South Pacific Regional Fisheries Management Organisation

Science Working Group

Chile, 21-29 October 2010

SWG-09-JM-03

ICES WGFAST, San Diego, 25-30 April, 2010

Report on the "Chilean Jack Mackerel" activities during the FAST working group

Two major activities have been performed during the FAST in San Diego:

- A CJM/SPRFMO meeting (25 April)
- A presentation to the FAST community (29 April)

1. CJM/SPRFMO meeting.

Present: François Gerlotto (IRD, France), Mariano Gutierrez (TASA, Peru), Toby Jarvis (MYRIAX, Australia), Rudy Kloser (CSIRO, Australia), Patrice Brehmer (IRD, France), Lars Andersen (SIMRAD, Norway), Anne Lebourges (IRD, France), Stephane Gauthier (NIWA, New Zealand).

The major objectives of this meeting were to give a preliminary presentation of the CJM powerpoint communication to be given to the FAST, to discuss about the objectives of the group, the work to be completed, and to call for a volunteer for chairing the group.

The discussion allowed the establishment of a list of recommendations on which work has to be done in order to produce a report to the SPRFMO scientific working group and elaborate a schedule for next activities.

2. Presentation CJM to the FAST.

A pdf of the presentation is given as attached file. The abstract is given in annex of this document.

3. List of practical recommendations

- Make an inventory of common technologies available aboard fishing vessels
- Establish list of criteria for ship selection
- Agreement on an adapted protocol. Design of sampling methods, softwares and instruments
- Evaluate costs (personal, material, software, time)
- Establish links with ICES through EG on methodologies for fishing ship acoustics?
- Harmonize the CJM activities with the IMOS project submitted by Tim Ryan (CSIRO)

4. Activities linked with ICES/FAST.

The next FAST meeting will be held in Iceland in spring 2011. During this meeting a small SPRFMO/CJM meeting will be scheduled as in San Diego.

5. Next chairman for the acoustic group on CJM

Rudy Kloser kindly accepted to take the responsibility of our group, this depending on the agreement of his hierarchy. Thank you Rudy, this is such good news for all of us.

Annex. Abstract

The importance of acoustic data from fishing vessels for the analysis and management of the Chilean Jack Mackerel fishery in the South Pacific Ocean

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Abstract

Large fisheries such as the Chilean Jack Mackerel (CJM) *Trachurus murphyi* fishery in the South East Pacific Ocean are among the most difficult to manage, due to their dimensions: the CJM covers a wide area in the Pacific Ocean, from 35ºS to 45ºS and 70ºW to 178ºE (New Zealand) in the open ocean, as well as inside the Peruvian and Chilean EEZs (4ºS – 45ºS). A large part of the stock is present outside the EEZs and several countries (Chile, Peru, Russia, China, New Zealand, EU, etc.) are exploiting it.

Since the 70s (EUREKA surveys, Peru) and 80s (RASTRILLO surveys, Chile), vessels from the fishing fleet have been used for large synoptic acoustic surveys, and on specific experiment using acoustic data collected by the fishers during their routine operations on the fishing grounds. The use of acoustic data from fishing vessel presents several major advantages (see ICES CRR NO. 287 August 2007: Collection of acoustic data from fishing vessels, W. Karp Editor). They present also some drawbacks, mostly due to the difficulty in calibrating the acoustic devices and the huge amount of data to process and analyze.

We describe the past experiences in Peru and Chile, and we suggest the development of a common methodology to be applied on the whole fleet by using a set of instrumented fishing vessels, through cooperation and participation of the different countries exploiting the CJM. The South Pacific Region Fishery Management Organization (SPRFMO) has established an informal study group to consider the use of acoustic data from fishing vessels.

Keywords: fishery dependent data, fisheries acoustics, echo sounder, survey design, fish behaviour, fisheries management, fishing fleet.