A Preliminary Assessment of Living Marine Resources Governance in the Wider Caribbean Region

Alexcia L. Cooke¹, Lucia Fanning², Robin Mahon¹ and Patrick McConney¹

¹Centre for Resource Management and Environmental Studies (CERMES)
University of the West Indies, Cave Hill Campus, Barbados

²Marine Affairs Program, Dalhousie University, Halifax, Nova Scotia, Canada

Abstract

Living marine resources are important to the well-being of the people of the Caribbean. They provide food and employment through fisheries and tourism. These resources are impacted by the usual array of human activities including land based pollution, overexploitation and the degradation of marine habitats. Most of the resources are transboundary and require international cooperation at the regional or subregional level for governance.

Responsibility for regional issues of governance of living marine resources in the Wider Caribbean Region (WCR) is currently distributed among many organizations. This organizational complexity raises governance questions related to how well transboundary living marine resources issues are addressed. Are the key transboundary issues such as pollution, over-exploitation, habitat degradation and climate change addressed by the current regional governance architecture in the WCR? Are there organisational overlaps or gaps? Do the existing interactions among organizations promote or hinder effective governance?

This paper discusses the current context for regional governance of living marine resources in the WCR. It outlines an approach towards the assessment of governance arrangements using the Large Marine Ecosystem Governance Framework. The approach focuses on:

- Identifying regional organizations involved in the governance of living marine resources and assessing their stated mandates and actual functions relative to transboundary issues;
- Identifying gaps and overlaps in the regional governance architecture;
- Analyzing interactions through network analysis.
- Evaluating components of the Large Marine Ecosystem Governance Framework with the results of this research.

This research contributes to the on-going governance initiatives of the Caribbean Large Marine Ecosystem (CLME) Project for the Caribbean Sea Large Marine Ecosystem and its adjacent region, the North Brazil Shelf Large Marine Ecosystem.

1. Introduction

The Wider Caribbean Region (WCR) includes the insular and coastal states with coasts on the Caribbean Sea and Gulf of Mexico as well as waters of the Atlantic Ocean adjacent to these states (Figure 1) (Mahon 2008; Fanning et al. 2007). The area corresponds with that of the United Nations Environment Programme - Caribbean Environment Programme (UNEP-CEP) that includes 28 island and continental states and 12 dependent territories. These states have varying capacities and they range widely in socio-economic, political, cultural and geographical characteristics; from the richest to the poorest states; types of governments and historically influenced geopolitical arrangements across five languages; and from the
largest and to the small island developing states (Lausche, 2008; Fanning et al., 2007). For these reasons, the WCR has been described as ‘one of the most geopolitically complex regions in the world’ (Chakalall et al. 2007).

1.1. Living Marine Resources in the WCR

The Wider Caribbean Region is characterized by tropical and subtropical ecosystems (coral reefs, mangrove forests, sea-grass beds, coastal wetlands, soft bottom ecosystems on continental shelves, open ocean pelagic), each with its unique biota and resources (UNEP 2007). The region is a biogeographically distinct area of coral reef development within which the majority of corals and coral reef associated species are endemic. Thus the region is of considerable global biodiversity significance (Burke and Maidens 2004).

Resources are shared as a result of their distribution patterns, migratory patterns (for example the pelagic resources of the region) and planktonic larval dispersal (for example, reef organisms, conch, lobster and small coastal pelagics). The species diversity in the coastal and marine environment include: Invertebrates such as sponges and molluscs; A diverse range of fish species that includes small pelagics, large pelagics, reef fishes, coastal demersal fish, crustaceans and molluscs and cephalopods (squid and octopus); Reptiles including turtles, crocodiles and iguanas; Various species of waders and seabirds and; Mammals such as the West Indian manatee, whales and dolphins (UNEP 2007; Mahon 2002; FAO 1998).
The results of the transboundary diagnostic assessments for the Caribbean Large Marine Ecosystem Project (covers the Caribbean Sea Large Marine Ecosystem and the North Brazil Shelf Large Marine Ecosystem) and the Gulf of Mexico Large Marine Ecosystem highlighted three key transboundary issues affecting the sustainability of living marine resources. The major issues were unsustainable exploitation of fish and other living marine resources, habitat and community modification and pollution. The immediate and underlying causes were also highlighted and are considered important for comprehensive management of the living marine resources. (Heileman and Mahon 2008; Heileman and Rabalais 2008).

