



North Pacific Fisheries Commission

NPFC-2018-SC03-Final Report



**3rd Meeting of the Scientific Committee
REPORT**

17-20 April 2018

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**North Pacific Fisheries Commission
3rd Meeting of the Scientific Committee**

**17-20 April 2018
Tokyo, Japan**

REPORT

Agenda Item 1. Opening of the meeting

1. The 3rd Meeting of the Scientific Committee (SC03) took place in Tokyo, Japan on 17-20 April 2018, and was attended by Members from Canada, China, Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, the United States of America and Vanuatu. The meeting was opened by Dr. Joji Morishita (Japan) who served as the SC03 Chair.
2. Japan, as the host Member, extended its sincere welcome to the participants. Japan highlighted the importance that each Member placed on the work conducted by the North Pacific Fisheries Commission (NPFC) to date, and appreciated the strong will shown by the Members to achieve further progress. Finally, Japan expressed its wish for the success of the meeting.

Agenda Item 2. Adoption of Agenda

3. The agenda was adopted without revision (Annex A).

Agenda Item 3. Meeting arrangements

4. Science Manager Dr. Aleksandr Zavolokin outlined the meeting arrangements. List of Documents (Annex B) and Participants List (Annex C) are attached to the report.

Agenda Item 4. Review of reports and recommendations from the Small Scientific Committees (SSCs) and Technical Working Group on Chub Mackerel Stock Assessment

4.1 SSC on Vulnerable Marine Ecosystems (SSC VME)

5. The Chair of the SSC VME, Ms. Bai Li (China), summarized the outcomes and recommendations of the 3rd SSC VME meeting (NPFC-2018-SSC VME03-Final Report).
6. The Members expressed their appreciation for the achievements of the SSC VME03 and also the NPFC/FAO workshop held in March 2018, noting that they form a strong foundation for VME-related work.
7. The SC03 reviewed the recommendations of the SSC VME03 and made recommendations to the Commission as described in Agenda Item 10.
8. The SC03 endorsed the holding of a VME-related data workshop in November 2018.

4.2 SSC on Bottom Fish (SSC BF)

9. The Chair of the SSC BF, Dr. Taro Ichii (Japan), summarized the outcomes and recommendations of the 1st SSC BF meeting (NPFC-2018-SSC BF01-Final Report).
10. The SC03 reviewed the recommendations of the SSC BF01 and made recommendations to the Commission as described in Agenda Item 10.
11. The SC03 discussed two management measures proposed by Japan during the SSC BF01 meeting (adaptive management process and minimum allowable mesh size) and highlighted the potential complementarity between the proposals. The United States drew attention to the working paper it submitted to the SSC BF01 proposing a fishing ban on North Pacific armorhead and splendid alfonsino as a precautionary measure until the approval and implementation of the adaptive management process. Canada also pointed out the need to review the scientific aspects of the 50 bycatch limit in the adaptive management process proposal.
12. The SC03 agreed to continue working on the existing scientific tasks and consider additional scientific tasks including a review of the deep sea bycatch species.
13. The SC03 discussed the suggestion made by the SSC BF01 to hold a data workshop and agreed on the holding of a joint VME- and bottom fish-related data workshop in November 2018. The SC03 adopted the TOR for the workshop (Annex D).

4.3 SSC on Pacific Saury (SSC PS)

14. The Chair of the SSC PS, Dr. Toshihide Iwasaki (Japan), summarized the outcomes and recommendations of the 3rd SSC PS meeting (NPFC-2018-SSC PS03-Final Report).
15. The SC03 reviewed the recommendations of the SSC PS03 and made recommendations to the Commission as described in Agenda Item 10.
16. The SC03 agreed, based on discussions initiated in the SSC PS03, to hold a workshop on biological reference points (BRP), harvest control rule (HCR) and management strategy evaluation (MSE). The SC03 adopted the TOR for the workshop (Annex E).

4.4 Technical Working Group on Chub Mackerel Stock Assessment (TWG CMSA)

17. The Chair of the TWG CMSA, Dr. Oleg Katugin (Russia), summarized the outcomes and recommendations of the 1st TWG CMSA meeting (NPFC-2017-TWG CMSA01-Final Report).
18. The SC03 reviewed the recommendations of the TWG CMSA01 and made recommendations to the Commission as described in Agenda Item 10.

Agenda Item 5. Progress in data collection, management and security

5.1 Data collection/reporting templates

19. Korea reported on the work done by the Corresponding Groups in developing standardized templates for data collection and reporting for Pacific saury (complete), bottom fish (in progress), squids (in progress), chub mackerel (early stages) and crab fisheries (not yet started). This work is progressing in line with the SC's Five-Year Work Plan.
20. The SC03 discussed the development of the chub mackerel data template and agreed to create a comprehensive template for all gear types, by intersessional communication among the TWG CMSA members and Korea.
21. The Science Manager reported that the compiled annual summary of Members' fishing footprints for bottom fisheries, chub and spotted mackerels, Japanese sardine, Pacific saury and squids are available on the NPFC website.

5.2 Observer Program

22. The Science Manager presented the compiled information about the existing observer programs of the NPFC Members as well as those of other regional fisheries management organizations (RFMOs) as reference for the development of a regional NPFC observer program as stipulated in the Convention and CMMs (NPFC-2018-SC03-WP03).
23. The SC03 began discussions to identify which scientific data should be collected by NPFC observer programs for each target species. The SC03 drafted a template for identification of such data as an example based on the Pacific saury data information template (Annex F) and agreed to continue this work for other target species. The template will be filled in intersessionally by the Small Working Groups on Data Collection Template starting from bottom fish, VME and Pacific saury and will be presented to the SC in 2019.

5.3 Information security regulations

24. The Science Manager presented data security and management issues from the recent meetings and intersessional work of the SC subsidiary bodies (NPFC-2018-SC03-IP02) for discussion by the SC03.
25. Based on the discussion, the SC03:
 - (a) Drafted regulations for the management of scientific meeting documents, meeting reports and intersessional communications on the NPFC collaboration website (Annex G).
 - (b) Agreed to work intersessionally before the Commission meeting in July 2018 to review potential issues related to the sharing of data and, if necessary, revise the Interim Guidance for Management of Scientific Data used in Stock Assessments.

5.4 NPFC data management system

26. The Data Coordinator, Mr. Mervin Ogawa, reported on the development of the NPFC data management system (NPFC-2018-SC03-WP04).

Agenda Item 6. Scientific projects for 2018 and 2019

6.1 Ongoing/planned projects

6.2 New projects

6.3 Review and prioritization of projects

27. The Science Manager presented the compiled document on scientific projects (NPFC-2018SC03-WP08 Rev 1) that were discussed above and during the SSC meetings.
28. The SC03 reviewed the list of proposed scientific projects and endorsed the revised proposal for consideration by the Commission (Annex H).
29. The SC03 noted that the scope of the scientific activities of the NPFC continues and will continue to grow, as illustrated by the intensive schedule of scientific meetings planned for the end of 2018 and the beginning of 2019. In light of this, the SC03 recognized the potential need to provide greater support for the Secretariat in the future, for example through the enhanced capacity of the Secretariat itself, support from external suppliers, or assistance from Members.

