



North Pacific Fisheries Commission

NPFC-2024-COM08-Final Report

8th Meeting of the NPFC Commission FINAL REPORT

15-18 April 2024

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**North Pacific Fisheries Commission
8th Commission Meeting**

**15-18 April 2024
Osaka, Japan (hybrid)**

FINAL REPORT

Agenda Item 1. Opening of the Meeting

1. The 8th Meeting of the North Pacific Fisheries Commission (NPFC) was held in a hybrid format, with participants attending in-person in Osaka, Japan, or online via WebEx, on 15-18 April 2024, and was attended by Members from Canada, China, the European Union (EU), Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, the United States of America (USA), and Vanuatu. Panama attended as a Cooperating Non-Contracting Party (CNCPP). The United Nations Food and Agriculture Organization (FAO), the North Pacific Marine Science Organization (PICES), the North Pacific Anadromous Fish Commission (NPAFC), the International Monitoring Control and Surveillance (IMCS) Network, the Australian National Centre for Ocean Resources and Security (ANCORS), the Deep Sea Conservation Coalition (DSCC), the Pew Charitable Trusts, the Ocean Foundation, World Wildlife Fund (WWF), and Greenpeace International attended as observers. The meeting was opened by Mr. Shingo Ota (Japan), who served as the Commission Chair.

1a. Welcome Address

2. The Chair welcomed the participants to Osaka, noting that, coincidentally, this is his home region, and thanked the Secretariat for its dedicated efforts to organize the meeting. The Chair noted that next year will mark the 10th anniversary of the NPFC and reflected on the history of the organization, including the negotiations for its establishment and scope. He also noted the continued progress of the Commission in advancing its work, including intersessional work facilitated by online and hybrid meetings. The Chair highlighted the work done by the Joint SC-TCC-COM Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS) to develop a management procedure and an interim harvest control rule (HCR). He urged Members to adopt one of the candidate HCRs proposed by the SWG MSE PS, pointing out that this will help to balance the sustainable use of Pacific saury and socio-economic concerns, and enable swifter responses to trends in the stock. The Chair also highlighted the ongoing work to develop a unified stock assessment approach for chub

mackerel and the anticipated completion of the NPFC's first chub mackerel stock assessment in 2024. With regard to bottom fisheries, the Chair noted the proposals to revise the Conservation and Management Measures (CMMs) for bottom fisheries and protection of vulnerable marine ecosystems (VMEs) and expressed his hope that Members would be able to find consensus on these proposals. Lastly, the Chair wished the participants a fruitful meeting.

1b. Appointment of Rapporteur

3. Mr. Alexander Meyer was appointed as the Rapporteur.

1c. Adoption of Agenda

4. The Commission agreed to add "Adoption of the FAC06 Report and Recommendations" as Agenda Item 6c.
5. The Commission agreed to add "Selection of a Science co-chair of the joint SC-TCC-COM Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS)" as Agenda Item 13b. bis.
6. With the above revisions, the Commission adopted its agenda (Annex A). The List of Documents and List of Participants are attached (Annexes B, C).

1d. Meeting Arrangements

7. The Executive Secretary, Dr. Robert Day, outlined the meeting arrangements.

Agenda Item 2. Membership of the Commission

2a. Status of the Membership

8. The report on the status of the Convention by the Republic of Korea, the Depositary of the NPFC, was taken as read (NPFC-2024-COM08-IP01). Since the previous Commission meeting, the total number of Members remains at nine.

2b. CNCP status and any other applications

9. The Commission noted that no applications for CNCP status have been received.
10. The Commission noted that as Panama has not applied to renew its CNCP status, Panama's CNCP status will expire following the end of COM08 on April 18.

11. Panama explained that it has recently introduced a new domestic fisheries regime and regulations and that as it works to implement these regulations and manage the transition for its domestic and international fishing fleets, it has decided to pause its participation in the NPFC as a CNCP and has not applied for renewal of its CNCP status. Panama emphasized its continued commitment to cooperating with the NPFC, both now and in the future, and stated that it will provide all data for all activities conducted by its vessels in 2024 and any relevant data for the next assessment period. Finally, Panama expressed its interest in applying once again for CNCP status at the next Commission meeting.

Agenda Item 3. Report from the Secretariat

12. The Executive Secretary presented a summary of the annual report on the Commission's activities for the intersessional period between the 7th Commission Meeting of March 2023 and this current Commission meeting (NPFC-2024-SR).

Agenda Item 4. Report of the 8th Scientific Committee meeting

4a. Review of the SC08 Report and response to COM07 taskings

13. The Chair of the SC, Dr. Janelle Curtis (Canada), summarized the outcomes of the 8th SC meeting and the meetings of its subsidiary bodies (NPFC-2023-SC08-Final Report & NPFC-2024-COM08-IP05) for discussion by the Commission.
14. Several Members expressed concern about the recent dramatic decline in chub mackerel catch and CPUE. Some of these Members highlighted, in particular, such declines in domestic waters. The Commission noted these concerns, as well as the ongoing stock assessment work, and welcomed the expected completion of the NPFC's first chub mackerel stock assessment this year.
15. Several Members expressed concern about the continued historically low levels of Pacific saury over the past four years and noted the need to adopt an interim HCR for Pacific saury at this meeting. However, some Members also expressed difficulty implementing an interim HCR to calculate a new total allowable catch (TAC) to be applied from this fishing season, noting that CMM 2023-08 for Pacific Saury, which was adopted last year, had set a TAC for a period of two fishing seasons and the change in TAC for 2024 would cause difficulties to the fishing industry.
16. Korea noted that the SC had noted the value of regular reporting of Pacific saury bycatch from Members' other fisheries and hoped this point would be taken up by the Commission

when reviewing the proposed amendments to CMM 2023-08 For Pacific Saury under Agenda Item 8.

17. Regarding the collection of scientific data and the establishment of a regional observer program, the Commission agreed on the importance of further improving the quantity and quality of data collected, as data form the basis of the Commission's decisions. To aid with the development of scientific aspects of a regional observer program in a step-wise manner, the Commission requested that the SC provide guidance to the TCC on what level of observer coverage would be needed on fishing vessels and what kinds of data would need to be collected to achieve the scientific objectives of a regional observer program. China suggested that data collection by a regional observer program could be complemented by port sampling programs and e-monitoring.
18. The EU expressed its continued concern that stock assessments have not been completed for most NPFC key species and considered this to be a fundamental priority for the Commission. The EU encouraged Members to share all relevant data with the SC for the development of future stock assessments. The EU also noted that domestic stock assessments for several priority species have been presented at NPFC meetings, including SC08, and encouraged Members that are developing domestic stock assessments to provide them in a timely manner ahead of SC meetings. The EU suggested that the Commission task the SC and the Small Working Group (SWG) on Milestones to define a process for reviewing and possibly adopting these assessments for priority species that could serve as interim advice for the stock, until an NPFC stock assessment for that particular species is completed. The EU further suggested that whenever stock assessment work is initiated, an estimation of the timeframe for the completion of the stock assessment should be provided. In addition, the EU emphasized that robust stock assessments require well-designed, comprehensive, and consistent data collection schemes and suggested that the SC prioritize the development of a document outlining the types of data that should be collected by gear and the required frequency of the collection of such data, towards establishing an effective data collection scheme for the NPFC.
19. The USA shared the EU's concern over the trends in some stocks, and the lack of stock assessments and management advice on several priority species. The USA also echoed the EU's view regarding the need for the development of a more comprehensive and consistent data collection scheme.
20. Japan explained that its scientists have been providing the SC and its subsidiary bodies with Japanese domestic stock assessments for several pelagic species, including chub mackerel,

sardine, Japanese flying squid, and blue mackerel, some of which are straddling stocks between the Japanese EEZ and the NPFC Convention Area. Japan believed that these stock assessments represent the best available scientific information available at this point. Japan hoped that this information would inform and enhance the stock assessment work of the NPFC. It also requested that other Members share their biological data with Japan to further enhance Japan's domestic stock assessment work.

21. Russia emphasized the importance of the Japanese domestic chub mackerel stock assessment work for informing the work of the NPFC's chub mackerel stock assessment and that the SC's work has been based on the best available scientific information.
22. The EU emphasized the importance of ensuring that the current CMMs are effectively implemented and possibly further strengthened and noted with concern the SC's concern over the lack of definition of historical levels in CMMs for several priority species, including chub mackerel. The EU believed that this undermines some of the intended conservation benefits of the NPFC's CMMs. The EU urged Members to provide information for clearly defining historical levels for ensuring effectiveness of chub mackerel and other species and hoped that Members would consider the proposals from the EU aimed at addressing this outstanding gap.
23. The EU expressed concern about the increase in the number of vessels fishing for chub mackerel since the entry into effect of CMM 2023-07 For Chub Mackerel and which seems to go against the CMM's spirit. China pointed out that the EU's statement was based on the overview of NPFC fisheries and was inappropriate because the TCC07 had noted that the overview contained several uncertainties and inaccuracies, and that it should not be cited.
24. Korea noted that the SC had raised several concerns in regard to CMM 2023-05 For Bottom Fisheries and Protection of VMEs in the Northwestern Pacific Ocean and hoped that all of these concerns would be taken up by the Commission when reviewing the proposed amendments to this CMM under Agenda Item 8. The USA echoed the view expressed by Korea and stated that the Commission should do more to meet its mandate to apply precautionary and ecosystem approaches, referencing its own proposal to amend CMM 2023-05.
25. The DSCC welcomed the SC's discussions on the protection of VMEs and the proposal presented by the USA and Canada on enhancing measures for their protection in the Northwestern Pacific Ocean, and encouraged the Commission to give serious consideration to the proposal.

