

Buck Island Reef

Buck Island Reef National Monument
St. Croix, U.S. Virgin Islands

National Park Service
U.S. Department of the Interior

Official Map and Guide

Six thousand feet long and a half mile wide, uninhabited Buck Island rises to 340 feet above sea level 1½ miles off the northeast side of the island of St. Croix in the U.S. Virgin Islands. Five miles from Christiansted, the 880-acre Buck Island Reef National Monument includes 176 acres of land and 704 of water and coral reef system. First protected in 1948, the area was proclaimed a national monument in 1961. Endangered species nesting here include the brown pelican and hawksbill, leatherback, and green sea turtles. Buck Island is not volcanic in origin: its sedimentary rocks were uplifted by tectonic pressures. Two-thirds of this largely tropical dry forest island are surrounded by an elkhorn coral barrier reef, which in-

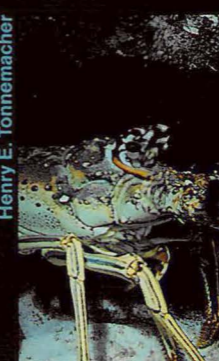
cludes the Marine Garden area—closed to fishing and collecting activities. A snorkel trail with underwater interpretive signs lies off the island's east end. It meanders through coral grottoes out to the forereef. Resembling haystacks, elkhorn coral patch reefs are scattered along the outside of the forereef and rise nearly to the water's surface from the seabed as much as 40 feet below. Snorkelers encounter colorful parrotfish, French angelfish, and blue tangs. Concessioners offer daily half- and all-day tours to Buck Island from St. Croix for snorkeling and other activities.

Cover photo of schooling fish and snorkelers by Stephen Frink.

Coral Reefs

Coral reefs are complex colonies of individual animals called polyps. These produce limestone skeletons cemented together by blue-green algae, resulting in massive but surprisingly fragile formations. Polyps are filter feeders eating floating plankton they trap in their tentacles. As polyps die, new ones expand the reef by growing on their remains. Polyps enjoy a mutually beneficial relationship with algae living inside them. This efficient symbiosis makes coral reefs rich with life. Coral reefs support an incredible diversity of animal and fish life. Coral reefs have existed for millions of years and are as ancient as rain forests.

Henry E. Tonnemacher



Spiny lobster

A spiny lobster's hard shell derives its rigidity from its lime content. Spiny lobsters hide by day and feed at night. In the ancient coral reef environment, life has evolved elaborate strategies for exploiting every available niche. The sea's nutrients are extracted and redistributed, and shelter from predators is provided.

Coral Reefs of the World

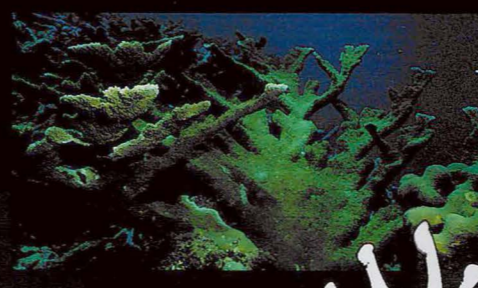


Coral reefs, shown in red, grow in tropical waters where sea temperatures are more than 70° all year.

Optimum growth occurs within a few yards of the surface.

Buck Island's Barrier Reef

Buck Island Reef's underwater scene taxes human perception with the abundant variety of shapes, patterns, colors, textures, and movement. Its barrier reef ranks among the Caribbean's best. Its thick, branching elkhorn corals push their sheer mass to 30-foot heights. Like fortress walls corals rise off the sea floor and dominate the underwater world. The irregular arc of reef surrounding Buck Island's northern and eastern shores creates a lagoon between reef and island. Wide and shallow lagoon waters seldom exceed 12 feet deep, and the protecting reef moderates the wave action. In the calmer waters of the lagoon, brain corals grow larger, nearly reaching the surface. Seaward of the barrier reef, elkhorn and star coral patch reefs occur around the island, except to the southwest.



