

St. Croix East End Marine Park: The U.S. Virgin Islands' first territorial marine park

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Abstract. Established on January 15, 2003, the St. Croix East End Marine Park (STXEEMP) is the U.S. Virgin Islands' first marine park and represents the culmination of three years of collaboration between the federal and local government, non-governmental organizations and other stakeholders. The STXEEMP is on the eastern end of St. Croix extending from the high tide boundary to the three nautical mile territorial waters limit. The park was designed to protect the largest island barrier reef system in the Caribbean and to promote sustainability of coral reefs, seagrass beds and mangrove habitats and to preserve significant natural areas for the benefit of future generations. A park managed monitoring program designed to collect scientific information to assist in the wise management of these habitats and species to ensure that these marine resources are available in the future has yet to be implemented. The park's education and outreach program's goals are to facilitate environmental awareness opportunities for the community, encourage a sense of user stewardship regarding the marine environment and promote the awareness of and support for the park. In October 2005, the park's headquarters was finally established on a historic plantation site adjacent to the park and an interpretive program implemented.

Key words: Marine Protected Area, Caribbean, regulations

Introduction

The St. Croix East End Marine Park (STXEEMP) is located at the east end of St. Croix in the United States Virgin Islands (VI) (Fig. 1). The VI consists of three large islands – St. Croix, St. Thomas, and St. John and over 50 small islets and cays. Located at the eastern end of the Greater Antilles, the VI is home to over 120,000 people and hosts over 1.3 million visitors annually. St. Croix is the largest island with a land mass of >218 km².

The park surrounds the east end of St. Croix from the high tide mark out to three nautical miles. The northwest boundary starts at Chenay Bay (17°45'39"N; 64°40'5"W) and ends at the south west boundary at Great Pond Bay (17°42'51"N, 64°39'52"W) encompassing an area of approximately 60 miles² (155 km²) (Fig. 1). The shoreline that borders the park is approximately 17 miles (27 km) long. The park is within the jurisdiction of the VI territorial government as it lies within the three nautical mile territorial boundary. The Buck Island Reef National Monument is juxtaposed to the park and is under the jurisdiction of the U.S. Federal government. The land bordering the park is within the Coastal Zone First Tier and any development activity is subject to approval by the VI Coastal Zone Commission.

In 1960, the Department of Interior completed a study for the Governor of the VI that recommended

that the east end of St. Croix be designated as a nature preserve. A series of similar designations have been made in the past 40 years for the land and waters of the east end of St. Croix, including:

- Designation as an Area of Particular Concern (APC) – 1979
- Designation as an Area for Preservation and Restoration (Teytaud 1980)
- Nomination as a Significant Natural Area (Teytaud 1980)
- Candidate for park within VI Territorial Park System plan (Alexander 1981)
- Nomination as a candidate for National Marine Sanctuary status- 1982
- Recommended as a multi-purpose park within proposed Territorial Park System (Island Resources Foundation 1991)

Management Approaches

Multi use design

In order to establish a functional multi use park a management plan was devised with four managed areas: Recreation, Turtle Wildlife Preserve, No Take and Open Fishing (Fig 1). The Recreation Areas include 2.8% of the park and are designated for snorkeling, diving, recreational fishing, bait fishing and boating while preserving resources. The Turtle Wildlife Preserve Area covers 7.0% of park waters and protects turtle nesting beaches for Green, Hawks-

bill and Leatherback turtles. The No Take Areas only encompass 8.6% of the park and are designed to protect spawning, nursery, and residence habitat for various species. The Open Fishing Areas comprise 81.6% of the park and presently provide little additional protection than exists in other territorial waters. Existing territorial restrictions govern the use of these areas; the only marine park restriction is the prohibition of the removal of coral or live rock in these areas.

No Take Areas were designed to encompass large, contiguous diverse habitats. They are intended:

- to provide natural spawning, nursery, and permanent residence areas for the replenishment and genetic protection of marine life, and
- to protect and preserve all habitats and species; particularly those not protected by fisheries management regulations.