26. The Commission noted the SC's proposed amendments to three CMMs and considered them further under Agenda Item 8.
27. In response to the recommendation from the SC that the Commission develop a clear definition of "bycatch," the Commission requested that the SC provide additional reference information, such as current catch status and the definitions applied in other regional fisheries management organizations (RFMOs), and draft potential options for defining bycatch for the Commission's consideration.
28. The Commission noted the SC's request to consider the SC's actions to address the NPFC Resolution on Climate Change and held further discussions on this matter under Agenda Item 11.
29. The Commission noted the SC's request to consider defining the reference levels/historical catches in a number of CMMs and held further discussions on this matter under Agenda Item 8.

4b. Adoption of the SC Report and Recommendations

30. The Commission adopted the reports and the recommendations of the SC (Annex D) with the understanding that the proposed amendments to the three CMMs would be discussed under Agenda Item 8.

Agenda Item 5. Report of the 7th Technical and Compliance Committee meeting

5a. Review of TCC07 Report and response to COM07 taskings

31. The Chair of the TCC, Ms. Alisha Falberg (USA), summarized the outcomes of the 7th TCC meeting (NPFC-2024-TCC07-Final Report) for discussion by the Commission.
32. Several Members remarked that TCC07 had noted the uncertainties and inaccuracies in the figures presented in the overview of NPFC fisheries and the summary of transshipment activities, and they highlighted the importance of Members and the Secretariat working to improve the quality of the information in the Secretariat's data holdings to produce more informative reports, particularly the overview of fisheries, which is a fundamental source of information about the NPFC. Japan suggested that it would be useful to implement a mechanism for Members to cross-check the information in future versions of these papers, rather than relying solely on the Secretariat to identify the necessary information. Several Members noted that, despite the inaccuracies, the new fisheries overview contained more

comprehensive information than previous years and they welcomed the progress made in this regard.

33. China reminded Members that at TCC07, it had agreed to have the overview of fisheries be published, despite the many inaccuracies, with the disclaimer that the information should not be cited. China expressed concern that, despite this, the EU has since made a statement based on the information in the paper, which suggests that others will as well. It reiterated its position that Members should not use information in the paper as the basis of their positions. Other Members pointed out that while the fisheries overview included some inaccuracies, it should be made public and used with the appropriate caveats, that not all the data were inaccurate, and that it is still possible for Members to draw conclusions and identify trends from the paper.
34. The Commission reviewed and finalized the texts of the disclaimers and agreed to add them to the respective documents.
35. The EU highlighted the discussions relating to transparency at TCC07, and emphasized the importance of ensuring the participation of all stakeholders in meetings of the Commission, including the TCC and SWGs. The EU recognized that efforts are being made to ensure a high level of transparency and openness and hoped that these efforts would continue. In this relation, the EU noted that documents posted for NPFC meetings are not publicly available, contrary to the practice of many other RFMOs, and suggested that the NPFC should also make its meeting papers publicly available. The Commission noted that the publishing of meeting papers is a cross-cutting issue and agreed to therefore discuss this matter further under Agenda Item 13c.
36. Japan highlighted the discussions at TCC07 regarding defining the historical level of authorized fishing vessels and the need for Members and the Secretariat to work to eliminate the uncertainty around this ahead of TCC08 and COM09.
37. Japan highlighted the discussions on the deployment of observers for transshipment and the need to establish a regional observer program for at-sea transshipment at the next Commission meeting, which is a commitment that the Commission has made previously. China stated that while China is committed to the previous decision of the Commission, it has already established a good domestic observer scheme to monitor at-sea transshipment and such human resources would be wasted if all the domestic observers have to be replaced by

regional observers and that the Commission should consider this problem when discussing the regional observer program for at-sea transshipment.

5b. Adoption of IUU Vessel List for 2024

38. Noting that the TCC did not propose any vessels for inclusion on, or removal from, the current NPFC IUU Vessel List, the Commission did not include or remove any vessels on the NPFC IUU Vessel List.
39. The Commission adopted the updates to the details of four vessels in the current NPFC IUU Vessel List as proposed by the TCC (NPFC-2024-TCC07-WP18 Rev.1), and adopted the NPFC IUU Vessel List for 2024 (Annex E).
40. The Commission noted that the current format of the NPFC IUU Vessel List does not include all the details stipulated in Annex B of CMM 2019-02 To Establish a List of Vessels Presumed to Have Carried Out IUU Activities in the NPFC Convention Area and requested that the Secretariat update the format intersessionally to include these details.
41. China suggested that the NPFC IUU Vessel List should also include information on which Member originally nominated the IUU vessel for inclusion on the list, as that Member may have an obligation to notify the Commission of any additional information it becomes aware of in relation to the vessel. The Commission noted the suggestion.
42. The EU encouraged Members to duly notify the Commission of any information that enables the tracking of IUU vessels. The EU also reminded Members of the need to comply with paragraph 24 of CMM 2019-02 and to inform the Commission if any of their vessels have interactions with IUU-listed vessels.

5c. Adoption of Final Compliance Monitoring Report

43. The TCC Chair explained that the TCC did not adopt a Compliance Monitoring Report (CMR) again this year as the current process and format of the draft CMR did not enable adequate discussion and assessment of Members' compliance with the obligations under the NPFC CMMs.
44. Several Members expressed concern that the TCC was once again unable to adopt a CMR and highlighted the establishment of a compliance monitoring scheme (CMS) and adoption of a CMR as a matter of priority. At the same time, they welcomed the progress made at TCC to develop potential amendments to CMM 2023-13 For the Compliance Monitoring Scheme

to lay out a more comprehensive CMS process and hoped that the Commission would be able to adopt an updated CMM at this meeting and adopt a CMR next year.

5d. Adoption of the TCC07 Report and Recommendations

45. The Commission adopted the report and the recommendations of the TCC (Annex F) with the understanding that the draft CMMs discussed at the TCC07 would be discussed under Agenda Item 8.

5e. Consideration of other TCC issues identified during TCC07 or by COM08 meeting

46. The Commission agreed to change the name of the Sustainable Use and Conservation Handbook to the “Compendium of NPFC Conservation and Management Measures.” The Commission also agreed that ease of use of the compendium could be improved by rearranging it by the chronological order of CMMs, removing “Enhancements and Clarifications from the Commission,” and adding clearer references to the number of each CMM. The Commission tasked the Secretariat to make the above changes in the next version.

Agenda Item 6. Report of the 6th Finance and Administration Committee meeting

6a. Review of FAC Report

47. The Chair of the Finance and Administration Committee (FAC), Mr. Dan Hull (USA), summarized the outcomes of the 6th FAC meeting (NPFC-2024-FAC06-Final Report) for discussion by the Commission.

6b. Adoption of the proposed budget for 2024/2025 and 2025/2026

48. The Commission adopted the proposed budgets for 2024/2025 and 2025/2026 as submitted by the FAC06 (NPFC-2024-COM08-WP12) along with the associated assessed contributions, noting that the assessed contribution amounts for 2025/2026 would be updated based on GDP and catch history at that time (Annex G).

6c. Adoption of the FAC06 Report and Recommendations

49. The Commission adopted the report and the recommendations of the FAC06 (Annex H).

Agenda Item 7. Report of the 4th and 5th Meetings of the joint SC-TCC-COM Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS)

50. The Science Co-Chair of the joint SC-TCC-COM Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS), Dr. Toshihide Kitakado (Japan), summarized the outcomes of the 4th and 5th SWG MSE PS meetings (NPFC-2023-MSE PS04 Final Report (Annex I); NPFC-2024-SWG MSE PS05 Final Report (Annex J)).

51. The Commission held further discussions on the adoption of an interim HCR during its discussions on the proposed amendments to CMM 2023-08 For Pacific Saury under Agenda Item 8.
52. Pew Charitable Trusts and the Ocean Foundation welcomed the significant progress to develop an interim HCR for Pacific saury and urged the Commission to adopt an interim HCR at this meeting. They urged the Commission to give strong consideration to adopting the HCR with a 40% constraint on the maximum allowable change (MAC) in TAC from year to year, as it performs well in the short term to rebuild the stock quickly, meets other management objectives, and provides the stock with greater resiliency to potential environmental change or unforeseen circumstances. They also emphasized the importance of developing a full management procedure as the best means of maintaining a long-term sustainable saury fishery and accounting for key uncertainties in the fishery and environmental conditions.

