Invasive species such as a wood weevil affect the integrity of historic structures. Inappropriate visitor activities such as climbing affect structures. Care of historic sites is hindered due to declines in operational funding. <p>Opportunities</p> <ul style="list-style-type: none"> Expand interpretation at historic sites, including educational/student outreach (e.g., adopt-a-ruin program, “mini-mester” classes). More outreach could increase stewardship of cultural resources. Pursue remote learning and virtual interpretation opportunities. Continue to work with partners such as the Friends of Virgin Islands National Park, St. John Historical Society, and St. Thomas Historical Trust to help document and protect cultural resources on both St. John and Hassel Island. Improve interpretive signage at cultural sites on Hassel Island.
Data and/or GIS Needs	<ul style="list-style-type: none"> CyArk data for historic structures. Submerged archeological resources studies. National Register of Historic Places nomination (for pre-colonial historic and archeological resources). Cultural landscape inventories for key landscapes (other than Caneel Bay). LiDAR data for cultural sites. Cultural resource stewardship assessment. Follow up environmental characterization study.

Fundamental Resource or Value	Hassel Island
<p>Planning Needs</p>	<ul style="list-style-type: none"> • Parkwide preservation maintenance plan. • Scope of collections statement. • Planning for adaptation to climate change.
<p>Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance</p>	<p>Laws, Executive Orders, and Regulations That Apply to the FRV</p> <ul style="list-style-type: none"> • Antiquities Act of 1906 • Archaeological Resources Protection Act of 1979 • Archeological and Historic Preservation Act of 1974 • Historic Sites Act of 1935 • Museum Properties Management Act of 1955, as amended • National Historic Preservation Act of 1966, as amended (54 USC 300101 et seq.) • Executive Order 11593, "Protection and Enhancement of the Cultural Environment" • "Curation of Federally-Owned and Administered Archaeological Collections" (36 CFR 79) • "Protection of Historic Properties" (36 CFR 800) • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" <p>NPS Policy-level Guidance (NPS Management Policies 2006 and Director's Orders)</p> <ul style="list-style-type: none"> • NPS Management Policies 2006 (chapter 5) "Cultural Resource Management" • Director's Order 24: <i>NPS Museum Collections Management</i> • Director's Order 28: <i>Cultural Resource Management</i> • Director's Order 28A: <i>Archeology</i> • Policy Memoranda 12-02: "Applying NPS Management Policies in the Context of Climate Change" • Policy Memoranda 14-02: "Climate Change and Stewardship of Cultural Resources" • Policy Memoranda 15-01: "Addressing Climate Change and Natural Hazards for Facilities" • Programmatic Agreement Among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers for Compliance with Section 106 of the National Historic Preservation Act • <i>The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation</i> • <i>The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes</i> • NPS Museum Handbook, parts I, II, and III



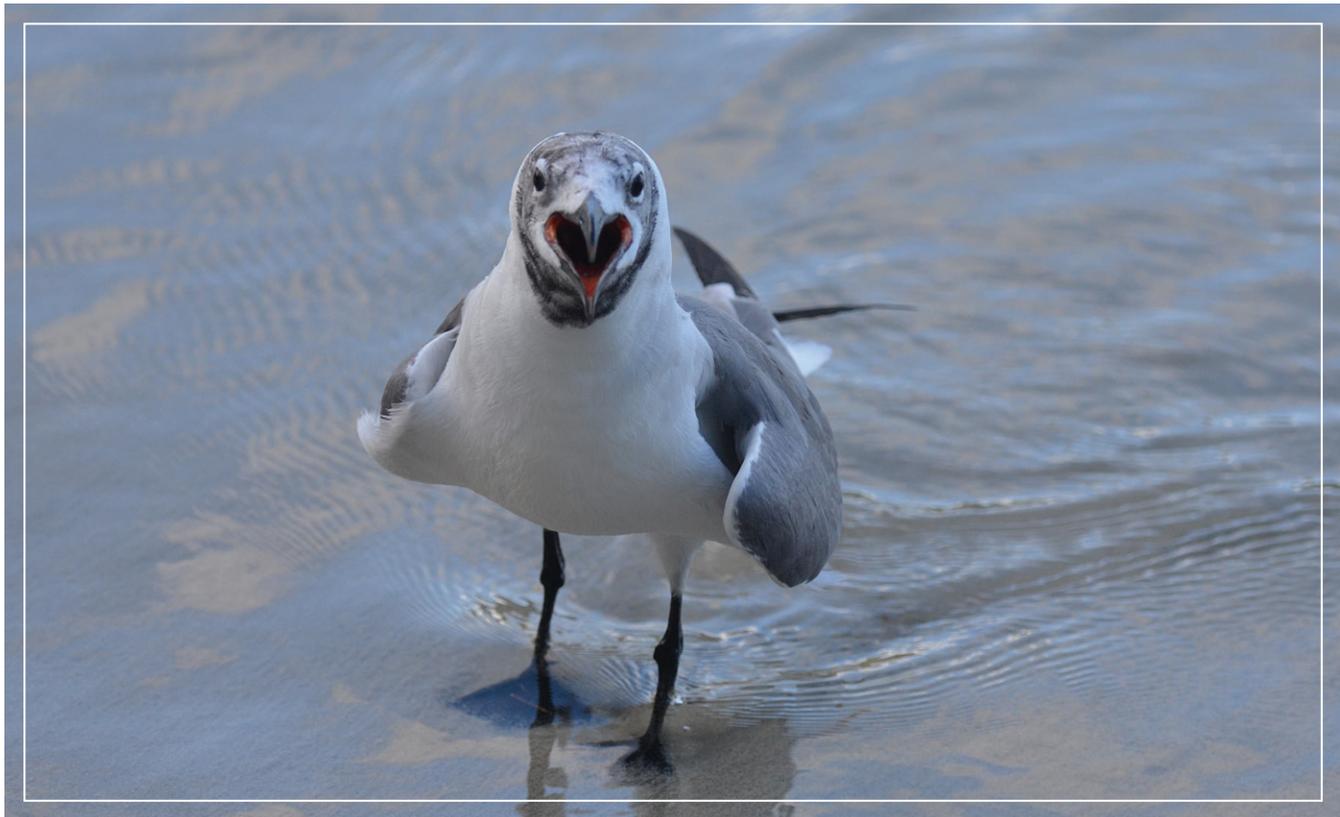


Fundamental Resource or Value	Scenic Viewscape
Related Significance Statements	Significance statement 6.
Current Conditions and Trends	<p>Conditions</p> <ul style="list-style-type: none"> • Scenic features are in good condition. The parks provide expansive, unobstructed views of a mostly undeveloped landscape and seascape not seen in many other parts of the Caribbean. • Overlooks can be overcrowded on busy days. • Development associated with some remaining private inholdings has altered the viewshed in some areas. • Inappropriate parking and vehicles parked along roadsides can ruin the scenic experience for visitors at busy park sites (e.g., some beaches). • Regular maintenance is conducted at some overlooks, including Trunk Bay, Cruz Bay, Caneel Bay, and Maho Overlook. • Scenic views are sometimes obscured by pollution-caused haze attributed to dust carried over from the Sahara desert. Average natural visual range is reduced from about 125 miles (without the effects of pollution) to about 60 miles because of pollution at the park. The visual range is reduced to below 40 miles on high pollution days. • Air quality monitoring is being conducted at one site in the park. <p>Trends</p> <ul style="list-style-type: none"> • Development adjacent to or within park boundaries is increasing as a result of tourism demand in the region and areas where the park boundary is not clearly delineated. • Long-range transportation of dust from Africa and other areas is impacting air quality and affecting views.

Fundamental Resource or Value	Scenic Viewscope
<p>Threats and Opportunities</p>	<p>Threats</p> <ul style="list-style-type: none"> • Trash collection and upkeep of restrooms is hindered by declines in operational funding, contributing to degraded scenic views and visitor experience. • Vegetation removal on park lands due to encroachment can affect scenic vistas (e.g., view from Hawksnest to Suzannaberg). • Cell towers and wind generators adjacent to the park can affect views. • Utility infrastructure can spoil views of the natural landscape. • Air pollution-caused haze from anthropogenic sources diminishes visibility and visitor enjoyment of scenic resources. Regional sources of air pollution include power plants, vehicle exhaust, agriculture, fire / open burning, and naturally occurring fine sea salt. • Regulations requiring the use of sediment fences on private land are not always followed by builders; resulting runoff can affect the scenic quality of the water. • Increased numbers of sargassum plants in the bays cover the surface of the water and affect light penetration. • If not adequately maintained, vegetation can obstruct views. • Natural disasters can affect vegetation that contributes to the views. • A lack of recycling services on the island may contribute to the trash issue that affects views. • The scenic viewshed (air quality and visibility) in the northeast end of the park is often marred by pollution from the open burning of trash in landfills on Tortola in the British Virgin Islands. <p>Opportunities</p> <ul style="list-style-type: none"> • Identify key viewsheds and determine how to protect and maintain them. • Increase interpretation at key scenic viewing areas through personal services and/or waysides. • Use volunteers for interpretation, trail work, and other activities. • Conduct outreach to inform community members of ecological practices (vista and vegetation clearing, runoff control) and green building. • Work cooperatively with other federal, territorial, or regional planning organizations, as well as stakeholders, to reduce air quality impacts on scenic views from sources of air pollution. • Partner with nearby landowners, planners, and developers to help increase awareness about the importance of park air quality, scenic views, night sky, and natural sound protection. • Improve park sustainability and environmental leadership through NPS Climate Friendly Parks certification and action plan.
<p>Data and/or GIS Needs</p>	<ul style="list-style-type: none"> • Visitor use counts. • Visual resource inventory.
<p>Planning Needs</p>	<ul style="list-style-type: none"> • Visual resource management plan. • Visitor use management plan. • Land protection plan (update). • Climate Friendly Parks action plan.
<p>Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance</p>	<p>Laws, Executive Orders, and Regulations That Apply to the FRV</p> <ul style="list-style-type: none"> • Clean Air Act (42 USC 7401 et seq.) <p>NPS Policy-level Guidance (NPS Management Policies 2006 and Director’s Orders)</p> <ul style="list-style-type: none"> • NPS <i>Management Policies 2006</i> (§1.6) “Cooperative Conservation Beyond Park Boundaries” • NPS <i>Management Policies 2006</i> (§4.7) “Air Resource Management” • NPS <i>Management Policies 2006</i> (§4.7.2) “Weather and Climate” • Director’s Order 77: <i>Natural Resource Protection</i> • NPS <i>Natural Resource Management Reference Manual 77</i>

