Recommendations

Of the

Queen Conch Expert Workshop

Miami, United States of America, 22–24 May 2012

Data Collection

Survey Data

> 1. Recommendation: A default 8% of the estimated mean or median fishable biomass can be used to set a precautionary sustainable yield if only estimates of biomass are available and the stock is not depleted. Adjustments can and should be made to this value justified by the need for greater precaution or based on science showing that the stock is more or less productive than this. The biomass estimate and the derived yield should be based on the surveyed area only, and not expanded or extrapolated to areas not included in the survey. The survey should attempt to assess the different components of the population as well as the overall biomass.

The CFMC/OSPESCA/WECAFC/CRFM Working Group on Queen Conch noted that this yield estimate would be useful for data-poor fisheries and as a precautionary harvest level while further research and monitoring is conducted. However, the Working Group also emphasized the need for stock assessment and yield estimates based on best available science rather than basing harvest levels on the experience of a few countries. Therefore, range states should be encouraged to continue to develop precautionary harvest levels based on scientific research and the on-going evaluation of their harvest strategy.

> 2. Recommendation: To improve co-ordination and effectiveness of various management controls within the region, such as closed fishing seasons, it is important that information on the distribution of maturity and size composition, as well as estimates of fishable biomass are obtained for the conch population and shared amongst relevant States on a regular basis.
> 3. Recommendation: In the absence of other information, it is appropriate to survey the known fishing area with depth stratification. As better information becomes available, the survey area could be expanded to include additional areas based on habitat which might cover unexploited parts of the population such as juveniles or deeper water spawning stock.
> 4. Recommendation: In designing new surveys, previous experience of the different countries should be used. Good sampling design should cover at least the fished area, taking account of diver safety. Experienced conch fishers and conch biologists should be used to conduct the surveys.
> 5. Recommendation: Where a reference point is required for the median or mean, density estimated from surveys, 100 adult conch / ha (or higher) should be used. When the median or mean density falls below this level, there is a significant risk that recruitment might be impaired, and therefore special management action might be required to rebuild density above this level.

6. Recommendation: If unexploited "deep water" biomass is a critical assumption of the harvest strategy, then its presence should be confirmed.

7. Recommendation: Where possible a habitat survey should be undertaken, which can be used to extend the conch survey to get improved estimates of juveniles.

8. Recommendation: Financial resources to carry out necessary management tasks should be raised from the fishing industry, possibly with government support. An export tax provides a useful way for targeted funding and also provides some bioeconomic protection for the stock, since it effectively lowers the price obtained for the product. Integrating fishery surveys with other types of survey may provide another opportunity to reduce costs on remote banks.

CPUE Data

9. Recommendation: Catch and effort data should be collected routinely in all fisheries by requiring that the fishing industry provide the necessary information. These data provide abundance information in the absence of surveys, to confirm survey trends or as guidance between infrequent surveys. Importantly, they may provide a lower cost replacement for surveys as an abundance index.

10. Recommendation: Where appropriate, the fishery should be required to record and report data which are relevant for improving the measurement of effort and for CPUE standardisation. These include, but would not be limited to, measures of fishing power as well as the circumstances of the fishing activity.

11. Recommendation: Larger vessels (greater than or equal to 15m length) should be required to report their position routinely. GPS should also be used to map smaller vessel activity and improve measures of effort, even if not used routinely.

Catch Data

12. Recommendation: It is important that estimates of all fishing mortality are obtained, including local landings and IUU as well as exports. While only one component of these might be measured routinely and accurately, the relative scale of all catches should be known.

13. Recommendation: If possible, landings should be periodically sampled to provide information on size composition and maturity. While these data may not be critical, they provide useful information for management as well as indices that complement other information from surveys, and catch and effort.

14. Recommendation: Conversion factors must be estimated so that catches can be compared through different levels of processing and among exports from different countries.

Stock Assessment Models

15. Recommendation: A conch population and fishery operational model should be developed to simulate data using current scientific research on conch. The model software would need to be publicly available for development by the conch scientific community, so that up-to-date biological research could be incorporated easily and it could be linked to stock assessment methods.

Harvest Strategy

16. Recommendation: Well-defined harvest control rules should be developed for each fishery. This may codify current practice or improve current practice, but in all cases they should make management decisions clearer.

