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TABLE OF CONTENTS FOR THE

GEF CARIBBEAN LARGE MARINE ECOSYSTEM+ RESEARCH STRATEGY

Research Priorities in the Gulf and Caribbean at the Intersection of Science and Policy

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Chapter 1. Executive Summary/Abstract

Chapter 2. Making science relevant: The Role of Science in the

Effective Governance of the Caribbean Sea, North Brazilian shelf, and

the Gulf of Mexico

This chapter will address the need for research that is driven by specific management needs.

Section A. The need for policy-guided research.

This section will focus on the defining goals of this report which include:

- 1. Ensuring research links to informed decision making through identifying data and information gaps
- 2. Increasing capacity
- 3. Targeted Funding
- 4. Linkages with existing efforts

There will be a discussion on why research needs to be driven by the needs of

managers and policy-makers. We will review the contextual construct of the

needs of managers driving the focus of research versus research for research sake

and introduce the GEAF.

We will also examine the Drivers of research including that effective research is:

- 1. Demand-Based
- 2. Research is tied to Existing Plans
- Section B. This section will examine who the intended recipients of this report are

including:

- 1. Decision-makers/managers in the region, (was it with focus on regional and subregional)
- 2. Donor community those that can finance research
- 3. Scientific community

Section C. Research Themes and their role in sustainability

This section will introduce the Pollution, Fisheries, and Habitat themes and discusses their role in inhibiting sustainability. The strategies will be further built out in Chapter 4.



Figure 1. The policy cycle and how science is critical to effectively crafting policy and its use in governance (from McConney et al. 2016)

Section D. The Smart Research Cycle with intervention points for research This section will focus on how research can be used to make decisions and who provides the input for the research priorities. In the example draft figure (figure will be refined), there are intervention points where research can be used to make management and policy-relevant decisions. We will review the construct of the needs of managers driving the focus of research versus research for research sake.



Figure 2. The Smart Research cycle showing intervention points for research and management implementation.

This cycle shows how policy/management questions drive focused research.

Step 1. Managers have questions that must be answered by targeted research.

Step 2. In some cases the science is already there (or at least there is enough science to make a decision.)

Step 3. If the Science is not available to inform the management question, gaps must be identified.

Step 4. Specific research projects will be developed to address the management question.

Step 5. In some management cases, a management plan may not be needed to implement an action (e.g., a rule or regulation may only be needed if a population falls below a certain threshold.) These thresholds are called triggerpoints.

Step 6. In these cases, a monitoring plan should be developed to determine if that threshold for action (i.e., triggerpoint) is reached.

Step 7. If the triggerpoint is reached, implement.

Step 8. Monitoring to determine of the management strategy is effective or not.

Section E. The role of Monitoring in the Policy and Management

This section will describe the importance of monitoring to ensure that research stays focused and relevant. Although monitoring is beyond the scope of this project, we feel that it is necessary to incorporate monitoring into the research planning because it will define future research priorities and the effectiveness of policy and management.

Chapter 3. Building on a scientific heritage: Previous efforts at linking Science and Management

This chapter will review previous efforts to examine research to assist management, especially as it relates to assisting policy-makers. It will look at previous global efforts as well as regional efforts. It will reference liberally the many studies that have attempted to make this linkage and how this project both fits within them as well as how it is different. We will also provide linkages to for example the CLME+ GEAF framework and Policy cycle, and the SOMEE. (Examples: CERMES, CRFM. Ireland, Future Earth project,

Chapter 4. Focal Areas of Research Tied to Management Needs

This section will introduce the 3 focal strategies and the need for research to support management.

Section A. Relevance to the SOMEE

Chapter 5. Identification of research needs and gaps

Section A. This section will describe an overview for each strategy

Section B. Analysis of inputs from the consultation process

This section will examine the various GCFI efforts

Section C. Indicators and trigger points as research tools for management actions

Chapter 6. A Pollution-Free Caribbean Sea

We will examine how to expand the knowledge base required for the efficient and costeffective reduction of LBS pollution in the CLME+..

Section A. Outcomes of the analysis.

Section B. Identification of needs and gaps

Chapter 7. Healthy Marine Ecosystems - Expand the knowledge base to support habitat protection and restoration in the CLME+ region Section A. Outcomes of the analysis.

Section B. Identification of needs and gaps

Chapter 8. Ensuring sustainable fisheries

Expand the knowledge base required for implementation of Ecosystem Approach of Key Fisheries including flying fish; spiny lobster; and shrimp and groundfish in the CLME+ region

Section A. Outcomes of the analysis.

Section B. Identification of needs and gaps

Chapter 9. How these research gaps tie directly to management

- **Section A.** Tying the results to the research cycle. This section will provide a textual and graphical representation of how the identified research gaps and strategies tie into the research cycle (see Chapter 3 figure of crosswalk from research needs to management).
- **Section B.** Assessing the relevance of the topics drawn from the consultation this section will link existing efforts with the outputs and results from this work. For example, it will provide linkages with the SOMEE, WECAFC programs, CRFM efforts, etc.

Chapter 10. A Framework for Implementation

Section A. Applying the results to achieve effective policy and governance **Section B.** Downscaling and making relevant to national ministries

Chapter 11. The Gulf and Caribbean and northern Brazilian shelf regions in the Anthropocene

This chapter will examine the future of the Caribbean, North Brazil Shelf, and

Gulf of Mexico regions and how they will impact the needs of managers (and thus research priorities) in the future. It will examine what is known about the science of the future marine environment of the region and what it means for policy and science going forward. This will be where the overarching topic of climate change interfaces with the research strategies outcomes.

Chapter 12. Conclusions and final thoughts

Chapter 13. Annexes

<u>Annex 1</u> General consultation approach - Our Overall approach for identifying gaps and needs (For each area of research mentioned above)

- i. GCFI/CLME+ consultation process
- ii. Stakeholder consultation workshops
 - 1. List of participants in the stakeholder's workshops organized by GCFI
- iii. Online public consultation

- iv. Government, research and funding agencies consultation
- Annex 2 Workshop reports
- <u>Annex 3</u> Analysis of inputs from the consultation process
 - a. Identification of Indicators and trigger points for management actions
 - b. Links to the SOMEE
- <u>Annex 4</u> Methodology including survey design for each of the research areas.
- <u>Annex 5</u> Linkages to Regional and Subregional Institutions, Initiatives, and their Priorities
 - i. The CLME+
 - 5. The CLME+ SAP
 - 6. The CLME+ RGF: a multi-level nested framework for sustainable marine resource governance
 - 7. GEAF framework and Policy cycle
 - 8. The CLME+ SOMEE
 - ii. The CRFM
 - iii. FAO and OSPESCA
 - iv. The Roles of Educational Institutions
 - v. The Roles of Government Research
 - vi. Linking to Regional and Sub regional Institutions
 - vii. Regional Action & Investments Plans
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