Fundamental Resource or Value	Dark Night Skies and Natural Sounds
Related Significance Statements	Significance statements 1, 2, and 6.
Current Conditions and Trends	<p>Conditions</p> <ul style="list-style-type: none"> • While sky quality varies throughout the park, at many locations in the park and monument, ambient light and light pollution are minimal and skies are dark. • Large tracts of undeveloped land within the park have only natural sounds. • Street lights are used in the park on Centerline Road and at Cinnamon Bay. <p>Trends</p> <ul style="list-style-type: none"> • Interpretation of the night sky occurs more frequently. • The park's marine guide is being updated with regard to lighting and light pollution to increase awareness and improve night sky conditions. • Requests to increase lighting at the campground and on roadways are related to both security and safety. • Lighting on park inholdings, at ridgelines, and along park borders is increasing. • More vessels are using more lights, both above and below the water, which attracts fish and affects wildlife. • The increasing number of vehicles on the island is increasing air, light, and sound pollution. • Increased lighting on adjacent islands is affecting the night skies on St. John. • The increased use of drones in and around the park is affecting the soundscape. • Pollution-caused haze that scatters artificial lights at night is unchanged over the past decade.
Threats and Opportunities	<p>Threats</p> <ul style="list-style-type: none"> • Development on St. John and nearby islands is increasing light pollution. At night, air pollution scatters artificial lights, increasing the effect of light pollution on the night sky. • Large, noisy ferries, speed boats, and trucks affect the soundscape. • Invasive amphibians are changing natural sounds. <p>Opportunities</p> <ul style="list-style-type: none"> • Study current light and sound intrusions and develop baseline data. • The NPS South Florida and Caribbean Inventory & Monitoring Network may be conducting more frog call monitoring. • Partner with University of the Virgin Islands and NPS Natural Sounds and Night Skies Division to monitor and maintain dark night skies and natural sounds. • Create a Virgin Islands National Park astronomy club or partner with University of the Virgin Islands astronomy club. • Conduct visitor education regarding proper use of land- and water-based lighting. • Explore fundraising opportunities with partners to retrofit inappropriate lighting. • Apply for International Dark-Sky Association designation as a Dark Sky Park. • Continue to reduce noise from park facilities and operations where possible and over time, retrofit all park lighting to: 1) be used only where and when needed, 2) be shielded and directed downward, 3) use minimal brightness warranted for an activity, 4) use warm spectrum colors (less bluish and bright whites), and 5) use energy efficient fixtures and lamps.
Data and/or GIS Needs	<ul style="list-style-type: none"> • Baseline data for dark skies (update). • Baseline data for natural sounds.

Fundamental Resource or Value	Dark Night Skies and Natural Sounds
Planning Needs	<ul style="list-style-type: none"> • Lighting standards plan. • Soundscape / acoustic resource management plan.
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	<p>Laws, Executive Orders, and Regulations That Apply to the FRV</p> <ul style="list-style-type: none"> • Clean Air Act (42 USC 7401 et seq.) • National Parks Air Tour Management Act of 2000 (49 USC 40128 note) (14 CFR 136) • National Parks Overflight Act of 1987 (PL 100-91, 54 USC 100101, 49 USC app. 1348) • Executive Order 11514, "Protection and Enhancement of Environmental Quality" • "Audio disturbances" (36 CFR. 2.12) • "What is the maximum noise level for the operation of a vessel?" (36 CFR. 3.15) <p>NPS Policy-level Guidance (NPS Management Policies 2006 and Director's Orders)</p> <ul style="list-style-type: none"> • NPS <i>Management Policies 2006</i> (§1.6) "Cooperative Conservation Beyond Park Boundaries" • NPS <i>Management Policies 2006</i> (§4.7) "Air Resource Management" • NPS <i>Management Policies 2006</i> (§4.7.2) "Weather and Climate" • NPS <i>Management Policies 2006</i> (§4.9) "Soundscape Management" • NPS <i>Management Policies 2006</i> (§4.10) "Lightscape Management" • NPS <i>Management Policies 2006</i> (§8.4) "Overflights and Aviation Uses" • NPS <i>Management Policies 2006</i> (§8.2.3) "Use of Motorized Equipment" • Director's Order 13A: <i>Environmental Management Systems</i> • Director's Order 47: <i>Sound Preservation and Noise Management</i> • Director's Order 77: <i>Natural Resource Protection</i> • NPS <i>Natural Resource Management Reference Manual 77</i>



Analysis of Other Important Resources and Values

Other Important Resource or Value	Opportunities for Scientific Study
<p>Current Conditions and Trends</p>	<p>Conditions</p> <ul style="list-style-type: none"> • Scientific study is conducted on a number of topics at Virgin Islands National Park and Virgin Islands Coral Reef National Monument, including cultural, marine, and terrestrial resources. • One staff member from the U.S. Geological Survey and two staff members from the NPS Inventory & Monitoring program are stationed at the park. • Danish interns who have performed archeological research in Danish archives then ground truth those data at the park. • The Virgin Islands Environmental Research Station (VIERS), which is managed by the University of the Virgin Islands, is located in the park. The research station is operated by Clean Islands International. • The VIERS facility is in a remote part of the island and serves as a field station for students and researchers. It has a wet lab that includes scuba tank fill stations. • Multinational teams conduct research on cultural and natural resources at the park. • Universities regularly request to do research within the park and monument. • More research is conducted on coral reefs in the park and around St. John than almost anywhere else in the Caribbean. • Cinnamon Bay contains an archeology lab and heritage center where objects are cleaned and people visit exhibits. • Approximately 50 research permits for natural resources are issued annually, as recorded in the Research Permit Reporting System database. These include undergraduate and graduate-level coursework in tropical ecology. One-third of permits are for inventorying and long-term monitoring. • Comparisons between developed and undeveloped areas (both terrestrial and marine) are a common focus of study. • Interns and park staff conduct year-round cultural resource research. • Numerous universities and academic entities conduct research through cooperative agreements and memorandums of understanding. Researchers include historical architects, engineers, and a variety of other disciplines. • Research at the park is economically and logistically challenging due to the remoteness of the island. • Some housing is available for students and researchers but more would be helpful. <p>Trends</p> <ul style="list-style-type: none"> • Requests to conduct research are increasing. • Interest in marine science activities is increasing. • Memorandums of understanding and cooperative ecosystems studies units agreements are well utilized and increasing. • Long-term monitoring and studies are increasing. • Existing and new invasive species, including seagrass and lionfish, are increasing the demand for their studies. • The Danish government is digitizing and making available online all of the Virgin Islands archives in its possession as a gift to the people of the Virgin Islands at the Transfer Day Centennial Commemoration in 2017.

Other Important Resource or Value	Opportunities for Scientific Study
<p>Threats and Opportunities</p>	<p>Threats</p> <ul style="list-style-type: none"> • The VIERS lab is economically and logistically challenging to visit and use, especially for long-term research. • Research infrastructure and lab space at the park is inadequate, and lodging for visiting researchers is also a challenge (need temporary housing). • The Research Permitting Reporting System can be burdensome for researchers and deters researchers (especially those studying endangered species). • It is challenging to disseminate information gathered through research to the public and other researchers (no online repository to share information).The system used to find research information is difficult to navigate. • Much of the information on Danish colonial history is in Denmark and not easily accessible at the park. <p>Opportunities</p> <ul style="list-style-type: none"> • Conduct additional research on the marine railroad (industrial archeology). • Conduct research on maritime history, including those ships coming from Danish colonies. • Apply research to connect ethnography to local populations. • Involve local schools in appropriate research activities. • Enhance cooperation between resources management and interpretation. • Encourage research by universities on historic and prehistoric collections. • Cooperate with the British Virgin Islands in making research accessible for public interpretation. • Continue coral reef education intern program that started in January 2016. • Develop citizen science program that would engage public and volunteers. • Provide additional housing for students and researchers. • Develop GIS database to access and share information between the National Park Service and partners/researchers to foster collaboration among researchers.
<p>Data and/or GIS Needs</p>	<ul style="list-style-type: none"> • Develop shared GIS database. • Mangrove habitat map of Hurricane Hole. • Comprehensive data on coral abundance and diversity. • Sea turtle survey in Hurricane Hole.
<p>Planning Needs</p>	<ul style="list-style-type: none"> • None identified.
<p>Laws, Executive Orders, and Regulations That Apply to the OIRV, and NPS Policy-level Guidance</p>	<p>Laws, Executive Orders, and Regulations That Apply to the OIRV</p> <ul style="list-style-type: none"> • Antiquities Act of 1906 • Archeological and Historic Preservation Act of 1974 • Archaeological Resources Protection Act of 1979 • National Historic Preservation Act of 1966, as amended (54 USC 300101 et seq.) • Museum Properties Management Act of 1955, as amended • Executive Order 11593, "Protection and Enhancement of the Cultural Environment" • "Curation of Federally-Owned and Administered Archaeological Collections" (36 CFR 79) • "Protection of Historic Properties" (36 CFR 800)

Other Important Resource or Value	Opportunities for Scientific Study
<p>Laws, Executive Orders, and Regulations That Apply to the OIRV, and NPS Policy-level Guidance</p>	<p>NPS Policy-level Guidance (NPS Management Policies 2006 and Director's Orders)</p> <ul style="list-style-type: none"> • NPS Management Policies 2006 (§1.6) "Cooperative Conservation Beyond Park Boundaries" • NPS Management Policies 2006 (§2.3.1.4) "Science and Scholarship" • NPS Management Policies 2006 (§4.1) "General Management Concepts" • NPS Management Policies 2006 (§4.1.4) "Partnerships" • NPS Management Policies 2006 (§4.2) "Studies and Collections" • NPS Management Policies 2006 (§4.4.1) "General Principles for Managing Biological Resources" • NPS Management Policies 2006 (§4.7.2) "Weather and Climate" • NPS Management Policies 2006 (§5.1) "Research" • NPS Management Policies 2006 (§8.10) "Natural and Cultural Studies, Research, and Collection Activities" • Director's Order 24: <i>NPS Museum Collections Management</i> • Director's Order 28: <i>Cultural Resource Management</i> • Director's Order 28A: <i>Archeology</i> • NPS Museum Handbook, parts I, II, and III • NPS-75 Natural Resources Inventory and Monitoring Guideline • NPS Natural Resource Management Reference Manual 77