Agenda Item 7. 2017-2021 Research Plan and Work Plan

30. The SC03 Chair presented the revised Work Plan (NPFC-2018-SC03-WP07 Rev 1).
31. The SC03 reviewed and endorsed the revised Work Plan (Annex I), which shall be included in the 2017-2021 Research Plan.
32. In discussions on the Work Plan, the SC03 noted the importance of bycatch issues, in addition to research on target species.

Agenda Item 8. Cooperation with other organizations

8.1 Joint PICES-NPFC Study Group (PICES-NPFC SG)

33. The Co-Chair of the PICES-NPFC SG, Dr. Vladimir Kulik (Russia), presented an update on the intersessional work of the SG, and highlights from recent and future NPFC-PICES cooperative activities. The SG will continue working intersessionally and at the meeting of the PICES-NPFC SG during the annual PICES meeting in 2018.
34. The SC03 recognized the merits of cooperation between the NPFC and PICES for both organizations, and looked forward to hearing the outcomes of the PICES-NPFC SG meeting.

8.2 NPAFC's multinational survey in the North Pacific

35. The Science Manager reported on progress in formulating a plan for the NPFC's participation in the NPAFC's multinational survey in the North Pacific and his attendance at the NPAFC International Year of the Salmon (IYS) Working Group & Cruise Planning Meeting and IYS North Pacific Steering Committee meeting (NPFC-2018-SC03-IP01). The potential benefits from participation in the research survey in the North Pacific for the NPFC include new biological information for priority and other species, particularly North Pacific armorhead and Pacific saury, validation and adjustment of models, and other ecosystem studies.

36. The SC03 expressed support for the scientific cooperation between the NPFC and NPAFC in regard to the IYS initiative, recognized it as a project for 2019 (Annex H) and recommended that the Science Manager continue to participate in IYS-related initiatives. The SC03 also recognized the potential for broader cooperation with NPAFC in the future.

8.3 Cooperation with other organizations

37. The SC03 recognized that the cooperation between the NPFC and FAO to hold a VME-related workshop was very rewarding and expressed its appreciation for FAO's support. The SC03 recommended continuing and strengthening cooperation with FAO and other organizations, and actively seeking potential areas from which the NPFC could benefit from their expertise and resources.

Agenda Item 9. Other matters

9.1 Information on resumption of deep water crab fishery

38. Russia reported that its planned resumption of crab fisheries has not yet occurred.

39. The Executive Secretary, Dr. Dae Yeon Moon, informed the SC03 that Ukraine had previously consulted NPFC with respect to its plans to operate crab and other fisheries in the Convention Area but that there have been no developments since then.

9.2 Structure of the Scientific Committee

40. The SC03 did not identify any need to alter the current structure of the SC and its subsidiary bodies at this point in time.

9.3 MCS related issues from SC to TCC

41. Japan informed the SC03 that it has identified misreporting of catch data by two Japanese trawlers for 2016 and previous years, and discovered one vessel that conducted bottom fishing activities in a prohibited area on the Koko Seamount. Japan has imposed maximum sanctions on the vessels in question and detained them in port. Japan will make a more detailed report to the upcoming TCC meeting. Canada noted the prohibited area is closed for potential VME conservation (CMM 2017-05). The details of the event have scientific importance for the NPFC Members, especially location, gear type and bycatch.

42. The SC03 has been engaged in extensive discussions on the scientific aspects of the development of an NPFC observer program (NPFC-2018-SC03-WP03) and encourages the TCC to continue collaboration with the SC with respect to scientific and other data to be collected by at-sea observers.

Agenda Item 10. Advice and recommendations to the Commission

43. The SC informs the Commission that it endorsed the following recommendations made by its SSCs and TWG CMSA:

VME

- (a) Endorse the recommendations from the NPFC/FAO VME Workshop as revised by the SSC VME, and adopt the following recommendations (b. - n.) as high priority tasks for the SSC VME. Tasks identified as second priorities will be updated annually as part of the Work Plan.

Data

- (b) Review data availability against data requirements from the FAO DSF Guidelines (NPFC2018-WS VME01-WP20), clarify data deficiencies and prioritize actions to fill data gaps.
- (c) Continue development of the regional observer program.
- (d) Consolidate all available data and potentially relevant information from inside and outside the Convention Area to map VMEs (such as bycatch, scientific surveys and ecological models, fisheries independent surveys, historical literature, data from fishing industry itself, coral drag fishing).
- (e) Continue work on the ID guides for VME indicators, data sharing protocols, and central data repository for the NPFC.

Encounter Protocol

- (f) Post-encounter requirements – Prepare a quick reporting protocol to avoid multiple impacts on the same VME site, and consider a process to introduce provisional area protection around the encounter location, for example, a box with a set distance around the tow path.

SAI Assessments

- (g) Assess SAI by bottom fisheries on any other relevant VME indicator taxa (for example sponges and hydrocorals), in addition to the four existing taxa, and choose taxonomic resolution for VME indicators.
- (h) Develop measurable objectives for determining the occurrence of SAI and a standardized approach and metrics to assess the cumulative impact of all Members' bottom fisheries on VMEs through time.

Fishing Footprints

- (i) Map a combined fishing footprint and effort to better identify fishing grounds using data from all NPFC Members by gear type and time.
- (j) Determine the appropriate scale for collecting and identifying fishing locations to define the fishing footprint in relation to assessing SAI.

Exploratory Fishing Protocol

- (k) Consider the following points with respect to avoiding SAIs to VMEs in the course of exploratory fishing:
 - (i) Review available scientific information (such as distribution models) and conduct reconnaissance for VME in the area to be explored, through fishery-independent surveys, drop-camera deployments from fishing vessels or other low impact sampling prior to fishing, beyond the requirements currently contained in the NPFC regulations.
 - (ii) Initial exploratory fishing trips should be short to allow for timely assessment of both VME and fishery but at the same time minimizing any SAI.

Spatial Management Measures

- (l) Develop management objectives and appropriate measures to protect recovering VME sites.

Other

- (m) Assess the recovery of VME sites and monitor the recovery process.
- (n) Introduce periodic internal review processes for VME management.
- (o) Endorse the updated 2017-2021 SSC VME Work Plan (NPFC-2018-SC03-WP07).
- (p) Endorse the updated list of projects from the SSC VME as detailed in NPFC-2018-SC03-WP08.

