

Third International Meeting

REPORT OF THE SCIENTIFIC WORKING GROUP

Reñaca, Chile, 25 - 27 Apr 2007

Good afternoon

The Science Working Group met, here in Reñaca, CHILE, last Wednesday, Thursday and Friday.

The meeting made considerable progress in describing the fisheries of the proposed area and their status, identifying key requirements for the future assessment of the main fishery, developing specific proposals to address those requirements and identifying some of the key science data requirements.

In this presentation I will summarise the science working group, which was adopted by consensus.

Overview of the Science Working Group Meeting

- Intersessional work programme.
- Species profiles and habitat profiles.
- Key scientific issues identified.
- Jack mackerel fishery overview.
- Jack mackerel research programme.
- Science processes and structures.
- Key decisions required.

This presentation will cover:

- The Intersessional work programme.
- Work on the Species profiles and habitat profiles.
- The Key scientific issues identified.
- The Jack mackerel fishery overview.
- The Jack mackerel research programme.
- Science processes and structures.
- And Key decisions required.

Intersessional Work Programme

- Considerable progress made with compilation of target species, associated and dependent species, and habitat profiles.
- A comprehensive review of Chilean research and assessment work on jack mackerel was compiled for review by the SWG.
- Proposals for future multi-lateral, multi-disciplinary research on jack mackerel were developed for review by the SWG.

With respect to our intersessional work programme:

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Species and Habitat Profiles Completed

- Chub mackerel (*Scomber japonicus*)
- Jumbo flying squid (*Dosidicus gigas*)
- Neon flying squid (*Ommastrephes bartrami*)
- Purple-back flying squid (*Sthenoteuthis oualaniensis*)
- Rock lobster (*Jasus caveorum*)
- Rock lobster (*Projasus parkeri*)
- Orange roughy (*Hoplostethus atlanticus*)
- Chatham albatross (*Thalassarche eremita*)
- Seamount habitat

Overviews of these profiles were adopted and included in the SWG report. Outstanding profiles and those requiring amendment were added to the future work programme.

The meeting reviewed the current templates for preparation of species profiles, associated and dependent species profiles, and habitat profiles and made various suggestions for improvements. The SWG meeting reviewed the current profiles to identify major omissions or errors.

The overview sections of the species profiles were agreed as summaries of current SWG views regarding characteristics and status of the species concerned during consideration of each profile. The overviews are appended to the SWG report as Annexes IV –XIII.

The SWG noted a number of previously identified profiles that still require development, and a few additional profile groups for consideration:

Ag It 5 (Pages 2-6) and Annexes IV –XIII.

[Detail if needed - Continue developing species profiles for oreos, alfonsino, pelagic armourhead, bluenose, toothfish, cardinalfish and wreckfish

Consider inclusion of appropriate bycatch and associated and dependent sharks in the list of species profiles.

Consider whether profiles are required for any other associated or dependent species.]

Status and Future Revision of Profiles

- Once finalised, profiles should be compiled into a SWG Report, to be published as a benchmark on characteristics and status of the various species and habitats.
- Overview statements should be updated annually with new information on description of fisheries, species biology, status of the stocks and other progress.
- Major reviews to the compilation of detailed profiles should be conducted periodically (~5 years) to update the benchmark report.

The profiles have become a valuable benchmark document and should ultimately be formally published. The intention in future is that the overviews would be updated annually to reflect new information and that the complete profiles would undergo major review periodically.

Ag It 5 (Page 3)

[Additional detail if needed: The species profile template will also be updated to show general changes relevant to all species, including:

Where multiple ageing studies have provided conflicting results, information should be provided on ageing and validation methods to allow the relative reliability of these studies to be judged. References to productivity related to growth rates, etc. should be explicitly referred to as biological productivity. Where stock structure is uncertain, and pending the outcome of future studies to develop and adopt working stock structure hypotheses, references to 'stocks' or 'state of stocks' should refer to 'assumed' stocks, or to specific regions where assessments were conducted.]

Main Scientific Issues Identified

The most important scientific issue identified at the meeting was the requirement for stock structure hypotheses, particularly for jack mackerel:

- Interim stock structure hypotheses will need to be developed as a basis for future assessments of the species concerned.
- Additional research is needed to provide new data and information required to fill gaps in current knowledge regarding stock structure.