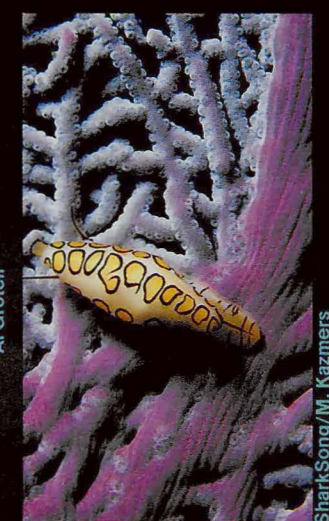
Elkhorn coral



Al Grottel

Blue tang (above) graze en masse in reef shallows. A flamingo tongue sea snail (right) accents a sea fan.

Coral polyp (1,000x)



Shark Song/M. Kazmers

Fragile and Endangered

Worldwide, coral reefs are fast disappearing. They are slow-growing and vulnerable to pollution, sedimentation, overfishing, warming of the seas, and boat damage. Buck Island's reef system shows significant impacts from white band disease and undetermined environmental factors. These cause corals to reject the algae that help nourish them, bleaching tissues; if severely affected, the corals die. Because corals thrive only in a narrow range of conditions, biologists see their plight as a planetary danger signal.

Buck Island Reef National Monument provides protected habitat for several threatened and endangered species, terrestrial and marine. Endangered brown pelicans feed in near-shore waters and nest on the island's north side. Research on hawksbill turtles provides valuable information for their survival in the Caribbean. Human introduction of the mongoose, an exotic species, may have eradicated the St. Croix ground lizard.



Brown pelican

Solvin Zankl



Solvin Zankl

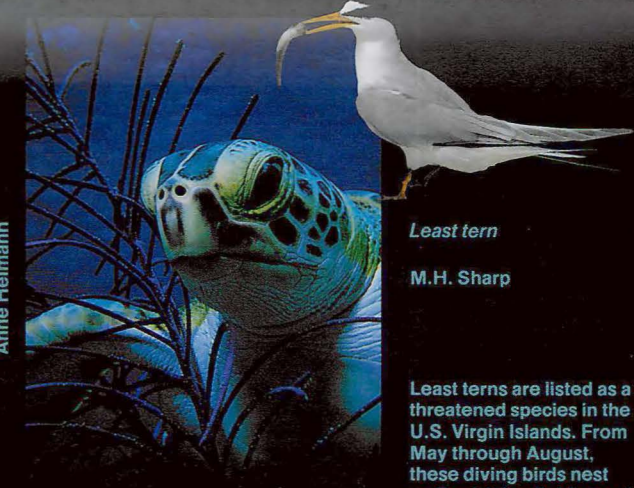
Endangered hawksbill, leatherback, and green sea turtles (left to right) are protected by law. They migrate to Buck Island every 2 to 3 years in summer to nest in shoreline

forests and on beaches. A nesting hawksbill may spend up to 60 minutes ashore. During that time she will select a nest site, dig an egg chamber, lay approximately 140 eggs,

and return to the sea after carefully covering her nest. Two months later, hatchlings emerge and instinctively crawl to the sea.



Anne Heilmann



Least tern
M.H. Sharp

Least terns are listed as a threatened species in the U.S. Virgin Islands. From May through August, these diving birds nest on Buck Island's big sand beach.

Chris McLaughlin/The WaterHouse

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Protecting Your Park

Please treat Buck Island and its reefs like endangered species. The National Park Service (NPS) and concessioners urge careful enjoyment. All watercraft must follow all boating regulations. Fishing is prohibited in the marine garden and tightly regulated elsewhere. Review boating and fishing regulations at the NPS visitor center in Christiansted before you set out.