Agenda Item 8. Conservation and Management Measures

8a. Review of the amendments to existing CMMs and any new CMMs

Review of CMM 2023-08 For Pacific Saury

53. Japan presented proposed amendments to CMM 2023-08 For Pacific Saury for the inclusion of an interim Harvest Control Rule (NPFC-2024-COM08-WP06 Rev.2).
54. The Commission reviewed the proposed amendments and, in conjunction, considered the candidate HCRs developed by the SWG MSE PS.
55. The Commission adopted an interim HCR as follows:
 - (a) Based on the latest base-case results of stock assessment of Pacific saury, annual catch level in the entire area shall be calculated as $y = a_{y-1} * F_{MSY} * \hat{B}_{y-1}$, where $a_{y-1} = \min(1, \hat{B}_{y-1} / \hat{B}_{MSY})$.
 - (b) Fishing intensity is reduced at biomass levels below B_{MSY} .
 - (c) The maximum allowable change of the annual catch level in the entire area is restricted to 10%.
 - (d) The interim HCR shall be applied from 15 May 2024 until the establishment of a management procedure to be recommended through a MSE process by the SWG MSE PS, or unless otherwise decided by the Commission.

56. The Commission tasked the Secretariat to work closely with Members to keep the Commission informed of the status of Members' Pacific saury catches.
57. The Commission adopted the proposed amendments to CMM 2023-08 For Pacific Saury with the inclusion of the above interim HCR (Annex K).
58. Vanuatu made a statement expressing its disappointment with Members' disregard for Vanuatu's request for special requirements as a Small Island Developing State. Vanuatu's full statement is attached as Annex L.
59. The Science Co-Chair of the SWG MSE PS expressed his appreciation to the Commission for selecting an interim HCR, noting the different trade-offs and factors that the Commission needed to consider. He also expressed his commitment to leading the work of the SWG MSE PS to complete its next task of developing a management procedure through the MSE process. Furthermore, he emphasized that the involvement of scientists, managers and stakeholders is critical to the MSE process and encouraged greater involvement from managers and stakeholders.

Review of CMM 2023-07 For Chub Mackerel

60. Japan presented proposed amendments to CMM 2023-07 For Chub Mackerel to set a catch limit in the Convention Area as an interim measure until the TWG-CMSA concludes its stock assessment (NPFC-2024-COM08-WP07 Rev.1).
61. The DSCC agreed with Japan on the importance of implementing measures in the Convention Area that are consistent with those taken in Members' domestic waters.
62. The EU presented proposed amendments to CMM 2023-07 For Chub Mackerel, which it also presented at TCC07, that, among others, are aimed at clarifying some key obligations, in particular those related to the effort management requirements established by the CMM, as well as their application to relevant NPFC Members (NPFC-2024-TCC07-WP10).
63. The Commission combined the two proposals to amend CMM 2023-07, one from Japan and the second from the EU, and further updated the combined proposal (NPFC-2024-COM08-WP07 Rev.3). Based on the results of the discussion, the Commission adopted the proposed amendments to CMM 2023-07 For Chub Mackerel (Annex M).

64. The Commission noted that “fishing activities for chub mackerel” in the amended CMM has the same meaning as “fishing activities targeting chub mackerel.”
65. The USA noted that if the Commission decides to change or set a TAC in the future based on the best available scientific information, the amount of chub mackerel catch allocated to the EU in paragraph 5bis would not be exempt from potential changes.

New CMM 2024-16 For Anadromous Fish

66. Canada presented a proposal for the establishment of a measure to protect anadromous fish in the NPFC Convention Area (NPFC-2023-COM08-WP08 Rev.4). The proposal was co-sponsored by Korea and the USA.
67. The Commission reviewed and adopted the proposal as CMM 2024-16 to Protect Anadromous Fish in the North Pacific Fisheries Commission Convention Area (Annex N).

Review of CMM 2023-05 For Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northwestern Pacific Ocean

68. The Commission considered the amendments to CMM 2023-05 for Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northwestern Pacific Ocean that were endorsed by SC08 (NPFC-2024-COM08-WP01). While Members expressed general support for the amendments, the USA suggested that these amendments should be considered in the context of the US and Canadian proposal (NPFC-2024-COM08-WP09 Rev.1), which also includes these changes, and the Commission agreed to this approach.
69. The USA presented proposed amendments to CMM 2023-05 for Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northwestern Pacific Ocean to ensure more clearly defined science-based limits and baselines, demarcate open and closed areas consistent with the ecosystem and precautionary approaches, close the North Pacific armorhead fishery pending a stock assessment and scientific advice on sustainable levels of fishing activity, close more seamounts to bottom fishing while updated and comprehensive impact assessments are developed, and/or introduce a temporary precautionary pause on certain bottom trawl fishing in the Northwest Pacific Ocean (NPFC-2024-COM08-WP09).
70. Pew Charitable Trusts and the Ocean Foundation urged the Commission to adopt greater protections for the area of the Emperor Seamounts and Northwest Hawaiian Ridge from the adverse impact of bottom fishing. They pointed out that overwhelming scientific evidence supports the conclusion that VMEs are known, or likely to occur, across the entirety of the

Emperor Seamount Chain and that these seamounts serve important ecological functions and are especially vulnerable to bottom fishing. They further pointed out that closing this area to bottom fishing would be a timely opportunity to demonstrate the NPFC's competence regarding ecosystem conservation.

71. The DSCC noted that the proposal is consistent with the obligations in the United Nations Fish Stocks Agreement, the NPFC Convention, and the actions that Members have committed to take through the adoption of United Nations General Assembly (UNGA) resolutions to protect VMEs and marine biodiversity. The DSCC highlighted the urgent need for action and the need to prohibit bottom fishing, especially bottom trawling, on seamounts in the high seas. The DSCC welcomed the measures adopted by the NPFC to date but called for more comprehensive measures that are in line with the proposal and that take into account the more extensive science that has become available since the NPFC first adopted its bottom fishing and VME protection measures.
72. The Commission reviewed Canada and the USA's proposal and amended it based on discussions (NPFC-2024-COM08-WP09 Rev.2). The USA noted that while it and Canada introduced and supported the Rev.2 to carry forward the SC's recommended changes and make other improvements to the measure, which was the most that could be agreed by consensus at this meeting, that it believes the Commission could also do more to strengthen the measure consistent with the precautionary approach. The Commission adopted the proposed amendments to CMM 2023-05 for Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northwestern Pacific Ocean (Annex O).

Review of CMM 2023-06 For Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northeastern Pacific Ocean

73. The Commission reviewed the proposed amendments to CMM 2023-06 for Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northeastern Pacific Ocean that were endorsed by SC08 (NPFC-2024-COM08-WP02). The Commission adopted the proposed amendments (Annex P).

Review of CMM 2023-11 For Japanese Sardine, Neon Flying Squid and Japanese Flying Squid

74. The Commission reviewed the proposed amendments to CMM 2023-11 for Japanese Sardine, Neon Flying Squid and Japanese Flying Squid (NPFC-2024-COM08-WP03) that were endorsed by SC08. The Commission adopted the proposed amendments (Annex Q).

75. The Commission considered the amendments proposed by the EU to CMM 2023-11 For Japanese Sardine, Neon Flying Squid and Japanese Flying Squid, noting that it was also presented at TCC07 (NPFC-2024-TCC07-WP12). The Commission was unable to make substantial progress, and the EU therefore withdrew the proposal.

Review of CMM 2023-12 On The VMS

76. The Commission reviewed the proposed amendments to CMM 2023-12 On the VMS that were endorsed by TCC07 (NPFC-2024-TCC07-WP20). The Commission adopted the proposed amendments (Annex R).

Review of CMM 2023-13 For The Compliance Monitoring Scheme

77. The Commission reviewed the proposed amendments to CMM 2023-13 For the Compliance Monitoring Scheme that were endorsed by the TCC, including the one remaining square bracketed section (NPFC-2024-TCC07-WP04 Rev.5). The Commission noted that at TCC07, some Members wished to review the actual Implementation Questionnaire before agreeing to this section, although they were generally supportive of the concept.
78. The Commission reviewed the draft Implementation Questionnaire (NPFC-2024-TCC07-WP21) prepared by Members. The Commission agreed to task the Secretariat to work with the TCC Chair and the TCC Vice-Chair to adjust the Implementation Questionnaire in the intersession. The Commission agreed that, as this is the first year developing and utilizing the Implementation Questionnaire, the Secretariat would seek feedback from Members and try to accommodate Members' input to the extent possible. The Commission agreed that the Secretariat is empowered to edit the Implementation Questionnaire as necessary and that it should do so as early as possible in the intersessional period to allow time for Members to fill out the Implementation Questionnaire and return it to the Secretariat, and for the Secretariat to prepare the draft CMR by the submission deadline for TCC08. The Commission recognized that this process is intended to provide the Secretariat with the information needed to implement the revised CMS process. The Commission recognized that in future years, as provided for in CMM 2024-13, the Secretariat is given the flexibility to edit the Implementation Questionnaire, as needed, in accordance with the List of Obligations adopted annually by the Commission.
79. Some Members expressed the view that the 2024/2025 Implementation Questionnaire should not be made public, pointing out that the Questionnaire is still under development and there is no value in doing so, as it serves only as material for the Secretariat to create the CMR, and that the CMR essentially contains the same content as is contained in the Implementation

Questionnaire. Other Members expressed their preference to make the Implementation Questionnaire public to provide more information on how members are implementing obligations, pointing out that this is common practice at some other RFMOs that use such questionnaires. These Members also noted that it is essential to be able to discuss the contents of the implementation questionnaires in open TCC meetings, along with the draft CMR.