This zone was intended to protect areas that represent the full range of diversity of resources and habitats found throughout the park.

Turtle Wildlife Preserve Areas were established:

- to minimize disturbance to sensitive wildlife populations and their habitats,
- to ensure protection and preservation of wildlife resources in the park.

This designation will be applied to the primary turtle nesting beaches and near shore resting areas. Regulations governing access are designed to protect the endangered turtles and their habitat, while providing opportunities for public use.

Recreational Areas are designed to provide areas for snorkeling, diving, and boating while prohibiting any activities that would compromise the recreational values for which the area may be designated. Restricted activities will be defined in future public input meetings. Specified recreational opportunities may be protected, enhanced or restricted, while preserving basic resource values of the area. No other uses are specifically restricted with the exception of general shipping.

Open Fishing Areas are areas in which there are no additional restrictions on fishing, boating, and diving activities. These areas are governed by all the rules and regulations pertaining to commercial and recreational fishing in the VI Code. These areas are designated to monitor and evaluate the effects of resource zoning in the park. Trawling and general shipping are prohibited, as well as those activities inconsistent with the park's long-term conservation (*e.g.*, mining and oil drilling).

Rules and regulations

Although the STXEEMP was established in January 2003, the enabling documents establishing the Rules and Regulations (R&R) were not signed by Governor

John P deJongh until September 2007. The purpose of the R&R was to provide specific rules to protect park resources from both direct and indirect threats. These regulations focus on habitat protection, reducing threats to water quality, and minimizing human impact to delicate resources. The park regulations have been established to complement those in existing management areas, including Buck Island National Monument and Green Cay National Wildlife Refuge.

The following activities are prohibited park wide:

- removing, injuring, or possessing coral or live rock,
- discharging or depositing trash or other pollutants,
- dredging, drilling, prop dredging, or otherwise altering the seabed, or placing or abandoning any structure on the seabed,
- operating a vessel in such a manner as to strike or otherwise injure coral, seagrass, or other organisms attached to the seabed, or cause prop scarring,
- having a vessel anchored in a manner other than the use of a reef mooring buoy,
- operating a vessel at more than idle speed/no wake within 100 yards of park vessels and navigational aids marking reefs,
- operating a vessel at more than idle speed/no wake within 100 feet of a diver down flag,
- diving or snorkeling without a dive flag,
- operating a vessel in such a manner which endangers life, limb, marine resource or property,
- releasing exotic species,
- damaging or removing markers, mooring buoys, scientific equipment, boundary buoys, and trap buoys,
- moving, removing, injuring, or possessing historical resources,
- taking or possessing protected wildlife,
- using or possessing explosives, and
- using firearms.

In addition to the park wide rules, the following activities are prohibited in the No Take Area:

- discharging any matter except cooling or engine exhaust,
- fishing by any means, removing, harvesting or possessing any marine life,
- touching standing on living or dead coral, and
- anchoring on living or dead coral, or any attached organism.

In addition to the park wide rules, the following public access restrictions in the Wildlife Preservation Area include:

- idle speed only - no wake,
- no access buffer,

- no outboard motors, and
- establishment of limited closure periods.

The R&R do not go into effect until 30 days after public notices have been distributed stating that the park's boundary markers have been deployed. Although funds have been available for several funding cycles and the previous Department of Planning and Natural Resources (DPNR) Commissioner signed a contract to deploy the boundary bouys, the contract has lapsed. In August 2008, the ex Commissioner was sentenced to a prison term of seven years on corruption charges and misuse of Coastal Zone Management funds. As of July 2008, there was no contract for deploying the boundary markers and thereby turning the existing paper park rules and regulation into a legally enforceable code.