Waterskiing and spearfishing are prohibited. Anchoring and scuba diving are prohibited in the lagoon and at the underwater trail; boats must pick up a mooring. Corals are not rocks but fragile skeletons: if you tire while snorkeling, do not stand or hang on them! Use the rest floats. **On the island:** The island closes to visitors at sunset. Pets, vehicles

(except wheelchairs), artificial lighting, camping, generators, and loud music are prohibited. Build fires only in NPS-placed grills at picnic areas. Digging, tent poles, beach umbrellas, and stakes are prohibited on beaches.



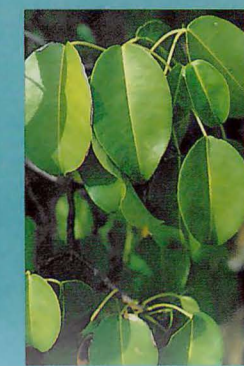
A concessioner's boat anchors off West Beach for snorkeling practice.

Safety Tips for Sea and Shore

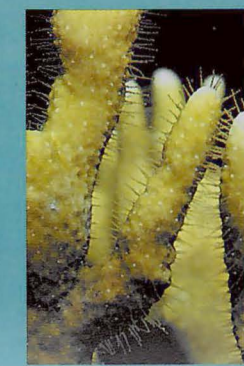
Local custom and town ordinances require that you wear shirts or cover-ups in Christiansted. Bathing suits alone are not acceptable. To avoid sunburn hazard, use sunscreen (SPF 15-30 recommended; reapplying often), hat, and cover-up clothing. An average Buck Island tour puts you in sunlight 4 hours, ample for severe burning—despite the trade winds' cooling effect. Bring a

bathing suit, shoes (top-siders, sandals, or flip-flops), and towel. A cement pier for NPS operations and passenger off-loading also provides wheelchair access. **Reef and marine hazards:** Shoreline shallows and near-shore reefs contain stingrays, spiny sea urchins, fire coral, fire worms, barbed snails, and sharp corals. Cuts from marine organisms infect quickly; clean and medi-

cate them. Portuguese man-o-war and sea wasps, both stinging jellyfish, are rarely found here. Barracuda and sharks, if encountered, should be treated with caution but are not usually aggressive toward snorkelers. **Hazards ashore:** Stay on the beach or designated paths to avoid hazardous vegetation. Contact with poisonous manchineel trees—sap, leaves, bark, and fruit resembling



