

Monitoring and managing queen conch fisheries

A manual



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Monitoring and managing queen conch fisheries

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A manual

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Preparation of this document

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Abstract

This publication presents guidelines on the requirements for responsible management of the fisheries exploiting Caribbean queen conch (*Strombus gigas*), with particular emphasis on the requirements to comply with the relevant regulations of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The Caribbean queen conch is listed on Appendix II of the CITES, which requires that any specimen of the species can only be exported if a permit has been issued to allow the export. Further, CITES states that export permits should only be issued when the responsible authority has deemed that the export will not be detrimental to the survival of that species. This manual describes the basic fisheries management cycle which includes: development and interpretation of policy; the need for management controls to regulate fishing activities; data collection and analysis; decision-making; enforcement of and compliance with the management controls; and regular feedback and review of the management system. It provides general guidance on each of those steps for the queen conch fisheries of the Caribbean. It also provides three examples of management systems for industrial, artisanal and non-directed fisheries. Part 1 covers the main issues and examples in a relatively non-technical manner and Part 2 explains similar issues in a more technical manner.

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Introduction

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is concerned with preventing conch from becoming an endangered species. Governments which have a conch resource are concerned with the sustainable development of their fisheries. However, CITES and government policy should have considerable common ground. Managing a fishery to maximize sustainable economic benefits and protect the ecosystem are compatible. This indicates that good management practice should meet CITES requirements as well as improve economic returns from these fisheries.

The main issue should not be what fisheries are setting out to achieve, but whether these objectives can be met with available technical and logistical resources. Achieving optimal sustainable economic returns from a fishery is far from simple, mainly due to the lack of the necessary information to define where the optimum is and how to get there. To define the optimum and then enforce the conditions to ensure this is reached requires considerable scientific and management expertise and resources. However, once set up, monitoring and maintaining the fishery should be simple and well within the capability of most governments.

Good management requires political choices, which is why emphasis is placed here on easier communication, by reducing complex fisheries to a set of simpler performance indicators, and planning ahead. Planning ahead means gaining agreement on appropriate actions before they need to be applied. Prior agreements not only allow government to plan ahead, but industry too. This should lead to smoother changes and greater stability in the long term.

This manual is focused on Caribbean queen conch *Strombus gigas* and the requirements for responsible management of the fisheries exploiting this important resource, with particular emphasis on the requirements to comply with CITES regulations and requirements for the Appendix II listing.

This manual presents guidelines only. The large differences between fisheries make it impossible to prescribe exactly what must be done in all fisheries. However, it is possible to make two general requirements that will need to be met by any conch fishery:

- The processing and catching capacity needs to be on the same scale as the productivity of the resource. Where there is overcapacity, political and economic pressures will often lead to short-term planning meeting immediate demands of the processing and catching capacity, which in turn will lead to overfishing. A stock assessment should provide advice on the appropriate capacity.
- It should be possible to show that the policy and the fishery management system are effective. For this, you have to monitor the resource state and the fishery. When a control is applied, you need to be able to demonstrate that the control affects the monitoring variables in the manner expected. For example, if the average vessel catch rate is used to monitor stock size, when you apply a control, such as reducing the number of vessels allowed fish so as to increase stock size, you need to see a corresponding increase in catch rate. This implies that the control has increased the stock as intended. Similarly, it should be possible to show that a stock increases once a “no-take zone” has been established. There are many reasons why controls may be ineffective. If you do not have effective controls, you are not managing the fishery and not meeting CITES requirements.

The level of management, control and monitoring needs to be appropriate for the size of the fishery. There is often concern that the management required will be too expensive. It need not be, and should not be, expensive relative to the size of the fishery. Importantly, the more certain you wish to be as to the state of the fishery, and you will need to be certain if you wish to exploit the resource at close to the maximum level, the better information and enforcement will be required, and the higher the cost of management. Lower management costs generally mean lower levels of exploitation, but should not prevent you from exploiting the resource efficiently and optimally.

There are two ways to deal with uncertainty. The first, and perhaps most important, is to obtain more and better information about your fishery. The second is to keep fishing pressure low. This decreases the chance of overfishing even if you are uncertain exactly when overfishing will occur.

It is quite possible, where a management regime is not well developed, that you will start with little information on which to base decisions. It is quite reasonable to develop a programme which will bring the management system up to the required standard without closing the fishery. To meet international standards, however, the development would need to follow a predetermined time table.

This document is divided in two parts. In Part 1, Chapters 1 to 4 cover the main issues and examples in a relatively non-technical manner. This section is suitable for decision-makers and persons not familiar with fisheries methods. In Part 2, Chapters 5 to 11 cover similar issues but in a more technical manner.

Further information on fisheries management in general can be obtained from the publications listed at the end of this manual under the heading "References and further reading". These include the FAO Technical Guidelines for Responsible Fisheries No. 4 and No. 4, Suppl. 2, the FAO Fisheries Technical Paper No. 424 "*A fishery manager's guidebook*" (Cochrane, 2002) and the book "*Managing small-scale fisheries*" (Berkes *et al.*, 2001).