80. Having reviewed the draft Implementation Questionnaire and noting also that NPFC has a Data Sharing and Data Security Protocol that governs the information that can be made public, the Commission agreed to delete the square bracketed section in the proposal to amend CMM 2023-13 For the Compliance Monitoring Scheme and will resolve the details around how to make the questionnaire public when revising the Rules of Transparency for TCC. The Commission adopted the proposed amendments to CMM 2023-13 For the Compliance Monitoring Scheme (Annex S).

Review of CMM 2019-02 To Establish a List of Vessels Presumed to Have Carried Out IUU Activities in the NPFC Convention Area

81. The Commission reviewed the proposed amendments to CMM 2019-02 To Establish a List of Vessels Presumed to Have Carried Out IUU Activities in the NPFC Convention Area that were endorsed by TCC07 (NPFC-2024-TCC07-WP06). The Commission adopted the proposed amendments (Annex T).

Review of CMM 2023-15 On The Prevention, Reduction and Elimination of Marine Pollution

82. The Commission reviewed the proposed amendments to CMM 2023-15 on the Prevention, Reduction and Elimination of Marine Pollution that were endorsed by TCC07 (NPFC-2024-TCC07-WP08 Rev.5). The Commission adopted the proposed amendments (Annex U).

Review of CMM 2023-09 For High Seas Boarding and Inspection Procedures

83. The Commission reviewed the proposed amendments to CMM 2023-09 For High Seas Boarding and Inspection Procedures for the NPFC that were endorsed by TCC07 (to NPFC-2024-TCC07-WP14). The Commission adopted the proposed amendments (Annex V).

Review of CMM 2023-03 On Transshipments

84. Korea presented NPFC-2024-TCC07-WP02 Rev.2, which combined proposed amendments to CMM 2023-03 On Transshipments that were presented by Japan, Korea and Chinese Taipei at TCC07 and incorporated subsequent revisions into this combined proposal based on consultations among Members.

85. The Commission reviewed the combined proposal. Some Members indicated that they could accept the shorter timeframes and larger distances from the estimated start location for modifying submitted advance notifications of transshipments and other transfer activities, but only for vessels that use the online transshipment application. These Members pointed out that the use of the online transshipment application would provide more real-time data that would be essential for maintaining effective MCS and would also alleviate the administrative burdens that the proponents of the amendments were seeking to address. Other Members indicated that they could not accept the prerequisite of the use of the online transshipment application at this time, as the crews on their fishing vessels require more time to transition to using the application, and reiterated that their vessels face practical difficulties due to the conditions of the North Pacific Ocean.
86. In the spirit of compromise, Members agreed to amend CMM 2023-03 by adding a provision whereby, for 2024 only, modification to the advance notification would only need to be submitted if the transshipment or other transfer activity does not occur within 72 hours of the estimated start time or within 50 nautical miles of the estimated start location in the original advance notification (NPFC-2024-TCC07-WP02 Rev.4). Members agreed to revisit this matter at COM09. Canada stated that it would not consider an extension of the new provision unless it is linked to the use of the online transshipment application. Canada further stated that it is not acceptable to expect the Secretariat to manually input transshipment forms when an electronic option exists.
87. The Commission adopted the proposed amendments to CMM 2023-03 On Transshipments (Annex W).
88. China noted that the time that is conducive to transshipment activities in the North Pacific Ocean is limited due to the rough weather and sea conditions. China indicated that it believes that permitting receiving vessels to conduct two transshipment activities simultaneously is compliant with paragraph 30 of CMM 2023-03 On Transshipments if separate observers from an independent source are observing each activity, but wished to seek confirmation from Members. The Commission endorsed China's interpretation of paragraph 30.
89. Pew Charitable Trusts and the Ocean Foundation expressed concern that the Commission has adopted revisions to the CMM 2023-03 Transshipment before one full year has passed since the start of its implementation. They suggested that the Commission would be better served considering at least a year's worth of data and ensuring the transshipment reporting application is more fully used.

90. The Commission considered the proposal for the establishment of a resolution on core principles on labor standards in NPFC fisheries that was presented by the USA at TCC07 and co-sponsored by Canada and Korea. The Commission noted that the proposal had been updated since TCC07 based on consultations among Members. The Commission reviewed and further updated the proposal (NPFC-2024-TCC07-WP13 Rev.3). The Commission adopted the Resolution on Core Principles on Labor Standards in NPFC Fisheries (Annex X).

8b. EU fishing plan

91. There was no discussion on this subject as this was already discussed at TCC07 and should be considered in conjunction with the two proposals on chub mackerel. An updated version of this document was submitted during COM08 (NPFC-2024-TCC07-WP11 Rev.1).

Agenda Item 9. Performance Review of the Commission – considerations for the Commission

92. The Executive Secretary presented the NPFC Performance Review recommendations, highlighting a subset of recommendations involving crosscutting work that would require Commission support (NPFC-2024-COM08-WP11).
93. The Commission thanked the Secretariat and the Chairs of the Commission and its subsidiary bodies for compiling the matrix with the recommendations of the Performance Review Panel showing each recommendation, its priority and timeframe, the responsible body, the activities undertaken to date and their status, as tasked by COM07. The Commission noted that the SC had been able to review the sections of the matrix with SC-related recommendations but that the TCC and the FAC had not been able to review the TCC and FAC-related sections due to time constraints. The Commission noted that, nevertheless, it has made progress on several recommendations made by the Performance Review Panel.
94. The Commission agreed to work intersessionally to continue to update the matrix by:
- (a) tasking the Secretariat, in consultation with the Chairs of the Commission and its subsidiary bodies, to update the matrix based on the outcomes of the meetings of the Commission and its subsidiary bodies, taking into account the practice in other RFMOs such as CCAMLR,
 - (b) circulating the updated matrix among Members to seek comments on the priority and suggested way forward for each recommendation,
 - (c) compiling comments from Members and circulating the revised matrix,
 - (d) repeating this process to the extent possible during the intersessional period,
 - (e) reporting to the Commission on the updates as part of the Secretariat's Report.

95. The FAO suggested that the Deep-seas Fisheries (DSF) Project may be able to provide assistance and funding for implementing some of the cross-cutting recommendations identified by the Secretariat, specifically 3.4.3 on developing a regional observer program for addressing science demands, 3.4.4 on electronic monitoring, 4.1.1 on stock assessments for splendid alfonsino and North Pacific armorhead, and 5.2.11 on the CMS process.
96. The Commission thanked the DSF Project for its offer.

Agenda Item 10. NPFC Data Sharing and Data Security Protocols update

97. The Data Coordinator, Mr. Sungkuk Kang, provided an update on the NPFC Data Sharing and Data Security Protocols. He explained that the Secretariat has conducted a gap analysis to assess compliance with the protocol elements by the Secretariat and the Commission and that the Secretariat is enhancing implementation of this protocol. Key actions include obtaining and storing signed Confidentiality Agreements from Members that request access to non-public domain data, executing a 90-day backup routine for all NPFC data, implementing website encryption for NPFC website data access and employing two-way SSL certifications for VMS data transfers, and monitoring and identifying unauthorized participants in NPFC meetings. The Secretariat has also developed a number of initiatives for enhanced implementation.
98. The DSCC expressed concern that as a result of the new regulations for data sharing that the Commission adopted at COM07, there is now less information available regarding the catch and the Members fishing, for the bottom fisheries on the Northwest Hawaiian Ridge and Emperor Seamount Chain, because there are three or fewer vessels involved in those fisheries. The DSCC noted that this makes it more difficult for interested Observers and the public to understand what is occurring in those fisheries.

Agenda Item 11. Climate change

99. The SC Chair reported on the efforts of the SC and its subsidiary bodies to incorporate climate change into their work. These include discussing and developing plans to further investigate the impact of climate change on chub mackerel and Pacific saury, offering its support for the development and implementation of Basin-scale Events to Coastal Impacts (BECI) project, working with the FAO's DSF Project on an FAO-funded consultancy on climate change-related work, and reviewing Members' research related to climate change.