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This focussed the rest of the science meeting on how to resolve questions relating to stock structure.

Ag It 5 (Page 6)

Jack Mackerel Fishery Overview

Report from Russia/EC/Ukraine:

- Scientific objectives of the proposed SPRFMO, work required, results of previous studies and suggested priorities for future scientific work.
- Again emphasized the importance of conducting additional research to provide information needed to develop stock structure hypotheses for jack mackerel and chub mackerel.

A presentation was made by the Russian Federation on the scientific objectives of the proposed SPRFMO, work required, the results of previous studies, and suggested priorities for future scientific work.

The presentation again emphasized the importance of conducting additional scientific work across the entire proposed high-seas convention area to provide information needed to develop robust stock structure hypotheses for jack mackerel and chub mackerel, to use as a basis for future assessments.

Ag It 6.1 (Page 6)

Jack Mackerel Fishery Overview

Report from Chile:

- Overview of the research conducted and results of a recent stock assessment for the assumed Chilean jack mackerel stock in the area from the northern Chilean border to 45° S within the EEZ, and out to 105°W between 35° S and 45°S.
- Spawning biomass in this area was estimated to be 5,500,000t (2,000,000t – 8,900,000t) in 2005. The stock was considered to be fully exploited, with current biomass near the target reference point of $B/B_0 = 40\%$, and the corresponding $F/F_{B40\%} = 1.25$

Chile presented a comprehensive overview of the research conducted and the results of a recent statistical catch-at-age stock assessment conducted by them for the assumed Chilean jack mackerel stock in the area from the northern Chilean border to 45° S within the EEZ, and out to 105°W between 35° S and 45°S.

In terms of this assessment the spawning biomass in this area was estimated to be 5,500,000t, with a confidence interval 2,000,000t – 8,900,000t in 2005. The stock was considered to be fully exploited, with current biomass near the target reference point of $B/B_0 = 40\%$, and the corresponding $F/F_{B40\%} = 1.25$.

Ag It 6.2 (Page 7)

Jack Mackerel Stock Structure Research Program

A *Jack Mackerel Stock Structure Task Team* was established under Dr Serra (Chile) and Dr Glubokov (Russian Federation) to prepare a comprehensive proposal for a multi-lateral, multi-disciplinary research programme proposal. The purpose of the team is:

- To consider and expand the initial project proposal presented in SPRFMO-III-SWG-21.
- To specifically consider details under various components of the proposal regarding proposed research cruises, survey and sampling design, sample and data collection protocols, sample and data analysis methods and standards and inter-laboratory calibration.
- To present a detailed project proposal to the proposed jack mackerel workshop for review and finalisation.

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- To present a detailed project proposal to the proposed jack mackerel workshop for review and finalisation.

It was noted that membership of this task team was open to any SPRFMO science participant who wished to contribute to the process. Initial interest in participating in development of this proposal was expressed by Chile, the Russian Federation, New Zealand, China, Korea and the fishing entity of Chinese Taipei.

Ag It 6.4 (Pages 7-8)

Jack Mackerel Stock Structure and Assessment Workshop

The SWG also proposed a *Jack Mackerel Stock Structure and Assessment Workshop* to develop working hypotheses on jack mackerel stock structure and identify assessment requirements and inputs under such hypotheses. Objectives would be:

- To review available information for south Pacific jack mackerel, and to develop working hypothesis / hypotheses on jack mackerel stock structure in the region.
- To review data and information for jack mackerel stock assessments, and to agree on inputs and assumptions to use in assessments of jack mackerel stocks discriminated under the working hypotheses.
- To review and finalise the project proposal prepared by the *Jack Mackerel Stock Structure Task Team*.

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- To review data and information for jack mackerel stock assessments, and to agree on inputs and assumptions to use in assessments of jack mackerel stocks discriminated under the working hypotheses.
- To review and finalise the project proposal prepared by the *Jack Mackerel Stock Structure Task Team*.

Jack Mackerel Stock Structure and Assessment Workshop

Workshop Proposal:

- FAO assistance to be requested, and independent experts to be invited.
- Chile offered to host the workshop.
- If possible, to be conducted some time between Oct 2007 and Feb 2008.

