

South Pacific Regional Fisheries Management Organisation

1st Meeting of the Scientific Committee

La Jolla, United States of America, 21-27 October 2013

SC-01-INF-20

Proposal for the organization of a SPRFMO/SC Working Group on Monitoring (WGM)

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Current experience

Monitoring that considers conventional (surveys, fisheries, oceanography) and new sources of data (acoustic from fishing vessels) has already been applied for years by several teams with distinct objectives. Chile is using hired fishing vessels to study the spawning and recruitment of CJM (experiments RASTRILLO and other non-published monitoring activities); Peru performs one or two workshops yearly for monitoring the CJM fishery inside the EEZ using all available information, including acoustic data from the fishing fleet¹; Australia surveys the pelagic domain along oceanic transects² and the demersal fisheries using fishing vessels³. This evolution is not specific to the South Pacific: the 2013 ICES WGFAST report notes that: *varieties of platforms are now routinely used [in the world] for collecting data. (...) Acoustic data collected on fishing vessels can be used for studying a variety of ecological questions as well as fleet behaviour. The challenge will be to develop a kind of "self calibration" methodology.*

The activities developed by several laboratories in the South Pacific show the wide variety of informations and the potential richness of acoustic data from fishing vessels, as well as their effectiveness and cost. Their drawback is that they are not performed following a single methodology and the data are not shared; consequently, they may not be easily comparable. A common protocol is needed.

¹ <http://snp.org.pe/wp/?p=2423>

² <http://www.csiro.au/Organisation-Structure/Flagships/Wealth-from-Oceans-Flagship/Commercial-fishers-and-ocean-observation/Integrated-Marine-Observing-System.aspx>

³ <http://www.csiro.au/Outcomes/Oceans/Marine-Life/Sustaining-fisheries-index/orange-roughy-conservation.aspx>

Motivations

1. There is a lack of detailed survey and catch information in the largest part of the South Pacific Ocean. Adding data from fishing vessels to 'monitor' the resources, by recording acoustic information and making these data available to scientists will substantially increase the quantity (and quality) of information.
2. In the scope of an ecosystem approach to fisheries, there is need for simultaneous information of both the fishing operation and the local environment surrounding the fishing vessel. These sources of data are mostly acoustic data from fishing vessels which can easily provide coupled information when operating VMS; other potential sources should be explored.

Objectives

The general objective is to gather the information on existing monitoring experiments and define (1) objectives and common protocols for collection, processing and analysis of scientific data to be obtained from scientific and non-scientific sources and (2) methodologies to be developed. This should result in common workflows to analyze these data, and specification of data formats that should be compatible and comparable. This new data base of fishers' direct observations will be added to those from scientific surveys, fisheries activities (catch data) and oceanographic information that are indispensable to help understanding the relationships between the ecosystem and the populations. This general objective should be defined for the major populations currently studied by the SPRFMO, mostly in two domains:

- Pelagic populations: Chilean Jack Mackerel, Giant Squid, micronekton and non exploited stocks (e.g. flying fish).
- Deep demersal populations: Orange roughy.

This requires that the routine collection and organization of the data are designed and a list of indicators established in collaboration with the national Institutes, the fishing companies willing to cooperate and the SPRFMO Data Working group.

Organization

Monitoring of the Chilean Jack Mackerel will be developed in priority taking advantage of the existing experience and activities (SNP, Peru; INPESCA, Chile; CSIRO, Australia; Russia?) with the main objectives of defining the habitat characteristics and extension, the population structure and the pre-recruitment.

1. Once officially organized, the WGM will gather all the existing experience, data and activities on CJM monitoring already developed by the different laboratories of the region (particularly Chile, Peru, Russia, EU, New Zealand, Australia, etc.) in order to prepare the organization of a first SPRFMO workshop;
2. A first SPRFMO workshop will be held to study this existing experience and to define the main scientific objectives, establish common data collection protocol (particularly in acoustics) and common analysis methods to be used by the different laboratories of the Region;

3. As a main result of the workshop, recommendations will be addressed to the SC for the future activities and organization of the WGM.

Agenda

1. A Working Group on Monitoring will be established by the SPRFMO after recommendations of the Scientific Committee during its annual meeting in 2013.
2. The existing information on CJM will be gathered by the WGM during the year 2014 and the evaluation of costs and objectives will be evaluated and discussed during a workshop (to be held immediately before the SC meeting of 2014) which results and recommendation will be submitted to the SC at its annual meeting in 2014.
3. Protocols for data handling and analyses will be applied in 2015. Start of collection and processing of monitoring data. A first report will be presented at the SC meeting in 2015 and a final version of the common protocol established, enlarged towards other international fish populations.
4. Routine activities on monitoring data (2016 + onwards) will be performed following the protocol and organization agreed by the SC.