100. The Commission expressed its appreciation for the efforts of the SC to incorporate the impacts of climate change in its work, especially in relation to stock assessments. The Commission agreed to task the SC to continue its work towards providing climate-related scientific advice that could underpin development of climate-resilient fisheries management, including identifying and collecting data and other relevant information that would contribute to informing and understanding impacts on key NPFC species, identifying key gaps and future work for developing climate-robust fisheries management systems, and developing management procedures and MSE frameworks for key stocks that are robust to uncertainties such as those related to climate change. The Commission agreed to task the Secretariat to promote stronger collaboration with other RFMOs in relation to climate change, including sharing information on common challenges and best practices, and identifying opportunities for joint initiatives.

Agenda Item 12. Cooperation with Other Organizations

101. The Executive Secretary provided an update on cooperation with other organizations and suggestions for future collaborative work (NPFC-2024-COM08-IP04).

12a. PICES

102. The Executive Secretary explained that the NPFC and the North Pacific Marine Science Organization (PICES) held various collaborative activities based on the Framework for Enhanced Scientific Collaboration in the North Pacific between NPFC and PICES, which was adopted in 2019. The NPFC expressed its support for the development and implementation of the Basin Scale Events to Coastal Impacts project (BECI). Representatives of the NPFC and PICES have attended their respective Annual Meetings. An NPFC representative will attend the next PICES annual meeting, PICES-2024, which will be held in Honolulu, USA, on 26 October to 1 November 2024.

103. PICES provided an update in NPFC-2024-COM08-OP04 which was taken as read.

12b. NPAFC

104. The Executive Secretary reported that the NPFC has continued to cooperate with the NPAFC through the Memorandum of Cooperation (MOC) signed in May 2019 between the NPFC and the NPAFC. This has facilitated cooperation with a focus on a 5-year Work Plan to implement the NPAFC/NPFC MOC for 2021–2025, NPAFC's multinational pan-Pacific survey in 2022, and sharing of salmon bycatch or retention information. The NPFC and NPAFC Secretariats have discussed the possibility of co-hosting a workshop on transshipment and the implications of salmon bycatch, but based on the early phase of the implementation

of the CMM 2023-03 On Transshipments, it was considered that a later timing would be beneficial and that discussions will continue.

105. Mr. Yoshikiyo Kondo, Executive Director of NPAFC, provided further updates on the NPAFC's research activities, including the International Year of the Salmon (IYS) expedition and development of a tagging program, as well as enforcement activities, including the launch of the IUU Vessel List and ongoing discussions with the NPFC on transshipment (NPFC-2024-COM08-OP06). Mr. Kondo thanked the NPFC for its contribution to the IYS expedition and expressed the NPAFC's intention to continue close cooperation with the NPFC.
106. China pointed out that it is not a member of NPAFC and that the NPAFC does not have its own vessel registry. China expressed the view that if the NPAFC suspects a vessel of engaging in IUU fishing in the North Pacific, it should first forward that information to the NPFC for the NPFC's consideration before adding the vessel to the NPAFC IUU Vessel List.
107. The Commission noted the importance of the continued sharing of data and information between the NPFC and the NPAFC. The Commission confirmed that if it receives IUU vessel-related information from the NPAFC, the Commission will consider how to handle that information in accordance with its own procedures for IUU vessel listings.

12c. FAO: Deep Sea Fisheries project and FIRMS

108. The Executive Secretary reported that the NPFC and the Fisheries and Resources Monitoring System (FIRMS) signed a Partnership Arrangement in June 2023 and explained that FIRMS aims to facilitate access to a wide range of high-quality authoritative information on global marine fisheries resources to develop informed fisheries and marine resource policies.
109. The Executive Secretary reported that the Secretariat's participation in the virtual Regional Fishery Body Secretariats' Network (RSN) has also been valuable and looks forward to the in-person meeting on the margins of FAO Fisheries Committee this July.
110. Ms. Eszter Hidas, FAO, presented an update on the DSF Project (NPFC-2024-COM08-OP01). The project is aimed at ensuring deep-sea fisheries in areas beyond national jurisdiction (ABNJ) are managed under an ecosystem approach. Its work mainly concerns strengthening and implementing regulatory frameworks, enhancing management of deep-sea fisheries, and reducing the environmental impacts of deep-sea fisheries. In 2024-2025, the DSF Project intends to support the NPFC in the implementation of the NPFC's climate change resolution, the assessment of data-limited stocks, and the implementation of the NPFC's shark resolution.

The DSF Project has also reviewed the implementation of the FAO DSF Guidelines, has launched an e-learning course on the management of deep-sea fisheries in the ABNJ, is holding a symposium on applying ecosystem approaches to fisheries management in the ABNJ, providing various training and capacity development opportunities, and exploring and trialing innovative technologies for monitoring and reporting of catch.

12d. WCPFC

111. The Executive Secretary explained that, as directed by the Commission, the Secretariats of the Western and Central Pacific Fisheries Commission (WCPFC) and the NPFC have been discussing developing a Memorandum of Understanding (MOU) between the two organizations. COM07 approved a draft MOU for submission to WCPFC. WCPFC reviewed this draft in December 2024 and has recommended adoption and signing with a few editorial suggestions. The Executive Secretary presented the draft MOU, with editorial suggestions from WCPFC, for the Commission's consideration (NPFC-2024-COM08-WP04 Rev.1).

112. The Commission adopted the draft MOU (Annex Y).

12e. SPRFMO

113. The Executive Secretary explained that the NPFC and South Pacific Regional Fisheries Management Organisation (SPRFMO) signed an MOU in 2023 based on COM07 decision. This has allowed the Secretariats to communicate effectively with one another on issues of mutual interest related to administrative matters. The Science Manager is proposing to attend the SPRFMO Scientific Committee meeting this fall.

12f. ISC

114. The Executive Secretary explained that the proposed MOU with the International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean (ISC) has been reviewed and endorsed with minor edits by the ISC at its annual meeting in 2023. The Executive Secretary presented the draft MOU, with editorial suggestions from ISC, for the Commission's consideration (NPFC-2024-COM08-WP05).

115. The Commission adopted the draft MOU (Annex Z).

12g. IMCS Network

116. The Executive Secretary explained that the NPFC became a Member of IMCS in 2023 based on the COM07 decision to do so. This has provided the Secretariat access to a network of experts that allow informal consultation and guidance on compliance approaches, technology

and consideration of assessing data related to IUU vessels. The Compliance Manager and Compliance Assistant attended the IMCS Global Fisheries Enforcement Training Workshop in 2023, which focused on priority and emerging MCS challenges and opportunities to exchange information and share lessons learned.

12h. UN BBNJ

117. The Chair presented an update on the Biodiversity Beyond National Jurisdiction (BBNJ) process (NPFC-2024-COM08-IP02).
118. The Commission noted the Chair's presentation and thanked him for providing his perspectives on the important developments related to BBNJ. The Commission noted the importance of the BBNJ Agreement and of considering proactively the implications and objectives of BBNJ for the NPFC and agreed to keep this as a standing agenda item. Some Members highlighted that the Agreement provides that the BBNJ Conference of the Parties, in taking decisions, shall respect the competences of, and not undermine, relevant legal instruments and frameworks and relevant global, regional, subregional and sectoral bodies. Some Members indicated they must reserve their position on the Chair's analysis, and may have a different view on some of the issues identified by the Chair, and that some of the processes for consultation, scientific and technical review are yet to be fully elaborated and will only be done once the BBNJ Agreement enters into force. The Commission recognized the importance of engagement within and between RFMOs and other relevant international bodies on the BBNJ process. The Secretariat offered to share the Chair's presentation with other RFMOs through the RSN, while making it clear that the presentation was prepared by the Chair in a personal capacity and did not necessarily represent the position of the Commission or its Members.
119. The DSCC, Greenpeace International, and Pew noted the importance of the BBNJ Agreement and encouraged the NPFC to proactively engage with the BBNJ process and to view this as an opportunity to demonstrate the NPFC's commitment to the protection of ecosystems and biodiversity.

12i. WTO: Agreement on Fisheries Subsidies

120. The Executive Secretary provided an update on the WTO Agreement on Fisheries Subsidies adopted at the 12th Ministerial Conference on 17 June 2022.
121. The Commission noted the Executive Secretary's report.

12j. Other Organizations

122. There was no discussion of cooperation with any other organizations.

Agenda Item 13. Other Matters

13a. Secondment and Intern for 2024

123. The Commission endorsed the FAC's recommendation and agreed to accept the secondment application from Mr. Jumpei Hinata (Japan) for a 12-month period commencing in June 2024.
124. The Commission endorsed the FAC's recommendation and agreed to accept the applications from Mr. Jiyu Wang (China) and Mr. Shinnosuke Kato (Japan) for six-month internships, and to stagger their start times.

