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**REGIONAL VALIDATION WORKSHOP ON  
SCIENTIFIC APPROACHES REQUIRED TO INFORM  
SUSTAINABLE MANAGEMENT OF QUEEN CONCH**

# CRFM Technical & Advisory Document - Number 2013 / 12

## REGIONAL VALIDATION WORKSHOP ON SCIENTIFIC APPROACHES REQUIRED TO INFORM SUSTAINABLE MANAGEMENT OF QUEEN CONCH

### Prepared by:

MRAG, under contract to the ACP Fish II Project, on behalf of the Caribbean Regional Fisheries Mechanism (CRFM) Secretariat

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## FOREWORD

In 2013, the EU-sponsored ACP Fish II Programme commissioned a study titled ‘Support to improve and harmonize scientific approaches required to inform sustainable management of queen conch (*Strombus gigas*) by CARIFORUM States’. The study was executed by MRAG on behalf of the CRFM Secretariat, and upon completion, a Final Technical Report was submitted to the ACP Fish II Programme that contained 4 major outputs of direct interest to the CRFM: a regional review of scientific and management approaches to the management of queen conch; 5 country mission reports or case studies that were used to inform the regional review; a regional management options paper that was developed based on the regional review and country cases studies, and; the report of a workshop held to validate the other 3 major outputs.

To make the 4 major outputs more readily identifiable as CRFM-approved, and also more easily available to the various CRFM publics, they have been extracted from the original Final Technical Report submitted to the ACP Fish II Programme, and reproduced as CRFM Technical and Advisory Documents 2013/11 (regional review and cases studies), 2013/12 (workshop report) and 2013/13 (regional management options).

The CRFM Secretariat acknowledges the contribution of the EU-sponsored ACP Fish II Programme in this endeavour.

## LIST OF ACRONYMS

ACP	African Caribbean Pacific
CARIFORUM	CARIFORUM Caribbean Forum of ACP States
CITES	Convention on the International Trade in Endangered Species
CLWG	Conch and Lobster Working Group
CRFM	Caribbean Regional Fisheries Mechanism
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
WECAFC	Western Central Atlantic Fishery Commission

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## **Introduction**

A short opening ceremony was conducted by Ms. Jennifer Cruickshank-Howard, Chief Fisheries Officer for St. Vincent and the Grenadines and Dr. Susan Singh-Renton, CRFM Deputy Executive Director. The opening ceremony was kept informal to make more time for the workshop's programme. Dr. Sandra Grant welcomed the participants on behalf of the ACP Fish II co-ordinating unit and gave some background on the project. A prayer was offered for the success of the workshop by Ms. June Masters, CRFM Secretariat. Dr. Susan Singh-Renton, and in her absence Mr. Christopher Parker (Fisheries Division, Barbados), were elected the chairpersons of the meeting. Ms. June Masters kindly served as the rapporteur, aided by other CRFM staff.

Participants then introduced themselves to the meeting and gave their affiliation (see list of participants in *Appendix 1*). The meeting agenda was then adopted and Ms. Sherill Barnwell, who organised the meeting, explained the meeting arrangements. Finally, the meeting agenda was agreed (*Appendix 2*).

One of the workshop conveners, Dr. Monica Valle, was unable to attend the workshop in person. Therefore, she took part as much as possible through internet based communication. This allowed her to listen and provide comments throughout the meeting. Dr. Paul Medley delivered all the case study and regional review presentations, and led the majority of the discussions throughout the workshop in coordination with the chairpersons.

## **Meeting Objectives**

The meeting objectives were introduced. The workshop broadly consisted of two parts:

- i. A review and discussion of documents related to the case studies and regional review of queen conch management and science in the region;
- ii. The development and finalization of a Regional Management Options Paper for queen conch.

The Regional Management Options Paper was identified as the main output from the Workshop.

## **Review of Case Studies**

Five case studies were considered, as well as a regional report summarising approaches:

1. Bahamas: The fishery and landing points are widely distributed across the archipelago, making monitoring difficult. While there are some fisheries data and visual survey data, these are incomplete. Most management measures and controls have not been evaluated. As a result, there is no effective harvest strategy in place. Options to correct this were discussed.
2. Belize: Belize has a relatively complete harvest strategy, with good data collection, analyses and a demonstrably appropriate management response. Weaknesses identified primarily consisted of specific questions over the size of the spawning stock biomass and lack of independent review of the fisheries science and management.
3. Dominican Republic: Data collection exists and data are available for assessment of the resources. However, key pieces of information were missing. These were primarily 1) whether catches were complete, 2) the stock catches originated from, and 3) effort is multi-specific, but dive trips can be identified. The gaps in data collection were the result of weak control over part of the fishery operating away from the main island.
4. Grenada: Data and resources to collect data were limited and therefore the harvest strategy for queen conch was incomplete. Grenada presented a problem common to small island states in the region, where a lack of capacity has prevented the scientific and management authority from developing a harvest strategy.

