

Integrated Management of Marine Protected Areas in Grenada

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ABSTRACT

The creation of Marine Protected Areas (MPAs) is a major component of sustainable development in Grenada, allowing for human use of marine and coastal resources without progressive degradation. Integrated management of the multiple-zoned Molinere/Beausejour MPA allowed for the empowerment of adjacent communities and built capacity for contributing to the decision making process. Through consultation, issues arising from user conflicts were addressed and the advice obtained made it possible to geographically demarcate the zonation pattern. Consultation with the community and major resource users allowed for the establishment of a system of moorings at positions appropriate for yachts, dive boats and charter boats, minimizing potential conflicts with the traditional use of the area for fishing. Continued and systematic consultation with community and other stakeholders elucidated the need for solid waste management in the area. This resulted in a joint approach to the problem by the Environmental Health Department, Grenada Solid Waste Management Authority, and the MPA project. A simultaneous beach, coastline and underwater cleanup resulted in beach shoreline operations being handled by community and school groups, and day boat charter companies. The Grenada SCUBA Divers Association and other local dive operators handled the underwater operations. The cleanup campaign acted as a catalyst for continued and greater community participation in the management of the MPA. Meetings with representatives from the communities were held to raise the awareness of the MPA and the importance of the marine reserves zones. At these meetings the concerns of those affected by the restrictions inherent in reserve areas were considered and the possibility for alternative sources of income examined.

KEY WORDS: Grenada, integrated, management, Marine Protected Area

INTRODUCTION

The State of Grenada, which includes the islands of Carriacou and Petite Martinique and several small, uninhabited islands, is located between latitudes 11° 59' and 12° 20' North and longitudes 61° 36' and 61° 48' West. Grenada is the largest and main island with a coastline of about 121 km and an area of 312 km². Carriacou is located 23 km to the northeast of Grenada has an area of 34 km². Petite Martinique is 2.3 km² and lies east of the northern section of Carriacou.

The thrust towards the creation of marine protected areas (MPAs) in Grenada originated in the Fisheries Division, Ministry of Agriculture, and two areas were

declared as MPAs. In 1996, joint support for the development of MPAs in Grenada was obtained from the French Fund For Environmental Management (FFEM) (through the Agence Franciase De Developpment – AFD) under the Protection and Valorisation of Reefs in the Lesser Antilles and the Government of Grenada (GOG). Hence, resources became available for the genesis of MPAs in Grenada.

Assessment of the marine and coastal resources was undertaken during the compilation of the Environmental Profile and surveys conducted by the Fisheries Biology Unit of the Fisheries Division. Two areas of Grenada were proposed for MPAs. The Moliniere area along the west coast has the best reef system, while Woburn Bay has the best mangrove and seagrass systems in Grenada. These areas are subjected to heavy fishing pressure. Reef fish and lobsters are harvested mainly at Moliniere; while lobsters, white sea urchins or sea-eggs (presently closed fishery), conch and reef fish are harvested at Woburn. Yachts mainly overnight at Moliniere/Beausejour in the bays. This area is also used mainly for SCUBA diving and snorkeling by tourists. However, spear and line fishing are also common practice. Woburn Bay has heavier yacht traffic and some may remain anchored for months. Conflict arises due to the multiple uses of the areas by seine fishermen, pot fishermen and yachts.

The conservation, preservation and sustainable use of representative samples of marine and coastal ecosystems, through the formation of marine protected areas are necessary for small island developing states (SIDS). Using appropriate management strategies such as the multi-zone system and an integrated community participatory approach (co-management), economic benefits can be derived by maintaining the integrity of the resources, eliminating user conflicts and obtaining protection and enhancement of the environment.

PROJECT OUTLINE

Project Objectives

The objectives of the MPA project are:

- i) Protection, rehabilitation, and management of coral reefs and other coastal ecosystems,
- ii) Protection and management of biodiversity, stocks, habitats and nursery areas,
- iii) Provide educational opportunities for the locals and visitors alike,
- iv) Provide aesthetic enhancement of the area, and
- v) Minimize user conflicts among the resource users.

Project location

The Moliniere/Beausejour MPA (Figure 1) is located on the western coast of Grenada and spans a length of about 2.5 km. This area is within the parish of St. Georges specifically the St. Georges northwest district. Adjacent communities include Happy Hill, Moliniere and Beausejour.