1.2. Legal and Institutional Arrangements for Governance of Living Marine Resources in the WCR

The countries of the Wider Caribbean Region have adopted many global multilateral environmental agreements (MEAs), treaties and regional programmes. The Cartagena Convention with its supporting protocols on oil spills, land based sources of pollution and specially protected areas and wildlife provides the legal framework for regional cooperation on many aspects of the protection and management of marine resources. Complementary to this Convention has been the designation of the Wider Caribbean Region as a Special Area under Annex V of the MARPOL Convention as of May 2011. The region also secured a UN General Assembly resolution entitled ‘Promoting an integrated management approach to the Caribbean Sea area in the context of sustainable development’ (Heileman and Mahon 2008). The global and regional multilateral environmental agreements and instruments provide the legal framework for cooperation on ocean governance matters as the region.

Across the Wider Caribbean Region there are many regional and subregional organisations involved in the governance of living marine resources. The major subregions for which there are intergovernmental organisations include the Eastern Caribbean, the Caribbean Community and Central America. Other organisations include subsidiary bodies of UN organisations such as the Caribbean Environment Programme of the United Nations Environment Programme and the Western Central Atlantic Fisheries Commission of the FAO. There are also regional and sub-regional economic and technical intergovernmental organisations, non-governmental organisations and private sector organisations. The economic sectors include fisheries, tourism, oil and gas production and marine transport. Figure 2 illustrates the overlapping membership by some of the regional and sub-regional intergovernmental organisations with responsibility for fisheries in the WCR.

2. The Regional Governance Problem

The current governance arrangements are considered to be: the mandates of, the actual work of and the interactions among, the entire suite of organisations involved in the governance of living marine resources. These organisations can be considered as an institutional complex. The structure and functioning of this complex is not well understood. Most organisations involved are known to each other and by stakeholders; but there are gaps in this knowledge. It has also been noted that interaction among many of these organisations is absent or ineffective. The current overlapping and competing arrangements for the various aspects of marine governance do not appear to provide a coherent governance framework (Chakalall et al. 2007; Fanning et al. 2007). The extent to which the key transboundary living marine resource issues are covered by the suite of regional organisations has not been examined, nor has the extent of the interactions among the organisations.
The coverage of governance issues by the organisations comprising the organisation complex in the Wider Caribbean region and the extent of interaction among them will be examined in this study. An understanding of the types of organisations involved, the potential and actual scope of their work, and the extent to which they interact with respect to the issues will assist in developing effective governance arrangements in the region. The findings will be used to determine if the Large Marine Ecosystem Governance Framework is an adequate framework for developing, improving and monitoring regional ocean governance in the Wider Caribbean.

3. The Research Approach

The conceptual basis for this research lies in the Large Marine Ecosystem Governance Framework. This framework was developed from the need to effectively address the sustainable management of the shared living marine resources of the Caribbean and within the context of the complexity and diversity of the Wider Caribbean Region. The framework was developed to facilitate ‘fully functional policy cycles at all appropriate levels with the appropriate vertical and lateral linkages. The framework was developed based on (1) a generic policy cycle component that represents an iterative process that should lead to incremental improvement in management and (2) a multi-scale multi-level component (Fanning et al. 2007)
The stages of the policy cycle are data and information, analysis and advice, decision making, implementation and review and evaluation. These stages require different inputs from different actors. The actors may overlap across the stages. The multi-scale multi-level component of the framework highlighted four of the more obvious levels of jurisdictional and geographical scales – local, national, regional and global. The policy cycles operate within and across the multiple scales and levels. There are both vertical and lateral linkages between policy cycles (Figure 3).

![Diagram](image)

**Figure 3.** The multi-scale component of the proposed governance framework with vertical and horizontal linkages among the different policy cycles (Fanning et al. 2007).