17. Recommendation: An independent peer review process should be developed to ensure that the best scientific advice is being supplied to the fishery, advise on additional precaution if necessary, and provide feedback on the performance of the harvest strategy. Independent review processes should also be used to ensure information quality meets minimum standards, which should be regionally agreed.

Precautionary Controls

18. Recommendation: The following precautionary controls are recommended to be implemented by States where appropriate:
    · Prohibit compressed air based diving (SCUBA and "hookah") to protect the stocks in deeper water.
    · Implement a 2-3 month closed period around main spawning periods, preferably harmonised with neighbouring fisheries.
    · Clearly proscribe gears or methods for catching queen conch. New fishing gears or methods should require an evaluation of their impact on the ecosystem.
    · Establish minimum size limits on shells (length / for flared lip) that can be enforced and are harmonised with neighbouring fisheries.
    · Establish minimum meat weight that can be landed, and that can be enforced within the international trade.
    · License vessels, and apply a limited entry system that can prevent increases in fishing capacity until the potential yield has been estimated.

Fishing Capacity

19. Recommendation: If possible, measure fleet fishing capacity and ensure that it matches the productivity of fishing grounds to which it has access. If the capacity exceeds productivity, a capacity reduction program should be implemented.

Ecosystem Management

20. Recommendation: In designing and consulting on MPAs or no take zones, account should be taken of conch population distribution and structure.

21. Recommendation: Habitat maps of the coastal zone should be developed which identify, among other things, conch habitat particularly with respect to spawning and juveniles.

22. Recommendation: Improve information on stock identification and links between population and population components through larval surveys and/or genetic studies.

23. Recommendation: An ecosystem model with explicit treatment of conch, particularly as prey, would be useful to determine the wider implications of conch fisheries on the ecosystem. The wider implication of conch fisheries on predators would need to consider the different life history stages explicitly.

24. Recommendation: Given the limited information of the wider effects of conch fisheries, and the effects on other human activities on conch, an Ecological Risk Assessment would be valuable to identify the most important risks which could be subject to further research, mitigation by management and/or increased monitoring.

Decision-Making Process

25. Recommendation: Co-management approaches should, as far as possible, be implemented in all conch fisheries. Involving stakeholders in decisions on access to the resources and controls on harvest has been found to lead to greater compliance.

26. Recommendation: Establish or use current Working Groups to review scientific advice regarding queen conch fishery policies and practices, and regularly evaluate the management performance of States involved in queen conch fishery and trade.

27. Recommendation: National fishery management plans should be published for each fishery, documenting *inter alia* the harvest strategy, decision-making process and roles and responsibilities of all stakeholders.

Enforcement and compliance

28. Recommendation: The following recommendations represent a set of possible approaches to combat IUU and improve enforcement in the region. Given the on-going problems with enforcement, there are unlikely to be any simple solutions. However, there are a number of initiatives and procedures which could be enhanced and encouraged:

    a. Require that vessels which could be involved in IUU activity (i.e. larger vessels) carry a satellite Vessel Monitoring System (VMS). VMS should be harmonised across the region to allow range States to monitor activity of any vessel that may stray into national waters.

    b. Implement an auditable "chain of custody" procedure, so that catches can be traced back to their catch location, and not just their point of landing or point of export. Catch documentation procedures are already required by HACCP and the EU, and CITES permit and certificate system could track queen conch entering international trade.

    c. Research practical technology to enhance the traceability of queen conch, including labelling, marking, DNA stock identification, etc.

    d. Implement closed seasons such that they are similar among countries, so landing any conch within a larger region can be prohibited.

    e. Develop a regional vessel registration system or a positive vessel list.

    f. Develop a negative IUU vessel list for the region, so that vessels identified as involved in IUU activity can be publicly listed (see www.tuna-org.org/vesselneg.htm). This information can be used to discriminate against vessels which have an illegal record even if they are not captured and prosecuted at the time.

    g. Improve co-operation among countries and share enforcement information through bilateral agreements and improved data exchange protocols

CITES

29. Recommendation: Draft and submit a resolution for 16th meeting of the Conference of the Parties to CITES summarising in general terms the findings, conclusions and recommendations of this Expert Workshop and other relevant guidance concerning the management of and trade in Queen conch.