13b. Selection of SC Chair and Vice-chair (based on SC08 recommendation)

125. The Executive Secretary presented the NPFC 2024/2025 list of Chairs and appointment duration (NPFC-2024-COM08-IP03).
126. The Commission endorsed the SC's recommendation and agreed to extend the current SC Chair, Dr. Janelle Curtis (Canada) and the SC Vice-Chair, Dr. Jie Cao (China), for another term each.

13b. bis Selection of a Science co-chair of the joint SC-TCC-COM Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS)

127. The Chair explained that there had been a misunderstanding and that the term of Dr. Toshihide Kitakado (Japan) as the Scientific co-Chair of the SWG MSE PS was not in fact expiring. He explained that, according to paragraph 10 of the Terms of Reference of the SWG MSE PS, the co-Chairs of the SWG MSE PS will serve at pleasure or until the Commission decides otherwise, and that Dr. Kitakado has confirmed his intention to continue to serve as co-Chair of the SWG MSE PS.

13c. Other business

128. Korea presented proposed draft terms of reference on legal advisory consultancies for the NPFC Secretariat (NPFC-2024-TCC07-WP09 Rev.2). Korea explained that it had originally presented its proposal to TCC07 and FAC06, and that it has since worked with the Executive Secretary to revise its proposal based on the discussions at those meetings.
129. The Commission reviewed and further revised the proposal. The Commission adopted the Terms of Reference on Legal Advisory Consultancies for the NPFC Secretariat (Annex AA).

130. The Commission discussed providing public access to meeting documents in advance of meetings of the Commission and its subsidiary bodies. The Commission agreed to make documents submitted to meetings of the Commission and its subsidiary bodies, as well as documents adopted at those meetings, publicly accessible through the NPFC website, except for documents that are determined to contain sensitive information in accordance with the NPFC Data Sharing and Data Security Protocol or whose authors have directed that the document be made solely available to NPFC Members. The Commission noted that this is the common practice at many other RFMOs and that it was also recommended by the Performance Review Panel. The Commission made revisions to the NPFC Document Policy accordingly.
131. The Commission also added revisions to the NPFC Document Policy to reduce the number of copies of Meeting Information Papers that must be made available in printed form.
132. The Commission adopted the revised NPFC Document Policy (Annex BB).
133. China raised a question regarding the interpretation of the vessel marking requirements under CMM 2023-01 On Information Requirements for Vessel Registration. China indicated that many of its vessels have vessel markings on the port and starboard sides of the hull and that these markings are repeated above the hull on the superstructure. It expressed its belief that even if one of the markings is obscured for technical reasons, the second marking on the same side, assuming that it remains legible and adheres to the vessel marking specifications outlined in Annex 2, would assure that the vessel would be compliant with the requirements of paragraph 5(a) of Annex 2 of CMM 2023-01. It was noted that vessels would also require markings in accordance with paragraph 5(b) of Annex 2 of CMM 2023-01 (horizontal deck markings). The Commission endorsed China's interpretation.

13d. Press Release

134. The Commission endorsed the Press Release for publication on the NPFC website.

Agenda Item 14. Date and Place of next meeting of the Commission and its Committees

135. The Executive Secretary presented a hosting proposal by the Secretariat if no Member is accepted to host COM09, TCC08 and FAC07, including timing, hosting costs if borne by the Secretariat, and funds for the 10th anniversary recognition (NPFC-2024-COM08-WP10). The Executive Secretary also recommended that the Commission commit to a regular timing of

its annual meetings to facilitate reserving appropriate meeting space. The proposed timing takes into account the Lunar New Year and fisheries operations.

136. The Commission confirmed that the Secretariat would host the COM09, TCC08 and FAC07 meetings.
137. The Commission agreed to tentatively hold the next meetings of the TCC, the FAC, and the Commission in Japan, somewhere other than Tokyo, on the following dates:
 - (a) TCC08: 18-21 March 2025
 - (b) FAC07: 22 March 2025
 - (c) COM09: 24-27 March 2025 (with the Heads of Delegation meeting to be held on the morning of 24 March)
138. The Commission agreed to maintain flexibility in the timing of its annual meetings, rather than committing to a regular timing each year.
139. The Commission endorsed the use of funds for the recognition of the 10th anniversary of the NPFC and encouraged Members to share any ideas they may have with the Secretariat for the celebration of this event.

Agenda Item 15. Adoption of the report

140. The report was adopted by consensus.

Agenda Item 16. Close of the Meeting

141. The Chair thanked the Secretariat for organizing and running the meeting, Osaka Prefecture for providing participants with the opportunity to enjoy a unique cultural experience, and the participants for their cooperation and engagement. The Chair congratulated the Commission on a successful and productive meeting, and requested Members to continue their hard work in the intersessional period to ensure the success of COM09 as well. Lastly, the Chair expressed his hope that the participants had enjoyed their time in Osaka and would consider visiting again.
142. The Commission meeting closed at 19:15 on 18 April 2024, Osaka time.

List of Annexes to COM08 Report

Annex A	Agenda
Annex B	List of Documents
Annex C	List of Participants
Annex D	NPFC SC08 Final Report
Annex E	NPFC 2024 IUU Vessel List
Annex F	NPFC TCC07 Final Report
Annex G	Budgets for 2024/2025 and 2025/2026 with assessed contributions
Annex H	NPFC FAC06 Final Report
Annex I	NPFC MSE PS04 Final Report
Annex J	NPFC MSE PS05 Final Report
Annex K	CMM 2024-08 Pacific saury
Annex L	Statement by Vanuatu
Annex M	CMM 2024-07 Chub mackerel
Annex N	CMM 2024-16 Anadromous
Annex O	CMM 2024-05 Bottom fisheries and VME in NWPO
Annex P	CMM 2024-06 Bottom fisheries and VME in NEPO
Annex Q	CMM 2024-11 JS, NFS, and JFS
Annex R	CMM 2024-12 VMS
Annex S	CMM 2024-13 CMS
Annex T	CMM 2024-02 IUU list process
Annex U	CMM 2024-15 Marine pollution
Annex V	CMM 2024-09 HSBI
Annex W	CMM 2024-03 Transshipments
Annex X	Resolution on Labor Standards
Annex Y	MOU with WCPFC
Annex Z	MOU with ISC
Annex AA	Legal advisor terms of reference
Annex BB	Document policy

North Pacific Fisheries Commission
8th Commission Meeting
15-18 April 2024
Osaka, Japan (hybrid)

Agenda (as amended on the floor)

1. Opening of the Meeting
 - a. Welcome Address
 - b. Appointment of Rapporteur
 - c. Adoption of Agenda
 - d. Meeting Arrangements
2. Membership of the Commission
 - a. Status of the Membership
 - b. CNCP status and any other applications
3. Report from the Secretariat
4. Report of the 8th Scientific Committee meeting
 - a. Review of the SC08 Report and response to COM07 taskings
 - b. Adoption of the SC Report and Recommendations
5. Report of the 7th Technical and Compliance Committee meeting
 - a. Review of TCC07 Report and response to COM07 taskings
 - b. Adoption of IUU Vessel List for 2024
 - c. Adoption of Final Compliance Monitoring Report
 - d. Adoption of the TCC07 Report and Recommendations
 - e. Consideration of other TCC issues identified during TCC07 or by COM08 meeting
6. Report of the 6th Finance and Administration Committee meeting
 - a. Review of FAC Report
 - b. Adoption of the proposed budget for 2024/2025 and 2025/2026
 - c. Adoption of the FAC06 Report and Recommendations

7. Report of the 4th and 5th Meetings of the joint SC-TCC-COM Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS)
8. Conservation and Management Measures (to be introduced on Day 1)
 - a. Review of the amendments to existing CMM's and any new CMMs
 - b. EU fishing plan
9. Performance Review of the Commission – considerations for the Commission
10. NPFC Data Sharing and Data Security Protocols update
11. Climate change
12. Cooperation with Other Organizations
 - a. PICES
 - b. NPAFC
 - c. FAO: Deep Sea Fisheries project and FIRMS
 - d. WCPFC
 - e. SPRFMO
 - f. ISC
 - g. IMCS Network
 - h. UN BBNJ
 - i. WTO: Agreement on Fisheries Subsidies
 - j. Other Organizations
13. Other matters
 - a. Secondment and Intern for 2024
 - b. Selection of SC Chair and Vice-chair (based on SC08 recommendation)
 - i. Selection of SC Chair and Vice-chair (based on SC08 recommendation)
 - ii. Selection of the science co-chair of SWG MSE PS
 - c. Other business
 - d. Press Release
14. Date and Place of next meeting of the Commission and its Committees
15. Adoption of the report
16. Close of the Meeting

LIST OF DOCUMENTS

MEETING INFORMATION PAPERS

Number	Title
NPFC-2024-COM08/TCC07/FAC06-MIP01 Rev.1	Meeting Information
NPFC-2024-COM08-MIP02	Provisional Agenda
NPFC-2024-COM08-MIP03	Annotated Indicative Provisional Agenda