Other Important Resource or Value	Outdoor Recreation
<p>Current Conditions and Trends</p>	<p>Conditions</p> <ul style="list-style-type: none"> • The park issues 140 commercial use permits annually, a large number of which are to marine operators who offer snorkel and scuba trips in the park. Permits also are issued for hiking and kayak trips that are combined with snorkel trips. • Much of the park meets Architectural Barriers Act accessibility standards; however, interpretive media are not provided in multiple formats. • The information needed to make improvements is available, but implementing recommendations is hindered by declines in operational funding. • Park authorized uses are outlined in the 2001 commercial services plan. • A concessions contract has been awarded for camping, lodging, and watersports and will greatly improve conditions at the campground – Transition date set for October 1, 2016. • Heavy visitor use occurs at beaches and on trails. <p>Trends</p> <ul style="list-style-type: none"> • Fewer camping opportunities are available on St. John since Maho Bay closed. • Increased visitation / outdoor recreation has led to an increase in solid waste. • The increase in requests for commercial use authorizations cannot be fully accommodated due to negative effects on resources and visitor experience. • Demand for the use of new technologies for outdoor recreation, such as stand up paddle boarding, is increasing. • Requests for weddings are increasing. • Water-based activities are increasing, including unauthorized activities such as jet skiing and wakeboarding.
<p>Threats and Opportunities</p>	<p>Threats</p> <ul style="list-style-type: none"> • Resources are damaged by social trailing in the park. • Unregulated growth in the rental car industry on St. John and St. Thomas has led to significant parking problems in the park. There are more than 800 rental cars on St. John and only about 180 parking places available in the park. During many months of the year, visitors park on historic structures and vegetation and in the roadway. • Unpermitted recreational activities, such as the use of drones, can affect the quality of other recreational activities. • Recreational boaters are increasingly decorating their boats with lights, both underwater and topside (up masts and along spreaders). Underwater lights draw marine life to the surface and topside lights contribute to light pollution, impacting night skies. • Inaccurate information in nonpark areas about the park regulations can lead to inappropriate visitor use. • As the climate continues to change, visitation, especially during the low season, may continue to increase. <p>Opportunities</p> <ul style="list-style-type: none"> • Increase the use of interpretive media throughout the park. This could enhance interpretation and also help educate visitors about park rules and regulations. • Use new technologies to improve education and interpretation. This could be accomplished through groups such as Friends of Virgin Islands National Park. • Enhance social media presence for visitor outreach. • Continue to use interns to determine impacts of snorkeling on coral reefs, and use this information to educate visitors.

Other Important Resource or Value	Outdoor Recreation
<p>Data and/or GIS Needs</p>	<ul style="list-style-type: none"> • Visitor use survey. • Traffic and circulation study. • Visitor use counts. • Visual resource inventory.
<p>Planning Needs</p>	<ul style="list-style-type: none"> • Visitor use management plan. • Trail management plan. • Planning for adaptation to climate change. • Visual resource management plan.
<p>Laws, Executive Orders, and Regulations That Apply to the OIRV, and NPS Policy-level Guidance</p>	<p>Laws, Executive Orders, and Regulations That Apply to the OIRV</p> <ul style="list-style-type: none"> • Americans with Disabilities Act of 1990 (42 USC 12101 et seq.) • Architectural Barriers Act of 1968 (42 USC 4151 et seq.) • “Accessibility Guidelines” (36 CFR 1191.1) • NPS Concessions Management Improvement Act of 1998 (54 USC 101912) • Rehabilitation Act of 1973 (29 USC 701 et seq.) • Secretarial Order 3289, “Addressing the Impacts of Climate Change on America’s Water, Land, and Other Natural and Cultural Resources” <p>NPS Policy-level Guidance (NPS Management Policies 2006 and Director’s Orders)</p> <ul style="list-style-type: none"> • NPS Management Policies 2006 (chapter 7) “Interpretation and Education” • NPS Management Policies 2006 (chapter 8) “Use of the Parks” • NPS Management Policies 2006 (chapter 9) “Park Facilities” • NPS Management Policies 2006 (chapter 10) “Commercial Visitor Services” • Director’s Order 4: <i>Diving Management</i> • Director’s Order 6: <i>Interpretation and Education</i> • Director’s Order 9: <i>Law Enforcement Program</i> • Director’s Order 17: <i>National Park Service Tourism</i> • Director’s Order 42: <i>Accessibility for Visitors with Disabilities in National Park Service Programs and Services</i> • Director’s Order 53: <i>Special Park Uses</i> • Director’s Order 83: <i>Public Health</i> • NPS Transportation Planning Guidebook



Identification of Key Issues and Associated Planning and Data Needs

This section considers key issues to be addressed in planning and management, and therefore takes a broader view over the primary focus of part 1. A key issue focuses on a question that is important for a park. Key issues often raise questions regarding park purpose and significance, and fundamental and other important resources and values. For example, a key issue may pertain to the potential for a fundamental or other important resource or value in a park to be detrimentally affected by discretionary management decisions. A key issue may also address crucial questions that are not directly related to purpose and significance, but that still affect them indirectly. Usually a key issue is one that a future planning effort or data collection needs to address and requires a decision by NPS managers.

The following are key issues for Virgin Islands National Park and Virgin Islands Coral Reef National Monument and the associated planning and data needs to address them:

- **Land Acquisition and Protection.** Private inholdings scattered throughout Virgin Islands National Park affect the NPS ability to protect resources and scenic views within the park boundary. Subdivision of many of these inholdings has resulted in further forest fragmentation and development. Further complicating this issue is the lack of clear property boundaries both on land and in waters, including the submerged areas southeast of St. John known as the “wedge” and the northern boundary of Virgin Islands Coral Reef National Monument. There are also ongoing challenges associated with working with the U.S. Virgin Islands Department of Planning and Natural Resources to manage development and construction. As a result, there has been encroachment on park land in some areas and intrusions on the visual landscape. The National Park Service works with nonprofit land trust organizations to acquire inholdings, but high prices are a challenge.
 - *Associated planning needs:* Land protection plan (update); outreach and communication plan.
 - *Associated data needs:* Boundary survey and GIS layer.
- **Transportation.** Virgin Islands National Park and Virgin Islands Coral Reef National Monument face a variety of transportation issues on water and land, particularly with respect to crowding. On the water, commercial vessel traffic between the U.S. Virgin Islands and British Virgin Islands needs to be monitored to ensure it does not reach levels that may harm either resources (including seven threatened or endangered coral species and two threatened or endangered turtle species) or visitor experience. Commercial vessels without a commercial use agreement are supposed to transit outside of park waters. Passenger vessel crowding can also be an issue during peak visitation periods. On land, a proliferation of rental cars on the island is contributing to crowding at key visitor destinations (i.e., overlooks, parking areas); parking and driving in inappropriate areas; overcrowding of vehicles along road shoulders; trampling of vegetation; safety issues; and damage to cultural resources. Because of a lack of adequate funding for road maintenance and improvements, many of the dirt roads in the park are in serious disrepair and subject to erosion, which threatens the neighboring marine environment and leads to poor visitor experience. A number of paved roads are in poor condition, further affecting visitor experience. In the future, Virgin Islands National Park and Virgin Islands Coral Reef National Monument needs to work with its partners and transportation providers to set expectations related to parking and to provide alternative transportation options (particularly at north shore beaches).
 - *Associated planning needs:* Visitor use management plan.
 - *Associated data needs:* Visitor use counts; visitor use survey; traffic and circulation study.

- **Education on and Enforcement of Park Regulations.** Similar to many other national park units, park and monument staff are hampered by declines in numbers of staff that are needed to address a wide array of issues and needs. A shortage of enforcement and other staff decreases NPS presence in the park and monument. Compounding this issue is a general lack of visitor awareness regarding the sensitive natural and cultural resources at the park and monument. This lack of awareness results in a proliferation of inappropriate or unauthorized visitor activities such as jet skiing, standing on coral, illegal taking of coral and invertebrate species (e.g., conch), and disturbances to historic sites. Additional educational and interpretive outreach, as well as continued partnerships with local agencies and organizations, may help to address a small part of the issue.

- *Associated planning needs:* Outreach and communication plan.

- **Caneel Bay Lease.** When Laurance Rockefeller donated land to create the Virgin Islands National Park in 1956, he retained approximately 148 acres within the authorized boundary of the park to operate Caneel Bay Resort. On September 30, 1983, 128.7 acres of this land was transferred to the park according to the terms of the Deed of Gift (Deed # 64) between Jackson Hole Preserve, Inc., and the United States (U.S. Department of the Interior, National Park Service). One of the deed's terms is a retained use estate to run until September 30, 2023, for operation of the Caneel Bay Resort.

Public Law 111-261, enacted in October 2010, authorizes the Secretary of the Interior to enter into a lease transaction with the present owners of the retained use estate for the Caneel Bay Resort on St. John. Lease negotiations between the current owner and the National Park Service are underway. If agreement cannot be reached on a lease, then the National Park Service would likely pursue a concession contract for the property to take effect on October 1, 2023.

- *Associated planning needs:* Caneel Bay lease planning needs (including historic structure report for Caneel Bay; cultural landscape report for Caneel Bay; preservation maintenance plan for Caneel Bay; and level 3 environmental assessment).

- *Associated data needs:* Cultural landscape inventory for Caneel Bay.

- **Climate Change.** Because of their small size and isolation, island ecosystems are particularly sensitive to changes in climate patterns. Climate change can influence storm frequency and intensity, water and air temperatures, and sea levels. During the past 100 years, the average annual air temperature in the Caribbean has increased by more than one degree Fahrenheit. Relative sea level is rising about 3.9 inches per 100 years at sites being monitored throughout the Caribbean and Gulf of Mexico. It is difficult to conclude the exact effects of these increases on Virgin Islands National Park and Virgin Islands Coral Reef National Monument, but scientific models suggest that changing climate could lead to higher wind speeds and more frequent storms for the Caribbean such as hurricanes and tropical storms; increased erosion and/or accretion across the coastline; rising groundwater tables and possible salt water intrusion; and loss of land and critical habitat. Increases in seawater temperatures can lead to coral bleaching and mortality and mortality from coral diseases.

- *Associated planning needs:* Planning for adaptation to climate change; Climate Friendly Parks action plan.

