

8th MEETING OF THE SCIENTIFIC COMMITTEE

New Zealand, 3 to 8 October 2020

SC8-Doc06_rev1

2020 Intersessional SC web meetings

Secretariat

Background

The SPRFMO SC continued the practice of holding web meetings in the months leading up to the main Scientific Committee meeting held in October. This year, due to the Member's diverse geography and the COVID 19 pandemic, multiple web meetings were held during the leadup to SC8

This document contains reports from the following meetings:

1. REPORT OF THE FIRST SC8 (COORDINATION) WEB MEETING 20/21 May 2020
2. REPORT OF THE SECOND 2020 SC WEB MEETING 14/16 July 2020
3. REPORT OF THE THIRD 2020 SC WEB MEETING 19/21 August 2020
4. REPORT OF THE FOURTH 2020 SC WEB MEETING 4/5 September 2020
5. REPORT OF THE FIFTH 2020 SC WEB MEETING 15/17 September 2020
6. REPORT OF THE SIXTH 2020 SC WEB MEETING 22/23 September 2020
7. REPORT OF THE SEVENTH 2020 SC WEB MEETING 28/29 September 2020

REPORT OF THE FIRST SC8 (COORDINATION) WEB MEETING

20/21 May 2020

1. Introductions

Welcoming participants

1. The Chair welcomed all participants and asked that one person per delegation introduce the delegation members, emphasizing when there are new additions to the SC. The meeting was attended by 47 delegates. A list of participants is available as Annex 1

Confirmation of discussion topics

2. Agenda (Annex 2) and topics were agreed as below.

2. SC Meeting preparation

Likelihood of a virtual meeting

3. There was no official information from the host (NZ) regarding either confirmation or cancellation of the SC8 in Wellington. Martyn Cryer informed the meeting that New Zealand borders are still closed, and a 14-day quarantine period is compulsory for anyone entering the country. However, there was general agreement that the likelihood of the meeting being held in Wellington is low and that the SC should plan accordingly.

Discussion on how to proceed prior to SC8 (October)

4. The real likelihood of SC8 being virtual led to the idea of running a series of work meetings leading up to the SC8 in October. There are clear difficulties with the disparate time-zones and different priorities among members. Hence, the notion of having two or three sessions identified and group work tasks according to members' priorities and favourable times of day. Priority topics were grouped by Deepwater, Jack mackerel, and Squid. The SC proposed to meet approximately once per month until October and prioritise items on the SC workplan. A table shown in Annex 3 covers proposed time slots for the meetings and are designated time slots "A", "B", and "C" for easy reference.
5. The question on whether the meeting would work on a full or a reduced agenda was raised. In general, the idea of a prioritised agenda was popular amongst the participants. The Chair offered one-on-one discussions with each delegation about the subjects they think should be prioritised in the SC8 agenda to ensure that their priorities are taken into consideration. Some delegations emphasised the need to consider that everybody is working from home now and that delegations can neither work at the same pace nor with the same efficiency as they would if they were at their workplaces, so it may not be possible to achieve as much as would otherwise be possible. The group also noted that limited access to data could be a disadvantage of remote work. Availability of data, especially for Jack mackerel, in preparation for SC8 was noted as a priority for the work group sessions.



6. In terms of the SC8 meeting in October, it was suggested that there be a 5 or 6-day meeting in October, with 2 online sessions of about 2 hours each, supported by software that can assist in breaking into sub-groups. The idea is to have both plenary sessions as well as break-out sessions using the various time slots identified above. New Zealand (host) has been asked to assist in organising the meeting technically and/or financially as needed. New Zealand mentioned that there is potential for budget availability, which was earmarked for the venue and that may be able to be used to support a virtual meeting.
7. There was a request to programme specifically for 'coffee breaks' during the SC, to have the opportunity to discuss topics within and across delegations. Also, there was concern on how to organise agreement at the SC itself (e.g. related to rules of procedure on report adoption). Breakout sessions (available in some software packages) could be used to facilitate these concerns noting flexibility for record keeping and volunteers to lead such sessions will be important.
8. Alexander Glubokov (Russian Federation) shared his experience chairing the Central Bering Sea (CBS) pollock meetings (an international convention) and explained that they have a combined strategy of email discussions and online meetings. He also mentioned that the number of participants at the CBS meetings was much smaller than the SPRFMO SC and there is only one topic that is covered. Lee Georgeson (Australia) shared the SIOFA experience with virtual meetings, where directions for the SC from Commission and CMMs make the prioritisation of agenda items difficult. They plan to continue 2-3-hour meetings. Martin Pastoors (European Union) shared his ICES experience. There are few contentious issues in ICES groups, as they are mainly working on data and assessments and the framework for science providing CMMs and catch advice is quite different from the SPRFMO SC.

3. Software for online meetings

9. The need to identify suitable software was raised noting that delegates will need time to get familiar with features. The group shared their respective experiences with different software and platforms noting that security issues, as well as compatibility, should be addressed. Candidates for consideration include Microsoft Teams and GoToMeeting but other software will continue to be explored. This web meeting was successful in that the Chair could easily identify people asking for the floor by unmuting their microphones. A similar feature (e.g. "raising hand" or turning on video) would be helpful to avoid having to break in by voice or chat.
10. Having a live, online blogging system was identified to help with note-taking. It was agreed that Google docs could serve this role unless it was disadvantageous for some members.

4. Significant and achievable work tasks

11. This discussion was taken up to streamline SC work tasks and the notion of "workstreams" was discussed. This was to be online meetings with focused areas of work. The goal of these are to:
 - a. Narrow the tasks to the highest priority items achievable within the COVID-19 travel constraints
 - b. Progress issues and work far enough so that either a paper can be prepared for the SC8 meeting or text that can adequately report on the issues and progress for inclusion of the SC8 report itself
 - c. Accommodate the diverse time zones so that members will have the opportunity to have their main issues discussed at a reasonable hour of the day.



12. It is envisaged that the workstream format is meant to be informal working sessions without any restrictions on attendance; that is, they are essentially break-out groups similar to what we do during SC meetings. As such, the SC intends to provide summaries of all activities during each workgroup in a way that should limit having to revisit all the details in a Plenary session. The importance of any disagreements in the workstream meetings being documented and presented to the SC Plenary was highlighted. It was suggested that each workstream should clearly document the areas of agreement and disagreement so that the plenary session can work most efficiently when it meets. The following subsections describe discussion points on each topic.

4.1. Jack mackerel

13. This work session is to be coordinated by the Chair and Martin Pastoors (Chair of Jack mackerel working group), and to meet at a time suitable for South American participants (e.g. time slot “C”).
14. Juan Carlos Quiroz (Chile) made a brief presentation on changes in weight-at-age, length-at-age and age-frequency distributions between the old and new ageing protocols. It was noted that updated data from the 1990s onwards is available but incorporating this into the assessment model may be a lot of work. Converting the 70s and 80s data to the new growth data may be problematic. It was noted that a benchmark meeting is required for this work to be accepted for Commission scientific advice.
15. Data available from Peru for 2020 will probably be reduced, with deficiencies in length-frequency data. However, the 2019 data should be as good as before. China has 2019 data available, both length-frequency and observer data. China, EU and Korea are not fishing in the SPRFMO area in 2020 due to the COVID-19 situation, but Korean 2019 data will be available.

4.2. Deepwater

16. This work session is to be coordinated by the Chair and scientists from NZ and Australia timing favourable to NZ-AUS-Cook Islands time slot (e.g. time slot “A”). The Deepwater WG will continue to progress the BFIAS and Stock Assessments as the top priority this year, although there is a need to prioritise and some items from the work programme could be deferred. Martin Cryer (New Zealand) and Lee Georgeson (Australia) will work on an agenda. It is expected that by the 4th of August a BFIAS will be submitted and it would be appreciated if prior to that date comments could be provided on a draft version of the document.

4.3. Squid

17. This work session is to be coordinated by the Chair and Gang Li (China, Chair of squid WG). This meeting will highlight key aspects from the SC workplan and focus time-zones compatible with Asian and South America (e.g. time slot “A”). It was noted that the status of the proposed squid workshop (with support offered from CALAMASUR) is still unconfirmed. There is no certainty that a virtual equivalent of this meeting is an option. Korea and Peru have started some genetic work, but analysis is likely to be delayed due to the pandemic. Gang Li asked for help from Jorge Csirke (Peru) and Ignacio Paya (Chile) to develop the agenda of the squid workshop and they accepted.

4.4. Habitat Monitoring

18. The chairs of this group, Mariano Gutierrez (Peru) and Aquiles Sepulveda (Chile), announced that a HMWG Jack mackerel workshop has been planned with workshops in Peru early July and in Chile during September. There will be working papers from these for consideration at SC8.



5. Other matters

19. The SC Chair asked delegations to contact him so that he and the Secretariat can discuss a new prioritised agenda and revision of the work plan. The Chair, with respective workgroup leads, and the Secretariat will help draft and coordinate priorities and meeting agendas.

6. Closing of the meeting

20. The meeting was closed at 03:14 AM NZT.



WEB MEETING 1 - ANNEX 1. List of Participants

CHAIRPERSON

Jim Ianelli (SC Chair)

Niels Hintzen (SC Vice Chair)

AUSTRALIA

Lee Georgeson

CHILE

Karin Mundnich

Ignacio Payá

Juan-Carlos Quiroz

Víctor Espejo

Aquiles Sepúlveda

Eleuterio Yañez

Marcos Troncoso

CHINA

Li Gang

Luoliang Xu

ECUADOR

Guillermo Moran

Jorge Costain

Jimmy Villavicencio

Manuel Peralta

EUROPEAN UNION

Martin Pastoors

FAROE ISLANDS

Jan Arge

KOREA

Seok-Gwan Choi

Eunjung Kim

NEW ZEALAND

Martin Cryer

Tiffany Bock

Shane Geange

PERU

Jorge Csirke

Alfredo Garcia

Miguel Ñiquen

Omar Ríos

Sahda Fayad

Yesenia Chumbe

Andres Garrido

Miguel Lleellish

Marilu Bouchon

Luis Mariategui

Mariano Gutierrez

José Muñoz

RUSSIAN FEDERATION

Alexander Glubokov

UNITED STATES OF AMERICA

John Syslo

CALAMASUR

Geoff Tingley

SPRFMO SECRETARIAT

Craig Loveridge

Marianne Vignaux

Susana Delgado



WEB MEETING 1 - ANNEX 2. Meeting Agenda

1. Introductions
 - 1.1. Welcoming participants
 - 1.2. Confirmation of discussion topics
2. SC Meeting preparation
 - 2.1. Likelihood of a virtual meeting
 - 2.2. Discussion on how to proceed prior to SC08 (October)
3. Software for online meetings
4. Significant and achievable work tasks
 - 4.1. Jack mackerel
 - 4.2. Deepwater
 - 4.3. Squid
 - 4.4. Habitat Monitoring
5. Other matters
6. Closing of the meeting



WEB MEETING 1 - ANNEX 3. Proposed time slots for SC work sessions

Proposal for 3 timeslots (actual weekdays could be shifted forward or backward).