5. Haiti: Haiti had the least developed harvest strategy. Basic information existed on the extent of the fishery and there was some abundance survey information and paper records on a proportion of landings. Therefore, information was incomplete, no quantitative analysis had been undertaken and no effective controls were in place. There were some opportunities to develop an effective harvests strategy, but developing these would require external support. Particularly, available evidence suggests that a stock assessment could indicate the resource is overfished, so a rebuilding plan would be required from the outset.

In all cases, there were significant gaps in the available data, making standard stock assessment methods difficult to apply. It was clear that analysis methods which were robust to these shortcomings were required to provide scientific advice.

It was also noted that precautionary measures to limit fishing rarely provided a solution for all countries. For example, banning the use of compressed air was only appropriate where a sufficient proportion of the resource could be found in shallow water.

The regional report drew on the case studies as well as other countries in the region, considering the scientific and management components of their harvest strategies. The report considered problems and possible solutions particularly from a regional perspective. Attention was drawn to the advantages of harmonised regulation with the example of a fisherman's regulation tool produced for Puerto Rico fishers. This is a small inexpensive plastic tool with various features which can be used to check the size of shellfish when caught.

### **Best Practice in Conch Fisheries Management**

Best practice in conch fisheries management was outlined based on the FAO conch manual<sup>1</sup>. Best practice consists in developing a harvest strategy consisting of four components: data collection, data analysis, a decision-making process and the application of management controls. Reference was made to Jamaica as a useful example of good practice, but it was pointed out that Jamaica is a special case, with the only industrial type fishery in the CRFM region. In terms of data collection, it was recognised that there was an important role for expert opinion, but also that most fisheries had a "bottleneck" within the distribution chain where data might be most easily collected. Another important source of information identified in this region was the fishers themselves.

### **Underwater Surveys Training Project**

A presentation was conducted on training in underwater visual survey methods for queen conch stocks by Dr. Martha Prada and Dr. Robert Glazer. This introduced a new ACP Fish II project for training local fisheries biologists in conducting visual surveys. During discussions, particular interest was shown in methods to estimate spawning stock size. Camera equipment was introduced for deeper water surveys. This had been identified in a number of countries, including Belize, as important in verifying the existence of a relatively lightly exploited spawning stock. Plankton surveys were also suggested as important in identifying and quantifying spawning stocks.

### **Management Options**

The discussion focused on using the information from the case studies in considering management options under three broad headings related to a harvest strategy. These were data collection, analyses and management (covering decision-making and controls). This was initiated by a general discussion

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<sup>1</sup> Medley, P. 2008. *Monitoring and managing queen conch fisheries: a manual*. FAO Fisheries Technical Paper. No. 514. Rome, FAO. 2008. 78p.



on how the different needs of a harvest strategy might be addressed. It was pointed out that in conducting visual abundance surveys, for example it must be considered how the information obtained would be used by management in setting controls that limit fishing to sustainable levels.

To help develop management options, a review and discussion was conducted of the recommendations of the Queen Conch Expert Workshop in 2012, as commented on by the WECAFC conch meeting in Panama and linked to a resolution for the Convention on International Trade in Endangered Species (CITES) Conference of the Parties meeting in 2013 (CoP 16). These recommendations provided a broad outline of options that are available, so the workshop was able to propose how some of the recommendations might be implemented in practice. In addition, it was noted that CITES CoP16 passed a resolution that required countries to estimate conversion factors for different processing levels by 2015, to be agreed and fully implemented by 2016. It was agreed that this was well within the abilities of the region's scientific authorities to complete as long as immediate action was taken in collecting data. Otherwise the various recommendations were discussed and clarified.

To allow greater participation and increase in developing the management options, the workshop participants were divided into three groups to work on 1) data collection; 2) analysis; and 3) management. The groups were requested to provide recommendations that would address problems identified, rather than provide more detail on the problems themselves. Some solutions were already proposed from the regional review and these were reviewed, annotated and supported or rejected as participants felt appropriate. Other options were proposed by participants as they thought appropriate. In considering each management option, participants were asked to consider and comment on each of the following attributes:

- **Objectives** – What should the specific outcome and benefits of the initiative be?
- **Relevance** - to what extent are the initiative's objectives pertinent to overall regional conch conservation?
- **Effectiveness** - how far might the initiative's outputs contribute to achieving its objectives?
- **Risks** – what are the main threats that might reduce the initiatives effectiveness?
- **Efficiency** - how economically efficient might the initiative be compared to alternatives that might achieve similar results (1-5)?
- **Utility** - how does the initiative's impacts compare with the overall needs of regional conch conservation?
- **Sustainability** - to what extent can the positive changes be expected to be maintained?
- **Acceptance** – to what extent might countries in the region accept the initiative (coverage)?

Where relevant, participants were also asked to score the attribute on a semi-quantitative scale (☺1-5☹), which might be used to consider management option's priority.

The breakout groups were requested to provide regular feedback to the whole meeting, so comments could be received from all participants on all options that were proposed.