- *Associated data needs:* Long-term natural resource monitoring in Virgin Islands Coral Reef National Monument.

- **Lack of Baseline Monitoring of Critical Resources.** Although natural and cultural resources in Virgin Islands National Park and Virgin Islands Coral Reef National Monument are the subject of robust research and studies, much more should be done to monitor changes to park resources over time. Funding through the NPS Inventory & Monitoring Program has decreased. In terms of natural resources, both the park and monument have extensive monitoring needs associated with threatened and endangered species, as well as coral reef, mangrove, and seagrass habitats. Additional monitoring of reef fish, invertebrates, sea birds, nearshore nursery and shelf edge spawning sites, and invasive species are also critical to ensure the long-term protection of natural resources. In terms of cultural resources, there is insufficient staff and time to conduct regular condition assessments.
 - *Associated data needs:* National Register of Historic Places nominations (for precolonial historic and archeological resources); National Register of Historic Places nomination (for post-colonial historic structures); species surveys and distribution maps; cultural resource stewardship assessment; paleontological resource survey; long-term natural resource monitoring in Virgin Islands Coral Reef National Monument; mapping and monitoring of marine and terrestrial invasive species; endemic and rare plant study.

Planning and Data Needs

To maintain connection to the core elements of the foundation, and the importance of these core foundation elements, the planning and data needs listed here are directly related to protecting fundamental resources and values, park significance, and park purpose, as well as addressing key issues. To successfully undertake a planning effort, information from sources such as inventories, studies, research activities, and analyses may be required to provide adequate knowledge of park resources and visitor information. Such information sources have been identified as data needs. Geospatial mapping tasks and products are included in data needs.

Items considered of the utmost importance were identified as high priority, and other items identified, but not rising to the level of high priority, were listed as either medium- or low-priority needs. These priorities inform park management efforts to secure funding and support for planning projects.



Planning Needs—Where A Decision-Making Process Is Needed			
Related to an FRV, OIRV, or Key Issue?	Planning Needs	Priority (H, M, L)	Notes
Key Issue	Caneel Bay lease planning needs	H	A variety of related planning needs for Caneel Bay must be met concurrently including a historic structure report, cultural landscape report, preservation and maintenance plan, and level 3 environmental assessment. Historic significance of the site was established through a national register determination of eligibility in 2012, but a historic structure report is needed to guide treatment and use of the historic structures. It would inform park management decisions regarding continued use and operation of the site. The cultural landscape report would guide management and preservation of the cultural landscape at Caneel Bay. The preservation and maintenance plan would rely upon information from the cultural landscape and historic structure reports, and would provide a prioritized strategy for regular preservation maintenance of historic structures at Caneel Bay. It also would guide the lessee regarding maintenance and preservation of resources within the lease area. The level 3 environmental assessment would help quantify environmental cleanup requirements and methods at Caneel Resort and inform lease negotiations.
FRV	Parkwide preservation maintenance plan	H	This plan would determine a strategy for regular preservation maintenance of historic structures across the park and help prioritize investments. A historical architect may be required to complete this effort.
FRV, OIRV, and Key Issue	Visitor use management plan	H	This plan would examine current and potential visitor opportunities and use patterns and identify implementable management strategies to address park capacity issues. It would guide management of congestion at certain park sites and high-use areas, such as parking lots, overlooks, and beaches, particularly along the north shore. This plan would also consider management strategies to protect threatened and endangered species as related to increases in visitor uses on the water, especially notable at Hurricane Hole. The plan would consider influence of climate change to visitation.
FRV and Key Issue	Land protection plan (update)	M	This plan would help determine what land should be under public ownership and what means of protection outside of acquisition are available to achieve park purposes. In addition, the plan would identify opportunities to cooperate with the territorial government, landowners, and the private sector to protect the park and monument.
FRV	Boundary marking plan	M	This plan would identify physical, electronic, and virtual methods for clearly defining park and monument boundaries.
FRV, OIRV, and Key Issue	Planning for adaptation to climate change	M	A comprehensive strategy is needed to address the impacts of climate change on resources, facilities, and visitor opportunities. It should evaluate the threats associated with climate change and identify any further planning/data needs, such as a climate change vulnerability assessment. In particular, it should address long-term protection of the berm along North Shore Road.
Key Issue	Outreach and communication plan	M	This plan would develop messaging to bolster awareness of park boundaries and regulations and include guidance related to a range of outreach methods, including social media and other virtual technologies. The recently completed marine use visitor information map could be used as a resource to guide messaging.

Planning Needs—Where A Decision-Making Process Is Needed			
Related to an FRV, OIRV, or Key Issue?	Planning Needs	Priority (H, M, L)	Notes
FRV	Deer management plan	M	This plan would address issues associated with the abundance, distribution, and behavior of deer within park boundaries.
FRV	Exotic terrestrial plant species management plan	M	This plan is needed to identify the extent and distribution of nonnative terrestrial species, as well as strategies to curtail their spread, and reduce distribution.
FRV	Vessel management plan	M	This plan would address the use of vessels within the park and monument, including the use of moorings and navigational aids and limits on vessel size. It would provide general management strategies for vessels and their use in monument waters and would provide an opportunity for public input.
FRV and Key Issue	Cultural landscape reports for key landscapes	M	These reports would probably be necessary at Annaberg, Catherineberg, Cinnamon Bay, Trunk Bay, Reef Bay, Caneel Bay, Creque Marine Railway, Royal Mail, and batteries.
FRV and Key Issue	Historic structure reports for key historic structures	M	These reports would probably be necessary at Annaberg, Catherineberg, Cinnamon Bay, Trunk Bay, Reef Bay, Caneel Bay, Creque Marine Railway, Royal Mail, and batteries.
FRV	Lighting standards plan	L	This plan would address the preservation of dark skies within the park and would assist in conserving rare species such as sea turtles.
OIRV	Trail management plan	L	This plan would include strategies for managing, restoring, and rehabilitating existing trails and consider options for new trail alignments. The visitor use surveys and visitor use counts would inform this effort.
FRV and OIRV	Visual resource management plan	L	The plan would use the visual resource inventory as a baseline to identify goals, objectives, and strategies for protecting the valued characteristics of important views.
FRV	Scope of collections statement (in progress)	L	A scope of collections statement is needed to determine what needs to be accessioned as part of museum collections and would help staff manage collection storage space.
FRV	Donkey management plan	L	This plan would address issues associated with the abundance, distribution, and behavior of donkeys within park boundaries.
FRV and Key Issue	Climate Friendly Parks action plan	L	This plan would help improve park sustainability and environmental leadership through the Climate Friendly Park certification (per Director's Order 13A: <i>Environmental Management System</i>).
FRV	Soundscape / acoustic resource management plan	L	This plan would help identify strategies to help maintain the natural soundscape, as well as indicators and thresholds related to sound and areas of the park where these may be applied.

Data Needs—Where Information Is Needed Before Decisions Can Be Made			
Related to an FRV, OIRV, or Key Issue?	Data and GIS Needs	Priority (H, M, L)	Notes, Including Which Planning Need This Data Need Relates To
FRV, OIRV, and Key Issue	Visitor use counts	H	This effort would help determine an effective method for accurately counting visitors, including vessels and automobiles, in the park and monument. These data would inform more accurate economic impact data and help establish better locations for counting visitors. These data would help inform the visitor use management plan.
FRV	Deer population study	H	This study would help determine the abundance of deer in the park and their impact. It would help inform the deer management plan.
FRV, OIRV, and Key Issue	Traffic and circulation study	H	This study is needed to determine the impact of vehicles on resources, including damage to vegetation, roads, and other resources. It also should identify types of vehicles (weight and size) that travel to/through the park. It would help inform the visitor use management plan.
FRV	Water circulation study	H	This study would measure current directions and velocities and study the effects of adjacent development on water circulation in park and monument waters (particularly in Coral Bay and Hurricane Hole). Outside expertise would be needed to complete this effort.
FRV and Key Issue	Long-term natural resource monitoring in Virgin Islands Coral Reef National Monument	H	This monitoring would include coral reef and mangrove habitats and other areas as appropriate. Monitoring is especially needed at Hurricane Hole because regular visitor use at this site is probably affecting natural resource conditions.
Key Issue	Cultural landscape inventory for Caneel Bay	H	This inventory would identify components of the cultural landscape at Caneel Bay. It would be used to inform management decisions regarding continued use and operation of the site.
FRV	Submerged archeological resources studies	H	Studies of the many submerged archeological resources in the waters of the park and monument are needed. More than 120 subsurface sites have been identified. The NPS Southeast Archeological Center has expressed interest in leading some of these studies.
Key Issue	Boundary survey and GIS layer	H	This effort would include a detailed boundary survey and GIS data for areas of the park that have not been formally surveyed.
FRV and Key Issue	National Register of Historic Places nominations (for pre-colonial historic and archeological resources)	H	This effort would help determine whether cultural sites throughout the park are eligible for listing in the national register, including Hurricane Hole Taino sites identified in an ethnographic study of the area. Assistance would be needed to write nominations if it is determined that sites are eligible.

Data Needs—Where Information Is Needed Before Decisions Can Be Made			
Related to an FRV, OIRV, or Key Issue?	Data and GIS Needs	Priority (H, M, L)	Notes, Including Which Planning Need This Data Need Relates To
FRV and Key Issue	Mapping and monitoring of marine and terrestrial invasive species	H	Monitoring and mapping is needed for many marine and terrestrial invasive species. It should include invasive seagrasses to help determine the extent of this issue.
FRV and Key Issue	Cultural resource stewardship assessment	H	A cultural resource stewardship assessment is a precursor to a resource stewardship strategy. Cultural resource stewardship assessments are needed to identify the status of documentation for all historic sites, landscapes, and buildings.
FRV and OIRV	Comprehensive data on coral abundance and diversity	H	These data would provide comprehensive information on coral abundance and diversity along each shoreline and within the bays.
OIRV and Key Issue	Visitor use survey	H	The last visitor use survey was completed in 2004, and a new survey is needed. This survey would help determine how visitors are using the park and monument, including preferred visitor activities, length of stays, etc. These data would help inform the visitor use management plan.
FRV	CyArk data for historic structures	M	CyArk operates internationally as a 501(c)(3) nonprofit organization with the mission of using new technologies to create a free, three-dimensional online library of the world’s cultural heritage sites. CyArk data would provide three-dimensional modeling and photography of historic structures in the park. The data would allow the park to monitor changes in structures over time and would be helpful in preservation and protection planning.
FRV and Key Issue	Endemic and rare plant study	M	This study would provide additional information regarding the location and distribution of endemic and rare plants in the park.
FRV	Fishing and illegal collecting impact study	M	This study would help determine the amount of fishing and level of illegal collecting in the park and monument.
FRV	Water quality study	M	Broad-scale monitoring of water quality within the park and monument is needed, particularly because of the impacts associated with development of inholdings.
FRV and OIRV	Mangrove habitat map of Hurricane Hole	M	Need better documentation related to mangrove habitat. Increased threats to mangroves in this area remain due to potential development and increased use.
FRV and OIRV	Sea turtle survey in Hurricane Hole	M	Increased threats to sea turtles in this area remain due to potential development and increased use.
FRV	Cultural landscape inventories for key landscapes (other than Caneel Bay)	M	There is a cultural landscape inventory for Annaberg Plantation, but additional inventories are needed for Catherineberg, Cinnamon Bay, Trunk Bay, Reef Bay, Creque Marine Railway, Royal Mail, and batteries to identify the components of cultural landscapes at these sites. Park would seek guidance from the NPS Southeast Region cultural resources program on what areas cultural landscape inventories are needed most.