Timeslot	Seattle	Wellington	Canberra	Seoul	Shanghai / Taipei	Moscow	Tórshavn	Amsterdam	Santiago / North Carolina	Guayaquil / Lima	Honolulu / Rarotonga	Suggested workstream
A	Tue 5 pm	Wed midday	Wed 10 am	Wed 9 am	Wed 8 am	Wed 3 am	Wed 1 am	Wed 2 am	Tue 8 pm	Tue 7 pm	Tue 2 pm	Deepwater (and Squid)
B	Wed midnight	Wed 7 pm	Wed 5 pm	Wed 4 pm	Wed 3 pm	Wed 10 am	Wed 8 am	Wed 9 am	Wed 3 am	Wed 2 am	Tue 9 pm	As needed
C	Wed 7 am	Thu 2 am	Thu midnight	Wed 11 pm	Wed 10 pm	Wed 5 pm	Wed 3 pm	Wed 4 pm	Wed 10 am	Wed 9 am	Wed 4 am	Jack mackerel (and Habitat if needed)

REPORT OF THE SECOND 2020 SC WEB MEETING

14/16 July 2020

1. Introductions

1. The SC Chairperson (Jim Ianelli) welcomed all participants and asked that due to the shortness of the time available meeting introductions be waived¹. The meeting was composed of two sessions, each of about one hour duration, and in total was attended by 38 delegates. A list of participants is provided in Annex 1.
2. Agenda (Annex 2) and topics were agreed as below and followed draft topic priority (Annex 3) as defined from the SC work plan from COMM8. The meeting was held in two sessions; the first focussed on the Jack mackerel issues and the second dealt mainly with deepwater fishery issues. Squid was discussed at both sessions and summaries of all topics were provided. The goal of these intersessional meetings is to assist in preparing for the upcoming SC Meeting which will be hampered by having to be done online. It is the intention to cover as much of the workplan as possible, but prioritize items that are most achievable and critical to the requests of the Commission.

2. Jack mackerel

3. The Chairperson presented a document of draft elements of the 2020 Scientific Committee Multi-Annual Plan for consideration by the Scientific Committee (Annex 3). In this document it was proposed that some workplan topics be deferred to 2021. Topics that are greyed out in the discussion document need to wait until the benchmark workshop, which is likely to be a year away. As agreed during the first intersessional web meeting held in May, these meetings are open to all SC Participants and due to scheduling issues, will proceed with or without working group Chairpersons being available. For the Jack mackerel discussion the Chairperson of the working group, Dr. Martin Pastoors, was unavailable hence the SC Chairperson acted in this role.
4. Given the inability to conduct a needed benchmark review for the JM stock assessment and progress implementation of a new management procedure under the ongoing MSE project, the Chairperson proposed that for this year the JM stock assessment use the “adjusted Annex K” management strategy for the provision of TAC advice to the Commission. He noted that this management strategy was designed to be relatively robust. Members present agreed with this proposal. Peru sought clarification as to whether the 15% limit in the “adjusted Annex K” management strategy would be adhered to, and the Chairperson clarified that it would.
5. Discussion on what papers would be prepared and presented to the Scientific Committee ensued. Chile indicated that they would update the age composition data, and provide a CPUE index. Peru indicated that they would present updates of the normal papers. China indicated that they would provide updated 2019 data for the assessment. Korea noted that they had submitted 2019 data. Ecuador indicated that they were working on their information and it will appear in the annual report.

¹ The meeting was recorded for the purpose of preparing this report; recordings will be deleted 7 days after the meeting.



6. The Chairperson asked the Scientific Committee if funding for an external assistant to help with the JM stock assessment could be supported by the group. He noted that experience and continuity from past years would be especially valuable this year. He noted that Ms. Lee Qi indicated she would be available to help again this year in this capacity and the group approved.
7. Mariano Gutierrez, HMWG Co-chairperson, reported that there would be a coordinating meeting of the HMWG on 30 July (Peru/Chile time) to work on Habitat Monitoring issues, which would present a report to SC-8. He encouraged wide participation in the workshop from within the SC.
8. During the second session of this meeting these issues were reviewed and items accepted by the participants.

3. Deepwater

9. Item 2.1 of the document “Draft elements for SC08 consideration” under discussion indicated that of the relevant Tasman Sea Orange Roughy stocks only the NW Challenger stock would be presented this year, but Martin Cryer (New Zealand) clarified that an update for the Lord Howe Rise catch history would also be achievable for 2020.
10. Lee Georgeson (Australia) reported that there would be no updates this year under Item 2.4 “Review the risk assessment of teleost and elasmobranch species considering new available information and methods” as this work was completed and updates would occur in the future (2021+).
11. Martin Cryer (New Zealand) identified that work was already underway on item 2.5 “Finalise list of VME taxa and design approach for benthic bycatch review”, and they would be seeking early feedback on this work. He also noted that work on the second bullet point under item 2.5 “Annually collect and review VME catch and other benthic sampling data” was underway, with 2019 catch data recently submitted.
12. Steve Brouwer (Cook Islands) asked whether the Cook Islands VME material should be incorporated into this work, but it was clarified that the existing work is focussed on trawl fishing, so work on potting fishing would be best kept separate at this stage.
13. Work is also under way under Item 2.6 “Spatial Management” with the joint (New Zealand/Australia) development of a Bottom Fishing Impact Assessment which will be available as a Word document by August 4. Under advisement from the group, the Secretariat will distribute to members to provide direct feedback so that at the next intersessional meeting the review can progress and allow completion prior to September 3, when documents are due for the SC8 plenary sessions.
14. It was noted that the items under 2.11 “CMM 03 request regarding Marine mammals, seabirds, reptiles and other species of concern” would be addressed as part of the BFIA rather than as a separate document.
15. The Chairperson stressed that the Bottom Fishing Impact Assessment review was a very important outcome from the SC this year, and asked for volunteers to form a group to discuss. It was a recommended action item to address prior to the next intersessional web meeting.

4. Squid

16. Under the guidance of the squid working group Chairperson, Dr. Gang Li, it was proposed that the squid workshop that had been planned for this year be deferred to next year and that this year. The working group Chairperson noted that this year the focus will be on data collection and template development to support stock assessment and fishery monitoring. He noted that via email prior to the SC he would circulate drafts for comments.



17. Gang Li also suggested that discussion continue on the standardisation of genetic sequencing technology in the work on the genetic diversity of Jumbo flying squid, so that all members apply the same technology to obtain and analyse SNPs, using the same enzymes, and can then share the sequencing data. However, it was suggested that work on standardisation of genetic sequencing technology (for the purpose of squid connectivity) continue to be discussed among members. Peru noted that their genetic work had been suspended due to closure of laboratories due to Covid-19.
18. Geoff Tingley (CALAMASUR) noted that the planned Squid Workshop was going to be live and just before the SC, and because the face-to-face contact was an important feature of this workshop and would now be impossible, it has regrettably been necessary to cancel the workshop, but CALAMASUR intends to continue to positively engage with the work of SPRFMO in this area.
19. Gang Li commented on the squid management measures that the Chinese government had recently announced, and China clarified that these were closures in the northern part of SPRFMO near the Galapagos Islands, thought to be an area with many juvenile squid. Gang reported that on 1st June 2020, the Ministry of Agriculture and Rural Affairs had issued a notice on strengthening squid resources conservation in the high seas and promoting the sustainable development of squid jigging fisheries and announced that they would implement conservation and management measures for the squid resources in the high seas. One of them is the fishing closure measure, that is from September 1st to November 30th every year, Chinese squid jigging fishing vessels will stop fishing at 5°N-5°S and 95°W-110°W. Fishing vessels that break this closure measure will be severely punished. Furthermore, the notice requires improved fishery monitoring and management, including implementing electronic fishing logbooks, electronic monitoring, and observer programme step by step. Strengthening scientific research and cooperation with related RFMOs was also in the notice. The meeting expressed gratitude for this summary and requests that these management measures and the scientific backing could be included in their Annual Report.

5. Exploratory fisheries

20. Marino Wichman (Cook Islands) indicated that as required under CMM 14b-2020 the Cook Islands will update the Fisheries Operations Plan for the exploratory potting fishery, and also present papers on the experimental fishing work, biomass estimation and VME. New Zealand and Australia offered to engage early on this work if desirable. Martin Cryer (New Zealand) indicated that New Zealand would update the Scientific Committee on the exploratory toothfish fishery under CMM 14a-2020. Karin Mundnich (Chile) indicated that the exploratory fishery under CMM 14d-2020 was unlikely to take place this year.

6. Other matters

21. The Chairperson noted that Australia has provided a voluntary contribution for Scientific Committee work, and suggested that there be a discussion about how this money, in addition to that allocated for this year's Jack mackerel assessment work, could most effectively be used.
22. **Action items for next meeting:** It was agreed that the SC hold another intersessional web meeting again in the third week of August to review all SC topics and also specifically to discuss:
 - a. Review Jack Mackerel updated data for circulation and to use in updating the assessment
 - b. Review comments on distributed squid data submission templates
 - c. Review comments on the BFIA draft work distributed by New Zealand/Australia
 - d. Develop plans/ideas for how available SC funds might be most effectively used.