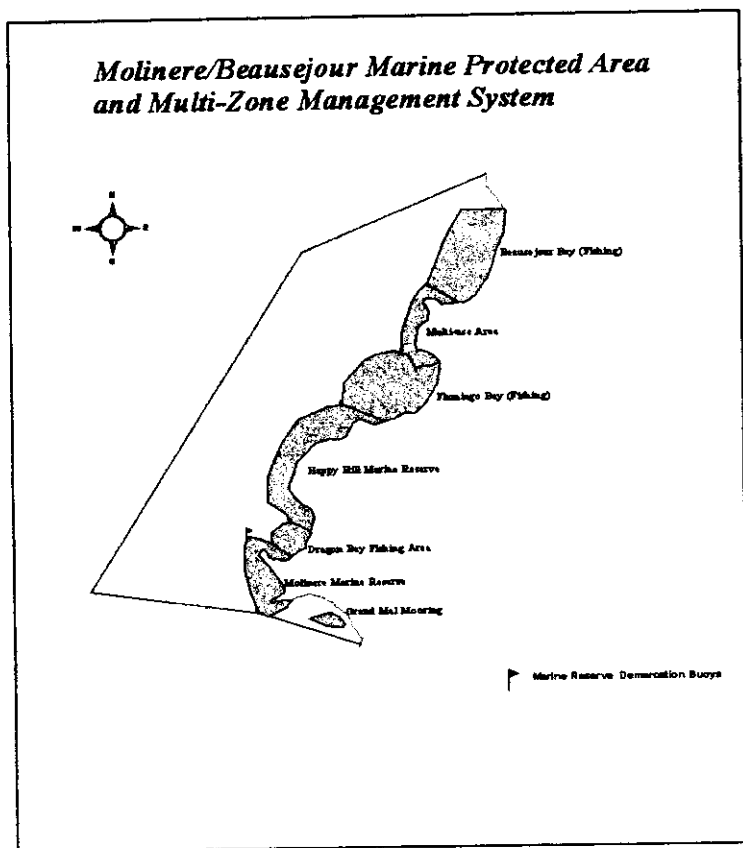


Figure 1. Map of Moliniere/Beausejour MPA

The Woburn/Clarks Court Bay MPA (Figure 2) is located on the southeastern end of the island, and is also within the parish of St. Georges. The enclosing coastline is about 1.5 km, and is bordered by the communities of Woburn and Woodlands.

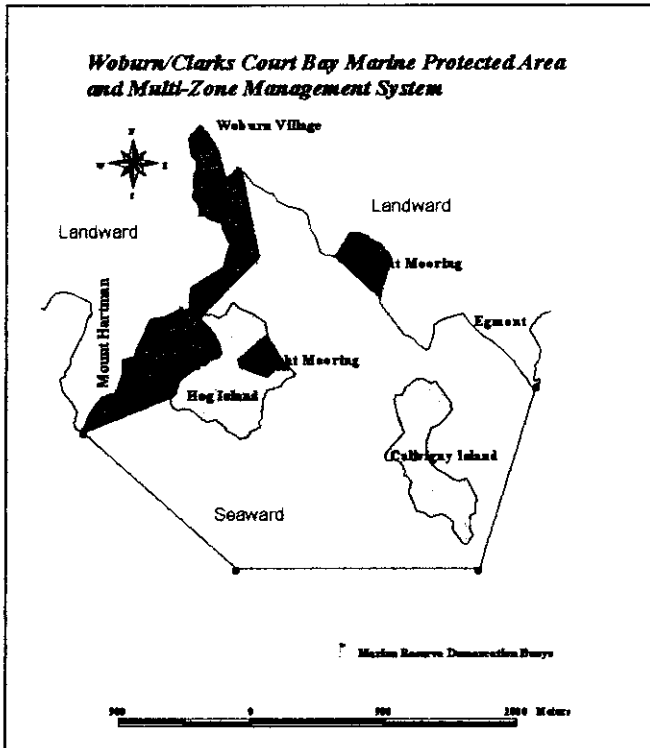


Figure 2. Map of Woburn Bay MPA

Legal framework

Stakeholders were an integral part of the process of formulation and revision of the MPA regulations. Draft copies of the regulations were reviewed by stakeholders and consultations held to discuss changes and make amendments. Hence the regulations are a product of a wide cross-section of stakeholders' contributions. The participatory aspects of drafting the regulations allowed for consensus and compromise among the different resource users. The main provisions include:

- i) Spatial delimitation of the multi-zone management system,
- ii) Composition and procedures of the management committee,
- iii) Prohibitions within the MPAs, and
- iv) User registration and fees.

CAPACITY BUILDING

Staffing

In 2001 a Project Manager and Warden were employed by the Ministry of Agriculture and attached to the Fisheries Division. The Project Manager was given responsibility for the implementation of the project under the guidance of the Chief Fisheries Officer.

Once the implementation phase is at a stage where the infrastructure (mooring for dive boats and yachts) and the regulations are in place, a minimum of two wardens will be needed for operations. They will provide support to the project by collecting fees, supervising diving operations in the reserve areas, conduct patrols, collect data and provide support for ecosystem monitoring.

The Complement of staff planned for the project is shown in Table 1:

Table 1. Suggested MPA staffing requirements

Staff Position	Required Skills
Project Manager	Resource management, administration, conflict resolution
Wardens	Enforcement, diving, maintenance
Secretary	Secretarial, in office administration

Community and Other Types of Capacity

As a requirement of the funding agency and agreed to by the Government of Grenada, a management committee (Table 2) must be formed and be functional, providing guidance to the project.