Data Needs—Where Information Is Needed Before Decisions Can Be Made			
Related to an FRV, OIRV, or Key Issue?	Data and GIS Needs	Priority (H, M, L)	Notes, Including Which Planning Need This Data Need Relates To
FRV and Key Issue	Species surveys and distribution maps	M	Better information is needed on habitat associated with species in the park—in particular threatened and endangered species. The National Oceanic and Atmospheric Administration and U.S. Fish and Wildlife Service could serve as partners in this effort.
FRV	Baseline data for dark skies (update)	M	Though lights from neighboring islands are visible, the high quality night sky on St. John is a key element of the scenic views that visitors experience. Updated baseline data would provide a basis to monitor changes to this resource.
FRV	Baseline data for natural sounds	M	Soundscapes are impacted by commercial and other boat and air traffic. Larger, more powerful boats are increasing in the waters surrounding the island, and some are extremely loud and intrusive. Updated baseline data would help monitor changes to this resource.
FRV	Follow up environmental characterization study	M	Follow up site assessment for Hassel Island to determine presence and distribution of hazardous materials.
FRV	LiDAR data for cultural sites	L	These data could help identify priority areas for more detailed cultural resource surveys.
FRV	Tree study	L	This study would identify significant and champion trees and determine areas of concentration, specific locations, and tree types.
FRV and OIRV	Visual resource inventory	L	This inventory would identify the scenic quality and NPS/visitor values of important views and would serve as the baseline for development of a visual resource management plan.
Key Issue	Paleontological resource survey	L	This parkwide survey is needed to understand current conditions and to inform the protection of those resources.
FRV	Develop shared GIS database	L	Development of a shared GIS database would facilitate access to GIS data and provide opportunities to share information between the National Park Service and partners/researchers (and foster collaboration among researchers).
Key Issue	National Register of Historic Places nominations (for post-colonial structures).	L	Post-colonial era park housing is eligible to be considered for National Register of Historic Places nomination.

Part 3: Contributors

Virgin Islands National Park and Virgin Islands Coral Reef National Monument

Brion FitzGerald, Superintendent

Jayne Schaeffer, Deputy Superintendent

Laurel Brannick, Supervisory Park Ranger, Interpretation

Corinne Fenner, Park Ranger, Interpretation

Rick Gupman, Chief Ranger

Thomas Kelley, Natural Resource Manager

Keith Macneir, Chief of Maintenance

Christy McManus, GIS Specialist

Jeff Miller, Fish Biologist, South Florida Caribbean Inventory and Monitoring Network

Caroline Rogers, Marine Ecologist, U.S. Geological Survey Caribbean Field Station

Ken Wild, Cultural Specialist, Archeologist

Janice Williams, Administrative Officer

Dave Worthington, Chief, Resource Management and Interpretation

NPS Southeast Region

Christopher Barrow, GIS Coordinator/Geographer

Ben West, Chief, Planning and Compliance Division

Amy Wirsching, Planner, Regional Liaison

Other NPS Staff

Scott Babcock, Project Manager, Denver Service Center–Planning

Melody Bentfield, Contract Librarian, Denver Service Center–Planning

Cherri Espersen, Program Analyst, WASO Park Planning and Special Studies

John Gerbich, Community Planner, Denver Service Center–Planning

Pam Holtman, Quality Assurance Coordinator, WASO Park Planning and Special Studies

Sarah McSweeney, Contract Librarian, Denver Service Center–Planning

Nancy Shock, Foundation Coordinator, Denver Service Center–Planning

Judith Stoesser, Contract Editor, Denver, Service Center–Planning

John Paul Jones, Visual Information Specialist, Denver Service Center–Planning

Partners

Rafe Boulon, Board Member, St. John Historical Society and Friends of Virgin Islands National Park

Joe Kessler, President, Friends of Virgin Islands National Park

Erik Miles, Executive Director, St. Thomas Historical Trust

Appendixes

Appendix A: Enabling Legislation, Presidential Proclamation, and Other Legislation for Virgin Islands National Park and Virgin Islands Coral Reef National Monument

Virgin Islands National Park

	Public Law 925	CHAPTER 885
	AN ACT	
<p>August 2, 1956 [H. R. 5299]</p>	To authorize the establishment of the Virgin Islands National Park, and for other purposes.	
<p>Virgin Islands National Park.</p>	<p><i>Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That a portion of the Virgin Islands of the United States, containing outstanding scenic and other features of national significance, shall be established, as prescribed in section 2 hereof, as the "Virgin Islands National Park".</i></p>	
<p>Administration.</p>	<p>The national park shall be administered and preserved by the Secretary of the Interior in its natural condition for the public benefit and inspiration, in accordance with the laws governing the administration of the national parks (16 U. S. C. 1, and the following).</p>	
<p>39 Stat. 535. Conditions and limitations.</p>	<p>SEC. 2. The Secretary of the Interior is hereby authorized, subject to the following conditions and limitations, to proceed in such manner as he shall find to be necessary in the public interest to consummate the establishment of the Virgin Islands National Park:</p> <p>(a) The acreage of the national park shall be limited to a total of not more than nine thousand five hundred acres of land area, such total to be comprised of not more than fifteen acres on the island of Saint Thomas, and not more than nine thousand four hundred and eighty-five additional acres to be comprised of portions of the island of Saint John and such small islands, rocks, and cays not in excess of five hundred acres in the general vicinity thereof as may be desirable for inclusion within the park;</p> <p>(b) Tentative exterior boundary lines, to include land not in excess of the aforesaid acreage limitations, may be selected for the park in order to establish the particular areas in which land may be acquired pursuant to this Act, such tentative boundaries to be selected and adjusted as may be necessary by the Secretary of the Interior;</p> <p>(c) The Secretary, on behalf of the United States, is authorized to accept donations of real and personal property within the areas selected for the park until such time as the aforesaid total of nine thousand five hundred acres shall have been acquired for the park by the United States, and he may also accept donations of funds for the purposes of this Act;</p> <p>(d) Any Federal properties situated within the areas selected for the park, upon agreement by the particular agency administering such properties that such properties should be made available for the park, may be transferred without further authorization to the Secretary by such agency for purposes of this Act;</p> <p>(e) Establishment of the Virgin Islands National Park, in its initial phase, shall be and is hereby declared to be accomplished and effective for purposes of administration when a minimum acreage of not less than five thousand acres in Federal ownership for purposes of this Act shall have been acquired by the United States in specific areas containing such acquired lands to be designated by the Secretary; and</p> <p>(f) Notice of the establishment of the park as authorized and prescribed by this Act shall be published in the Federal Register.</p>	
	<p>SEC. 3. There is hereby authorized to be appropriated from Federal funds a sum not in excess of \$60,000 for capital improvements for said Virgin Islands National Park, and a sum of not in excess of \$30,000 annually for the administration of the Virgin Islands National Park.</p>	
	Approved August 2, 1956.	



Public Law 85-404

May 16, 1958
[S. 2183]

AN ACT

To amend the Act of August 2, 1956 (70 Stat. 940), providing for the establishment of the Virgin Islands National Park, and for other purposes.

16 USC 398.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Act of August 2, 1956 (70 Stat. 940), entitled "An Act to authorize the establishment of the Virgin Islands National Park, and for other purposes" is hereby amended by striking section 3 therefrom.

Approved May 16, 1958.

Public Law 87-750

October 5, 1962
[S. 2429]

AN ACT

To revise the boundaries of the Virgin Islands National Park, Saint John, Virgin Islands, and for other purposes.

Virgin Islands
National Park,
Saint John, V.I.
Boundary revision.
16 USC 398,
398 a.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That, in furtherance of the purposes of the Act of August 2, 1956 (70 Stat. 940), as amended, providing for the establishment of the Virgin Islands National Park, and in order to preserve for the benefit of the public significant coral gardens, marine life, and seascapes in the vicinity thereof, the boundaries of such park, subject to valid existing rights, are hereby revised to include the adjoining lands, submerged lands, and waters described as follows:

NORTH OFFSHORE AREA

25 F. R. 6408.

Beginning at the hereinafter lettered point A on the shore of Cruz Bay, a corner in the Virgin Islands National Park boundary, being also a corner of lot F, Cruz Bay, added to the park by order of designation signed June 29, 1960, by the Assistant Secretary of the Interior pursuant to the Act of August 2, 1956 (70 Stat. 940), and published in the Federal Register of July 7, 1960, the said corner being the terminus of the course recited therein as "north 58 degrees 50 minutes west a distance of 20.0 feet, more or less, along Government land to a point;" for the third call in the metes and bounds description lot F, Cruz Bay.