REFERENCE DOCUMENTS

Number	Title
NPFC-2024-TCC07-WP18 Rev.1	Proposal to Amend the Current IUU Vessel List
NPFC-2024-SR	Secretariat Report to COM08
NPFC-2023-SC08-Final Report	8th Scientific Committee Meeting REPORT
NPFC-2024-TCC07-Final Report	TCC07 Final Report
NPFC-2024-FAC06-Final Report	FAC06 Final Report
NPFC-2023-SWG MSE PS04-Final Report	North Pacific Fisheries Commission 4th Meeting of the Joint SC-TCC-COM Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS)
NPFC-2024-SWG MSE PS05-Final Report	North Pacific Fisheries Commission 5th Meeting of the Joint SC-TCC-COM Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS)

WORKING PAPERS

Number	Title
NPFC-2024-COM08-WP04 Rev.1	CONSIDERATIONS OF DRAFT MOU WITH WCPFC
NPFC-2024-COM08-WP05	Cooperation with the International Scientific Committee (ISC) Consideration of a draft MoU
NPFC-2024-COM08-WP10	Timing and Location of the Commission and its Committees in 2025

NPFC-2024-COM08-WP11	The NPFC Performance Review – implementation considerations Review by subsidiary bodies and Chairs
NPFC-2024-COM08-WP12	Proposed budgets for 2024/2025 and 2026/2027 and related assessed contributions

INFORMATION PAPERS

Number	Title
NPFC-2024-COM08-IP01	Status of the Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean
NPFC-2024-COM08-IP02	Update on Biodiversity Beyond National Jurisdiction (BBNJ) Process
NPFC-2024-COM08-IP03	NPFC 2024/2025 List of Chairs and appointment duration
NPFC-2024-COM08-IP04	Cooperation with Other Organizations
NPFC-2024-COM08-IP05 Rev.2	Report of the Scientific Committee

OBSERVER PAPERS

Number	Title
NPFC-2024-COM08-OP01	FAO Deep-sea Fisheries Project (2022–2027)
NPFC-2024-COM08-OP02	Statement to the 7th Meeting of the Technical and Compliance Committee and 8th Annual Session of the North Pacific Fisheries Commission
NPFC-2024-COM08-OP03	Observer paper submitted by The Pew Charitable Trusts and The Ocean Foundation
NPFC-2024-COM08-OP04	Report on Joint NPFC-PICES activities for COM-08, April 2024
NPFC-2024-COM08-OP05	WWFJ NPFC2024 Position Statement
NPFC-2024-COM08-OP06	Five-year Work Plan to implement NPAFC/NPFC Memorandum of Cooperation (MOC)

Documents endorsed by SC08

Number	Title
NPFC-2024-COM08-WP01	Revised CMM 2023-05 - Conservation and Management Measure for Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northwestern Pacific Ocean
NPFC-2024-COM08-WP02	Revised CMM 2023-06 - Conservation and Management Measure for Bottom Fisheries and Protection of Vulnerable

	Marine Ecosystems in the Northeastern Pacific Ocean
NPFC-2024-COM08-WP03	Nomenclatural correction to CMM 2023-11 - Conservation and Management Measure for Japanese Sardine, Neon Flying Squid and Japanese Flying Squid

Documents submitted directly to COM08

Number	Title
NPFC-2024-COM08-WP06 Rev.2	Proposed updates to CMM 2023-08 (Pacific saury)
NPFC-2024-COM08-WP07 Rev.4	Proposed updates to CMM 2023-07 (chub mackerel)
NPFC-2023-COM08-WP08 Rev.4	Recommendation for a Measure to Protect Anadromous Fish in the North Pacific Fisheries Commission Convention Area
NPFC-2024-COM08-WP09 Rev.3	REVISIONS TO CMM 2023-05: THE CONSERVATION AND MANAGEMENT MEASURE FOR BOTTOM FISHERIES AND PROTECTION OF VULNERABLE MARINE ECOSYSTEMS IN THE NORTHWESTERN PACIFIC OCEAN

TCC WP endorsed by TCC07

Number	Title
NPFC-2024-TCC07-WP04 Rev.6	Proposal from Small Working Group, Planning and Development to revise CMM 2023-13 Compliance Monitoring Scheme
NPFC-2024-TCC07-WP06	Proposal by the United States of America to Amend CMM 2019-02: Conservation and Management Measure to Establish a List of Vessels Presumed to Have Carried Out Illegal, Unreported and Unregulated Fishing Activities in the Convention Area of the NPFC
NPFC-2024-TCC07-WP08 Rev.6	Proposal to Revise CMM 2023-15 on the Prevention, Reduction and Elimination of Marine Pollution
NPFC-2024-TCC07-WP14	Small Working Group on Operations Presents Proposed Amendments to CMM 2023-09 on HSBI for TCC Consideration
NPFC-2024-TCC07-WP20	Combined Proposal to Amend the VMS CMM 2023-12
NPFC-2024-TCC07-WP21	Draft NPFC Implementation Questionnaire (CMS CMM)

TCC WP forwarded to COM

Number	Title
NPFC-2024-TCC07-WP02 Rev.4	Proposal to amend the Transshipment CMM 2023-03
NPFC-2024-TCC07-WP09 Rev.2	Proposal on Legal Advisory Consultant of NPFC
NPFC-2024-TCC07-WP10	EU PROPOSAL FOR AMENDING CONSERVATION AND MANAGEMENT MEASURE FOR CHUB MACKEREL (CMM 2023-07)
NPFC-2024-TCC07-WP11 Rev.1	FISHING OPERATION PLAN OF THE EUROPEAN UNION SUBMITTED TO NPFC
NPFC-2024-TCC07-WP12	EU PROPOSAL FOR AMENDING CONSERVATION AND MANAGEMENT MEASURE FOR JAPANESE SARDINE, NEON FLYING SQUID AND JAPANESE FLYING SQUID (CMM 2023-11)
NPFC-2024-TCC07-WP13 Rev.3	Resolution on Core Principles on Labor Standards in NPFC Fisheries Proposed by the United States of America, Canada, and Republic of Korea