Table 2. Composition of the Management Committee

Membership	Area of Interest
Ministry of Agriculture	Fisheries Management
Grenada Ports Authority	Port Jurisdiction
Ministry of Finance	Economic Returns
Grenada Board of Tourism	Ecotourism
Ministry of Tourism	Parks and Protected Areas
Fishermen/Community	Resource Uses
Grenada SCUBA Diving Association	Resource Uses
Science and Technology Council	Scientific Advice
Coast Guard	Enforcement

The communities adjacent to the Moliniere/Beausejour MPA, which will be affected by the implementation of the MPA Regulations, indicated that the extent of their representation in the management committee was insufficient. As a result, it was suggested that a local fishermen’s committee should be formed and chaired by their representative on the management committee. This will allow their concerns, in a coherent and thorough way, to reach the management committee with the feasibility of greater weight being given to all aspects to be considered.

Financial constraints on capacity

Funds for the employment of wardens and a secretary are currently not available. However, additional funds were requested from government for a Phase 2 of the project implementation. Once these funds become available then the project will be staffed, allowing for easier implementation. Availability of funds also restricts the possibility of attachments and training at the regional and extra-regional level, hence opportunities for exposure to the operations of fully functional MPAs are limited.

COMMUNITY INVOLVEMENT

It is the intention of the project to involve stakeholders and communities in every aspect of the decision-making. This necessitates working closely with various communities, and organizations. Communities include:

- | | |
|-----------------|------------|
| i) Brizan | 367 people |
| ii) Beausejour | 417 people |
| iii) Happy Hill | 786 people |
| iv) Moliniere | 356 people |
| v) Grand Mal | 717 people |
| vi) Mt. Moritz | 596 people |

Organisations that are important for the smooth and harmonious implementation and operation of the MPA project are:

- i) Grenada SCUBA Diving Association (GSDA)
- ii) Mooring and Yachting Association of Grenada (MAYAG)
- iii) Grenada Community Development Agency (GRENCODA)

Consultations were held with personnel from these organizations and the communities at various stages of the project implementation. Issues on user conflicts were noted and discussed, and possible solutions formulated. The result was a proposed multi-zone management system with areas demarcated.

Continued consultation with all stakeholders and discussions on a one-to-one basis reviewed the zonation pattern, its potential effectiveness and shortcomings. The proposed demarcations were adjusted and readjusted, and the product was presented in a stakeholder consultation. This allowed for discussion and cross debate among all the resource users, and resulted in agreement over the revised zonation pattern.

Fishermen's consultation

With the probing exercise and project costing completed for installation of moorings and demarcation buoys, a consultation was held with fishermen to review the multi-zone management system. The prohibitions stipulated for the marine reserve areas (no-take areas) were outlined and discussions entertained.

The possibility of alternative sources of income was discussed for persons who may be affected by the declaration of no-take areas. Some participants in the meeting expressed interest in micro-projects and mention was made of up-river kayak, glass-bottom boating and others.

OTHER INITIATIVES

Installation of Moorings

Moorings are required for dive boats, day charter boat and yachts. In order to ensure that there is minimum conflict among the resource users with regards to the position and number of moorings a consultation was held. It was divided into two parts:

- i) A round table discussion where stakeholders gave technical advice and discussed the positions and number of moorings to be installed;
- ii) A field trip to ground-truth what was agreed on during the meeting.

Subsequently, a map showing the locations of the various types of moorings was produced and the services of an installation contractor sought.

Solid waste cleanup

A recurring complaint among resource users concerned solid waste disposal in the communities adjacent to the MPA. A request was made to have action taken on the indiscriminate solid waste disposal impacting negatively on the MPA. Hence, various organizations were approached and the problems discussed amongst the:

- i) Grenada Solid Waste Management Authority
- ii) Environmental Health Department
- iii) Grenada Community Development Agency
- iv) Grenada SCUBA Diving Association

A plan of action was formulated and a survey was conducted in the communities to identify sources of the problem and to educate households. Residents were briefed on the appropriate methods of waste disposal and the problems created by disposing of refuse indiscriminately.

A cleanup campaign was then scheduled to coincide with the International Coastal Cleanup Day. Students, teachers and community residents participated in the cleanup along the coastline while GSDA conducted the underwater operation.

CONCLUSIONS

The MPA project in Grenada is still in its implementation phase, which limits the ability to assess the sustainability of the successes with the operational aspects described here. Financial and human resources are limited, causing lags in the implementation of the project. Systematic stakeholder consultations and community participation are important aspects of implementation that allow:

- i) Smooth and harmonious project implementation;

- ii) A sense of ownership of the project;
- iii) Willingness to participate in all aspects of the project implementation and possible operation;
- iv) Familiarity with all aspects of the management system fostering easier enforcement;
- v) Assistance in executing the various components of the management strategy.

Willingness to assist with the implementation of the MPA project was expressed by all of the organizations that use the resources. Frequent advice was given by persons who are familiar with the operations of MPAs in other countries. Hence, they indicated where difficulties might be experienced and how adjustments can be made to overcome the hurdles. This compensated, to some extent, for the lack of capacity in the formal management structure. To date, the human connectivity of the project has been crucial to implementation.