Enforcement strategies

The primary law enforcement objective in the park is to achieve resource protection by gaining compliance with the Park regulations and other Federal and Territorial statutes that apply within the STXEEMP. An enforcement program is one of the tools available to managers of marine protected areas, and is considered by the initial planners to be a Best Management Practice. They thought that such a program could compliment other management programs, such as research and education, and lead to increased levels of success. Of course successful enforcement would require resource managers to commit to enforcement programs that are properly supervised and funded. In the first five years of the park's existence this has not happened. The entire idea may be unrealistic in the near future given the existing political conflicts in managing the park.

The enforcement philosophy should be that preventive enforcement is best achieved by maintaining sufficient patrol presence within the Park to deter violations and by preventing, through education, inadvertent violations of the law. Successful enforcement relies on frequent water patrols, and routine vessel boardings and inspections. Water patrols would ensure that park users were familiar with park regulations, deter willful or inadvertent violations of the law, and provide quick response to violations and/or emergencies.

The success of park enforcement will depend on how well the enforcement entities on St. Croix are coordinated. Because of limited resources at the Federal, Territorial and park level, enforcement assets must be targeted and used in an efficient and directed effort to achieve compliance with existing and proposed regulations. The coordination of enforcement assets will be an integral component of the management of the park. Interagency agreements among other enforcement entities on St. Croix should

be developed, including the National Park Service, US Fish and Wildlife Service, US Coast Guard, VI Department of Planning and Natural Resources (Enforcement Division) and the VI Police Dept. All of this is predicated on having senior managers in DPNR who are knowledgeable about environmental management and have the political interest and stamina to advance the park.

Monitoring and measuring success

Site evaluation and monitoring should be a continuous process, with regular reporting intervals and a formal evaluation mechanism. All monitoring plans should include acceptable limits of change. A monitoring program should be able to provide managers with fundamental information with which to make decisions, and would facilitate a flexible approach, as well as a responsive management system. A comprehensive review by a scientifically qualified review team, performed on at least a bi-annual basis, would help to ensure that implementation was occurring as planned. Site monitoring activities should have been guided by the following objectives:

- Establish a baseline within the respective use-zones within the park, thus providing a means for measuring success in the future,
- Collect park utilization data to be part of a social and cultural analyses and used to modify and enhance park regulations and activities,
- Collect biological data that are representative of the status and health of marine organisms and their respective habitats, and
- Collect fisheries data that quantify fishing trends (*i.e.*, fishing methods, species caught, amount caught, etc.) within park boundaries.

The park has yet to establish a baseline monitoring program of biophysical parameters necessary to assess climate change (Quinn & Kojis 1995) or a baseline survey of fauna and flora. Instead of hiring and training technically competent personnel the park has relied on non government organizations, the local university and federal agencies to gather data in the shallow water communities. Surveys in the deep water habitats that require equipment and skills beyond the capacity of the territorial government have not been conducted and would be an appropriate task for federal agencies.

The use of non VI government agencies is clearly an easy approach, but will later be subject to closer scrutiny as the validity of park management issues come under question. NGOs are not objective local stakeholders, but rather entities with a political agenda to advance environmental conservation supported by an off island constituency. Likewise federal agencies are viewed with suspicion and by some islanders who view federal involvement in island

resource management as meddling by outsiders. One has to wonder why support for capacity building and empowerment of territorial government agencies was not given greater priority. Certainly the objectivity of the data collected by NGOs should be subject to scrutiny. It is a rather politically dubious situation when the park bases its scientific management on the findings of an organization with a clear bias. The evidence suggests that the funding agencies have little sensitivity to the political nature of marine resource utilization in St. Croix and the importance of the capacity building of objective professional standards in territorial government agencies.

Education and outreach

Throughout the planning process, the need for a comprehensive and effective educational program was emphasized. Activities such as public forums, printed materials, public events, school tours and an interpretive program will help to advance the community's awareness of the importance and activities in the park. In January 2008, the park's interpretive program commenced with weekly tours of the watershed adjacent to the park and fauna and flora tours to schools groups of Great Pond Bay. The tours were well attended by the public and the park received favorable TV and print publicity.