Propositions developed within the context of the framework were: (1) Any interruption at any state of the policy cycle will result in dysfunctional governance of the target resources or ecosystems; (2) Vertical linkages between functional policy cycles are necessary for effective large marine ecosystem governance; (3) Horizontal linkages between functional policy cycles are often necessary for effective large marine ecosystem governance; and (4) ‘Linkages between functional policy cycles specific to the ‘analysis and advice’ and ‘decision-making’ stages of the cycle are essential for effective large marine ecosystem governance.’

This research focuses on the regional level within the governance framework discussed above. The overarching question for this research is ‘Does a coherent governance system exist for living marine resources issues in the Wider Caribbean Region? This question has been broken down into three subquestions (Figure 4).

**Subquestion 1:** Are transboundary living marine resources issues adequately addressed by the regional governance architecture in the Wider Caribbean Region?

This question focuses on the architecture of the governance system in the WCR. Based on the issues and ecosystems that they address in their work thirty organisations were deemed to be significantly involved
in regional ocean governance and included in the study. Individuals with management responsibility from each organisation were interviewed to provide information on the organisations' areas of action. Data were also extracted from the organisations' conventions, establishing agreements and annual reports.

The two main outputs from this component will be (1) a synopsis of the regional organisations involved and their roles in the governance of living marine resources in the Wider Caribbean Region (2) the structure of regional level arrangements for the governance of living marine resources including the analysis of the gaps and overlaps in mandates and actual activities.

*Subquestion 2: Do regional organisations interact effectively for governance of living marine resources in the Wider Caribbean Region?*

This question focuses on the nature of interactions among regional organisations. The research will examine the interactions in five categories corresponding with the policy cycle stages: data and information, analysis and advice, decision-making, implementation and review and evaluation. These five sets of interactions will be compared with the interactions that would be expected in a functional system. Data will be collected through the thematic content analysis based on the mandates. Interviews were conducted with senior personnel at the organisations to identify the existing interactions. The outputs from this component will include (1) existing interactions among regional organizations against expected interactions based on the policy cycle and (2) recommendations for the improved effectiveness of the governance arrangements for LMRs in the WCR from the perspective of organisations’ interactions.

*Subquestion 3: Is the large marine ecosystem governance framework a suitable model for effective governance of LMRs in the WCR?*

The large marine ecosystem governance framework was developed as a model for regional ocean governance arrangements in the WCR. This research will test its suitability at the regional scale level. The results from the first two questions will be used in the evaluation of the large marine ecosystem governance framework. This evaluation will be carried out through comparative analysis of the finding from subquestions 1 and 2 with the policy cycle and the multi-scaled elements of the large marine ecosystem governance framework. The steps in the process are 1) to identify the relevant policy cycle and multi-scale components of the framework related to architecture and interactions 2) to provide a synopsis of the research results related to the policy cycle and multi-scale multi-level components, 3) to compare and contrast 1 and 2 above, identifying the areas that support and diverge from the framework and provide explanations where feasible 4) to provide recommendations for the improvement of the framework.

The main output from this subquestion will be the development of recommendations towards the enhancement of the regional governance of transboundary living marine resources. It is also anticipated that within the context of the WCR, policy makers will have access to information on how their organisations shape governance and where improvements may be required. It is hoped that this project will be of substantial benefit to the Wider Caribbean Region and the wider ocean governance community.
4. Summary

Living marine resources are important to the people of the region for a variety of reasons. In particular, the resources are important for the millions of coastal inhabitants for food and employment. Thus, governance of living marine resources is a research area of great importance. It has been noted that the extent to which the key LMR transboundary issues are covered by the suite of regional organisations and the nature of the interactions among the organisations have not been examined. The focus of this research will therefore be on the governance arrangements (mandates, actions and interactions). In addition, the Large Marine Ecosystem Governance Framework will be evaluated against the results of this research to determine its suitability.

Understanding these aspects of governance will be important for improving ocean governance in the Wider Caribbean Region. This research will allow for informed recommendations on the governance of living marine resources in the region and for enhancements to the proposed framework. It is anticipated that the research approach can be applied to other large marine ecosystems.
5. References