Bottom Fish

- (q) Endorse Japan's proposal for the adaptive management process for North Pacific armorhead in principle, except for measures related to the strength of recruitment, subject to further evaluation of the survey design for capturing the recruitment conditions and decision on management authority for the fishery which shall be presented at the 2019 meeting of the SSC BF or SC.
- (r) Endorse the setting of a minimum allowable mesh size (130 mm) for trawl nets to reduce fishing pressure on juvenile splendid alfonsino.
- (s) Having no scientific advice with respect to the US proposal (NPFC-2018-SSC BF01-WP01) to ban fishing NPA and splendid alfonsino, defer the proposal to the Commission meeting.
- (t) Maintain the wording of the bottom fish-related sections of CMM 2017-06.
- (u) Endorse the updated 2017-2021 SSC BF Work Plan (NPFC-2018-SC03-WP07).

- (v) Endorse the updated list of projects from the SSC BF as detailed in NPFC-2018-SC03-WP08.

Pacific Saury

- (w) Endorse the revised CPUE Standardization Protocol for Pacific Saury.
- (x) Recognize the necessity to share data for the Pacific saury stock assessment, and agree that such data should only be treated within the TWG PSSA in accordance with the Interim Guidance for Management of Scientific Data used in Stock Assessments.
- (y) Create a joint spatial/temporal map of Members' catch and effort on Pacific saury with a spatial resolution of one-degree grids and a temporal resolution of one month. The Small Working Group on Data Collection Template for Pacific saury will conduct this work.
- (z) Move forward in a new direction to aggregate catch and effort data over Member's fishery based on the prototype of the data sharing template (Annex J) to draw a single joint CPUE index to resolve different patterns in standardized indices among Members and to increase spatial and temporal coverage of catch and effort data. Share catch and effort data by month and one-degree grids, and conduct a CPUE standardization based on the data after the 2018 SC meeting. Continue to discuss and refine the prototype of the data sharing template.
- (aa) Endorse the updated 2017-2021 SSC PS Work Plan (NPFC-2018-SC03-WP07).
- (bb) Consider revision of the 2017-2021 Work Plan with regards to detailed processes to enable the TWG PSSA to fulfil its duties more efficiently.
- (cc) Endorse the updated list of projects from the SSC PS as detailed in NPFC-2018-SC03-WP08.
- (dd) Hold a data preparation meeting in November 2018 for finalizing data sets for CPUE, biomass index, and catch series, and a stock assessment meeting in the first quarter of 2019.
- (ee) Initiate the task of setting limit and target reference points and developing harvest control rules in conjunction with managers by commissioning an independent expert to conduct a general literature review of the kinds of target and limit reference points used in pelagic species fisheries by other general RFMOs and fishery management bodies, and holding a workshop on management strategy evaluation, biological reference points and harvest control rules.
- (ff) Endorse the data information template for Pacific saury.

Chub Mackerel

- (gg) Endorse the TOR for the TWG CMSA.
 - (hh) Endorse the list of potentially available data for stock assessment of chub mackerel.
 - (ii) Recognize the necessity to share data for the chub mackerel stock assessment and agree that such data should only be treated within the TWG CMSA in accordance with the Interim Guidance for Management of Scientific Data used in Stock Assessments.
 - (jj) Endorse the CPUE Standardization Protocol for Chub Mackerel.
 - (kk) Set the use of an age-structured model as a common goal. Consider four potential models for the chub mackerel stock assessment: a VPA model, a statistical catch-at-age model, a cohort model with Kalman filter, and a state-space production model.
 - (ll) Endorse the Stock Assessment Protocol for Chub Mackerel.
 - (mm) Develop the operating model to test the four proposed stock assessment models in accordance with the Stock Assessment Protocol. Conduct an external review of the operating model.
 - (nn) Adopt the 2017-2021 Work Plan for the TWG CMSA finalized intersessionally by the TWG CMSA members.
44. Based on the above recommendations from its SSCs and TWG CMSA, the SC recommends the following to the Commission:
- (a) Endorse the revised Work Plan (Annex I).
 - (b) Endorse the proposed scientific projects (Annex H).
 - (c) Consider revising, based on discussions at the SC03 and SSC VME03, the VME-related sections of CMM 2017-05 and CMM 2017-06 to expand the approved list of NPFC VME indicator taxa to include Hydrocorals and Sponges (Stylasteridae and Porifera) and use the reference term “taxa” to describe the list of indicators, which includes various levels of taxonomic groupings.
 - (d) Revise CMM 2017-05 to incorporate a minimum allowable mesh size for trawl nets.
 - (e) Maintain the wording of the bottom fish-related sections of CMM 2017-06.
 - (f) Consider the proposed measures for bottom fisheries, including adaptive management process and precautionary approach (recommendations q. and s.).
 - (g) No revisions for CMM 2017-07 For Chub Mackerel and CMM 2017-08 For Pacific Saury.

- (h) Take actions, if necessary, to facilitate the sharing of Members' aggregated data for stock assessment and mapping purposes as specified in the Work Plan and Annex J, including adopting any revisions made intersessionally by the SC to the Interim Guidance for Management of Scientific Data used in Stock Assessments.
 - (i) Adopt the regulations for the management of scientific meeting documents, scientific meeting reports and intersessional communications using the NPFC collaboration website (Annex G).
 - (j) Continue to enhance cooperation with PICES, NPAFC and FAO.
 - (k) Due to the intensive schedule of scientific meetings, consider providing greater support for the Secretariat, through the enhanced capacity of the Secretariat itself, support from external suppliers, or assistance from Members, to ensure efficient conduction of the planned scientific meetings and projects.
 - (l) Hold the next SC and SSC meetings at a similar timing in 2019.
 - (m) Hold meetings of the other subsidiary bodies of the SC according to the schedule described in the Annex K, subject to further clarification via correspondence.
45. Canada and China made the following statement regarding the NPFC list of VME indicator taxa. The SC03 and SSC VME03 recommended sponges and hydrocorals be assessed for SAIs in the Convention Area, as VME indicator taxa. As per the current CMMs, other VME indicator taxa identified from time to time by the SC require approval by the Commission. Both taxa are found throughout the Convention Area, caught as bycatch and assessed as VME indicators by Members of the NPFC.
46. Japan analyzed using association analysis of the validity of cold-water corals as VME indicator taxa in the Emperor Seamount area from research data in NPFC-2017-SSC VME02-WP02. Based on the result, the NPFC agreed to designate four VME indicator taxa in the Northwestern Pacific Convention Area in CMM 2017-05.
47. Japan and Chinese Taipei made the following statement regarding Pacific saury:
- (a) Even though the stock assessment results by the Members show divergence and the SSC PS03 was not able to reach a consensus on the stock status, the declining trend of the stock is obvious, which is supported by the assessment results by the Members and the biomass estimates of the fishery-independent survey. Actual catches by Members' fishing vessels also show a clear decline in the last few years.
 - (b) Given this clear trend of decline, Japan and Chinese Taipei recommend that the Commission consider a precautionary approach, such as reducing the current fishing mortality, in addition to the restriction of fishing operations in the eastern areas, where juvenile fish are dominant.