From the initial point A, distances in nautical miles, along direct courses between the hereinafter lettered points at geographic positions (latitudes north, longitudes west) :

Northward approximately 0.13 mile to point B, latitude 18 degrees 20 minutes 08 seconds, longitude 64 degrees 47 minutes 43 seconds in Cruz Bay;

0.43 mile to point C, latitude 18 degrees 20 minutes 08 seconds, longitude 64 degrees 48 minutes 10 seconds in Pillsbury Sound;

1.36 miles to point D, latitude 18 degrees 21 minutes 30 seconds, longitude 64 degrees 48 minutes 10 seconds in Windward Passage;

1.64 miles to point E, latitude 18 degrees 22 minutes 10 seconds, longitude 64 degrees 46 minutes 35 seconds in the Atlantic Ocean;

1.99 miles to point F, latitude 18 degrees 22 minutes 45 seconds, longitude 64 degrees 44 minutes 35 seconds in the Narrows;

3.18 miles to point G, latitude 18 degrees 22 minutes 00 seconds, longitude 64 degrees 41 minutes 20 seconds in Sir Francis Drake Channel;

1.04 miles to point H, latitude 18 degrees 21 minutes 10 seconds, longitude 64 degrees 40 minutes 40 seconds in Haulover Bay;

Southwestward approximately 0.22 mile to point I, a bound post on the shore of Haulover Bay marking a corner of the Virgin Islands National Park boundary as shown on drawing numbered NP-VI-7000 entitled "Acquisition Area Virgin Islands National Park", approved November 15, 1956, by the Acting Secretary of the Interior in accordance with the provisions of the Act of August 2, 1956, supra, being also the southeasterly corner of estate Haulover 5a and 5c east end quarter as delineated on the municipality of Saint Thomas and Saint John drawing PW file numbered 9-24-T51 dated October 26, 1950;

Thence running generally westward along the Virgin Islands National Park northerly boundary as it follows the northerly shore of the island of Saint John as shown on the said drawing numbered NP-VI-7000 and on drawing numbered NP-VI-7003

entitled "Land Ownership Cruz Bay Creek" depicting the boundary adjustment affected by the said order of designation to point A, the point of beginning.
The area described contains approximately 4,100 acres.

SOUTH OFFSHORE AREA

Beginning at the hereinafter lettered point L, a concrete bound post on the shore of Drunk Bay marking a northeasterly corner in the Virgin Islands National Park boundary as shown on the said drawing numbered NP-VI-7000, being also the northeasterly corner of parcel numbered 1, estate Concordia (A), as delineated on the Leo R. Sibilly, civil engineer, drawing file numbered C9-13-T55.

From the initial point L, distances in nautical miles, along direct courses between the hereinafter lettered points at geographic positions (latitudes north, longitudes west):

Eastward approximately 0.32 mile to point M, latitude 18 degrees 18 minutes 48 seconds, longitude 64 degrees 41 minutes 50 seconds in Sabbat Channel;

0.88 mile to point N, latitude 18 degrees 17 minutes 55 seconds, longitude 64 degrees 41 minutes 50 seconds in the Caribbean Sea;

0.40 mile to point O, latitude 18 degrees 17 minutes 55 seconds, longitude 64 degrees 42 minutes 15 seconds in the Caribbean Sea;

1.88 miles to point P, latitude 18 degrees 18 minutes 48 seconds, longitude 64 degrees 44 minutes 00 seconds in the Caribbean Sea;

1.74 miles to point Q, latitude 18 degrees 18 minutes 48 seconds, longitude 64 degrees 45 minutes 50 seconds in the Caribbean Sea;

0.45 mile to point R, latitude 18 degrees 19 minutes 15 seconds, longitude 64 degrees 45 minutes 50 seconds in Fish Bay;

Eastward approximately 0.08 mile to point S on the shore of Fish Bay, a corner in the present Virgin Islands National Park, as delineated on said drawing numbered NP-VI-7000, being the northwesterly corner of parcel numbered 2 estate Fish Bay, numbered 8 Reef Bay Quarter, and the terminus of the delineated course "south 78 degrees 52 minutes west distance 1,178.9 feet" as depicted on the Leo R. Sibilly, civil engineer, drawing file numbered G9-385-T56.

Thence running generally eastward along the present southerly park boundary as it follows the southerly shore of the island of Saint John as depicted on the said drawing numbered NP-VI-7000 to point L, the point of beginning.

The area described contains approximately 1,550 acres.

Lands, submerged lands, and waters added to the Virgin Islands National Park pursuant to this Act shall be subject to administration by the Secretary of the Interior in accordance with the provisions of the Act of August 25, 1916 (39 Stat. 535; 16 U.S.C. 1-4), as amended and supplemented.

SEC. 2. Within the boundaries of Virgin Islands National Park as established and adjusted pursuant to the Act of August 2, 1956 (70 Stat. 940), and as revised by this Act, the Secretary of the Interior is authorized to acquire lands, waters, and interests therein by purchase, exchange or donation or with donated funds.

Acquisition of
lands, etc.
16 USC 398,
398a.

SEC. 3. Nothing in this Act shall be construed as authorizing any limitation on customary uses of or access to the areas specified in section 1 for bathing and fishing (including setting out of fishpots and landing boats), subject to such regulations as the Secretary of the Interior may find reasonable and necessary for protection of natural conditions and prevention of damage to marine life and formations.

SEC. 4. There are hereby authorized to be appropriated such sums, but not more than \$1,250,000, as are necessary to acquire lands pursuant to section 2 of this Act.

Approved October 5, 1962.

VIRGIN ISLANDS

SEC. 4. (a) There is hereby authorized to be appropriated to the Secretary not to exceed \$5,000,000 of which not more than \$1,000,000 may be appropriated for fiscal year 1979 to be paid to the government of the Virgin Islands for the purpose of promoting economic development in the Virgin Islands. The Secretary shall prescribe the types of programs for which such sums may be used.

(b) (1) There is authorized to be appropriated for construction of hospital facilities in the Virgin Islands not more than \$52,000,000 plus or minus such amounts, if any, as may be justified by reason of ordinary fluctuations in construction costs from October 1978 price levels as indicated by engineering cost indexes applicable to the types of construction involved.

(2) Grants provided pursuant to this section and not obligated or expended by the government of the Virgin Islands during any fiscal year will remain available for obligation or expenditure by such government in subsequent fiscal years for the purposes for which the funds were appropriated.

(3) Funds provided under paragraph (b) (1) may be used by the Virgin Islands as the matching share for Federal programs and services.

Effective date.

(4) Authorizations of moneys to be appropriated under this subsection shall be effective on October 1, 1978.

48 USC 1575.

(c) (1) Section 9(c) of the Revised Organic Act of the Virgin Islands (68 Stat. 497) is amended by deleting the period at the end thereof and inserting "or such other date as the Legislature of the Virgin Islands may determine."

Duties and taxes.
48 USC 1645.

(2) Beginning as soon as the government of the Virgin Islands enacts legislation establishing a fiscal year commencing on October 1 and ending on September 30, the Secretary of the Treasury, prior to the commencement of any fiscal year, shall remit to the government of the Virgin Islands the amount of duties, taxes, and fees which the Governor of the Virgin Islands, with the concurrence of the government comptroller of the Virgin Islands, has estimated will be collected

in or derived from the Virgin Islands under the Revised Organic Act of the Virgin Islands during the next fiscal year, except for those sums covered directly upon collection into the treasury of the Virgin Islands. There shall be deducted from or added to the amounts so remitted, as may be appropriate, at the beginning of the fiscal year, the difference between the amount of duties, taxes, and fees actually collected during the prior fiscal year and the amount of such duties, taxes, and fees as estimated and remitted at the beginning of that prior fiscal year, including any deductions which may be required as a result of the operation of Public Law 94-392 (90 Stat. 1195).

48 USC 1541
note.

(3) Subsection 28(a) of the Revised Organic Act of the Virgin Islands is amended by deleting the phrase "less the cost of collecting all of said duties, taxes, and fees,".

48 USC 1642.

(d) There are hereby authorized to be appropriated to the Secretary such sums as may be necessary, but not to exceed \$20,000,000 per annum, for fiscal years 1979, 1980, and 1981 for grants to the government of the Virgin Islands to offset any anticipated deficit during such fiscal years. The Secretary is authorized and directed, after consultation with the Governor of the Virgin Islands, to impose such conditions and requirements, on these grants as he deems advisable. Not later than July 1, 1979, the Secretary shall submit to the Congress a report on the financial condition of the Virgin Islands. The report shall:

48 USC 1641
note.

Report to
Congress.

(1) identify, the specific sources of revenues, both Federal and local, available to the government of the Virgin Islands;

(2) chart the revenues derived from each source and what, if any, increases could be occasioned in the amount of such revenues by actions of the Virgin Islands Government;

(3) describe the extent to which changes in actual revenues were occasioned by actions of the Federal Government or by circumstances beyond the control of the Virgin Islands Government;

(4) analyze expenditures to determine what economies, if any, could be obtained and identify the actions which could be taken by the Virgin Islands Government to obtain such economies;

(5) review the long term debt structure of the Virgin Islands Government, including, but not limited to, whether such debt was incurred for purposes authorized by law, the total amount of such debt, the relation of the total debt ceiling, and the impact retirement of the debt will have on the future economic situation of the Virgin Islands;

(6) detail and discuss various alternatives available to the government of the Virgin Islands and the Federal Government to revise and improve the process of supporting the necessary expenditures of the Virgin Islands Government; and

(7) include his recommendations for any changes he deems advisable in the present Federal-territorial economic relationship.

Virgin Islands Coral Reef National Monument

7364

Federal Register / Vol. 66, No. 14 / Monday, January 22, 2001 / Presidential Documents

Presidential Documents

Proclamation 7399 of January 17, 2001

Establishment of the Virgin Islands Coral Reef National Monument

By the President of the United States of America

A Proclamation

The Virgin Islands Coral Reef National Monument, in the submerged lands off the island of St. John in the U.S. Virgin Islands, contains all the elements of a Caribbean tropical marine ecosystem. This designation furthers the protection of the scientific objects included in the Virgin Islands National Park, created in 1956 and expanded in 1962. The biological communities of the monument live in a fragile, interdependent relationship and include habitats essential for sustaining and enhancing the tropical marine ecosystem: mangroves, sea grass beds, coral reefs, octocoral hardbottom, sand communities, shallow mud and fine sediment habitat, and algal plains. The fishery habitats, deeper coral reefs, octocoral hardbottom, and algal plains of the monument are all objects of scientific interest and essential to the long-term sustenance of the tropical marine ecosystem.

The monument is within the Virgin Islands, which lie at the heart of the insular Caribbean biome, and is representative of the Lesser Antillean biogeographic province. The island of St. John rises from a platform that extends several miles from shore before plunging to the abyssal depths of the Anegada trough to the south and the Puerto Rican trench to the north, the deepest part of the Atlantic Ocean. This platform contains a multitude of species that exist in a delicate balance, interlinked through complex relationships that have developed over tens of thousands of years.