WEB MEETING 2 - ANNEX 1. List of Participants

SC CHAIRPERSON

Jim Ianelli

AUSTRALIA

Lee Georgeson

CHILE

Karin Mundnich
Ignacio Payá
Juan-Carlos Quiroz
V́ctor Espejo
Aquiles Sepúlveda
Eleuterio Yañez
Marcos Troncoso
Mauro Urbina

CHINA

Li Gang
Luoliang Xu

COOK ISLANDS

Chloe-Ane Wragg
Steve Brouwer
Marino Wichman

ECUADOR

Jorge Costain
Manuel Peralta
Rebeca Espinoza

FAROE ISLANDS

Jan Arge

KOREA

Seok-Gwan Choi
Eunjung Kim

NEW ZEALAND

Martin Cryer
Tiffany Bock
Shane Geange
Marco Milardi

PERU

Jorge Csirke
Erich Diaz
Miguel Ñiquen
Mariano Gutierrez
Salvador Peraltilla

CHINESE TAIPEI

Han-ching Chuang
Chih-Shin Chen

UNITED STATES OF AMERICA

John Syslo

CALAMASUR

Geoff Tingley

DEEP SEA CONSERVATION COALITION

Duncan Currie

HIGH SEAS FISHING GROUP

Jack Fenaughty

SPRFMO SECRETARIAT

Marianne Vignaux
Susana Delgado



WEB MEETING 2 - ANNEX 2. Agenda Items

1. Introductions
2. Jack mackerel
3. Deepwater
4. Squid
5. Exploratory fisheries
6. Other matters



WEB MEETING 2 - ANNEX 3. 2020 Scientific Committee Multi-Annual Plan

Draft elements for SC08 consideration
(with additional COMM8 topics added)

1. Jack Mackerel workplan topics

1.1. Jack mackerel assessment data

Review available input data JM assessment.....	2020
Develop quality control diagnostics of the catch input data to the assessment	2021
Evaluate the impact on age-length keys due to any revisions in age determinations.....	Note
Update and compare of standardizations of commercial tuning indices among different fleets	2021
Review industry data availability and usability (using self-sampling biological data and acoustic data from fishing vessels in the JM assessment)	2021

1.2. Jack mackerel assessment modelling

An evaluation of alternative stock structure hypotheses	Note
Provide TAC advice according to Commission request (“adjusted Annex K”)	2020
Review biological reference points (BRPs), develop and carry out MSE evaluation to design alternative management procedures	2021
Explore alternative stock assessment models and hold a benchmark workshop.....	2021
Estimation of growth, analyse growth estimation in light of spatial- temporal changes using a variety of techniques such as daily increment, carbon dating, tagging.....	2021+
Update growth estimation to be provided to the SC intersessional prior to SC08 to allow the SC to schedule a data compilation workshop at its earliest convenience	2021
Predict recruitment under climatic drivers	2021+
Investigate SPRFMO specific drivers of recruitment such as El Niño to improve productivity prediction	2021+
Jack mackerel connectivity, use modelling and observation data to predict connectivity and seasonal to decadal variability therein	2020+



2. Deepwater Working Group

2.1. Orange roughy assessment

Relevant Tasman Sea stock(s)

(NW Challenger and update for Lord Howe Rise (catch history) for this year):

- Explore alternative stock assessment models
- Estimate stock status
- Provide advice on sustainable catch levels
- Louisville Ridge stock(s):
- Explore alternative stock assessment models
- Estimate stock status
- Provide advice on sustainable catch levels

..... 2020

2.2. Orange roughy assessment data

Ageing of existing and new orange roughy samples 2020+

Coordinate and design acoustic surveys for relevant stocks (intersessional consideration) 2021

2.3. Deep water stock structure

Review the list for deepwater stock structure analyses based on assessment for non-orange roughy stocks 2021+

Use modelling and observation data to predict connectivity:..... 2021+

Using genetic, microchemistry, morphometric, 2021+

parasite prevalence and tagging experiments..... 2021+

Develop workplan to drive stock structure delineation studies for orange roughy and alfonsino and other key target species 2021+

2.4. Other stock assessments, & ecological risk assessment

Review the risk assessment of teleost and elasmobranch species considering new available information and methods 2021+

Recommend relevant reference points and/or management rules for all assessed DW stocks 2021+

2.5. VME Encounter

Finalise list of VME taxa and design approach for benthic bycatch review 2020

Annually collect and review VME catch and other benthic sampling data..... 2020



2.6. Spatial management

Update and re-assess VME and habitat suitability modelling as appropriate including model testing and updating using all new data, review of historical bycatch data, review of naturalness layer, relationship between likelihood of occurrence and abundance, sensitivity to issues of scale, and reassessment of the performance of the spatial management measure..... 2020

2.7. CMM 03 request regarding encounters with VMEs.

Review all reported VME encounters and:

- provide advice on whether each encounter is consistent with the models applied to prevent SIAs on VMEs
- determine whether any encounters were unexpected based on the relevant VME habitat suitability models,
- provide advice on appropriate management actions (including but not limited to any proposed by the relevant Member or CNCP)
..... 2020+

This review should include consideration of:

- analyses provided by a Member or CNCP;
- historical fishing events within 5nm of the encounter, in particular, any previous encounters, and all information on benthic bycatch;
- model predictions for all VME indicator taxa;
- details of the relevant fishing activity, including the bioregion; and any other relevant information 2020+

2.8. CMM 03 request regarding VME management measures

Review and provide advice on the effectiveness of the applied management measures, including:

- VME indicator thresholds;
- The number of encounters;
- The number of encounters that were expected based on habitat suitability models;
- The appropriateness of the management approach (e.g. scale);
- Additional relevant VME indicator species that have not been modelled, assessed or for which thresholds have not been established;
- Refinement of the encounter protocol;
- Measures to prevent the catch and/or impacts on rare species; and
- Anything else the SC considers relevant to ensure the measure is achieving its objective and the objectives of the Convention 2020+



2.9. CMM 03 request regarding ongoing appropriateness of CMM

Review all available data and provide advice on the ongoing appropriateness of the management measures to ensure the CMM continues to achieve its objective and the objectives of the Convention 2020+

2.10. Bottom Fishery Impact Assessment

Consider any possible changes to BFIAS adopted in 2019 in the light of the cumulative BFIA done in 2020 2021

Review updated BFIA, including cumulative impacts, from members relative to revised BFIAS 2020

2.11. CMM 03 request regarding Marine mammals, seabirds, reptiles and other species of concern

The Scientific Committee shall provide advice biennially to the Commission on:

- Direct and indirect interactions between bottom fishing and marine mammals, seabirds, reptiles and other species of concern;
- Any recommended spatial or temporal closures or spatially/temporally limited gear prohibitions for any identified hotspots of these species; and
- Any recommended bycatch limits and/or measures for an encounter protocol for any of these species. 2020



3. Squid work plan

3.1. Squid workshop

Organise a workshop to estimate fishing effort prior to SC08 (two days meeting), provide advice on a potential management measure 2021

3.2. Squid assessment and CMM development

Develop a plan for more detailed within-season fishery monitoring 2020?

Develop and present alternative assessment approaches 2021?

Design and evaluate MSE and harvest control rules 2021+

Standardise biological sampling (Identify where protocols differ e.g. type of sampling, areas and timing of sampling, maturity staging, ageing) 2021?

Observer data collection template 2020?

Develop a data template to support stock assessment..... 2020?

Develop a template to monitor the fishery 2020

3.3. Squid assessment data

Identify data needs and recover historical data 2020

3.4. Sample biological information year-round in its entire distribution area

Reconstruct historical total catch records including non-CNCPs and non-members 2020

Record and analyse diet data 2021

Review on the acoustic surveys for Squid biomass estimation (pros, cons, challenges) 2021

Evaluate stock structure and assessment approaches applicable to stocks found in the SPRFMO area throughout their entire range (potential benchmark workshop)..... 2021

3.5. Squid connectivity

Collect and analyse genetic samplings (Convention area and adjacent EEZs)..... 2020

Use modelling and observation data to predict connectivity and seasonal to decadal variability possibly using genetic, microchemistry, morphometric, parasite prevalence, and tagging experiments 2021



4. Habitat Monitoring Working Group

4.1. Evaluate the applicability of data collected from fishing vessels targeting pelagic species

- Mapping spatial-temporal population density distribution of jack mackerel using a combination of the existing acoustic survey data and acoustic information as obtained from industry vessels
- Further developments of standardised oceanographic data products and modelling
- Characterise jack mackerel habitat (e.g., past studies done in Peru and Chile)
- Provide ecosystem status overview for SC at seasonal to decadal scale.....note

4.2. Habitat monitoring

Review the state of the art of habitat research in order to recommend specific lines of investigation in this topic within the framework of the SPRFMO.....note

Explore the concept of jack mackerel habitat under an interdisciplinary ontogeny approach for jack mackerel and other species (by life history stages and regions)..... 2021+

Define a list of existing environmental data: satellite, acoustic surveys, acoustic fisheries surveys, fishing data, fishing vessel data (VMS, Observers) in time and space that already exist inside the SPRFMO area..... 2020

Develop an inventory of technologies available aboard fishing vessels in order to identify the potential to collect data using the technologies currently being deployed 2020

Retrospective analyses based on the integration of databases provided by different members of the HMWG and other working groups of the SC with linkage to a metadata repository 2021

Develop an inventory of research programmes currently being developed by industry and scientific institutions regarding data collection and monitoring of marine habitats..... 2020

4.3. Species behaviour and preference

Analyse the habitat preferences of jumbo squid and Jack mackerel, noting the useful data and analyses provided by Peru and Chile..... 2021

4.4. Habitat suitability modelling of Jack Mackerel

Incorporate behaviour, distribution and abundance information about mesopelagic, euphausiids and other key species of the Humboldt Current System..... 2021

4.5. Use of new Tools

Develop new approaches based on different tools such as GAM, GLM, INLA, ROMS, Biogeochemical, Geostatistics, big data and machine learning (e.g. for acoustic classification of targets)..... 2020

Utilization of different platforms: Scientific surveys, fishing vessels, satellite oceanography, gliders, buoys, AUV..... 2021?