48. China expressed its concern over the fact that Japan did not clarify the issue of the frequent changes of its data and Japan did not provide the early period data from 1980 to 1993 for the NPFC. China noted that the current stock assessment was not based on best available data/information because Japan's data are not convincing. Furthermore, China pointed out that Pacific saury is a short-lived species, with its population dynamics more likely regulated by environmental conditions, and the current CMM 2017-08 is sufficient.
49. With respect to the statement made by Japan and Chinese Taipei, Russia informed that according to the document on CPUE standardization (NPFC-2018-SSC PS03-WP08), provided by Russia, there was a significant decline in the CPUE of Russian vessels fishing for Pacific saury in national waters in 2017.
50. The US expressed concern over the declining trends in Pacific saury CPUEs, survey biomass, and catches, and it acknowledges the short life history of Pacific saury may have an impact on the interpretation and implication of these trends. The US hopes that all Members can work together to provide a joint CPUE index for future assessment and come to agreement about a suite of model sensitivity analyses which encompass uncertainty about Pacific saury biomass.

Agenda Item 11. Next meeting

51. The next SC meeting will be held at a similar timing in 2019. The date and location will be notified by the Secretariat via correspondence.

Agenda Item 12. Adoption of the Report

52. The SC03 Report was adopted by consensus.

Agenda Item 13. Close of the Meeting

53. The SC03 closed at 13:20 on 20 April 2018.

Annexes

Annex A – Agenda

Annex B – List of Documents

Annex C – Participants List

Annex D – Terms of Reference for the workshop on the data requirements and data sharing for VME- and BF-related tasks

Annex E – Terms of Reference for biological reference points (BRPs), harvest control rule (HCR) and management strategy evaluation (MSE) workshop

Annex F – Template for identification of scientific data which can be collected and/or validated by at-sea observers, fishermen, electronic reporting systems and other means (example based on the Pacific saury data information template)

Annex G – Regulations for management of scientific meeting documents, meeting reports and intersessional communications on the NPFC website

Annex H – Scientific projects for 2017-2021

Annex I – Five-Year SC Work Plan for each priority area identified in the SC Research Plan

Annex J – Prototype of the template for data sharing for a single joint CPUE index and a spatial/temporal map of Members' catch and effort on Pacific saury

Annex K – List of SC subsidiary bodies meetings and workshops

Agenda

Agenda Item 1. Opening of the meeting

Agenda Item 2. Adoption of Agenda

Agenda Item 3. Meeting arrangements

Agenda Item 4. Review of reports and recommendations from the Small Scientific Committees (SSCs) and Technical Working Group on Chub Mackerel Stock Assessment

4.1 SSC on Vulnerable Marine Ecosystems

4.2 SSC on Bottom Fish

4.3 SSC on Pacific Saury

4.4 Technical Working Group on Chub Mackerel Stock Assessment

Agenda Item 5. Progress in data collection, management and security

5.1 Data reporting templates (Korea)

5.2 Observer Program (Secretariat)

5.3 Information security regulations (USA and Canada)

5.4 NPFC data management system (Secretariat)

Agenda Item 6. Scientific projects for 2018 and 2019

6.1 Ongoing/planned projects

6.2 New projects

6.3 Review and prioritization of projects

Agenda Item 7. 2017-2021 Research Plan and Work Plan

Agenda Item 8. Cooperation with other organizations

8.1 Joint PICES-NPFC Study Group

8.2 NPAFC's multinational survey in the North Pacific

8.3 Cooperation with other organizations

Agenda Item 9. Other matters

9.1 Information on resumption of deep water crab fishery

9.2 Structure of the Scientific Committee

9.3 MCS related issues from SC to TCC

Agenda Item 10. Advice and recommendations to the Commission

Agenda Item 11. Next meeting

Agenda Item 12. Adoption of the Report

Agenda Item 13. Close of the Meeting

LIST OF DOCUMENTS**MEETING INFORMATION PAPERS**

Number	Title
NPFC-2018-SC03-MIP01 (Rev 2)	Meeting Information
NPFC-2018-SC03-MIP02	Provisional Agenda
NPFC-2018-SC03-MIP03	Provisional Annotated Agenda
NPFC-2018-SC03-MIP04	Indicative Schedule

REFERENCE DOCUMENTS

Symbol	Title
https://www.npfc.int/2017-2021-research-plan-click-link	2017-2021 Research Plan
https://www.npfc.int/interim-guidance-management-scientific-data-click-link-1	Interim Guidance for Management of Scientific Data

WORKING PAPERS

Symbol	Title
NPFC-2018-SC03-WP01	Draft 2017-2021 Work Plan for TWG CMSA
NPFC-2018-SC03-WP02 (Rev 1)	Potentially available data for chub mackerel stock assessment
NPFC-2018-SC03-WP03 (Rev 1)	Report on the existing observer programs of NPFC Members and those of other RFMOs
NPFC-2018-SC03-WP04	NPFC data management system
NPFC-2018-SC03-WP05	Existing Observer Programs - Russia
NPFC-2018-SC03-WP06	Existing Observer Programs - Korea
NPFC-2018-SC03-WP07	Five-Year SC Work Plan for each priority area identified in the SC Research Plan
NPFC-2018-SC03-WP08	Scientific projects for 2017-2021

INFORMATION PAPERS

Symbol	Title
NPFC-2018-SC03-IP01	Cooperation with other organizations: NPAFC's multinational survey in the North Pacific
NPFC-2018-SC03-IP02	Data security and management issues from the recent meetings and intersessional work of the SC subsidiary bodies

ANNUAL REPORTS

Symbol	Title
NPFC-2018-AR Canada	2017 Annual Report of Canada
NPFC-2018-AR China	2017 Annual Report of China
NPFC-2018-AR Japan (Rev 2)	2017 Annual Report of Japan
NPFC-2018-AR Korea	2017 Annual Report of Republic of Korea
NPFC-2018-AR Russia	2017 Annual Report of Russian Federation
NPFC-2018-AR Chinese Taipei	2017 Annual Report of Chinese Taipei
NPFC-2018-AR United States of America	2017 Annual Report of United States of America
NPFC-2018-AR Vanuatu	2017 Annual Report of Vanuatu
NPFC-2018-AR-Annual Summary Footprint – Chub & Spotted Mackerels (Rev 1)	2017 – Annual summary footprint for chub mackerel and spotted mackerel in the NPFC Area of Competence
NPFC-2018-AR-Annual Summary Footprint – Japanese Sardine	2017 – Annual summary footprint for Japanese sardine in the NPFC Area of Competence
NPFC-2018-AR-Annual Summary Footprint – Squids (Rev 1)	2017 – Annual summary footprint for squids in the NPFC Area of Competence

