

**Final Report to
National Oceanic and Atmospheric Administration
From The Ocean Conservancy
For grant NA04NMF4630334
Covering work from 10/01/2004 to 12/31/2006**

This project was an overall success. The Coral Reef Management Assistant (CRMA) was able to provide a detailed data analysis of biophysical data relevant to the management of the East End Marine Park (EEMP), make management recommendations, produce and distribute education and outreach materials to EEMP visitors and St. Croix residents, and provide technical assistance to the Department of Planning and Natural Resources (DPNR)'s Coastal Zone Management (CZM), who manages the EEMP. The CRMA was also active in developing the Rules and Regulations for the EEMP, which still needs to be passed into law. The USVI has recently undergone gubernatorial and senatorial elections. The new administration took office on January 2nd 2007, however, the division heads and other appointed staff are still in transition. The final report of this project will form part of a comprehensive package of information to be presented to the head of the Division of Fish and Wildlife, the senior staff of CZM, the commissioner, and key staff members of DPNR, once these officials are in place.

Task #1: Assessment of what data sets relevant to EEMP exist across the various departments, institutions and agencies. *COMPLETED.*

Objective 1.1: Meet with representatives of various departments, institutions and agencies to determine what pertinent raw or semi-processed data are available for analyses. – Completed

The CRMA, Philippe Mayor, was hired on January 28, 2005, four months into the start of the grant-reporting period. The CRMA identified and accesses data sets relevant to the management of the EEMP. Specifically, the CRMA met with representatives of the agencies listed in the table below.

| AGENCY | DATA SET COLLECTION |
|--|---|
| NOAA's Biogeography Team (Dr. M. Monaco, Dr. C. Jeffrey, C. Caldow, M. Kendall and K. Woody) | <ul style="list-style-type: none">USVI biological monitoring data, habitat maps |
| USVI Department of Planning and Natural Resources – Division of Environmental Protection (V. Villanueva-Mayor) | <ul style="list-style-type: none">Online water quality database (STORET) administered by US EPA |
| USVI Department of Planning and Natural Resources—Division of Fish and Wildlife (Dr. W. Toller) | <ul style="list-style-type: none">Fisheries data (annual catch reports)Port Sampling (voluntary fishermen surveys to document specific trip landings)Conch lobster and coral reef fish literature reports |
| University of the Virgin Islands (Dr. B. Devine, M. Taylor) | <ul style="list-style-type: none">Coral reef monitoring (fish and reef abundance at selected sites)GIS data (Caribbean Data Center) |

| | |
|---|---|
| US National Park Service (Z. Hillis-Starr) | <ul style="list-style-type: none"> • Biological monitoring of Buck Island National Marine Park (also includes sites within the EEMP) |
| Mote Marine Laboratory (Dr. A. Adams) | <ul style="list-style-type: none"> • Juvenile reef fish and sea urchins |
| USGS (Dr. C. Rogers) | <ul style="list-style-type: none"> • Elkhorn (<i>Acropora palmata</i>) and Staghorn coral (<i>Acropora cervicornis</i>) |
| Woods Hole Oceanographic Institution (Dr. B. Gladfelter) | <ul style="list-style-type: none"> • St. Croix historical literature review from the West Indies Laboratory (Fairleigh Dickinson University) prior to Hurricane Hugo 1989. |
| Florida Fish and Wildlife Conservation (Dr. C. Cox and Dr. J. Hunt) | <ul style="list-style-type: none"> • Lobster monitoring and lobster larval settlement |

Objective 1.2: Conduct review of previous data searches and Databases including those housed at NOAA, The Nature Conservancy and Island Resources Foundation, to determine what studies pertinent to EEMP currently exist. – Completed

The CRMA established a combined database of gray and published literature that includes more than 1500 documents. The database is stored at TOC's St. Croix Regional Office. Databases used to develop this extensive collection included:

- Google Scholar
- NOAA's Coral Health and Monitoring Program (CHAMP)
- The library contents of DPNR's Division of Fish and Wildlife
- University of Puerto Rico's Sea Grant literature review database of MPA related documents (raw database in ProCite)
- Dr. A. Adams database on literature (in End Notes)
- Strombid online bibliography of queen conch related literature
- Hard copy formats of the Society for the Conservation of Reef Fish Aggregation's (based out of the University of Hong Kong) online literature/bibliography

Objective 1.3: Compile a report on the data sets by broad category, currently available, either in raw data format, gray literature, or published reports, maps, or images. – Completed

The CRMA incorporated this objective into the introduction and bibliography of the grant's final report entitled "A summary of biophysical data relevant to the management of the East End Marine Park, St. Croix, US Virgin Islands". In preference to compiling a report on maps and images, the CRMA was able to collect and store relevant shapefiles and images into a GIS database stored at TOC's St. Croix Regional Office. These data were used to create all maps found in the final report. The CRMA was also able to provide maps and shapefiles to the EEMP managers.

Task #2: Collaborative assessment of information needed to foster management effectiveness in the EEMP. *COMPLETED.*

Objective 2.1: In close collaboration with the St. Croix Division of Fish and Wildlife, and the CZM Awareness and Education officer, hold a series of meetings with individuals and agencies involved in monitoring and management of EEMP to determine priority information needs, based on available resources. – Completed

The CRMA, together with staff from DPNR's Division of Fish and Wildlife, identified the need to quality-control and analyze fisheries port sampling data. The CRMA offered to assist in this analysis, however, lack of funding for this project for DFW's staff time and the confidentiality and organizational status of the data have hindered the CRMA from accessing these data.

The CRMA, together with staff from DPNR's Division of Coastal Zone Management, also identified the need to assess the current status of key abiotic and biotic resources within the EEMP, through which management effectiveness could be evaluated at a later point. The CRMA has determined the following priority information needs for EEMP:

Focal species abundance and distribution. Focal species suggested:

- Queen conch (species with harvest quota, size limit, and closed season)
- Spiny lobster (species with harvest quota and size limit)
- Ocean surgeonfish (species with no restrictions; one of the most abundant species)
- Redhind grouper (species with seasonally closed SPAG area)
- Nassau grouper (federally fully protected species)
- Yellowtail snapper (species with size limit in federal waters)

Water quality. Represented by

- Dissolved oxygen
- Enterococcus group bacteria
- Turbidity

Task #3: Conduct data analyses along agreed-upon lines. *COMPLETED.*

The CRMA was able to gain access to raw data sets for all of the information needs assessed in the previous tasks, except for fisheries dependent data. The CRMA believes that the fisheries dependent data collected over the past decades represent critical resource data and need to be analyzed as soon as possible. Fisheries independent raw data were available only for recent years. Older data were only available in summarized form, from reports and publications. Of particular value, especially in light of management effectiveness, were data collected by NOAA/NOS/NCCOS/CCMA's Biogeography team. They provided the current population status of conch, reef fish, corals and algae within Buck Island Reef National Monument (just adjacent to EEMP) and the northwestern third of the EEMP. Hardly any data were available for the remaining parts of the EEMP. Current lobster raw data for the EEMP were available through Florida Fish and Wildlife Conservation Commission. However, the data were not analyzed because they were timed surveys and could not be converted to density estimates.

Task #4: Reporting of Data Analysis. *COMPLETED.*

The CRMA completed a final report entitled "A summary of biophysical data relevant to the management of the East End Marine Park, St. Croix, US Virgin Islands", which summarized the findings of the above tasks 1 through 3. Based on the findings, management recommendations were made specifically for the EEMP managers.

The CRMA believes that queen conch should be one of the key indicator species for evaluating management effectiveness of the EEMP. Therefore, particular emphasis was set on the analysis of queen conch data for the EEMP. In addition to a large section in the final report, the CRMA produced an education and outreach brochure entitled "Who'll save the queen?" in Spanish and English. The brochure was distributed in several stages and its distribution will continue in 2007.