4.6. 2021 Symposium

Symposium on Habitat Monitoring is organised prior to the 2022 meeting of the Commission ideally during the first half of 2021 in South Americanote



5. Other (Crosscutting issues)

5.1. Observer programme

- Analyse observer coverage rates from simulation studies for SPRFMO fisheries and recommend values to Commission (periodically review) 2021?
- Evaluate available observer data on seabird interaction rates (jack mackerel, different squid fisheries, demersal) and determine where estimates can be improved 2021
- Advise on the appropriate levels of observer coverage for each of the major fisheries to:
Identify bycatch issues related to seabirds and other species of concern (short and medium term) 2021
- provide statistically robust quantitative estimates for all species of seabird combined and some of the more common bycatch species (medium term) 2021
- Provide advice on the appropriate levels of observer coverage for fisheries for which there is no fishery specific CMM in force 2021

5.2. Exploratory fishing

- Evaluate and review analyses on data collected from second year voyages of Cook Islands exploratory lobster/crab fishery and provide advice to Commission 2020
- Review results from the New Zealand exploratory toothfish fishery and provide advice on progress, including whether any stock indicators show sustainability concerns and what, if any, additional measures might be required to restrict the likely bycatch of deep-water sharks or other non-target species 2020
- Review results from the EU exploratory toothfish fishery and provide advice on progress, including whether any stock indicators show sustainability concerns and what, if any, additional measures might be required to restrict the likely bycatch of deep-water sharks or other non-target species (including VMEs) 2020

5.3. Seabird / bycatch monitoring

- Progress southern hemisphere quantitative risk assessment (SEFRA)

5.4. EBSA

- Evaluate impacts of fishing activities (part of BFIA) 2020

5.5. CMM 17 Marine pollution

- SC Members and CNPCs are encouraged to undertake research into marine pollution related to fisheries in the SPRFMO Convention Area to further develop and refine measures to reduce marine pollution and are encouraged to submit to the SC and the CTC any information derived from such efforts 2021

5.6. Climate change

- Identify key area and management implications of climate change on VMEs and main fisheries in the SPRFMO area 2021



5.7. CMM 02-2019 Data Standards

Review and update data standards to ensure appropriate scientific data are collected in SPFMO fisheries 2020



6. Additional Components Identified by the Secretariat

Topic	Additional Task	Reference
Data Standards	This CMM shall be reviewed no later than the regular meeting of the Commission in 2022 based on advice from the 2021 meeting of the Scientific Committee and following review by the Compliance and Technical Committee.	Paragraph 8; CMM02-2020
Exploratory fisheries	This measure shall be reviewed at the annual meeting of the Commission in 2021. Such review shall take into account, <i>inter alia</i> , the most recent advice of the Scientific Committee on exploratory fisheries.	Paragraph 25; CMM13-2020
Exploratory fisheries	The Commission, noting that a Checklist for Exploratory Fisheries Proposals has been developed by the SC and that interpretative notes for the checklist categories would be developed at SC8.	Recommendation 166(g); COMM8 Performance review
Exploratory potting	A CPUE limit of 4 kg per trap shall be applied for Kopernik Seamount, assessed weekly through a moving 30-day window starting on day 30, and assessed every 7 days thereafter. Should this CPUE limit be reached, the Cook Islands shall close Kopernik Seamount and it shall remain closed to fishing pending the SC's review of the Cook Island's planned ongoing response.	Paragraph 9; CMM14b-2020
Exploratory toothfish (Chile)	The Scientific Committee will review results each year at its annual meeting and advise the Commission on progress, including whether any stock indicators show sustainability concerns and what, if any, additional measures might be required to restrict the potential bycatch of deepwater sharks or other nontarget species. If 250 kg or more of deep-water sharks (all species in class Chondrichthyes combined on a line) are caught, then no further lines will be set within 10 nm of the location of that line until the information from that voyage has been reviewed by the Scientific Committee.	Paragraph 7/19; CMM14d-2020
Jack mackerel	In addition, Faroe Islands, with Korea, proposed that the SC consider the possibility to include a mechanism for members with small quotas – defined as being under 10,000 tonnes or under 2% in table 2 to have the option of accumulating quota between 2 years. In other words, carrying forward their entire quota to the following year in order to have a level of tonnage that can help make fisheries operations actually viable in the second year.	Paragraph 15/118; COMM8-report



	On future projections regarding the stock of jack mackerel, the European Union requested more detailed explanation on the implications and the methodology being reviewed for growth estimates.	
Jack mackerel	At their next annual meeting, the Scientific Committee will assess the information received and provide advice to the Commission regarding the possible impact of the national measures adopted on the <i>Trachurus murphyi</i> fishery. The CTC will consider the information provided by the coastal State and whether the national measures it adopted are compatible with those established by the Commission and will advise the Commission accordingly. The Commission will consider measures to ensure compatible management, considering the advice of the Scientific Committee and the CTC.	Paragraph 28; CMM01-2020
MSE	<p>The Cook Islands proposed a workshop devoted to developing the (MSE) objectives be held between CTC8 and COMM9 in 2021.</p> <p>The European Union volunteered to lead intersessional consultations with Members on the drafting of the elements of the revision of the MSE objectives.</p> <p>SC Chairperson Dr Ianelli invited the Cook Islands and other Members to contribute to the SC small working group on the matter through intersessional web meetings, coordinated by European Union representative Martin Pastoors.</p> <p>SC Chairperson Dr Ianelli confirmed that the general concepts proposed by Vanuatu to address carryover allocation of jack mackerel will be investigated in the work.</p> <p>Vanuatu further emphasised the inclusion of the proposal in the SC Management Strategy Evaluation (MSE) analysis to ensure that there are no sustainability issues.</p> <p>The European Union further noted that both stock hypotheses are taken into account when the SC sets the catch limit, adding that relevant, additional concerns by Peru should be addressed during the MSE discussions</p>	Paragraphs 29/30/31/80/102; COMM8-report
SC8	<p>SC8 will be preceded by a 2-day workshop on bottom fishing.</p> <p>New Zealand noted that the European Union proposed workshop to look at spatial management approaches has been included in costs and planning for the SC8 in New Zealand.</p>	Paragraph 49/141; COMM8-report



Squid	Members agreed that the SC shall review the minimum scientific observer coverage at the latest at its 2023 meeting and provide advice to the Commission, including in relation to the specificities of different fleet segments up to 15 metres in length	Paragraph 211; COMM8-report
Squid	The template for the reporting of catch and effort data shall be developed by the Secretariat and submitted to the Scientific Committee and the Commission for consideration at the annual meeting in 2021. The Scientific Committee shall review the minimum observer coverage, at the latest at its 2023 meeting and provide advice to the Commission, including in relation to the specificities of different fleet segments, including those up to 15 metres in length.	Paragraph 3/10; CMM18-2020

REPORT OF THE THIRD 2020 SC WEB MEETING

19/21 August 2020

1. Introductions

1. The SC Chairperson (Jim Ianelli) welcomed all participants². The meeting was composed of two sessions, each of about two hours duration, and in total was attended by 47 delegates. A list of participants is provided in Annex 1.
2. Agenda (Annex 2) and topics were agreed as below. The meeting was held in two sessions; the first focussed on the Jack mackerel issues and the second dealt mainly with deepwater fishery and squid issues.

2. Jack mackerel

3. Martin Pastoors (EU; Chairperson of the Jack mackerel working group) reviewed the different places that files relevant to the Jack mackerel assessment were being stored. Basically, there is a website, a shared Dropbox folder, a Github repository, and now a Microsoft Teams sharepoint-friendly locale. All of these play different and some overlapping roles. The meeting agreed that now would be a good time to coordinate how file sharing should be implemented and **recommended** that Martin Pastoors coordinate with the Secretariat and a small group about what conventions should be adopted to avoid confusion and potential duplication.
4. Martin Pastoors then presented a number of updated spreadsheets to facilitate data submissions for the Jack mackerel assessment. The update included added protections on cells to force consistent format and be read automatically into a system such as R. There was discussion about the added step to put the data into a spreadsheet to facilitate using R while much of the data (for Chilean case) is already within the R programming language. An added manual step could introduce errors that could be avoided. However, it was noted that the transparency of having spreadsheets which are more readily available for all members provide better abilities for data checking and spotting problems. Further discussion on how to improve this process and minimize errors was deferred for future assessment meeting discussions. The meeting recognized Martin for his work and appreciated the improvements. Some members noted the templates had yet to be distributed and another requested that the units for number of fish be measured have lower denominations than thousands or millions. These changes will be added and the template will be circulated to relevant people via email and be loaded to the website and Teams. The group was reminded that the **completed Jack mackerel data templates are due 3 September**; no issues with providing the data on time were identified.
5. Martin Pastoors also prepared a meta-data spreadsheet which highlights and tracks what data have been processed by different members. With regards to survey data, Chile identified that they would be providing an updated survey figure, but Peru noted that they would not be updating their index this year, and China noted that their CPUE index would not be updated because the data was now incorporated into the offshore fleet CPUE index.

² The meeting was recorded for the purpose of preparing this report; recordings will be deleted 7 days after the meeting.



6. Martin Pastoors then presented the results of the Offshore Fleet CPUE analysis, and noted that the draft paper had had tables and figures updated but not the text. The index shows an increase in the CPUE index in the most recent year (2019), and an upwards shift in the index for 2018. Martin was asked to see if he could see why that was happening, including looking at the Influence of each of the terms in the analysis.
7. The Jack mackerel workplan items for 2020 were briefly discussed and reviewed (Annex 3 of 2nd web meeting report). Given the work contributed on Jack mackerel data templates, the members were encouraged that improvements of age length keys and data processing were continuing under the reduced work plan. It was also noted that the application of the new growth relationships for data processing and developments will be delayed until a benchmark review can occur.
8. The meeting discussed the Commission's requests for advice relating to the Jack mackerel fishery, including the impact of higher than expected catches within national jurisdictions. Also, the request to evaluate the impact of rolling small (relatively) amounts of quota to a future year was noted. These questions were intended to be addressed in the context of the MSE work. However, that will also be delayed. There was also a suggestion to change the SC report on the Jack mackerel assessment to have separate sections for the different stock structure hypotheses. Members interested in developing an alternative report structure for the assessment are encouraged to propose a change and provide rationale. The meeting noted that making such a change in a difficult meeting year may create extra work for little benefit.
9. During the second session of this meeting these issues were reviewed and items accepted by the participants.

3. Deepwater

10. The group noted that there were two Bottom Fishery Impact Assessment Standards documents being referred to and asked for clarification. It was explained that while SC07 had approved the 2019 BFIAS presented last year and recommended that it be used for decision making, in fact the 2011 BFIAS was still referred to in a footnote in CMM 03-2020. It was noted that work should be consistent with at least the 2011 BFIAS and authors should aim to incorporate details from the 2019 BFIAS and note where things differ.
11. Martin Cryer (New Zealand) suggested that the Scientific Committee recommend to the Commission that they change CMM-03 to avoid ambiguity with the BFIAS (there is only one). Martin Cryer, along with Lee Georgeson (Australia) were commended for the work in preparing the draft document. They sought to revise the current version in the next week take into account comments promised from members. An electronic (MS Word) version of the BFIA was posted to the Teams forum during the meeting to facilitate adding and tracking comments.