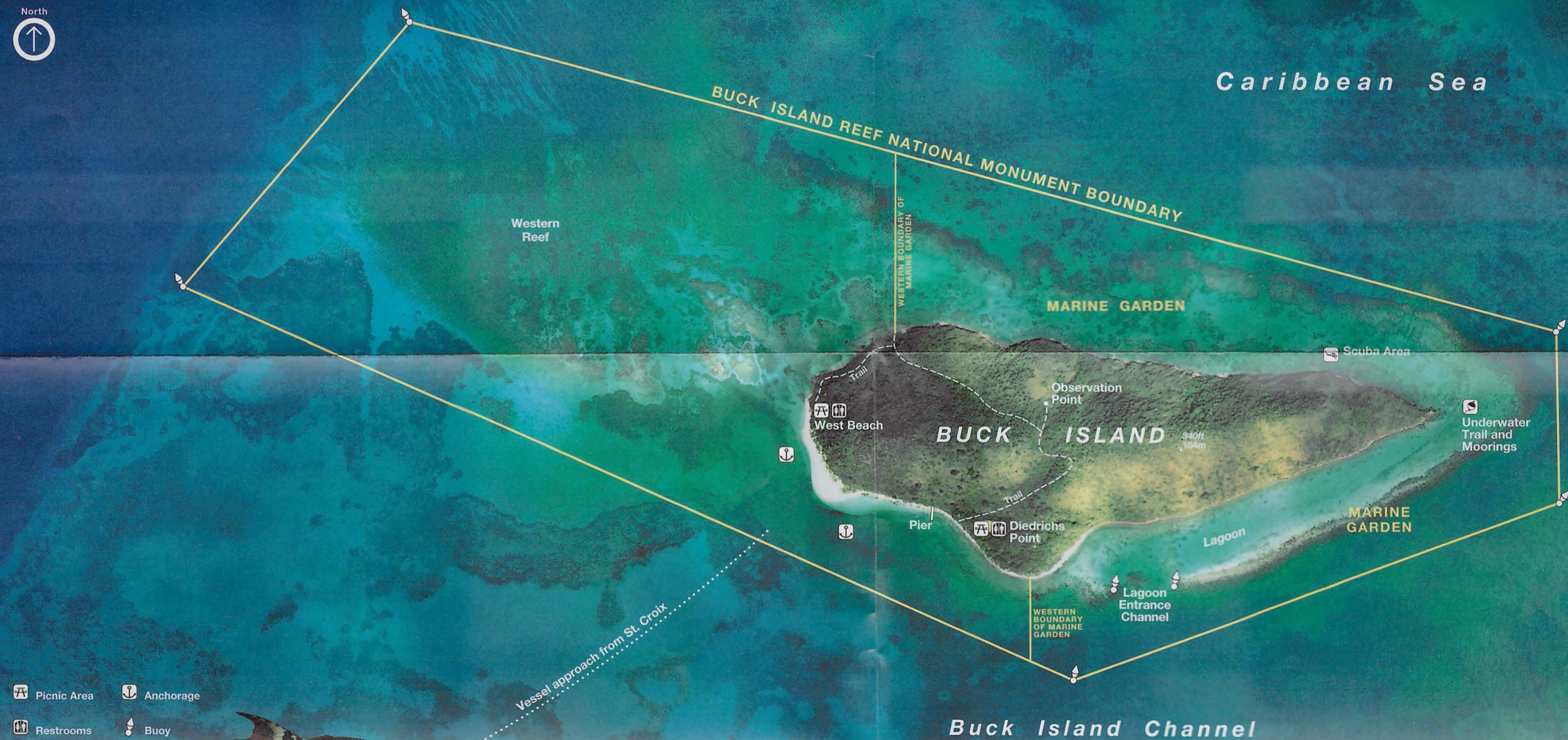
Manchineel tree



Fire coral

small green apples—causes a chemical burning. Touching your eyes after such contact causes swelling or blindness. Christmas bush looks like holly but gives contact dermatitis. Stinging nettle is painful. Several more trees, cactuses, and other plants bearing thorns or barbed hairs should be avoided. Beware of centipedes, scorpions, biting spiders, and ants.

0 0.5 Kilometer
0 0.5 Mile
APPROXIMATE SCALE



- Picnic Area
- Anchorage
- Restrooms
- Buoy

Visiting Buck Island and Its Reef

Information about Buck Island is available at the NPS visitor center in Fort Christiansvaern, downtown Christiansted. Six concessioners offer trips to Buck Island from St. Croix under NPS permits. Make reservations by phone or in person. Half-day trips go from 9 a.m. to 12 noon and 1 to 4 p.m.; full-day trips 9 a.m. to 2 p.m. Most tours provide 90 minutes for swimming and snorkeling, with equipment provided.

Fish top and bottom, Al Grottel; middle fish and snorkelers, Henry E. Tonnmacher.

Snorkeling
Beginners easily snorkel Buck Island's coral grottoes with expert advice—and a short lesson—from the boat's crew. A guide takes 6 visitors at a time through the underwater trail; signs tell what you see. Maximum water depth in the grottoes is 12 feet. Always snorkel with a buddy and keep well in front of boats moored at the underwater trail. **Scuba diving** is allowed in the national monument only in 2 designated areas. These 30- to 40-foot, shallow dives go through haystack formations of elkhorn coral.

Private Boating
Taking your own boat to Buck Island? Contact the NPS visitor center in Christiansted for information. Vessels over 42 feet should anchor at West Beach and visit the underwater trail by dinghy.



Snorkelers on underwater trail with, top to bottom, stoplight parrotfish, French angelfish, and coney.

