

Finding Solutions: Sustainable Coastal Development

Janice D. Hodge,
Director
Virgin Islands Department of Planning and Natural Resources

Cyril E. King Airport Terminal Building
Second Floor
St. Thomas, USVI 00802

Janice.hodge@noaa.gov

The U.S. Virgin Islands consists of three large islands, St. Thomas, St. John and St. Croix, and numerous smaller islands surrounded by diverse, tropical marine environments that are economically and ecologically important. Like many near shore marine environments around the world, the coral reefs and other habitats of the Virgin Islands are susceptible to negative impacts from human activities.

The marine environment is crucial to the Virgin Islands economy. Commercial fishing and Sportfishing make important contributions to the VI economy. Virgin Islanders also enjoy recreational fishing, fishing from docks, rocky shorelines and beaches in the evening and on weekends. Many people own small boats and enjoy handlining and trolling.

Extensive fringing reefs are located along the shoreline of the large and small islands. These reefs are often associated with mangrove forests and seagrass and algal beds. Large shallow water patch reefs are found within a mile of the islands' shoreline.

The St. Croix marine environment has more extensive reef development than that of St. Thomas and St. John. The reefs of St. Croix include barrier and bank reefs, which are not found on the St. Thomas/St. John platform.

Occasionally, small boats run aground on shallow reefs, destroying corals, particularly elkhorn coral that is most susceptible to storm damage and White Band Disease. An average of four boats per week ran aground on Windswept Reef on the north shore of St. John until the installation of resource protection buoys in 1985 (Rafe Boulon).

Most coral breakage occurs during major hurricanes, however chronic coral damage occurs at areas of high recreational use by snorkelers and divers. On St. Croix, many popular snorkel and dive sites experience heavy visitor use (100-200 visitors/site) on days when cruise ships are in port (Cane Bay Dive Shop instructors, St. Croix).

Together with over-fishing and destructive fishing practices, the effects of sedimentation and pollution have been identified as the primary human-induced agents of stress that are

contributing to the decline in tropical coastal marine habitats and their associated reef fishes (Rogers 1990, Roberts 1993).

Topography, which is probably one of the most severe natural constraints to development in the Territory, is also one of the major contributing causes for nonpoint pollution. Development on steep slopes, especially on St. Thomas and St. John, has far exceeded the typical environmental constraint of 15 percent slopes. Exceeding these environmental constraints have far reaching impacts on the Territory's land, water and economic resources as a result of sediment plumes and degradation of water quality.

Sedimentation can affect coral health, growth and recruitment thereby reducing a reefs capacity to develop and regenerate (Rogers 1990). Most well developed reefs in the Virgin Islands are near-shore, thus many essential fish habitats may be jeopardized (Nowlis et al. 1997).

To effectively manage and maintain the important environments in the USVI, the government of the Virgin Islands in coordination with federal agencies has begun implementation of management strategies, dedicated to the sustainable use of our resources by recreational and commercial fishermen, tourism operators, boaters, residents and visitors to the Virgin Islands

The development of a marine park to manage the marine resources around St. Croix was initiated in 1999. The East End of St. Croix is home to some exceptional coral reef formations and unique marine ecosystems and was recommended, by the Department of Interior, to be a Nature Preserve in 1960. In 1979 several sites along the East End of St. Croix were designated as Areas of Particular Concern (APCs) and Areas for Preservation and Restoration (APRs)

Executive Order 13089 resulted in the creation of the United States Coral Reef Task Force, The National Action Plan to conserve Coral reefs (Action Plan) and Funding to protect Coral Reefs. It was pursuant to this Action Plan that the USVI declared its intent to develop a marine park.

The goals of the Marine Park are to:

- Protect and maintain the biological diversity and other natural values of the area in the long term
- Promote sound management practices for sustainable production purposes
- Protect the natural resource base from being alienated for other land use purposes that would be detrimental to the area's biological diversity
- Contribute to regional and national development.

No-Take areas, Turtle Wildlife Preserve Areas, and Recreational Areas are established within the 60 square mile park to ensure protection of the Park's resources. Each of the zone types is designed to reduce damage to resources and threats to environmental quality, while allowing uses that are compatible with resource protection.

The development of the Marine Park progressed as a result of significant collaboration among a number of local and federal entities. NOAA's Marine Benthos Classification Maps that were produced in 1999 provided a classification scheme for marine communities that would be standardized and easily referenced by others using similar data. Coral reef monitoring was funded by NOAA also, and allowed for the establishment of baseline data to later assist in the determination of the effectiveness of the park in reversing the decline in coral reefs' health. The International Programs Office of NOAA and the World Wildlife Federation cosponsored a workshop to determine applicable success indicators for Marine Protected Areas. Some of these indicators, when finalized, will be utilized to help determine the success of the Marine Park. Close coordination within the framework of the Action Plan allowed for the Marine Park to meet the requirements for inclusion in the National MPA Center Inventory upon final approval by the Virgin Islands Legislature. Local collaborators who were integrally involved with the development of the plan include The Department of Planning and Natural Resources, The University of the Virgin Islands, The Nature Conservancy-VI Program, Island Resources Foundation, The Ocean Conservancy-VI Program, Caribbean Fisheries Management Council, The National Park Service, St. Croix Fisheries Advisory Council, Fishermen's United Services Cooperative of St. Croix and other private consultants and stakeholders.

Challenges encountered with the St. Croix East End Marine Park initiative:

- Stakeholders' Issues
- Presidential Proclamations
- Human Resources
- Implementation

Managing land-based activities that impact marine resources is also critical for effective management of marine resources. Managing nonpoint pollution at the watershed level has proven to be the more practical alternative for long-term benefits.

The Fish Bay Watershed Project on the Island of St. John is designed to reverse degradation of water quality caused by sedimentation. Implementation of Best Management Practices will reduced sediment loadings to the Bay from unpaved roads and steep cut slopes.

The following recommendations will enhance the viability of initiatives on regional levels, to achieve global results:

- Technical Expertise Resource Pool for small Islands
- Long-term funding commitment
- Funding/support for displaced resource users
- Standardized Reporting Procedures
- National Ad Campaigns
- Revisit Presidential proclamations creating monuments in USVI.