4. Squid

12. Under the guidance of the squid working group Chairperson, Dr Gang Li, it was noted that five draft data templates for management and stock assessment of squid had been loaded to Teams for discussion by the Squid Working Group and the SC. Technical discussions ensued. Some noted that, for example, an issue about the biological parameter on the Observer template "Maturity" (referring to maturity of gonads), as different Members may use different staging criteria and consistency may be required. It was agreed that at least the method of assessing the gonad maturity should be recorded, and that the Secretariat could maintain a catalogue of coding schemes so that the data can be interpreted since a common scheme is unrealistic at this stage.



13. Ignacio Payá (Chile) presented a data template for collecting data specific for use in depletion models. It was noted that this is a short-lived species, so that management of the fishery at the annual or even the monthly level may not be appropriate. Weekly data may be necessary, but this may need to be on a voluntary basis at first. There was discussion about whether it would be possible to get the data faster without electronic logbooks, which would need new technologies.
14. Some queried about whether it was necessary to decide on a stock assessment method before deciding on how and what data should be collected. It was noted that within fisheries it is common to collect as much information as is feasible at the early stages, since this increases the range of choices of stock assessment approaches that can be taken later on. The biological information described in the templates would be necessary for many different stock assessment approaches.
15. Suggestions on developing an electronic logbook for squid be developed or modified from similar systems used in other jurisdictions. China and Korea noted that electronic logbooks were already developed and in use (at least partially) in their fleets.

5. Exploratory fisheries

16. It was noted that there were three Exploratory Fishing proposals being presented this year, and that since time at the SC meeting in October will be limited, it would greatly facilitate things if the proponents could complete the “Exploratory Fishery Template” (see [Annex 11 of the SC7-Report](#)). The Secretariat **was requested** to circulate a blank version of this Template to Members. Chile noted that they have a proposal for a potting fishery and want to coordinate with the Cook Islands, and will be producing a revision of their proposal with more details shortly.
17. Jim Ianelli queried what the effect of the new BFIAS on the templates would be, and it was clarified that while the templates are mostly based on what is in the CMM, this does make reference to the BFIAS, so the fact that there are two standards could cause confusion. Again, it was agreed that the work should be consistent with at least the 2011 BFIAS and authors should aim to incorporate details from the 2019 BFIAS, especially for birds, mammals and other species of concern.
18. Proponents of the Exploratory Fishery Proposals are asked to complete the template, adding the rationale for why they believe that their proposal meets the criteria, with references to specific parts of the Proposal. Comments and discussion on the templates is encouraged. A small group agreed to use Teams to discuss the proposals including Martin Cryer (New Zealand), Lee Georgeson (Australia) and Chloe-Ane Wragg (Cook Islands).

6. Other business

19. The Chairperson initiated a discussion about how SC funds could best be spent, given that some significant voluntary contributions had come in from the EU, China and Australia, and some money (for example for the Habitat Monitoring symposium) may not be able to be spent in this financial year. Tables showing the forecasted spends in the 2020-21 and the 2021-22 financial years were presented, reminding the SC that there was a \$50 000 cap on carrying funds over the financial year end (Financial Regulation 2.4).
20. A number of ideas including development of Observer Manuals, development of electronic logbook for squid, Member access to SPRFMO databases, bringing more experts to the SC, more work on MSE/benchmark and capacity building through online courses on stock assessment or MSE were raised.
21. Members were asked to nominate people who would benefit from additional on-line training for the purpose of capacity building if this were to be arranged.



22. The deepwater stock structure project which was budgeted for \$23 600 in the 2021-22 financial year was discussed, as it is not certain that it is still of the highest priority, or possible to achieve, as it is complex.
23. The Habitat Monitoring Symposium, budgeted for \$63 000 in the 2021-22 financial year was also discussed.
24. It was requested that confirmation of priority, project plans, and contact people be developed by proponents of these projects so that these budgetary decisions can be made by the end of the SC.
25. Bringing Lee Qi to assist with the Jack mackerel assessment modelling was confirmed; a contract for this will be developed as the Chairperson has requested she track her time being spent on SPRFMO matters.
26. There is to be a meeting of the MSE group on the 25/26 August. Another SC web meeting on the 15/17 September is proposed, and a specific Jack mackerel stock assessment session around the 8th September.
27. Details about the schedule for the Scientific Committee on 3-8 October was queried. The length of sessions had not been finally decided, but there had been feedback that sessions longer than 2 hours were difficult in an on-line multi-timezone environment. The weekend days on the schedule were queried, but it was clarified that there had been no decision to change the dates of the meeting, which had been set when the meeting was going to be in-person, where weekend working is traditional.
28. It was clarified that the intention is for discussion of the Annual national reports to be covered on the forum in the period prior to the formal opening of the SC, because time will be very restricted during the SC sessions.
29. *Action items for next meeting:*
 - a. Complete the input Jack mackerel assessment data
 - b. Secretariat to distribute a Word template for Exploratory Fishing Proposals, for proponents to complete and to be discussed on Teams with a small working group
 - c. Proponents of projects with budget items larger than \$20 000 to confirm priority, timing, project team to ensure that these projects can be funded with a successful outcome
 - d. Members were asked to nominate people who would benefit from additional on-line training for the purpose of capacity building if this were to be arranged



WEB MEETING 3 - ANNEX 1. List of Participants

SC CHAIRPERSON

Jim Ianelli

AUSTRALIA

Lee Georgeson
Natalie Couchman
Kerrie Robertson

CHILE

Karin Mundnich
Aurora Guerrero
Ignacio Payá
Juan-Carlos Quiroz
Víctor Espejo
Aquiles Sepúlveda
Eleuterio Yañez
Marcos Troncoso
Lorenzo Flores

CHINA

Li Gang
Luoliang Xu
Congong Wang

COOK ISLANDS

Chloe-Ane Wragg
Steve Brouwer
Marino Wichman

ECUADOR

Manuel Peralta

EUROPEAN UNION

Jan Arge
Niels Hintzen
Martin Pastoors
Joost Pompert

FAROE ISLANDS

Jan Arge

KOREA

Seok-Gwan Choi
Eunjung Kim

NEW ZEALAND

Martin Cryer
Tiffany Bock
Shane Geange
Marco Milardi

PERU

Jorge Csirke
Sara Duenas
Erich Diaz
Sharon Dale Gonzales
Rosa Francisca Zavala Correa
Patricia Villasante

RUSSIAN FEDERATION

Alexander Glubokov

CHINESE TAIPEI

Han-ching Chuang
Chih-Shin Chen
Ren-Fen Wu
Chiang Tung-Hsieh

UNITED STATES OF AMERICA

John Syslo

SPRFMO SECRETARIAT

Craig Loveridge
Marianne Vignaux
Susana Delgado

INVITED EXPERTS

Lee Qi



WEB MEETING 3 - ANNEX 2. Agenda Items

- 1) OPENING OF THE MEETING
 - a. Identification of Participants
 - b. Confirmation of discussion topics
- 2) Session 1
 - a. Review Jack mackerel topics
 - b. Review Jack Mackerel updated data use in updating the assessment
 - c. Exploratory fisheries proposals
 - d. Plans and ideas for effective use of SC funds
 - e. Other topics
- 3) Session 2
 - a. Review of Deepwater and Squid topics
 - b. Review comments on squid data submission templates (to be distributed)
 - c. Review comments on the BFIA draft work distributed by New Zealand/Australia
 - d. Exploratory fisheries proposals
 - e. Plans and ideas for effective use of SC funds
 - f. Other topics (including update from session one)

REPORT OF THE FOURTH 2020 SC WEB MEETING

4/5 September 2020

1. Introductions

1. The SC Chairperson (Jim Ianelli) welcomed all participants and passed the chair to Martin Pastoors, Chair of the Jack Mackerel Working Group³. The meeting was composed of a single session, of two hours duration, and in total was attended by 21 delegates. A list of participants is provided in Annex 1.
2. Agenda (Annex 2) and topics were agreed as below.

2. Jack mackerel

3. Juan Carlos (Chile) presented a summary of Chile data available to date and noted differences from past years. Since 2018 there has been more activity in the Northern fishery further offshore. The Length structure in the North this year appears to be narrower, but in the South is more similar to normal. A very steep left hand edge to the length frequency distribution in the Northern area was noted. Since there is also an anchoveta fishery in the North the mesh size in the Northern area was queried, and it was believed that most of the Northern catch was taken using anchoveta nets, as the schools were usually separate but sometimes overlapped. An age structure distribution was presented, using the traditional age protocol, but a paper will be presented showing a new protocol and the differences. It was noted that in the presentation the age structure in the Northern and Southern fleets are identical, which will be checked.
4. The Acoustic survey in the North seems to show important changes since 2018 both in the estimated biomass and the spatial distribution. It was requested that the area surveyed be included in the Acoustic survey table. The area covered by the survey increased in 2015, but the big biomass increase in 2018-19 is not due to that, and may be partly due to an increase in the size of the fish. The acoustics survey in 2020 seemed to show no fish in the North, even though there was a fishery there. This might be due to the timing of the survey.
5. The Southern acoustic survey was not yet available, and it is uncertain whether it will be continued.
6. A new CPUE index was presented, done by set rather than by trip. The trajectories are similar, but with a less steep decline, so there may be some implications for the assessment. The latest index for the old CPUE series was not presented and will be updated next week. It was noted that a decision needs to be made whether to use the old or the new series, as the new series is based on better data but may not have had enough review to date.
7. A summary of data available for the JJM assessment was presented by Martin Pastoors (EU). Peru data has not yet been provided, but catch data should be available and size information to March 2020 and an update for the CPUE index are expected. These will be provided.
8. The Russian Federation were not present at this meeting, and will be contacted for age/length and catch data.

³ The meeting was recorded for the purpose of preparing this report; recordings will be deleted 7 days after the meeting.