The terms of reference and tasks to be conducted by the task team and at the workshop need to be refined and agreed inter-sessionally. This should be done fairly rapidly, within a month or two.

With regard to organisation, it was noted that the proposed workshop would benefit from outside participation of independent experts on matters such as stock structure discrimination and assessment of species such as jack mackerel. The SWG suggested that the workshop be hosted by one of the parties to the SPRFMO negotiations, in cooperation with the FAO. An offer by Chile to host the workshop, and to approach the FAO in this regard, was welcomed by the SWG.

Ag It 6.4 (Page 8)

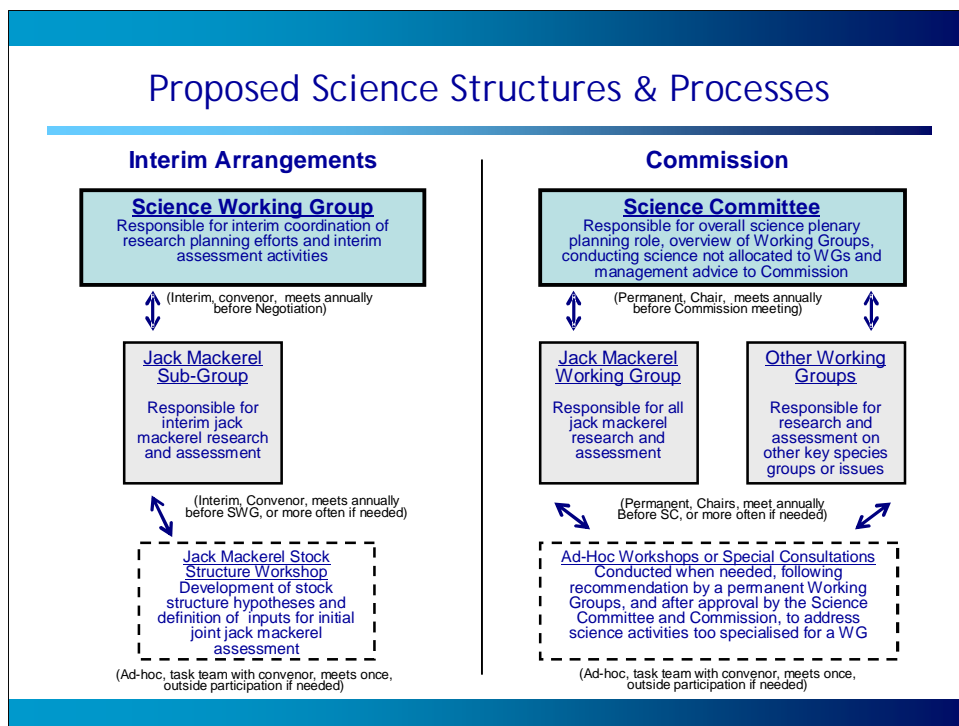
Establishment of Jack Mackerel Sub Group

- Jack mackerel research programmes and workshop proposals emphasised the need for a jack mackerel sub group
- Details of terms of reference and convenorship of a jack mackerel sub group were not resolved at the meeting but would be discussed further intersessionally and at the proposed workshop

There was support for the establishment of a separate jack mackerel subgroup but the details of its convenor, degree of autonomy and work program are yet to be decided. These matters could be usefully be progressed at the proposed jack mackerel workshop.

Ag It 6.5 (Page 9)

[Additional detail: The meeting noted that, while a jack mackerel workshop had been proposed, a convenor for this workshop still has to be identified. Similarly, while the need for a jack mackerel sub-group was agreed to, a convenor was required for this group also. It was specifically noted that, given the increasing workload that will result from a specific jack mackerel sub-group, the convenor of that group could not be the Chair of the SWG.]



To explain the relationship between the SWG, proposed sub-group, and the proposed workshop a schematic of the relationships was developed.

The jack mackerel sub group would report to the SWG and the workshop would be an ad hoc substantive event for that group

We did consider how these structures may evolve in future but noted that with regard to proposed future science structures under a Commission, these ideas would need to be considered at the Commission level.

Ag It 6.5 and 7.2 (Pages 9 and 10)

[Additional detail if needed: Only at that time will it be necessary to give attention to aspects of terms of reference, composition, chairmanship and rules of procedure for any future Science Committee and permanent science Working Groups.]