Park headquarters at Estate Great Pond (EGP)

The headquarters of the STXEEMP was relocated to a restored colonial building at EGP in October 2007, almost five years after the creation of the park. The cultural resources on EGP represent a historical chronology of over 600 years of changing land uses and human occupants. During the era of Danish sovereignty (1735-1917), the Great Pond area fell within the boundaries of different plantation grounds. Due to the constant change of property ownership and land uses, the Great Pond plantations were consolidated or sold separately from 1760-1916.

Estate Great Pond is a testimony to the history of agriculture on this southern section of St. Croix. The property presently consists of a late 18th century great house, remains of a factory, slave quarters, stable area or storage room, and other historical ruins. Cotton was planted during the initial development of the plantation in the 1770's because cotton grew well in a dry environment. The 18th century storage building west of the great house and north of the factory was where cotton was stored and processed.

By the late 1700's to the early 1800's, the estate was a sugar plantation with many owners. The only documented occupation after 1800 occurred in 1843 to 1845. However, no evidence has been found of post-emancipation use by renters and/or small holders. Although, it is possible that such marginal

activity may have escaped the attention of the record keepers. By the early 1900's, the Great Pond area was a sugar plantation and used for grazing animals. In 1902, the Danish West Indies' Plantation Co. purchased EGP. The area was used as an agricultural experiment station for a short time.

When the Danish Virgin Islands colony was purchased in 1917 by the United States, the EGP was gradually subdivided. Sugar production on St. Croix began to fall again after the United States purchased the islands. By 1933, much of the sugar cane producing land on the island was abandoned and the lands reverted to cattle grazing. The division of rural land including the Great Pond area by end of the decade was 75% pastures, 15% cane and 10% bush land. By the 1960's, agriculture in the Great Pond area had ceased and only cattle grazing remained.

The EGP is also identified as a Pre-Columbian site. The site stretched for more than a half mile along the coast, but generally not further than a few hundred feet from the shoreline. The first excavations conducted at the Great Pond site found substantial artifacts dating to the Longford Stage (Saladoid, A.D. 300-700) and remains from the Richmond Stage (Ostionoid, A.D. 700 - 900).

The area is registered and listed in the National Register for Historical Places. According to archaeologists, the whole site possesses considerable historic archaeological findings, and therefore needs to be protected from unnecessary ground disturbances. The history of the area includes Africans, Europeans, and native North American Indians. Therefore, the Great Pond area is very significant to the people of the VI and visitors.

In the early 1970's, the Department of Conservation and Cultural Affairs recognized the need to provide recreational facilities and programs in the newly developing areas in the east end of St. Croix. In 1974, Governor Melvin H Evans, negotiated the land transfer and a charitable trust was created. The people of the Virgin Islands and its visitors received in perpetuity a valuable piece of seashore property with its historic buildings and artifacts.

In 1974, funds were appropriated for the VI Territorial Parks System. During this period plans were considered for the development of the EGP site into a park. Camp Arawak was allowed to utilize the area for a training school for youth. However, after Hurricane Georges in 1998, the Camp Arawak Program relocated to Christiansted. Afterwards other groups and individuals continued to use the area for overnight camping, picnics, fishing, swimming and natural history education. The second floor of the factory building of the EGP plantation is currently used as a business office and focal point for school and public natural history interpretive tours.

Future prospects

STXEEMP is the VIs' first territorial marine park and is the cornerstone to the proposed future territorial park system and possibly to a regional network of marine protected areas necessary for the best management and conservation of many commercial species (Kojis et al. 1995). It was established at a cost of over \$1 million of US federal funds, \$1 million territorial government matching funds and in kind support from NGOs worth over \$0.5 million.