9. It was clarified that a minor error had been found in the presentation of the Offshore CPUE at the last meeting which made it appear that the 2018 figure had changed a lot when the series was recalculated, and the corrected graph was re-presented showing a very close relationship between last year and this year's time series.
10. It was clarified that the egg production survey has not been run for a number of years.
11. The estimation of current year catches presented in SC8-JM01 was queried – this is usually done during the SC Annual meeting itself, based partly on catches to date (scaled up to reflect end-of-season catch) and confirmed/modified by each Member. In particular the split between the Northern and Southern Chile fleet cannot be provided based on monthly catches alone so this is always provided by the Member. It was decided that since there would be big advantages in deciding on these catches early in the stock assessment process, and they were only estimates anyway, that the meeting would as far as possible finalise these figures. The “expert” figures entered into the JM01 Annex spreadsheet were therefore accepted, except that no Russian Federation figures were available (as they had not started to fish until August) and they were not represented in the meeting.
12. It was noted that Vanuatu had asked for the implications of the carryover of small amounts of quota from one year to the next to be calculated, and it was suggested that this could be included in the projections, but generally it was felt that “small amounts of quota” would be too small to have a detectable difference.
13. It was decided that once the Peru data was available, modelling could begin, probably around the 12 September. The advantage of this was to give adequate scrutiny to the models, including looking at the diagnostics of both the 1 and 2 stock models, which was necessary, even though it is intended that this year be a “turn-key” assessment.
14. It was agreed that preparation of material for the Technical Annex could also begin early, and would be stored in the Reports folder on Teams.
15. Peru confirmed that they were intending to run models for the two different hypotheses in parallel, as soon as the data is available.
16. A cut-off date for changes for the data going into the assessment of 25 September was agreed upon.
17. Niels Hintzen (EU) in coordination with Lee Qi (Expert) agreed to compile the data.
18. Martin Pastoors (EU) agreed to set up folder structures on the Teams site for storing data associated with the assessment, including both ALK and “raised” information, and will demonstrate the use of the folder structures at the next meeting.
19. It was agreed that the ALK data could be stored in the Teams folder.
20. It was agreed that the assessment discussion would be progressed at the next SC meeting in 2 weeks time.
21. Action items for next meeting:
 - a. Chile to check North and South identical age structure in presentation, to provide an updated version of the traditional CPUE series, to include Area Surveyed in the acoustics table, to provide Southern acoustic survey index (if possible)
 - b. All to review new Chile CPUE index
 - c. Peru to provide age/length, CPUE and catch data
 - d. Martin Pastoors (EU) to ask Russian Federation for age/length and catch data



- e. Niels Hintzen (EU) to compile data (in coordination with Lee Qi)
- 22. Martin Pastoors (EU) to set up folder structure on Teams with assessment data



WEB MEETING 4 - ANNEX 1. List of Participants

SC CHAIRPERSON

Jim Ianelli

CHILE

Karin Mundnich
Ignacio Payá
Juan-Carlos Quiroz
Víctor Espejo
Aquiles Sepúlveda
Marcos Troncoso
Mauro Urbina
Silvia Hernandez
Victor Espejo

EUROPEAN UNION

Niels Hintzen
Martin Pastoors

KOREA

Seok-Gwan Choi
Eunjung Kim

PERU

Jorge Csirke
Miguel Niquen
Mariano Gutierrez
Sebastián Vásquez

SPRFMO SECRETARIAT

Marianne Vignaux
Susana Delgado

INVITED EXPERTS

Lee Qi



WEB MEETING 4 - ANNEX 2. Agenda Items

- 1) OPENING OF THE MEETING
 - a. Identification of Participants
 - b. Confirmation of discussion topics
- 2) JACK MACKEREL
 - a. Review Jack Mackerel updated data for the assessment
 - b. Other Jack mackerel topics

REPORT OF THE FIFTH 2020 SC WEB MEETING

15/17 September 2020

1. Introductions

1. The SC Chairperson (Dr Jim Ianelli) welcomed all participants. The meeting was composed of two sessions, each of about-two-hour duration, and in total was attended by 46 delegates. A list of participants is provided in Annex 1. The meeting agenda (Annex 2) and topics were agreed as below. The first meeting session focussed on Jack mackerel issues and the second dealt mainly with deepwater fishery and squid issues.
2. Marianne Vignaux (Secretariat) presented a new initiative aimed at progressing background material for the SC Report in a timely fashion. A “Circular” was distributed last week asking SC members to contribute one paragraph summaries of their Annual Reports for the SC Report, and asking for volunteers for rapporteurs for the different SC sessions. The possibility of providing a professional rapporteur service was raised. This week the “Circular” will ask for more Annual Report summaries as well as provide opportunities for members to ask questions about them for clarification and discussion, if desired.
3. It was noted that last year Annual Reports were tabled at the meeting as being read, and an opportunity for comments was invited. This year those reports should be covered similarly, hence the work and documentation is pushed to be handled to the extent possible before the meeting commences. It is clear that a strategy is required to constrain the amount of time spent on presentations in the plenary meeting itself, so presentations made on Teams, along with audio recordings will help members provide feedback to the SC08 on specific topics. Additionally, the Secretariat has begun to develop a time allotment to specific agenda items and early indications are that time will be very short. To help with these issues, the presentations at this meeting were recorded and posted in the “[Presentations](#)” folder of the Teams site, so that participants who were unable to attend the meeting could watch and comment on them (in writing on the Teams site) at their convenience.

2. Jack mackerel

4. Martin Pastoors (EU; Chairperson of the Jack mackerel working group) noted that since the last meeting work has continued on compiling the data and he also reviewed the action points from the fourth SC web meeting.
5. Although preliminary catch data from the Russian Federation (as provided to the Secretariat) is already available, Martin Pastoors (EU) volunteered to contact the Russian Federation to get the most up to date figures for use in the assessment if possible.
6. Jorge Csirke (Peru) indicated that Pablo Marin and Daniel Grados have joined the Peru team for the stock assessment work. Peru’s ALK, CPUE and catch data are up to date and have been provided. Niels Hintzen (EU) had a technical question about the Peru ALK data relating to totals in one tab not matching totals in another tab.
7. Chile’s updated CPUE series will be available by Friday 18 September.
8. Martin Pastoors (EU) has set up the folder structures on Teams for the Jack mackerel assessment and these were demonstrated. A “readme” file to explain what each folder was for was suggested. The folder name “Results” was queried, as there are lots of kinds of results, and some were uncertain whether these were only results of the assessment itself, or other results.



9. Important files from previous assessments could be stored in an archive of some kind, possibly on Teams.
10. It was identified that the Github site also requires maintenance, and it was agreed that some changes (including reducing the size of the repository) could be made, but it was requested that large scale structural changes that might make it hard to find material be done intersessionally. It was suggested that the Github site be mainly for the code, with files stored in Teams where possible. A small group including Lee Qi, Martin Pastoors and Jim Ianelli will work together on the structure.
11. It was announced that preliminary work with the model has begun, and consistency with last year's assessment runs has been confirmed, so that this year's assessment runs can begin.
12. It was requested that Friday 18 September be the last day for providing data for the assessment, so that model runs can be done using correct data.
13. Juan Carlos Quiroz (Chile) noted that for the report this year it will be very important to describe progress on the two-stock model. Martin Pastoors (EU) indicated that this year the two-stock model would be run completely in parallel to the one-stock model so that there would be time to fully review diagnostics.
14. During the second session of this meeting these issues were reviewed and items accepted by the participants.

3. Deepwater

15. Patrick Cordue (HSFG, but presenting on behalf of New Zealand) [presented](#) paper SC8-DW10 on the Orange Roughy stock assessments, describing new age frequency data available and a change in the historical catch history due. Marianne Vignaux (Secretariat) asked whether this was data that should be in the SPRFMO catch database, and Martin Cryer (New Zealand) explained that the figures were well founded but not official and it may be difficult to get official figures at this point. Martin Cryer (New Zealand) also pointed out that the horizontal lines on the graphs in the presentation represented thresholds used in New Zealand stock assessments, for example at 20% B_0 which are not used by SPRFMO but may be useful for comparative purposes. Jim Ianelli (SC Chairperson) asked whether the year class strengths which were borrowed from the Northwest Challenger stock to Lord Howe Rise were borrowed in terms of magnitude or just variability. Patrick Cordue explained that the Lord Howe Rise year class strengths were actually sampled from the North West Challenger posterior distribution. Lee Georgeson (Australia) noted that if catches went up in the North West Challenger stock there might be implications for VMEs. Catch rates in the NWC stock were queried, and Patrick Cordue noted that catch rates were difficult to interpret, and that the catch rates presented in the BFIA are only unstandardized catch rates.
16. Martin Cryer (New Zealand) [presented](#) a brief paper on changes in the [revised version of the BFIA](#). A session dedicated to deepwater topics prior to the SC (equivalent to the 2-day Bottom Fishing workshop that would have been held if the meeting had been in person) was suggested as an opportunity to discuss this material in the detail it requires.

4. Squid

17. Liu Binlin (China) [presented](#) a paper on comparative maturity staging schemas for jumbo flying squid asking for comments in order to move towards standardisation within SPRFMO data. Jorge Csirke (Peru) suggested that they use a schema similar to the ICES one, so in principle it should be possible to make a link to attain standardisation. Ignacio Payá (Chile) agreed that this is a useful paper, but noted that Chile does not get spawning squid in their area. Hanching Chuang (Chinese Taipei) asked what the status of the document was, and the SC Chairperson noted that this was just opening the discussion on the topic and encouraged members to contribute.



18. Congong Wang (China) [presented](#) a short proposal for standardisation of methodology for squid genetics work. At the previous meeting in 2019, SNPs (Single Nucleotide Polymorphisms) has been accepted to evaluate the genetic diversity of Jumbo flying squid, but the technology to obtain the SNPs has not been determined. In the study of the SNPs, we suggest that all members apply the same technology to obtain and analyze SNPs, for example the GBS (Genotyping-by-sequencing) or RAD-seq (Restriction site-associated DNA sequencing), and then share the sequencing data. The restriction enzymes used to digest the genomic DNA must be same, no matter whether we use GBS or RAD-seq. (enzymes type & brand: TaqI and MseI, New England Biolabs, NEB, USA). Again, discussion on this topic should continue in the margins and on the forum for possible decision at a later meeting if possible.