The outcome from discussions resulted in a management options paper, which was the main output from the meeting. It was agreed that these options should be considered at the regional and national levels for implementation. It was considered by the participants at this workshop that these options could be effective in addressing many of the concerns with conch fisheries in the region if adequately resourced.

A first version of the report was completed immediately at the end of the workshop for review by the CRFM Conch and Lobster Working Group (CLWG), which met on the following week. This made use of an opportunity to obtain further input from members of the CLWG, a proportion of whom also attended this workshop. The final management options paper includes their further deliberations.

## **Conclusions and Recommendations**

An effective harvest strategy requires adequate data collection, appropriate analysis and timely management response. One or more of these components are lacking in most fisheries, but the case studies also suggested that effective strategies were being applied in some fisheries and that lessons might be learnt from their experience. In almost all cases, solutions were identified for problems, but they needed to be adequately resourced.

The main outcomes from the workshop are included in the queen conch management options paper. The paper consists of specific initiatives for implementation at national and regional levels that address problems identified in the case studies and at regional meetings, notably the WECAFC queen conch working group meeting in Panama 2012. These options should be reviewed regionally and nationally by fisheries managers and, where appropriate, actions taken to implement them.

The following conclusions and recommendations are highlighted here as they provoked significant discussion:

- Management systems need to respond to scientific advice in a more structured way. Many recommendations to improve the region's fisheries management have been made in the past, but most have not been implemented. It is likely that this is due to a lack of resources, but it would help that when recommendations are rejected, reasons are provided so that alternative solutions might be considered.
- Most countries possess some form of data, but it is not always accessible. Computerization and using modern data management methods would allow scientific authorities to make better use of the resources they have.
- Although some fisheries have draft management plans, they have not been finalised. The reasons for this are unclear, but might be related to their being overly complex, making it difficult for all stakeholders to review and understand them. Finalised fishery management plans are required, and current plans may need to be reorganised so that the critical components are clearly identified and the method to evaluate and update them is defined.
- Socio-economics must be addressed both by involving of stakeholders whose livelihood depends on the fishery and by incorporating socio-economics in scientific advice. If the latter is to be achieved, fisheries must collect socioeconomic data routinely as well as other fisheries data.
- CRFM will have a key role in co-ordinating management initiatives. CRFM may also be requested to provide technical support, but additional resources may be required for this.

## **Adjournment**

The meeting was adjourned on the evening of the third day after a vote of thanks for all the participants' hard work.

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## Appendix 2: Agenda

<b>6<sup>th</sup> June 2013: Introduction and Case Study Report</b>		
0900 – 0930	Welcome and introduction to meeting Objectives and context of the meeting Agree the agenda.	Chairperson Paul Medley
0930 – 1100	Case Studies: Bahamas and Belize General discussion	Paul Medley / Monica Valle
1100 – 1130	Coffee break	
1130 – 1230	Case Studies: Grenada and Dominican Republic General discussion	Monica Valle
1230 – 1330	Lunch	
1330 – 1400	Case Studies: Haiti (TBC)	Monica Valle
1400 – 1500	Regional Initiatives and CITES	Paul Medley
1500 – 1530	Coffee break	
1530 – 1700	Discussion: Focus on drawing up a list of key cross-cutting issues for the region. If useful, this can be done in 3 “break out” groups by type of fishery. This would inform the Harvest Strategy Development discussion.	Paul Medley
<b>7<sup>th</sup> June 2013: Harvest Strategy Development</b>		
0900-1000	Outline a generic conch harvest strategy	Paul Medley
1000 – 1030	Coffee break	
1030 – 1230	Data Collection and Analysis: Problems and Solutions	Chairperson
1230 – 1330	Lunch	
1330 – 1500	Data Analysis and Decision Making: Problems and Solutions	Chairperson
1500 – 1530	Coffee break	
1530 – 1630	Regional Approach: The role a harmonised regional approach might have in supporting harvest strategies.	Chairperson
1630 – 1730	Summarise findings and conclusions, with emphasis on what tasks can be carried out to solve various problems which have been identified, and gaps in capacity, technical support, funding etc.	Chairperson
<b>8<sup>th</sup> June 2013: Management Options</b>		
0900-1030	Review Management Options: Review against previous discussion, case studies and CITES requirements.	Chairperson
1030 – 1100	Coffee break	
1130 – 1230	Review Management Options: Finalise draft options that meet the requirements and national needs.	Chairperson
1230 – 1330	Lunch	

1330 – 1500	Management Options: Discuss the specific application of management options in case studies.	Chairperson
1500 – 1530	Coffee break	
1530 – 1700	Management Options: Discuss implications of the management options for CRFM and the region.	Chairperson

### **CRFM**

The CRFM is an inter-governmental organisation whose mission is to “Promote and facilitate the responsible utilisation of the region’s fisheries and other aquatic resources for the economic and social benefits of the current and future population of the region”. The CRFM consists of three bodies – the Ministerial Council, the Caribbean Fisheries Forum and the CRFM Secretariat.

CRFM members are Anguilla, Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Trinidad and Tobago and the Turks and Caicos Islands.