As part of this important ecosystem, the monument contains biological objects including several threatened and endangered species, which forage, breed, nest, rest, or calve in the waters. Humpback whales, pilot whales, four species of dolphins, brown pelicans, roseate terns, least terns, and the hawksbill, leatherback, and green sea turtles all use portions of the monument. Countless species of reef fish, invertebrates, and plants utilize these submerged lands during their lives, and over 25 species of sea birds feed in the waters. Between the nearshore nursery habitats and the shelf edge spawning sites in the monument are habitats that play essential roles during specific developmental stages of reef-associated species, including spawning migrations of many reef fish species and crustaceans.

The submerged monument lands within Hurricane Hole include the most extensive and well-developed mangrove habitat on St. John. The Hurricane Hole area is an important nursery area for reef associated fish and invertebrates, instrumental in maintaining water quality by filtering and trapping sediment and debris in fresh water runoff from the fast land, and essential to the overall functioning and productivity of regional fisheries. Numerous coral reef-associated species, including the spiny lobster, queen conch, and Nassau grouper, transform from planktonic larvae to bottom-dwelling juveniles in the shallow nearshore habitats of Hurricane Hole. As they mature, they move offshore and take up residence in the deeper coral patch reefs, octocoral hardbottom, and algal plains of the submerged monument lands to the south and north of St. John.

The monument lands south of St. John are predominantly deep algal plains with scattered areas of raised hard bottom. The algal plains include communities of mostly red and calcareous algae with canopies as much as half a meter high. The raised hard bottom is sparsely colonized with corals, sponges, gorgonians, and other invertebrates, thus providing shelter for lobster, groupers, and snappers as well as spawning sites for some reef fish species. These algal plains and raised hard bottom areas link the shallow water reef, sea grass, and mangrove communities with the deep water shelf and shelf edge communities of fish and invertebrates.

Section 2 of the Act of June 8, 1906 (34 Stat. 225, 16 U.S.C. 431), authorizes the President, in his discretion, to declare by public proclamation historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon the lands owned or controlled by the Government of the United States to be national monuments, and to reserve as a part thereof parcels of land, the limits of which in all cases shall be confined to the smallest area compatible with the proper care and management of the objects to be protected.

WHEREAS it appears that it would be in the public interest to reserve such lands as a national monument to be known as the Virgin Islands Coral Reef National Monument:

NOW, THEREFORE, I, WILLIAM J. CLINTON, President of the United States of America, by the authority vested in me by section 2 of the Act of June 8, 1906 (34 Stat. 225, 16 U.S.C. 431), do proclaim that there are hereby set apart and reserved as the Virgin Islands Coral Reef National Monument, for the purpose of protecting the objects identified above, all lands and interests in lands owned or controlled by the United States within the boundaries of the area described on the map entitled "Virgin Islands Coral Reef National Monument" attached to and forming a part of this proclamation. The Federal land and interests in land reserved consist of approximately 12,708 marine acres, which is the smallest area compatible with the proper care and management of the objects to be protected.

All Federal lands and interests in lands within the boundaries of this monument are hereby appropriated and withdrawn from all forms of entry, location, selection, sale, or leasing or other disposition under the public land laws, including but not limited to withdrawal from location, entry, and patent under the mining laws, and from disposition under all laws relating to mineral and geothermal leasing, other than by exchange that furthers the protective purposes of the monument. For the purpose of protecting the objects identified above, the Secretary shall prohibit all boat anchoring, except for emergency or authorized administrative purposes.

For the purposes of protecting the objects identified above, the Secretary shall prohibit all extractive uses, except that the Secretary may issue permits for bait fishing at Hurricane Hole and for blue runner (hard nose) line fishing in the area south of St. John, to the extent that such fishing is consistent with the protection of the objects identified in this proclamation.

Lands and interests in lands within the monument not owned or controlled by the United States shall be reserved as a part of the monument upon acquisition of title or control thereto by the United States.

The Secretary of the Interior shall manage the monument through the National Park Service, pursuant to applicable legal authorities, to implement the purposes of this proclamation. The National Park Service will manage the monument in a manner consistent with international law.

The Secretary of the Interior shall prepare a management plan, including the management of vessels in the monument, within 3 years, which addresses any further specific actions necessary to protect the objects identified in this proclamation.

The establishment of this monument is subject to valid existing rights.

Nothing in this proclamation shall be deemed to revoke any existing withdrawal, reservation, or appropriation; however, the national monument shall be the dominant reservation.

Warning is hereby given to all unauthorized persons not to appropriate, injure, destroy, or remove any feature of this monument and not to locate or settle upon any of the lands thereof.

IN WITNESS WHEREOF, I have hereunto set my hand this seventeenth day of January, in the year of our Lord two thousand one, and of the Independence of the United States of America the two hundred and twenty-fifth.

William Clinton

Appendix B: Inventory of Administrative Commitments

Agreement Name	Stakeholders	Purpose
General Agreements		
Employee commuting services and parking spaces	NPS, Caneel Bay Resort, Inc.	Allows NPS employees to commute to and from work on the Caneel Bay Ferry and Caneel Bay employees to park personal vehicles at the NPS Red Hook area facility.
Cooperative Agreements		
North Shore Road agreement	NPS, Federal Highway Administration	Meeting of compliance requirements for road work, including the North Shore Road reconstruction.
Cooperative research agreement	NPS, Department of Commerce National Oceanic and Atmospheric Administration (DOC NOAA) National Coral Reef Monitoring Program	Fish and coral reef research.
Cooperative research agreement	NPS, South Florida Caribbean Cooperative Ecosystem Studies Unit, University of Miami Rosensteil School of Marine & Atmospheric Science, University of Hawaii	Fish and coral reef research.
Exotic species reduction	U.S. Department of Animal and Plant Health Inspection Service (APHIS), APHIS Wildlife Services	Reduction of nonnative wildlife in park, including rats, cats, mongooses, hogs, goats, and sheep.
Concession Contracts		
Concessions contract / letters of extensions	CBI Acquisitions dba Caneel Bay	Authorizes concessioner to provide lodging, camping, food service, retail, commissary, and watersports and other equipment rental, at Cinnamon Bay Campground; and food service, watersports equipment rental, and gift shop at Trunk Bay Beach. Letters of extension are in effect until new contract is executed.
Concessions contract / letters of extensions	CBI Acquisitions dba Caneel Bay	Authorizes Caneel Bay Resort to provide recreational watersports activities to their guests in park waters / submerged lands adjacent to hotel property. Letters of extension are in effect until new contract is executed.
Concessions contract	RedwoodParks Company	Outlines agreement between NPS and Cinnamon Bay Campground concessioner.
Concessions contract	RedwoodParks Company	Outlines agreement between NPS and Trunk Bay Gift Show and Snack Bar concessioner.
Commercial Use Authorizations		
Commercial use authorizations	Approximately 140 business permits issued each year to hiking / kayaking / stand up paddle boarding guides; taxi / tour operators; day sail / snorkel / scuba excursion vessels	Authorizes commercial operators to provide recreational visitor services on park lands and in submerged lands. Permitted services approved in park's 2001 commercial services plan.

Agreement Name	Stakeholders	Purpose
Special Use Permits		
Special use permit (long term permit)	Virgin Islands Department of Sports, Parks and Recreation (formerly Housing, Parks and Recreation)	Management and maintenance of NPS Ballfield and Tiny Tot Lot to provide recreational opportunities for youth of St. John. Original permit issued in 1970s; renewed every five years.
Memorandums of Understanding		
Partnership agreement between NPS and St. Thomas Historical Trust	St. Thomas Historical Trust, NPS	Historic preservation efforts and interpretive opportunities on Hassel Island. Establishes functional relationship between park and St. Thomas Historical Trust and defines area of responsibility for each organization.
Memorandum of understanding between NPS and University of the Virgin Islands	University of Virgin Islands, NPS	Opportunities for environmental education and research through operation of Virgin Islands Environmental Resource Station. Establishes functional relationship between park and University of Virgin Islands to secure and defines area of responsibility for each organization.
Memorandum of agreement between NPS and Friends of Virgin Islands National Park	Friends of Virgin Islands National, NPS	Basis for cooperation and assistance between organizations in creation, perpetuity, and operations of programs and activities mutually agreed upon and entered into. Establishes continuance of functional relationship between park and Friends of Virgin Island National Park. The memorandum provides background, objectives, and scope of responsibilities of each organization.
Law enforcement assistance agreement	Virgin Islands Police Department, NPS	Provides background, objectives of agreement, legislative authority, and statement of work identifying mutual rights and obligations of each organization in providing law enforcement assistance in park and on St. John.
Memorandum of understanding between NPS and Virgin Islands Fire Department	Virgin Islands Fire Department, NPS	Provides background, objectives of agreement, legislative authority, and statement of work identifying mutual rights and obligations of each organization in providing firefighting assistance in park and on St. John.
Other Commitments		
Agreements with academic institutions	University of Maine, Syracuse University, NPS	Ongoing collaborative efforts include agreement with University of Maine, which is conducting pilot project to “virtually preserve” a select number of historic structures using computer-aided design programs and GIS data; and with Syracuse University, which is conducting a GIS project both to locate and help the park to assess historic structures.