REPORTS FROM WORKING GROUPS AND SSCs

Symbol	Title
NPFC-2017-TWG CMSA01-Final Report	Report of the 1st TWG CMSA Meeting
NPFC-2018-SSC VME03-Final Report	Report of the 3rd SSC VME Meeting
NPFC-2018-SSC BF01-Final Report	Report of the 1st SSC BF Meeting
NPFC-2018-SSC PS03-Final Report	Report of the 3rd SSC PS Meeting

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**Terms of Reference for the workshop on the data requirements
and data sharing for VME- and BF-related tasks**

1. To make a data wish list for combined footprint and effort map of all bottom fisheries by gear and time for SAI assessment (SSC-VME issue)
 - (a) Fishing ground
 - (b) Fishing effort
 - (c) Other data
2. To determine minimum data requirements and data resolution for combined SAI assessment
 - (a) Review other relevant VME indicator taxa, in addition to the four existing taxa (for example sponges and hydrocorals) and suggest taxonomic resolution for VME indicators
3. To discuss the timely arrangement and aggregation of the bottom fisheries information in relation to the post-encounter requirements (SSC-VME issue)
4. To make a benthic habitat data wish list (SSC-VME issue) and review the data
 - (a) Bathymetry data
 - (b) To review scientific and fisheries independent survey data to conduct habitat mapping
 - (c) To review all other available data and potentially relevant information from inside and outside the Convention Area to conduct habitat mapping
 - (d) To review predicative models done by Members
 - (e) Recommendation for future work (e.g., consolidation of data)
5. To check the scientific information collected from the monitoring survey (SSC-BF issue)
 - (a) The recruitment period and location
 - (b) Criteria for the strong recruitment of NPA
6. To make a bycatch data wish list (SSC-BF issue) and review the data
 - (a) Review the data collection programme
 - (b) Review the flow of the observer reports
 - (c) Review the data and measures needed for ID guides
 - (d) Recommendation for future work
7. To discuss data collection template (type of data and spatial-temporal resolution)
8. To develop data sharing protocols
9. To review data availability against data requirements from the FAO DSF Guidelines
10. To discuss the creation of a central data repository

Terms of Reference for biological reference points (BRPs), harvest control rule (HCR) and management strategy evaluation (MSE) workshop

Chair: TBD by the closure of the 2018 Commission meeting

Contact person: Secretariat

Time and venue: March 2019 (1-2 days), in conjunction with TWG PSSA stock assessment meeting

Objectives: To explore BRPs for the managements of the NPFC priority species in the NPFC Convention Area, considering specific characteristics of those species.

1. To review the general concept and best practices of BRP, HCR and MSE
 - ✓ Types of BRPs (target, limit, model-based, empirical)
 - ✓ Types of HCRs commonly used
 - ✓ Standard procedure to conduct MSE

2. To overview outcomes of literature reviews on BRPs and HCR that have been applied to small pelagic fish stock management
 - ✓ Introduction of several case studies

3. To discuss potential directions on application of BRPs, HCR and MSE to the management of NPFC priority species
 - ✓ What management objectives and BRPs are suitable to NPFC situation
 - ✓ What types of HCR are appropriate for NPFC
 - ✓ Develop a procedure to determine BRPs with MSE with consideration of uncertainties and life history characteristics of species

Annex F

Template for identification of scientific data which can be collected and/or validated by at-sea observers, fishermen, electronic reporting systems and other means (example based on the Pacific saury data information template)

Stick-held-dip net fishing information format - Pacific saury				
	Items	Example	Data collection	Data validation
1	Vessel flag	KR		
2	Vessel name	77Dongnam		
3	Vessel call sign (if allocated)	1ABC		
4	Vessel Reg No	xxxxxx-xx		
5	Lloyd's/ IMO Number (if allocated)	xxxxxxx		
6	Light bulb types (traditional/ LED)	traditional	xx	
7	(if traditional bulb) Total light power (kW)	xxx kW	xx	
8	Date of Fishing Activity	14-Apr-18	xx	
9	Fishing position : latitude (DD,MM.mm)	44, 10.10	xx	X
10	Fishing position : longitude (DD,MM.mm)	153, 10.10	xx	X
11	Sea Temperature (C)	15	v	X
12	Number of haul	3	xx	X
13	Species code (FAO 3-alpha code)	SAP		
14	Retained: Live weight (kg)	3000		X
15	Discarded: Live weight (kg)	0	X	
16	(Bycatch) Species code (FAO 3-alpha code)	OFJ		
17	Retained: Live weight (kg)	0	X	
18	Discarded: Live weight (kg)	10	X	
Biological data - Pacific saury				
1	Sampled location (fleet/port/lab)	fleet	v	X
2	Fishing Date or Fishing position	14-Apr-18	v	X
3	Length (FL,BL,TL in cm)	FL 15		
4	Sex	Male	X	
5	Maturity Stage	Immature	X	
6	Age (if possible)	1	X	

X - data that can ONLY be collected by observers AT SEA; **xx** - data that can be collected by fishermen AT SEA; **v** - data which are preferably collected by observers but a degree of cover can be achieved by other means (in-port collection, EM, ERS etc); ***** - data which can be collected equally well by other means.

Regulations for management of scientific meeting documents, meeting reports and intersessional communications on the NPFC website

Working Papers, Meeting Info Papers, Information Papers, Reference Documents/Papers, Observer Papers

To enhance and encourage collaborations with researchers, scientists, RFMOs, and science organizations, and to encourage transparency of the NPFC processes, the SC recommends making the above-named documents available to the public through the NPFC website. The default rule would be that all the above-named documents would be released to the public 45 days (inclusive of weekends and holidays) following the closure of the meeting to which they were submitted. If the document author(s) or submitting Member do not authorize the release of the document, they must indicate that clearly on the cover page or first page of the document, OR they may request to the Secretariat in writing of their desire to not release the document during the 44 days prior to document publication on the website.

SC Meeting Reports, SC Subsidiary Body Reports (SSC, TWG) and Other Scientific Reports (Workshop)

1. The SC recommends that the above-named documents be released to the public after acceptance by the Commission in accordance with paragraph 8.2 of Rules of Procedure. Paragraph 8.2 of Rules of Procedure stipulates that the Commission has 45 days to revise and accept the report via correspondence.
2. For SC subsidiary body reports: If there are portions of the report which are deemed by the subsidiary body to be too sensitive to release prior to the SC report, the specific sensitive portions may be redacted, and the report released as described in 1 above. Following the SC meeting, the entire report (inclusive of redacted portions) will be released in conjunction with the SC report. If the report as a whole is deemed too sensitive to release, the report may be held and released to the public in conjunction with the SC Meeting Report. Decisions about which portion or whether the whole report is to be redacted shall be made during the subsidiary body meeting.

Intersessional Communication using the NPFC Collaboration website

The NPFC has made available a web-based tool to facilitate discussion of its subsidiary bodies, informal working groups, discussion groups, and other temporary groups on a project-by-project basis. Access to this tool is restricted to members of a specific project/topic. Following the completion of the discussion, the group facilitator/chair may summarize the discussions to make

them available and accessible to the appropriate Commission body (SCC, SC, Commission). At the conclusion of the discussions of the group and after summary is complete, the discussion text and documents will be archived by the Secretariat but not maintained on the website except for a summary made by the group facilitator/chair.