Picnic Areas
West Beach and Diedrich's Point provide picnic tables, charcoal grills, and pit toilets, with some shade at West Beach. Diedrich's has a 20 x 20-foot shelter. Please take all trash off the island with you, including bottle caps, which hurt bare feet. Dead and down wood may be gathered for use in grills but avoid poisonous manchineel wood. Do not empty grill ashes on the ground; grease attracts biting ants. Put only cool ashes in trash cans. If you must leave ashes that are not cool, extinguish them with sand and leave them in the grill.

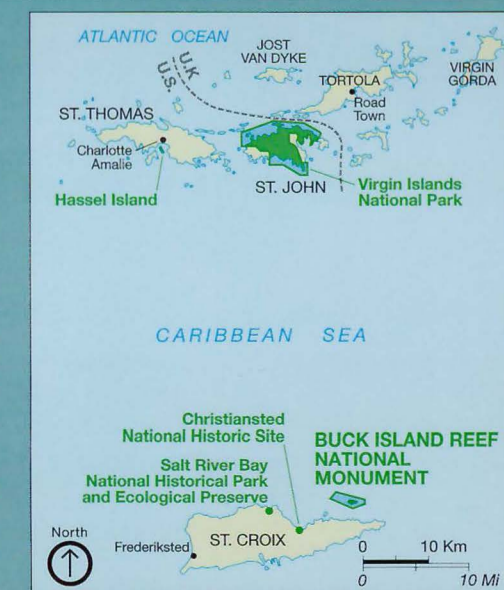
Walking Trails
A marked hiking trail from either Diedrich's or the West Beach picnic areas crosses the island. At a walking pace you can do it in 45 minutes. If you plan to hike, wear shoes and shirt and bring drinking water. From West Beach the trail goes through low-lying beach forest, giant tamarind trees, organpipe cactus, Ginger Thomas, and bromeliads. The trail ends at Diedrich's Point picnic area. It's an easy walk along the shoreline back to West Beach. For the less energetic, the West Beach trail offers a hike to giant tamarind trees. Return along the water's edge until fallen trees prevent going further; then take the trail back to the picnic area.

Puerto Rican Trench. On clear days you can see St. Thomas and St. John 45 miles to the north. The main trail continues over the island's spine and descends the south side. It takes small switchbacks through frangipani trees, organpipe cactus, Ginger Thomas, and bromeliads. The trail ends at Diedrich's Point picnic area. It's an easy walk along the shoreline back to West Beach. For the less energetic, the West Beach trail offers a hike to giant tamarind trees. Return along the water's edge until fallen trees prevent going further; then take the trail back to the picnic area.

Research and Monitoring
For more than 20 years the NPS and scientists have studied Buck Island's coral reef system. Monitoring and research also focus on fish and fisheries; sea turtle, brown pelican, and least tern nesting; and visitor activities and their impacts. The effects of natural disasters such as hurricanes and human-caused disasters such as ship groundings and oil spills are also monitored, as are the recoveries from them. Exotic plant management, reintroduction of native plant species, and control of rat and mongoose populations

also are undertaken. Hurricane Hugo's effect on Buck Island in 1989 forced long-term, dramatic changes in both land and marine systems. Hugo brought 14 hours of sustained 150-mph winds with gusts to 204 mph. More than 80 percent of the beach forest was killed but left standing. Hawksbill turtle nesting areas were disrupted. Nearly 100 percent of the south barrier reef was destroyed by scouring and pounding from storm waves; most of the reef crest was relocated 90 feet landward, narrowing the south lagoon. Monitoring of the coral reef's recovery continues.

U.S. Virgin Islands



Day trips with NPS concessioners enable you to explore Buck Island and its coral reefs. On St. Croix, Christiansted National Historic Site preserves picturesque architecture of the Danish era. Salt River Bay National Historical Park and Ecological Preserve combines tropical land and water ecosystems with evidence of continuous human history over 2,000 years. For information on these parks write or call: P.O. Box 160, Christiansted, St. Croix, VI 00821-0160; 809-773-1460.