The park's purpose of managing the valuable marine resources on the east end of St. Croix still has not been realized. It is generally accepted that these natural and cultural resources should be preserved for residents and visitors. However, these resources need to be managed by a technically competent territorial agency managed by professionally managers dedicated to managing these resources for the people of the VI and it's visitors. It is imperative that these resources be managed in a cost effective manner with less dependency on federal assistance in a fair and impartial matter that guarantees the benefits are available for present and future generations.

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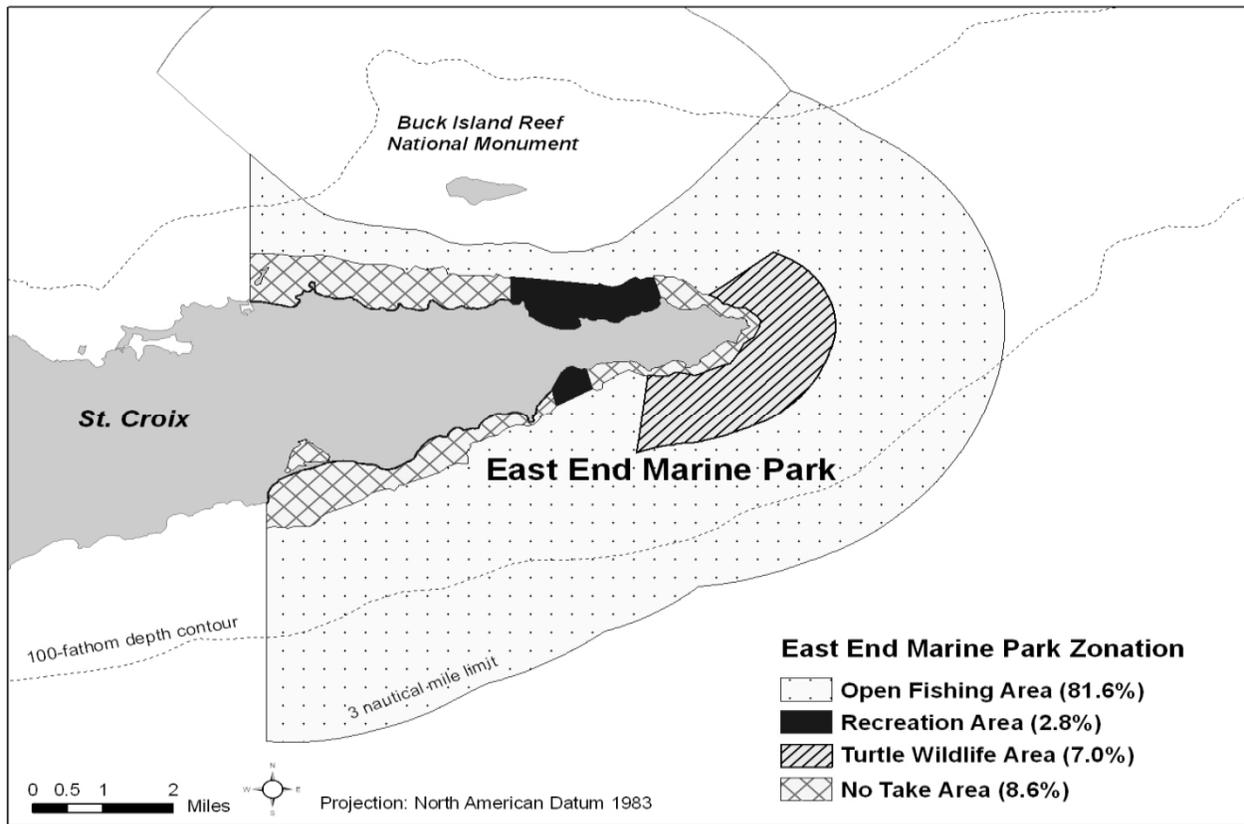


Figure 1. Multi use zonation of the St. Croix East End Marine Park (after The Nature Conservancy 2002)