Redaction or withdrawal of Working Papers, Meeting Info Papers, Information Papers, Reference Documents/Papers, Observer Papers which were submitted to workshop or meeting

Documents of the types listed above may not be redacted or withdrawn from the public or Member only area of the website by a Member or the Secretariat once it has been published unless notification is provided to all Members which details the reason for the withdrawal request. If an error is identified in a publicly available document, the member responsible for the document submission can submit a cover letter or document text which describes the error and the resolution to be prepended to the original document. Errors identified in documents prior to publication on the public website or during meetings or workshops can be revised or documents withdrawn before or during the meeting.

Scientific projects for 2017-2021

	Project	Time	Status	Next step: activities, required funds
1	NPFC/FAO VME workshop	2018	Concluded. Report to FAO is in progress.	The FAO report will be finalized by the co-chairs and published as FAO Fisheries and Aquaculture report. <i>No funds required. All costs will be covered by FAO.</i>
2	VME identification guide	2017-2020	<i>In progress</i> VME ID group had an informal meeting in March 2018 to discuss plan for implementation of the project.	Review other RFMOs id guides and finalize the format; Collect all images on the designated web drive. <i>2018 FY: No funds required. 2020: printing costs TBD.</i>
3.1	GIS database/module as a part of NPFC database management system for spatial management of bottom fisheries and VMEs	2018-2019	<i>In progress</i> Spatial extensions have been included in data management system; PostGIS data warehouse and instance of GeoServer have been set up; Map of CA, fished seamounts and closed areas on website.	Improvement of the interface of the map on the website and the way of accessing of database; Informal small working group will work intersessionally to specify further steps. <i>2018 FY: 7,220USD carried over from 2017 FY SC budget.</i>
3.2	Joint spatial/temporal map of Members' catch and effort on Pacific saury with a spatial resolution of one-degree grids and a temporal resolution of one month (by Small Working Group)	2018-	<i>Proposed.</i>	<i>2018 FY: 0.5 mln JPY (~5,000USD). Source: SC fund.</i>

4	TWG PSSA meeting (meeting costs)	Every year, 2017-2021	<i>TWG CMSA01 meeting was held in Dec 2017.</i>	Data preparation meeting, Nov 2018 (4 days), China. <i>2.2mln JPY (20,000USD)*</i> <i>Source: SC fund.</i> Stock assessment meeting, Mar 2019 (4 days), Japan. <i>2.2mln JPY (20,000USD)*</i> <i>Source: SC fund.</i>
5	TWG CMSA meeting (meeting costs)	Every year	<i>TWG PSSA meeting was held in Dec 2017.</i>	Mar 2019 (3 days), Japan <i>2.2mln JPY (20,000USD)*</i> <i>Source: SC fund.</i>
6	Workshop to address data requirements and data sharing for SAI assessment and other tasks identified in the Work Plan by SSC VME and SSC BF	2018	<i>Proposed.</i>	Nov 2018 (4 days), China. <i>2.2mln JPY (20,000USD)*</i> <i>Source: SC fund.</i>
7	Workshop on biological reference points (RP), harvest control rule (HCR) and management strategy evaluation (MSE) (meeting costs and invited experts)	2019	<i>Proposed.</i>	Mar 2019 (2 days), Japan <i>2.2mln JPY (20,000USD)*</i> <i>Source: SC fund.</i>
8	Expert to review Pacific saury stock assessment (consultant fee and travel cost)	TBD later	Under consideration. SSC PS: to determine time and format.	<i>2018 FY: No funds required.</i>
9	Observer Program	2018-	<i>In progress</i> A study on the existing observer programs of Members and those of other RFMOs has been done.	Identify data gaps which can be fulfilled by an observer program. <i>2018 FY: No funds required.</i>
10	Literature review of target and limit reference	2018	<i>Proposed.</i>	By Sep-Oct 2018 <i>2018 FY: 1.1 mln JPY</i>

	points used in pelagic species fisheries by other general RFMOs and other fishery management bodies			(10,000USD) Source: SC fund.
11	Promotion of cooperation with NPAFC including macro-scale multinational survey in the North Pacific in 2020	2019	Proposed.	TBD.
12	External review of the operating model for chub mackerel stock assessment	2020	Proposed.	2018 FY: No funds required.

* the required funds may be lower as some meetings will be held in conjunction to each other.

Five-Year SC Work Plan for each priority area identified in the SC Research Plan

1. STOCK ASSESSMENTS FOR TARGET FISHERIES AND BYCATCH SPECIES

PACIFIC SAURY

Year	Tasks	Progress/Comment	Meeting/Activity
2017	Conduct stock assessment (provisional).	Done.	TWG PSSA01, Feb 2017; SSC PS02 Apr 2017.
	Present outputs for adoption	Done. <i>SC was tasked to improve PSSA by July 2018.</i>	SC02 meeting, Apr 2017; COM03 meeting, Jul 2017.
	Update the provisional stock assessment.	In progress.	TWG PSSA02, Dec 2017.
2018	Evaluate the quality of the data for stock assessment.	In progress.	Intersessional work; SSC PS03, Apr 2018.
	Update stock assessment and recommendations to Commission to improve conservation and management of Pacific saury.	In progress.	SSC PS03, Apr 2018.
	Present outputs for adoption		SC03 meeting, COM04 meeting
	Initiate the task of setting limit and target reference points and develop harvest control rules in conjunction with managers		Intersessionally: literature review, by Sep-Oct 2018.
	Data preparation to finalize data set for BSSPM/try to draw a joint CPUE index		TWG PSSA03, Nov 2018.

2019	<p>Joint spatial/temporal map of Members' catch and effort on Pacific saury</p> <p>Continue setting limit and target reference points, harvest control rules and management strategy evaluation in conjunction with managers</p> <p>Update/ benchmark stock assessment and recommendations to Commission to improve conservation and management of Pacific saury.</p>		<p>Intersessionally.</p> <p>Workshop, Mar 2019.</p> <p>TWG PSSA04, Mar 2019.</p> <p>SSC PS04, Apr 2019.</p>
2020	<p>Update/ benchmark stock assessment and recommendations to Commission to improve conservation and management of Pacific saury</p>		
2021	<p>Update/ benchmark stock assessment and recommendations to Commission to improve conservation and management of Pacific saury</p>		

Objectives and timelines of the 3rd and 4th TWG PSSA meetings

TWG PSSA03 (4 days)

- 1st priority task: Update CPUE and biomass indices
 1. submit reports on CPUE standardization and biomass indices: 1 month before the meeting
 2. finalize abundance indices: during the meeting
- 2nd priority task: Draw a single joint CPUE index
 1. consider revision of the prototype template and share views and suggestions: 4 months

- before the meeting
- 2. finalize the template for data sharing: 3 months before the meeting
- 3. submit full data set including 2017 based on the template: 1 month before the meeting
- 4. finalize single joint CPUE index: during the meeting
- Discuss literature review of the TRPs and LRPs.