5. Exploratory fisheries

19. Exploratory fisheries self-assessment templates have been received from the Cook Islands ([SC8-DW15](#)) and the EU ([SC8-DW16](#)) but not yet from Chile. Revised Fisheries Operations Plans have also been received from the Cook Islands ([SC8-DW01_rev1](#)) and from the EU ([SC8-DW05_rev1](#)).
20. Steve Brouwer (Cook Islands) [presented](#) papers SC8-DW03 and SC8-DW04 about the results of the first 4 trips of the Cook Islands Exploratory Fishery. Martin Cryer (New Zealand) noted the apparent trend in biomass and wondered whether that could be due to changes in catchability. Steve Brouwer noted that this was hard to assess with only a limited timespan of the fishery, but that they probably don't move off the seamounts during the year (as it would be too deep for them), but there could be changes in catchability due to moulting. Lee Georgeson (Australia) noted that the bathymetry suggested a big hole like a vent or a volcano in the middle of the Western feature of the Kopernik seamount and wondered about VME implications and whether it would be possible to get a camera in to look. Steve Brouwer (Cook Islands) confirmed that there is a big round deep hole and VME species do appear to be more common there and that there were attempts planned to view it. Seok-Gwan Choi (Korea) asked how you set the distance between the traps in the trapping experiments, and Steve Brouwer (Cook Islands) clarified that the traps are set on a longline, so you set the distance on the vessel before the traps are set.
21. Marino Wichman (Cook Islands) [presented](#) paper SC8-DW01_rev1 which is the revised Cook Islands Fisheries Operations Plan. Martin Cryer (New Zealand) asked how we might calculate appropriate TACs at a feature by feature level, and whether a CPUE limit might be necessary as well. Marino Wichman explained that as the only data and analysis was done on Kopernik seamount, a figure of 300 kg per square metre was being considered. Jim Ianelli (Chairperson) asked what that would come to overall, if you extrapolated over the available depths. Marino Wichman explained that within the current CMM only 15 seamounts are identified as fishable, and of these only Kopernik has had significant potential for lobster fishing. Lee Georgeson (Australia) asked what the implications of potential overlap with the Chilean exploratory fishery were, and Marino explained that the Chilean proposal was in a different area.



6. Other business

22. *Action items for next meeting:*

- a. Request to populate [Circular](#) with questions about Annual Reports and identification of papers that require presentations or discussion at the meeting
- b. Final date for Jack Mackerel data 18 September so that model runs can begin
- c. Martin Pastoors (EU) to follow up with Russian Federation for final catch figures
- d. Jorge Csirke (Peru) to resolve issue in ALK template
- e. Chile to provide updated Jack mackerel CPUE series for the assessment



WEB MEETING 5 - ANNEX 1. List of Participants

SC CHAIRPERSON

Jim Ianelli

AUSTRALIA

Lee Georgeson
James Larcome
Natalie Couchman
Kerrie Robertson

CHILE

Karin Mundnich
Aurora Guerrero
Ignacio Payá
Juan Carlos Quiroz
Víctor Espejo
Aquiles Sepúlveda
Marcos Troncoso
Silvia Hernandez

CHINA

Li Gang
Luoliang Xu
Congong Wang
Liu Bilin

COOK ISLANDS

Chloe-Ane Wragg
Steve Brouwer
Marino Wichman
Simon Nicol

ECUADOR

Manuel Peralta

EUROPEAN UNION

Martin Pastoors
Jan Geert Hiddink

FAROE ISLANDS

Jan Arge

KOREA

Seok-Gwan Choi
Eunjung Kim

NEW ZEALAND

Martin Cryer
Tiffany Bock
Shane Geange

PERU

Jorge Csirke
Miguel Niquen
Giovanna Sotil
Pablo Marin
Daniel Grados
Sebastian Vasquez

CHINESE TAIPEI

Han-ching Chuang

UNITED STATES OF AMERICA

John Syslo

VANUATU

Gerry Geen

HIGH SEAS FISHING GROUP

Patrick Cordue
Jack Fenaughty

SPRFMO SECRETARIAT

Marianne Vignaux
Susana Delgado

INVITED EXPERTS

Lee Qi

OTHERS

Melody Fang-chia Hsu
Michelle Sculley



WEB MEETING 5 - ANNEX 2. Agenda Items

- 1) OPENING OF THE MEETING
 - a. Identification of Participants
 - b. Confirmation of discussion topics
 - c. Rapporteurs and the SC8 Meeting Report
- 2) Session 1
 - a. Report progress on action items from the third and fourth web meetings
 - b. Review Jack Mackerel preliminary model runs
 - c. Other topics
- 3) Session 2
 - a. Report progress on action items from the third and fourth web meetings
 - b. Squid topics
 - c. Orange roughy assessment data review and evaluation
 - d. Review of Exploratory fisheries templates
 - e. Other topics (including update from Session 1)

REPORT OF THE SIXTH 2020 SC WEB MEETING

22/23 September 2020

1. Introductions

1. The SC Chairperson (Jim Ianelli) welcomed all participants and passed the chair to Mariano Gutierrez and Aquiles Sepúlveda as co-chairs of the Habitat Monitoring Working Group. The meeting was attended by 26 delegates (Annex 1). The meeting agenda (Annex 2) and topics were agreed as below, except that it was agreed to move item c (the symposium) to the end of the agenda. Marianne Vignaux (Secretariat) was identified as the rapporteur.

2. Habitat Monitoring Topics

2. Mariano Gutierrez (Peru) gave a presentation based on Meeting Document SC8-HM01, regarding environmental data that exist for habitat studies. Seok-Gwan Choi (Korea) asked about the use of industrial fishing fleet vessels to collect acoustics data, and whether the data could be calibrated. Mariano Gutierrez (Peru) explained that most of the vessels could collect calibrated acoustics data, but this varied with the manufacturer of echosounder (for example Simrad or Furuno). If the reflectivity of the sea bottom in a specific location is well known, then it can be used as a reference for calibration purposes.
3. Mariano Gutierrez then gave a presentation based on Meeting Document SC8-HM04, regarding the different monitoring programmes that exist in Peru, including a number of programmes involving crew members being trained as observers to collect data on top predators and in correct techniques for handling and liberating different marine species. Salvador Peraltilla (Peru) quoted a figure of 22% of fishermen having been trained in liberation techniques of top predators.
4. Mariano Gutierrez then gave a presentation based on Meeting Document SC8-HM02, regarding a potential protocol for acoustic data collection aboard fishing vessels operating in the SPRFMO area. Jim Ianelli (SC Chairperson) wondered why in Table 2 measurement of noise is not required for Fishing Vessels of Levels 1 and 2 (while it is for Levels 3 and 4). It was explained that because of the definition of Level 1 and 2 vessels, noise from these vessels should be low. Mariano Gutierrez suggested that a subgroup of specialists should be assembled to develop all six of the required protocols. It was suggested that a template could be developed and also that a list of the vessels and their acoustics equipment could be compiled by each Member. Jim Ianelli suggested a frequency table with the number of different vessels at each of the different levels, along with ways to identify the differences between the Level 1, 2 etc classifications. Aquiles Sepúlveda reported that Chile has already started to compile this kind of information. Jim Ianelli noted that the sampling requirements will be different for different kinds of fishing, and Mariano Gutierrez agreed that New Zealand and Australia would use different frequencies etc for their bottom fisheries. Seok-Gwan Choi noted that the use of acoustics data by industrial vessels is very important, and that Simrad systems are very accurate and that this data is already used by other RFMOs. Mariano Gutierrez noted that CCAMLR have been using this kind of data for more than 20 years, and that SPRFMO should be able to learn from the protocols that they have developed.



5. Aquiles Sepúlveda gave a presentation on Meeting Document SC8-HM08 which is a report of habitat monitoring based on acoustics from fishing vessels in 2020. Jim Ianelli queried whether the vessels were collecting acoustics all the time they are at sea, and it was clarified that yes, the data is collected from port to port. He then pointed out (page 9) how the Jack Mackerel area appeared to have changed by a factor of 3 between 2019 and 2020. Mariano Gutierrez suggested that a habitat index should be developed, to assess not only area but also quality of habitat. Martin Pastoors (EU) wondered whether it would be possible to use this to map how much of the potential habitat is actually being used by Jack mackerel. Mariano Gutierrez pointed out that the data only exists where the fleet goes, so that in this year there is no information outside of the Chilean EEZ. Some data exists where vessels were transiting, but generally the data is only in the area where vessels are actually fishing. Steve Brouwer (Cook Islands) asked how it is possible to prevent double counting if two vessels go over the same school of fish. Aquiles Sepúlveda suggested a model approach (using the data as observations), so that you obtain a mean density over the sampled area rather than a sum. Steve Brouwer also asked how to compensate for the biomass going down as the schools are fished down. Aquiles Sepúlveda offered to explain the technical details offline. Jorge Csirke noted that (page 3) while some of the vessels were calibrated, not all were calibrated. Aquiles Sepúlveda explained that proper calibration was only possible for Simrad systems, and only EK60 systems were calibrated annually. Jorge Csirke (Peru) noted that the area covered by the data is small, and focussed on the area where the industry believe fish could be found, whereas the government series of acoustics indices is much more systematic and covers a larger area. Aquiles Sepúlveda clarified that this series would be complementary to the government series, but noted that sometimes the most productive months are before the scientific survey which occurs in June, so this series has the advantage of a wider sampling period within the year. He noted that in some years, when the Jack mackerel concentrate in the same areas as the fleet, the estimates are very similar. Jorge Csirke (Peru) noted that in Peru they distinguish between areas of high concentration, and other areas where Jack mackerel are dispersed over a wider area. Martin Pastoors (EU) suggested that it would be interesting to demonstrate the method of generating mean density from fishing vessels in more detail, and suggests a small subgroup to discuss.
6. Mariano Gutierrez, also on behalf Aquiles Sepulveda, as co-chairs of the HMTWG presented a short draft proposal for a Habitat Monitoring Symposium, which he described as the first open scientific event of SPRFMO, to be held in December 2021, probably in Chile. Jim Ianelli asked whether it would be combined with another event, and it was clarified that it was to be an independent SPRFMO event, but with connections to organisations such as ICES and PICES. Jim Ianelli noted that for a big event like this, in his opinion it would need to have an active Steering Committee, with specialists in most of the content topics, and in order to get 200 attendees they would need to ensure that people had support (in advance) from their agencies to be able to attend. Mariano Gutierrez said that they intended to contact other entities such as RFMOs and NGOs, and thought they would be able to get support for travel. Jorge Csirke (Peru) noted that in order to get non-SPRFMO people interested it might be helpful to broaden the scope to other related species that they might have expertise in. He also queried the proposed timing and the timing of the suggested deferment date. Aquiles Sepulveda explained that December in Concepción was best, being springtime and as the universities are on break then so that students would be able to come. The commitment to carry on the Symposium “before Commission meeting in 2022” contained in the workplan was also viewed as a constraint. But there was discussion that the SC might suggest more flexibility in this. Jim Ianelli suggested that the Jack mackerel Working Group had a high priority benchmark and MSE workshops, and it might be useful if this work could feed into that. He suggested that once there was a steering committee they would need to set a timeline, and that advertising getting people to save the date should be at least a year in advance. Jorge Csirke (Peru) queried the funding and it was clarified that this was NZ\$63 000 that had been allocated at the Commission meeting in Vanuatu.