Appendix C: Past and Ongoing Park Planning and Data Collection Efforts

Name of Plan or Study	Date
Scope of sales; Virgin Islands National Park.	2015
Virgin Islands National Park: Authorized concessioners. NPS Commercial Services.	2015
Virgin Islands National Park: How might future warming alter visitation? Natural Resource Stewardship and Science.	2015
Virgin Islands National Park List of Classified Structures (database).	2015
Virgin Islands National Park: Species list with details.	2015
Climate change exposure of Virgin Islands National Park—Resource brief. Natural Resource Stewardship and Science.	2014
Road inventory and condition assessment of Virgin Islands National Park - VIIS - 5360 Cycle 5 Report.	2014
A cooperative multiagency reef fish monitoring protocol for the U.S. Virgin Islands coral reef ecosystem, v. 1.00. Natural Resource Stewardship and Science; Virgin Islands National Park.	2013
Climate trends, national parks, Virgin Islands. Natural Resource Stewardship and Science.	2013
Coral reef ecosystem water temperature monitoring protocol, v. 1.00. Natural Resource Stewardship and Science; Virgin Islands National Park.	2013
Marine benthic communities: Coral reef monitoring in Virgin Islands National Park—2012.South Florida / Caribbean Network.	2013
Superintendent’s Compendium.	2013
FONSI; environmental assessment for the proposed construction of a floating boat pier and dredging of the creek in Little Cruz Bay.	2012
Lionfish response plan: A systematic approach to managing impacts from the lionfish, an invasive species in units of the national park system.	2012
Annaberg sugar factory cultural landscape inventory.	2011
Draft general management plan / environmental impact statement.	2011
Environmental assessment for the proposed construction of a floating boat pier and dredging of the creek in Little Cruz Bay. Virgin Islands National Park.	2011
Evaluation of the sensitivity of inventory and monitoring national parks to acidification effects from atmospheric sulfur and nitrogen deposition. South Florida / Caribbean Network (SFCN).	2011
Evaluation of the sensitivity of inventory and monitoring national park to nutrient enrichment effects from atmospheric nitrogen deposition. South Florida/Caribbean Network (SFCN).	2011
Virgin Islands National Park: Geologic resources inventory report. Natural Resource Report. NPS/NRPC/GRD/NRR—2010/226.	2011
Geologic resources inventory report. Stephanie O’Meara, Colorado State University.	2010
Paleontological resource inventory and monitoring. South Florida / Caribbean Network Natural Resource Technical Report.	2010
Coral disease following massive bleaching in 2005 causes 60% decline in coral cover on reefs in the U.S. Virgin Islands. Virgin Islands National Park.	2009
Improving transportation alternatives at Virgin Islands National Park. National Park Foundation Transportations Scholar Final Report.	2009

Name of Plan or Study	Date
Long-term monitoring of habitats and reef fish found inside and outside the U.S. Virgin Islands Coral Reef National Monument: A comparative assessment. Caribbean Journal of Science 45(2-3).	2009
Shallow-water benthic habitats of St. John. Virgin Islands National Park. NOAA Technical Memorandum.	2009
An ecological correction to marine reserve boundaries in the U.S. Virgin Islands. Proceedings, 11th International Coral Reef Symposium, Fort Lauderdale, Florida.	2008
Coral diseases following massive bleaching in 2005 cause 60% decline in coral cover and mortality of threatened species. U.S. Geological Survey Fact Sheet.	2008
State of the park: A resource assessment; Virgin Islands National Park and Virgin Islands Coral Reef National Monument.	2008
Temporal trends in reef fish assemblages inside Virgin Islands National Park and around St. John, U.S. Virgin Islands, 1988-2006. NOAA Technical Memorandum.	2008
The coupling of St. John, U.S. Virgin Islands marine protected areas based on reef fish habitat affinities and movements across management boundaries. Proceedings, 11th International Coral Reef Symposium, Fort Lauderdale, Florida.	2008
Acoustic tracking of reef fishes to elucidate habitat utilization patterns and residence times inside and outside marine protected areas the island of St. John, U.S.V.I. Interim Project Report. NOAA Technical Memorandum.	2007
Characterizing reef fish populations and habitats within and outside the U.S. Virgin Islands Coral Reef National Monument: A lesson in marine protected area design. Fisheries Management and Ecology.	2007
Museum collection management facility—Value analysis study final report.	2007
Coral bleaching and disease deliver “One-Two Punch” to coral reefs in the U.S. Virgin Islands. U.S. Geological Survey.	2006
Phytosociology of vascular plants on an international biosphere reserve: Virgin Islands National Park, St. John, U.S. Virgin Islands.	2006
Response to coral bleaching in U.S. Virgin Islands National Parks. U.S. Geologic Survey.	2006
The road inventory of Virgin Islands National Park - VIIS - 5360 Cycle 3 Report.	2006
Herpetofaunal inventories of the national parks of South Florida and the Caribbean: Volume II.	2005
Virgin Islands National Park and Coral Reef National monument geologic resource management issues, scoping summary. Geologic Resource Evaluations.	2005
Coastal vulnerability assessment of Virgin Islands National Park to sea-level rise.	2004
Coral reef monitoring in St. Croix and St. Thomas—Year Three Final Report.	2004
Coral reef monitoring in St. Croix and St. Thomas—Year Four Final Report.	2004
Environmental assessment—Rehabilitation of North Shore Road and construction of Cruz Bay Overlook.	2004
Final environmental assessment for sustained reduction plan for native goats and sheep within Virgin Islands National Park.	2004
Museum collection management plan.	2004
Ozone risk assessment for South Florida/Caribbean Network.	2004
Inventory of fishes in inland and brackish-water habitats of Virgin Islands National Park.	2003

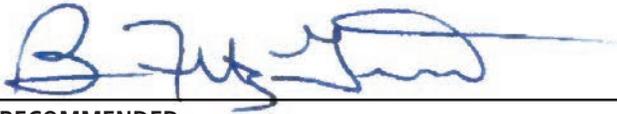
Name of Plan or Study	Date
Monitoring the coral disease, Plague Type II, on coral reefs in St. John, U.S. Virgin Islands.	2003
Annual data summary Virgin Islands National Park—Gaseous air pollutant monitoring network.	2002
Superintendent’s Compendium. Virgin Islands National Park.	2002
Annual data summary Virgin Islands National Park—2001—Gaseous air pollutant monitoring network.	2001
Commercial services plan final environmental assessment.	2001
Environmental assessment for sustained reduction of nonnative rats, cats, and mongooses.	2001
Archeological survey and testing, Cinnamon Bay.	2000
Vegetation inventory, Environmental Heritage Center, Cinnamon Bay.	2000
Resource management plan.	1999
Annual data summary, Virgin Islands National Park— Gaseous air pollutant monitoring network.	1998
Compliance with mooring and anchoring regulations in Virgin Island National Park.	1998
Geology of St. John, U.S. Virgin Islands. U.S. Geological Survey Professional Paper 1631.	1998
The road inventory of Virgin Islands National Park.	1998
Visitor study—Spring 1997. Visitor Services Project Report 93.	1997
The effects of fishing and fish traps on fish assemblages within Virgin Islands National Park and Buck Island Reef National Monument. Technical Report.	1996
Baseline water quality data inventory and analysis.	1995
Resource management plan.	1994
Archeological assessment of cultural resources along the proposed route of John Head Road.	1993
Archeological monitoring of the Northshore Road, Phase I.	1993
Collection management plan.	1993
Ecological restoration of degraded Caribbean Dry Forest—Final report.	1993
Use of mangrove propropoot habitats by fish in the northern U.S. Virgin Islands. Proceedings, 41st Gulf and Caribbean Fisheries Institute.	1992
Archeological investigations conducted along North Shore Road.	1991
Archeological investigations conducted at Lind Point, Mary Point, Cinnamon Bay, and Trunk Bay.	1991
Environmental assessment—Experimental immunocontraception of feral donkeys inhabiting Virgin Islands National Park.	1991
Integrating resource and community issues—An implementation strategy.	1990
Mangroves as nursery grounds for recreational fisheries— Final report.	1990
Archeological investigations conducted along Lameshur Road, Virgin Islands National Park.	1989
Assessment of anchor damage and carrying capacity of seagrass beds in Francis and Maho Bays for green sea turtles.	1988
A basis for long-term monitoring of fish and shellfish species in the Virgin Islands National Park. Biosphere Reserve Research Report No. 22, MAB, NPS, DOI.	1987

Name of Plan or Study	Date
Land protection plan—Update. Virgin Islands National Park.	1987
The vegetation of St. John and Hassel Island, Virgin Islands National Park.	1987
Adjacent fishery habitats of ecological importance to the fishery resources of the VI Biosphere Reserve. Biosphere Reserve Research Report No. 9, MAB, NPS, DOI.	1986
Distribution of fisheries habitats within the Virgin Islands Biosphere Reserve. Reserve Research Report No. 8, MAB, NPS, DOI.	1986
Long term monitoring methods of fisheries resources of the VI Biosphere Reserve. Biosphere Reserve Research Report No. 13, MAB, NPS, DOI.	1986
Recovery plan for the Virgin Island tree boa.	1986
Habitat associations of reef fish assemblages within the V.I. biosphere reserve. Abstract, 65th Annual Meeting, American Society of Ichthyologists and Herpetologists.	1985
Land protection plan. Virgin Islands National Park.	1985
Interpretive prospectus. Virgin Islands National Park.	1984
General management plan, development concept plan, environmental assessment.	1983
National Register of Historic Places—Annaberg Historic District.	1981
National Register of Historic Places—Brown Bay Plantation Historic District.	1981
National Register of Historic Places—Dennis Bay Plantation Historic District.	1981
National Register of Historic Places—Hermitage Plantation Historic District.	1981
National Register of Historic Places—Jossie Gut Historic District.	1981
National Register of Historic Places—L’Esperance Historic District.	1981
National Register of Historic Places—Liever Marches Bay Historic District.	1981
National Register of Historic Places—Lind Point Fort. Field Inventory Report.	1981
National Register of Historic Places—More Hill Historic District.	1981
National Register of Historic Places—Reef Bay Great House Historic District.	1981
National Register of Historic Places—Rustenbergh Plantation South Historic District.	1981
National Register of Historic Places—Trunk Bay Sugar Factory. Field Inventory Report.	1981
Historic Resource Study, Hassel Island.	1980
National Register of Historic Places Nomination Form—Cathrineberg, Jockumsdahl, Herman Farm.	1978
National Register of Historic Places Nomination Form—Cinnamon Bay Plantation.	1978
National Register of Historic Places Nomination Form—Lameshur Plantation.	1978
National Register of Historic Places Nomination Form—Mary Point Great House and Factory.	1978
National Register of Historic Places—Christiansted Historic District.	1976
Historic Resource Study—St. John Island (“The Quiet Place”).	1972
Historic Structures Report—“Par Force” (Reef Bay) Estate Great House and Reef Bay Sugar Factory.	1969
Historic Structures Report—Part 1 on Windmills.	1965
Dedication; Virgin Islands National Park.	1956



Southeast Region Foundation Document Recommendation
Virgin Islands National Park | Virgin Islands Coral Reef National Monument
December 2016

This Foundation Document has been prepared as a collaborative effort between park and regional staff and is recommended for approval by the Southeast Regional Director.



6 Dec 2016

RECOMMENDED

Brion FitzGerald, Superintendent, Virgin Islands National Park | Virgin Islands Coral Reef National Monument

Date



12/9/16

APPROVED

for Stan Austin, Regional Director, Southeast Region

Date



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historic places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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