TWG PSSA04 (4 days)

1. submit stock assessment report: 1 month before the meeting
2. finalize/update stock assessment: during the meeting

CHUB MACKEREL

Year	Tasks	Progress/Comment	Meeting/Activity
2017	Review of Members' national research on stock status and fisheries	Done	Chub mackerel workshop, 16-17 Feb
	Establishment of TWG CMSA	Done/Adopted by the Commission	SC02 meeting (proposal), COM03 meeting
	Development of TORs, Work Plan and Data List	TORs are done. Work Plan and Data List are in progress.	Proposal at the 3 rd Commission meeting; Intersessional work on the TORs; TWG CMSA meeting, 4-5 Dec
2018	Report outputs by TWG CMSA01		SC03 meeting, COM04 meeting;
	Discussion of the framework for the operating model, list of data required for SA	In drafting a protocol for the development of the operating model and selection of the best SA model	Intersessional

2019	<p>Data preparation and data sharing for scientific SA/ CPUE standardization/ show results of the intersessional work on the operating model (OM) and organize the OM structure/ proposal of SA model candidates</p> <p>Development and conditioning of OM</p> <p>Present outputs by TWG to SC</p> <p>Show the progress on the OM and agree the OM/ Finalize the data used for the SA</p>		<p>TWG CMSA02, Mar 2019.</p> <p>Intersessional</p> <p>SC04 meeting, COM05 meeting;</p> <p>TWG-CMSA03</p>
2020	<p>External review of the OM if needed/ Determine the final OM/ Compare SA model candidates and choose the best SA model</p> <p>Preliminary SA with the selected model(s) and provision of advice and recommendations to the SC</p> <p>Present outputs by TWG to SC with emphasis on management advice from the preliminary SA</p>		<p>Intersessional</p> <p>TWG CMSA04</p> <p>SC05 meeting, COM06 meeting;</p>
2021	<p>Update/Improvement of the assessment and provision of advice and recommendations to the SC</p> <p>Present outputs by TWG to SC with emphasis on management advice</p>		<p>TWG CMSA05</p> <p>SC06 meeting, COM07 meeting;</p>

Detailed work plan for the operating model development

2018

1. Identification of all available data
2. Specification of objectives and determination of performance measures
3. Discussion of the framework for the operating model (OM)
 - (a) Draft a protocol for the OM development
 - (b) Specification of model structure
 - (i) Important biological processes to be incorporated into the OM
 - (ii) Specification of uncertainties to be incorporated in the OM
 - (iii) Population dynamics model/data-generating model
 - (iv) Determine the population and fishing constant (mortality, fertility, growth, maturation, catchability)
 - (v) The method for conditioning the data (what parameters are estimated or not ; what data are used for conditioning)
 - (vi) Develop a flowchart for OM
4. Present the progress and organize the structure of the OMs TWG CMSA02
5. Identification and collection of required data TWG CMSA02

2019

6. Select the computer code and write a script program
7. Conditioning the OMs on data
8. Setting of scenarios (reference case(s) and sensitivity case(s))
9. Agreement of the OMs TWG CMSA03
10. Finalize the data used for the stock assessment TWG CMSA03

2020-

11. External review of the OMs if needed
12. Determine the final OMs
13. Compare stock assessment model candidates according to the pre-determined performance measures and choose the best SA model from the candidates

SPOTTED MACKEREL, JAPANESE SARDINE, NEON FLYING SQUID AND JAPANESE FLYING SQUID

Year	Tasks	Progress/Comment	Meeting/Activity
2017			
2018	Collect data and monitor situation for further analyses		
2019	Collect data and monitor situation for further analyses		
2020	Collect data and monitor situation for further analyses		
2021	Collect data and monitor situation for further analyses		

NORTH PACIFIC ARMORHEAD

Year	Tasks	Progress/Comment	Meeting/Activity
2017	<ol style="list-style-type: none"> 1. Adopt Adaptive Management process 2. Develop work plan to implement the Adaptive Management process 3. Assess and monitor the status of the stock 4. Conduct acoustic survey and other affiliated research 	In progress. <i>COM03 requested further work on the Adaptive Management process.</i>	SC02 meeting, Apr 2017; COM03 meeting, Jul 2017.
2018	<ol style="list-style-type: none"> 1. Develop harvest control rules to conserve stock 2. Assess and monitor the status of the stock 3. Review data requirements and identify data gaps 4. Conduct affiliated research 	<p>In progress.</p> <p>In progress.</p> <p>In progress.</p>	<p>SSC BF01, Apr 2018.</p> <p>SSC BF01, Apr 2018.</p> <p>SSC BF01, Apr 2018.</p> <p>Data workshop, Nov 2018</p>

2019	<ol style="list-style-type: none"> 1. Improve adaptive management plan and implement harvest control rules 2. Assess and monitor the status of the stock 3. Review data requirements and identify data gaps 4. Conduct acoustic survey and other affiliated research 		SSC BF02
2020	<ol style="list-style-type: none"> 1. Review monitoring and survey designs 2. Assess and monitor the status of the stock 3. Conduct acoustic survey and other affiliated research 		SSC BF03
2021	<ol style="list-style-type: none"> 1. Evaluate Adaptive Management process and refine harvest control rules 2. Assess and monitor the status of the stock 3. Conduct acoustic survey and other affiliated research 		SSC BF04

SPLENDID ALFONSINO

Year	Tasks	Progress/Comment	Meeting/Activity
2017	No tasks.		
2018	<ol style="list-style-type: none"> 1. Review monitoring and assessment of the stock 2. Review data requirements and identify data gaps 3. Conduct affiliated research 	<p>Done.</p> <p>In progress.</p>	<p>SSC BF01, Apr 2018.</p> <p>SSC BF01, Apr 2018.</p> <p>Data workshop, Nov 2018.</p>
2019	<ol style="list-style-type: none"> 1. Conduct comprehensive stock assessment 2. Adopt Adaptive Management process 		SSC BF02

2020	1. Develop harvest control rules and management advice		SSC BF03
2021	1. Assess and monitor the status of the stock 2. Conduct affiliated research		SSC BF04

2. ECOSYSTEM APPROACH TO FISHERIES

Year	Tasks	Progress/Comment	Meeting/Activity
2017	Review Encounter protocol and Exploratory fishing protocol, Revise CMMs 2017-05 and 06	Done	SSC VME02
2018	Address data, knowledge, performance, gaps and identify further steps to improve our assessments and protection of VMEs in the Convention Area Develop ID guides for VME indicators Determine minimum data requirements and data resolution for combined SAI assessment, review data availability, and consolidate the data required; Contribute to data sharing protocols and creation of a central data repository	Done. In progress	NPFC/FAO VME workshop; SSC VME03. Intersessional meeting, March 2018; further intersessional work Intersessional communication* Data workshop, Nov 2018
2019	Map a combined fishing footprint and effort Refine the exploratory fishing protocol and consider banning exploratory fishing in VME closed areas		SSC VME04