3. Action items

- 1) Aquiles Sepulveda to convene a small group with Martin Pastoors and others to cover the issues related to the area covered by the fishing vessels versus the habitat area used to develop total biomass estimates.
- 2) Members to identify themselves as interested in being members of the Steering Committee for the Symposium.
- 3) To develop a template based on Meeting Document SC8-HM02 and also a list of the vessels and their acoustics equipment could be compiled by each Member as part of an inventory.



WEB MEETING 6 - ANNEX 1. List of Participants

SC CHAIRPERSON

Jim Ianelli

CHILE

Víctor Espejo
Aquiles Sepúlveda
Marcos Troncoso
Jorge Oliva

COOK ISLANDS

Chloe-Ane Wragg
Steve Brouwer
Tiare Nicholas

ECUADOR

Jorge Costain
Isidro Andrade

EUROPEAN UNION

Martin Pastoors
Niels Hintzen
Jan Geert Hiddink

KOREA

Seok-Gwan Choi
Eunjung Kim

PERU

Jorge Csirke
Daniel Grados
Hans Nicolaysen
Mariano Gutierrez
Anibal Aliaga
Salvador Peraltilla
Carlos Valdez
Rosa Zavala

HIGH SEAS FISHING GROUP

Jack Fenaughty

SPRFMO SECRETARIAT

Marianne Vignaux
Susana Delgado



WEB MEETING 6 - ANNEX 2. Meeting Agenda

- 1) OPENING OF THE MEETING
 - c. Identification of Participants
 - d. Confirmation of discussion topics
- 2) HABITAT MONITORING
 - c. SC8-HM01 Existing environmental data for habitat studies
 - d. SC8-HM04 Monitoring programs in Peru
 - e. Technical and financing aspects necessary to carry out the Habitat Monitoring Symposium 2021/22
 - f. SC8-HM02 Guidelines on a protocol for acoustic data collection
 - g. SC8-HM08 Habitat monitoring based on acoustics from fishing vessels

REPORT OF THE SEVENTH 2020 SC WEB MEETING

28/29 September 2020

1. Introductions

1. The SC Chairperson (Dr Jim Ianelli) welcomed all participants. The meeting was attended by 22 delegates (Annex 1). The meeting agenda (Annex 1) and topics were agreed as below, except that item b of the agenda was covered first, and the Cook Islands checklist (SC8-DW15) was briefly tabled to allow questions to be raised.

2. EU Exploratory proposal

2. Joost Pompert (EU) gave a presentation based on Meeting Document SC8-DW05_rev1, regarding the EU proposal for exploratory fishing for Patagonian and Antarctic toothfish within the SPRFMO Convention area 2021-2023. The proposal is for fishing targeting toothfish using the Spanish system of bottom longline for 4 weeks per year during the 2021 to 2023 period over an area of approximately 17 000 km² and aiming to explore the area as much as possible.
3. Jim Ianelli noted that this uses the same vessel, same gear but a different area to the previous EU exploratory fishery described in SC8-DW08. He asked whether the vessel had also done exploratory fishing in SIOFA. Joost Pompert explained that they had fished in the Williams Ridge in SIOFA, but after significant restrictions were placed on fishing in that area they had ceased fishing, and decided to explore new areas.
4. Lee Georgeson (Australia) noted Australia's strong interest in toothfish, and praised the risk assessment approach in this proposal. He noted an interest in tagging, particularly for the purpose of determining population connectivity with Australian stocks, and so hoped that the tagging information could be reported to Australia. Joost Pompert agreed that this should be able to be provided. Craig Loveridge (Secretariat) noted that tagging data in SPRFMO is part of the Observer dataset, and so would be required to be reported in September of the year after fishing.
5. Lee Georgeson (Australia) noted that whale depredation is an issue in some of their fisheries, and wondered whether a move on rule might be appropriate. Joost Pompert noted that CCAMLR don't have such a rule, but that operational considerations usually meant that situations where this was occurring would be avoided. Jim Ianelli asked whether there is a problem with entanglement, but Lee Georgeson (Australia) clarified that it is mainly a problem of loss of product.
6. Martin Cryer (New Zealand) agreed with Lee Georgeson regarding the risk assessment approach and noted that incidental catch of seabirds could be an issue, and suggested that full mitigation measures should be used to avoid this.
7. Lee Georgeson (Australia) noted that there was some Australian trawl fishing in the area from 2004 which caught some Patagonian toothfish, along with other species, but that the bottom was such that the net came fast frequently. AFMA are providing this data to EU, but it was noted that as a trawl fishery it may be shallower than in this proposal.



8. Joost Pompert (EU) noted that if the fishing occurs in September/October 2021 then a report to the SC may not be due until SC-10 in 2022, but earlier reporting may be possible.
9. With regards to the checklist completed by the EU and provided in paper SC8-DW16, Niels Hintzen (EU) suggested that Members should read it carefully and make comments. Jim Ianelli (Chairperson) suggested that the catch rate rationale needed further clarification to make it easier to follow.

3. Chile Exploratory Proposal

10. Juan Carlos Quiroz (Chile) gave a presentation based on SC8-DW06_rev1 regarding the Chile proposal for exploratory fishing using the same potting gear as the Cook Islands proposal, in the Foundation Seamount Chain and the Chile Rise. They have worked with the Cook Islands to harmonise/standardise the approach and to avoid overlap.
11. Jim Ianelli was interested in methods of assessment, and wondered whether the Cook Islands approach for estimating biomass (SC8-DW03) using the radius of fishing could be leveraged to provide additional information. Martin Cryer (New Zealand) agreed that there was little information at present to support the 600 t suggested catch limit, and that the Cook Islands experience suggested that CPUE declined relatively quickly on the Kopernik seamount, indicating that the available biomass was not that high. He suggested structured experiments to gather evidence to support a catch limit. Juan Carlos Quiros (Chile) agreed that the 600 t limit might be high, and was open to discussion, but suggested that a level of catch was needed to enable this experiment.
12. Chloe Wragg (Cook Islands) noted concerns about a rapid decline in biomass and recalled that the Cook Islands proposal placed limits on CPUE declines. She asked for clarification about where the proposed fishing will occur, and whether it would be in the same area as the Cook Islands fishery. Juan Carlos Quiroz (Chile) said that they don't have a plan for exactly where the fishing will occur, and perhaps after the first trip they can give further information, but that no overlap was planned. Chloe asked for a Rev 2 with these clarifications.
13. Niels Hintzen (EU) reinforced the idea of CPUE thresholds as a way to fish safely when biomass is uncertain, and Juan Carlos Quiroz (Chile) agreed that Chile was open to this kind of reference point. Niels Hintzen (EU) also asked for clarification about the term "significant interactions" with seabirds causing a move on. Juan Carlos Quiroz suggested that they don't know what kind of interaction they would find, but the crew is very experienced, particularly in CCAMLR and would use that experience.
14. Martin Cryer (New Zealand) reinforced the requirement for a Rev 2, with more numerical analysis such as in the Cook Islands proposal, and also with some ideas of stock hypotheses, particularly if there may possibly be some interaction with the stock that the Cook Islands proposal is fishing on. It was noted that it was odd to have two exploratory fisheries on what might be the same resource, because the cumulative effects could be important.
15. Jim Ianelli (Chairperson) asked that Martin Cryer (New Zealand) and Chloe Wragg (Cook Islands) send details of clarification they would like to see in a Rev 2 to Chile, noting that this would be likely to include a better rationale for the overall catch limit, a better description of where the fishing is to occur, calculation of fishable depths and description of structured fishing experiments to assess effective pot fishing area.
16. Andy Smith (HSFG) reported that he had access to some bathymetry data from the Chile Rise, and would provide that to Chile.



17. Juan Carlos Quiroz (Secretariat) agreed to provide a Rev 2 version, and Craig Loveridge (Secretariat) noted that there was limited time before the SC opens, so it may be difficult to prepare this and give the SC time to consider it.

4. Cook Islands Exploratory Proposal checklist

18. Marino Wichmann (Cook Islands) introduced the Cook Islands Exploratory Proposal checklist and was available for any questions, but no particular questions were raised.

5. Action Points

- a. Members to consider EU Checklist (SC8-DW16) and provide comments to EU
- b. Martin Cryer (New Zealand) and Chloe Wragg (Cook Islands) to provide a list of details of the clarification required in a Rev 2 version of the Chile Exploratory Fisheries Proposal (SC8-DW06)
- c. Juan Carlos Quiroz (Chile) to provide a Rev 2 version of SC8-DW06 for SC consideration



WEB MEETING 7 - ANNEX 1. List of Participants

SC CHAIRPERSON

Jim Ianelli

AUSTRALIA

Lee Georgeson

CHILE

Karin Mundnich
Juan Carlos Quiroz

CHINA

Bilin Liu

COOK ISLANDS

Chloe-Ane Wragg
Steve Brouwer
Marino Wichman

EUROPEAN UNION

Joost Pompert
Niels Hintzen
Jan Geert Hiddink

NEW ZEALAND

Tiffany Bock
Shane Geange
Marco Milardi

UNITED STATES OF AMERICA

John Syslo

HIGH SEAS FISHING GROUP

Jack Fenaughty
Andy Smith
Alex Epstein
David Epstein

SPRFMO SECRETARIAT

Marianne Vignaux
Susana Delgado
Craig Loveridge
John Cheva



WEB MEETING 7 - ANNEX 2. Meeting Agenda

- 1) OPENING OF THE MEETING
 - a. Identification of Participants
 - b. Confirmation of discussion topics
- 2) EXPLORATORY FISHING PROPOSALS
 - a. SC8-DW06_rev1 Chile Exploratory fishing plan for *Jasus spp.* and *Chaceon spp.* in SPRFMO Convention Area
 - b. SC8-DW05_rev1 European Union proposal for exploratory fishing for Patagonian and Antarctic toothfish within the SPRFMO Convention area 2021-2023