Future Scientific Work Programme

A number of specific future science requirements were identified:

- Continue developing species profiles for oreos, alfonsino, pelagic armourhead, bluenose, toothfish, cardinalfish and wreckfish.
- Consider inclusion of appropriate by-catch and associated and dependent sharks in the list of species profiles.
- Consider profiles for other associated or dependent species.

Future research requirements for jack mackerel were addressed in recommendations for the proposed research programme and workshop.

In addition to the work on profiles and jack mackerel, requirements for robust peer-review of the science work were specifically being addressed for the proposed jack mackerel workshop by proposing the involvement of the FAO and independent scientific experts on stock structure and assessment. The SWG noted the likely future value of retaining some form of independent expert involvement in future SPRFMO science processes, particularly assessments.

The SWG will need to wait for a mandate from the Negotiations before being able to respond regarding science processes required to support interim measures. However, the SWG noted that the proposed science structures illustrated in Annex 15 (the previous slide) are designed to be able to deal with any likely future SPRFMO science requirement.

Ag It 7 (Pages 10-11)

Historical Catch and Effort Data

- Preliminary template for submission of historic catch and effort data was prepared at a joint meeting of the D&IWG and the SWG.
- A deadline of 31 July was agreed for notification of proposed revisions to this template.
- Should no changes be received, the template should be considered to be adopted after 31 July in its current form.
- As noted in the report of the DIWG, historic data submission should be required in terms of the final template by 30 September 2007.

The SWG and the D&IWG held a joint meeting, at which a draft template for submission of historic catch and effort data was prepared. Revisions to the draft were made as agreed at the joint meeting, and the revised data submission template is attached to the SWG report (Annex XIV). A deadline of 31 July was agreed for notification of proposed revisions to this template.

The SWG proposed that, should no changes be received, the template should be considered to be adopted after 31 July in its current form. Otherwise, changes would be agreed inter-sessionally and the revised template adopted. As noted in the report of the DIWG, historic data submission should be required in terms of the final template by 30 September 2007.

Such data would be an important input to the proposed jack mackerel workshop.

Ag It 9.1 (Page 12)

Interim Implementation of Scientific Observer Programs

The SWG recognised an urgent need to implement scientific observer programs to collect the following information:

- Effort data relevant to the fishing method (as per *SPRFMO Draft Standards for Collection, Reporting, Verification and Exchange of Data Annexes 1, 2 and 3*).
- Catch composition data for all species, including retained and discarded by-catches.
- Size-frequency information and otoliths for principal catch species, particularly for jack mackerel.
- Incidental catches and mortalities of associated species.

The SWG, noting discussions about the serious lack of scientific information for the high-seas in the proposed SPRFMO convention area, highlighted the value of scientific observer programmes in collecting such information.

It was noted that the D&IWG had already identified an inter-sessional activity to develop draft standards for scientific observer programs in the proposed SPRFMO convention area, but that these would take at least a year to develop. Pending development of these standards, information which should be collected by interim scientific observer programmes should include effort data, catch composition data for all species, including retained and discarded by-catches, on biological data and on incidental catches and mortalities of associated species.

Ag It 7.2 (Page 10)

Other Matters

- The SWG recognised the value of National Reports for submission of annual overviews by participants. Requirements and standards for these will need to be considered by any future Commission.
- The current Chair of the SWG noted his intention to step down. Mr Penney (New Zealand) was nominated as the next Chair of the SWG.

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Ag It 9.2 and 9.3 (Page 12)

Key Decisions and Actions Required

- Data standards (future data submission; historic data template) and data submission.
- Development of jack mackerel research programme proposal.
- Contribution of data and active participation in the proposed *Jack Mackerel Stock Structure & Assessment* workshop.
- Contribution to the intersessional work programme.

In closing I would like to draw participants attention to the following if further progress on science is to be made:

- The need for data standards to be approved and data submission of future and historical data to occur;
- Participants will need to proactively contribute to the further development of the jack mackerel research programme proposal; and
- Participants will need to contribute data and actively participate in the proposed Jack Mackerel Stock Structure & Assessment workshop.
- Participants will need to contribute substantively and proactively to the intersessional work programme.

QUESTIONS ?