	<p>Development of standardized approach for SAI assessments</p> <p>Refine the encounter protocol in necessary</p> <p>Develop management objectives for recovering VME sites</p> <p>Develop timely reporting and action protocol when VME sites or recovering sites are identified.</p> <p>ID guides for VME indicators:</p> <ol style="list-style-type: none"> 1. finalize the format and collect all images on the designated web drive 2. Update the format by the discussion from the SSC and review the image & id with other coral taxonomists. 		<ol style="list-style-type: none"> 1. SSC VME04 2. Intersessionally
2020	<p>Apply the standardized approach for SAI assessments and conduct integrated SAI assessment</p> <p>Refine the encounter protocol if necessary</p> <p>ID guides for VME indicators: Complete editing the id guide and test it out by observers and fishers.</p>		SSC VME05
2021	<p>Introduce periodic internal review processes for VME management</p> <p>ID guides for VME indicators: Revisit taxonomy according CMM updates and finalize the id guide.</p>		SSC VME06

*Lead: Cherisse Du Preez (Canada)

3. DATA COLLECTION, MANAGEMENT AND SECURITY

DATA STANDARDS

Year	Tasks	Progress/Comment	Meeting/Activity
2017	Finalize data collection templates Pacific saury and continue development for bottom fisheries (trawl, gillnet, longline)	Presented and discussed. Done for Pacific saury. Others in progress.	SSC PS02 & SC02 meetings, Apr 2017. Intersessional work by SWGs.
2018	Develop data collection templates for chub mackerel, squid and crab fisheries	In progress.	SSC BF01, SC03 meetings.
2019	Complete data collection templates for bottom fish, chub mackerel, squid and crab fisheries		
2020	Revision of data collection templates if necessary		
2021	Revision of data collection templates if necessary		

DATA COLLECTION

Year	Tasks	Progress/Comment	Meeting/Activity
2017	Identifying data needs and data gaps	In progress.	SSCs & SC02 meetings, Apr 2017; TWGs CMSA&PSSA meetings, Dec 2017.
2018	Identifying data needs and data gaps; Enhancement of data collection: fisheries, surveys, Observer program	In progress. In progress. <i>Review of the existing observer programs of Members and those of other RFMOs is completed.</i>	VME workshop, Mar 2018 SC03 meeting.

2019	Identifying data needs and data gaps; Enhancement of data collection: fisheries, surveys, Observer program	In progress. <i>Identification of scientific data which can be collected and/or validated by at-sea observers, fishermen, electronic reporting systems and other means.</i>	Intersessional work. SC04.
2020	Identifying data needs and data gaps; Enhancement of data collection: fisheries, surveys, Observer program		
2021	Identifying data needs and data gaps; Enhancement of data collection: fisheries, surveys, Observer program		

DATA SECURITY

Year	Tasks	Progress/Comment	Meeting/Activity
2017	Information Security Guidelines	In progress. <i>Development of the Information Security Guidelines (ISG) for both SC and TCC.</i> In progress. <i>Adoption of the Interim Guidance for Management of Scientific Data Used in Stock Assessments</i>	SC02 meeting, Apr 2017; Intersessional work by the SWG. COM03 meeting, Jul 2017.
2018	Prioritization of areas of the Information Security and Management System and development of Information Security and Management regulations	In progress.	SC03 meeting

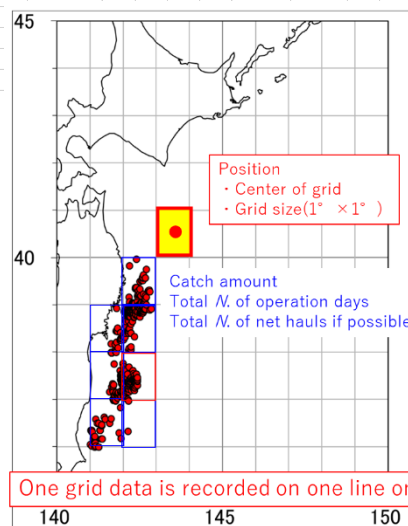
2019	Adoption of Information Security and Management regulations		
2020	Improvement of Information Security and Management regulations if necessary		
2021	Improvement of Information Security and Management regulations if necessary		

Prototype of the template for data sharing for a single joint CPUE index and a spatial/temporal map of Members' catch and effort
on Pacific saury

Member	Year	Month	Duration Month Early Middle Late Date	Center of grid		Mesh size of Grid	Catch amount (metric ton)	Effort		Remarks	Estimated catch by ages (N. Individuals)		Measurement length select (FL, TL, KnL, BL)	Estimated catch by length class in each 1cm (N. Individuals)																																			
				Latitude (°N)	Longitude (°E)			Total operation days for all vessels	Total net hauls for all vessels		Age-0	Age-1		15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35															
														15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35															
Japan	2019	Oct.	Early	36.30	141.30	0.5	348	11	105	Example	3,265	641,993	KnL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6,453	0	0	0			
Japan	2019	Oct.	Month	37.30	141.30	1.0	2,425	98	968	Example	258,504	3,711,067	KnL	0	0	0	0	0	17,725	0	0	0	0	2,092																							0	0	0
Japan	2019	Oct.	Month	37.30	142.30	1.0	4,437	138	1,170	Example	52,193	1,093,407	KnL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Japan	2019	Oct.	Month	37.30	141.30	1.0	6,253	498	5,526	Example	45,912	1,997,132	KnL	0	0	0	0	0	0	0	0	0	0	4,339	0	27,293	0	39,023																		95,128	0	0	0
Japan	2019	Oct.	Month	38.30	142.30	1.0	964	22	146	Example	290,628	1,138,466	KnL	0	0	0	0	13,741	0	0	41,224	13,741	0	27,483	68,706	68,706																				27,483	0	0	0
Japan	2019	Oct.	Month	39.30	142.30	1.0	1,576	30	350	Example	110,008	2,326,253	KnL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Required item
If possible

hexadecimal number
37° 30' ⇒ 37.30
145° 30' ⇒ 145.30



List of SC subsidiary bodies meetings and workshops

Meeting	Date and place	Host Member
VME&BF DATA WS (3 days)	7-9 November, Xiamen	China
TWG PSSA03 (4 days)	12-15 November, Xiamen	China
BRP/HCR/MSE WS (1-2 days)	4-5 March 2019, Yokohama	Japan
TWG PSSA04 (4 days)	6-9 March 2019, Yokohama	Japan
TWG CMSA02 (3 days)	27 Feb - 1 Mar 2019, Yokohama	Japan
SSCs VME04, BF02, PS04, SC04	15-26 April 2019, TBD	Korea