REPORTS

Number	Title
NPFC-2024-COM-Draft Report	COM Draft Report

List of Participants

CHAIR

Shingo OTA
shingo_ota810@maff.go.jp

CANADA

Adam BURNS
adam.burns@dfo-mpo.gc.ca

Janelle CURTIS
Janelle.Curtis@dfo-mpo.gc.ca

Amber LINDSTEDT
Amber.Lindstedt@dfo-mpo.gc.ca

Megan BOWERS
Megan.Bowers@dfo-mpo.gc.ca

Patricia DEMILLE
Patricia.DeMille@dfo-mpo.gc.ca

Suanna FULLER*
susannafuller@oceansnorth.ca

Chris ROOPER
chris.rooper@dfo-mpo.gc.ca

CHINA

Le LI
bofdwf@126.com

Ce LIU
liuce@cofa.net.cn

Xiaobing LIU
xiaobing.liu@hotmail.com

Zhuyi CHEN
zffjsc@126.com

Libin DAI
libin.dai@qq.com

Zixia GAO
gzxgenius@hotmail.com

Dingjun GUO
fujianwantong@126.com

Yue GUO
18612189267@163.com

Cunen HE
hecunen@163.com

Chuanxiang HUA
cxhua@shou.edu.cn

Lianjie LI
2771173282@qq.com

Yan LI
liyan@cofa.net.cn

Yu LIN
13669124@qq.com

Qiuyun MA
qyma@shou.edu.cn

Yongchuang SHI*

Siquan TIAN
sqtian@shou.edu.cn

Qiyang WANG
wqy20052008@163.com

Aliu WU
wualiu123@qq.com

Pengfei XIONG
admin4@tuna.org.cn

Feng XU
shunhang321@163.com

Heng ZHANG*
zhangh1@ecsf.ac.cn

Jizhe ZHANG
zhangjizhe0625@163.com

Yu ZHANG
zy25031@163.com

Zijun ZHOU
zhouzijun@cofa.net.cn

EUROPEAN UNION

Bernard BLAZKIEWICZ
Bernard.BLAZKIEWICZ@ec.europa.eu

Rob BANNING
rba@pp-group.eu

Stijn BILLIET
Stijn.BILLIET@ec.europa.eu

Juan Ignacio DE LEIVA MORENO
Ignacio.de-leiva@eeas.europa.eu

Karolina MOLLA GAZI
karolina.mollagazi@wur.nl

Justyna SZUMLICZ-DOBIESZ
justyna.szumlicz-dobiesz@minrol.gov.pl

JAPAN

Takumi FUKUDA
takumi_fukuda720@maff.go.jp

Haruo TOMINAGA
haruo_tominaga170@maff.go.jp

Annex C to COM08 Report

Naohiko AKIMOTO
naohiko@sol.dti.ne.jp

Kazumi KOSUGI
zen@samma.jp1

Taiki FUJI*
fuji_taiki65@fra.go.jp

Takashi KOUYAMA*
t-kouyama@maruha-nichiro.co.jp

Midori HASHIMOTO*
hashimoto_midori91@fra.go.jp

Hiroshi KUBOTA*
kubota_hiroshi89@fra.go.jp

Jumpei HINATA*
jumpei_hinata320@maff.go.jp

Hajime MATSUI*
matsui_hajime90@fra.go.jp

Masatake KATO
masatake_katou210@kitamaki.jp

Shingo MINAMIKAWA*
minamikawa_shingo69@fra.go.jp

Meiko KAWAHARA*
m-kawahara@maruha-nichiro.co.jp

Masanori MIYAHARA
masamiyafaj1@gmail.com

Hitomi KAWAMURA
kaiyo-sasaki@cpost.plala.or.jp

Chiaki MIZUGAKI*
chiaki_mizugaki010@maff.go.jp

Keikichi KAWAMURA
maruichi-kaiyo06@cpost.plala.or.jp

Shiho MORIMOTO*
morimoto@cubic-i.co.jp

Wakichi KAWAMURA*
kaiyoltd@tmail.plala.or.jp

Tatsuya NAKATSU
nakatsu@jasfa.or.jp

Kiichiro KAZAWA
tashichi@indigo.plala.or.jp

Shuya NAKATSUKA
nakatsuka_shuya49@fra.go.jp

Toshihide KITAKADO
kitakado@kaiyodai.ac.jp

Shin-Ichiro NAKAYAMA*
nakayama_shinichiro16@fra.go.jp

Tomohiro KONDO
tomohiro.kondo-2@mofa.go.jp

Bungo NISHIZAWA*
nishizawa_bungo05@fra.go.jp

Annex C to COM08 Report

Kouhei OISHI
zen@samma.jp

Ryo ONODERA
ryo_onodera380@maff.go.jp

Yoshioki OOZEKI*
oozeki_yoshioki71@fra.go.jp

Yumiko OSAWA*
oosawa_yumiko93@fra.go.jp

Kazuhiro OSHIMA
oshima_kazuhiro28@fra.go.jp

Rui SAITO*
saito_rui90@fra.go.jp

Takahiro SAKAMOTO*
sakamoto.takahiro@pref.hokkaido.lg.jp

Kota SAWADA
sawada_kota27@fra.go.jp

Junnetsu SEKIKAWA
kaiyo-sasaki@cpst.plala.or.jp

Masami SHOJI
zen@samma.jp2

Nobuaki SUZUKI*
suzuki_nobuaki99@fra.go.jp

Wataru TANOUE
wataru_tanoue550@maff.go.jp

Ryuhei TATENO
ryuhei_tateno270@maff.go.jp

Keisuke TERADA
keisuke_terada170@maff.go.jp

Yukiya UCHIDA
yukiya_uchida230@maff.go.jp

Kazuhiro YAGITA
qhghh944@yahoo.co.jp

Hidefumi YATOMI*
yatomi@cubic-i.co.jp

KOREA

Jung-re KIM
riley1126@korea.kr

Tae-hoon WON
th1608@korea.kr

Sang Jin CHOI*
sjin@kosfa.org

Hojeong JIN
jackiejin@kosfa.org

Eunjung KIM*
eunjungkim@korea.kr

Taerin KIM*
shararak@korea.kr

Young Il KIM
wycorp@naver.com

Vladimir RADCHENKO
vladimir.radchenko@tinro.vniro.ru

Seung Eun LEE*
slee492@kofci.org

CHINESE TAIPEI

Seung Hwan LEE
tmdghks1024@kosfa.org

Ding-Rong LIN
dingrong@msl.f.gov.tw

Tae Hong MOON*
fmc2014@korea.kr

Ming-Fen WU
mingfen@msl.f.gov.tw

Sunhwa PARK
sona1437@cies.re.kr

Wei-Ming HSU
wmhsu@mofa.gov.tw

Jae-geol YANG
jg718@kofci.org

Yu-Cheng LAI
yclai01@mofa.gov.tw

RUSSIA

Wei-Hsuan CHANG
whchang@mofa.gov.tw

Dmitry KREMENYUK
d.kremenyuk@fishcom.ru

Shih-Chi HUANG
shihchi1030@msl.f.gov.tw

Rusana GLOOVA
gloova@fish.gov.ru

Nien-Tsu HU
ntahu@mail.nsysu.edu.tw

Oleg KATUGIN
oleg.katugin@tinro.vniro.ru

Huang-Chih CHIANG
hcchiang@ntu.edu.tw

Vladimir KULIK
vladimir.kulik@tinro.vniro.ru

Wen-Bin HUANG
bruce@gms.ndhu.edu.tw

Vadim KUNAEV
pr-japan@fish.gov.ru

Chi-Ting TSAI
chiting@ntu.edu.tw

Annex C to COM08 Report

Po-Hsiang LIAO
d12a21002@ntu.edu.tw

Alisha FALBERG
alisha.falberg@noaa.gov

Yu-Ling LIN
lemma@mail.nsysu.edu.tw

Dan HULL
danhullak@gmail.com

Wei-Yi SUN
r10a21089@ntu.edu.tw

Dimitri VARMAZIS
VarmazisD@state.gov

Chiao-Chih SHIH
hennessy@squid.org.tw

Megan WILLMANN
Megan.L.Willmann@uscg.mil

Kun-Hsueh CHOU
neil@squid.org

VANUATU

Wei-Yang LIU
weiyang@ofdc.org.tw

Tony TALEO
ttaleo@fisheries.gov.vu

Yu-Ming YANG
rain@ofdc.org.tw

Moses AMOSE
mosesjohnamos@gmail.com

UNITED STATES

Mei-Chin JUAN*
meichin.mdfc@gmail.com

Michael BRAKKE
michael.brakke@noaa.gov

PANAMA

Jasmine PRAT
jasmine.prat@noaa.gov

Alexis PENA*
alexisp@arap.gob.pa

Erin BOHABOY
erin.bohaboy@noaa.gov

Raul DELGADO*
rauldelgadoq@gmail.com

Benjamin CHEESEMANN
benjamin.cheeseman@noaa.gov

Vivian QUIROS*
vquiros@arap.gob.pa

Maria SIERRA*

msierra@arap.gob.pa

Mario AGUILAR

meagUILAR@arap.gob.pa

OBSERVERS

Australian National Centre for Ocean Resources and Security

Quentin HANICH

hanich@uow.edu.au

Mari KOYANO

marichan@fc4.so-net.ne.jp

Adam ZIYAD*

adam.ziyad@gmail.com

Deep Sea Conservation Coalition

Amy BACO-TAYLOR

abacotaylor@fsu.edu

Matthew GIANNI*

matthewgianni@gmail.com

Bronwen GOLDER

bronwen@savethehighseas.org

Eunhee KIM

ekim@cies.re.kr

Food and Agriculture Organization

Eszter HIDAS

Eszter.Hidas@fao.org

Greenpeace International

Megan CLAIRE RANGLES

megan.randles@greenpeace.org

Sebastian LOSADA FIGUEIRAS*

sebastian.losada@greenpeace.org

North Pacific Anadromous Fish Commission

Yoshikiyo KONDO

ykondo@npafc.org

The Ocean Foundation

Dave GERSHMAN

dgershman@oceanfdn.org

The Pew Charitable Trusts

Gunther ERRHALT

errhalt.consulting@gmail.com

Raiana MCKINNEY

rmckinney@pewtrusts.org

Claire VAN DER GEEST
claire.vandergeest@gmail.com

Alex ZAVOLOKIN
azavolokin@npfc.int

World Wildlife Fund

Yuko YOSHIMURA-TAKAMIYA
ytakamiya@npfc.int

Shuhei UEMATSU
uematsu@wwf.or.jp

Sungkuk KANG
skang@npfc.int

RAPPORTEUR

Natsuki HOSOKAWA
nhosokawa@npfc.int

Alex MEYER
meyer@urbanconnections.jp

Jihwan KIM
jkim@npfc.int

NPFC SECRETARIAT

Kazuyo TSUDA
kazoodindon@yahoo.co.jp

Robert DAY
rday@npfc.int

* Online Participants

Judy DWYER
jdwyer@npfc.int



8th Scientific Committee Meeting REPORT

15-16, 18-19 December 2023

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**North Pacific Fisheries Commission
8th Meeting of the Scientific Committee**

15-16, 18-19 December 2023

Nanaimo, British Columbia, Canada (Hybrid)

FINAL REPORT

Agenda Item 1. Opening of the Meeting

1.1 Welcome Address and Introductions

1. The 8th Meeting of the Scientific Committee (SC) was held in a hybrid format, with participants attending in-person in Nanaimo, British Columbia, Canada, or online via WebEx, on 15-16, 18-19 December 2023. The meeting was attended by Members from Canada, China, the European Union (EU), Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, the United States of America (USA) and Vanuatu. The Deep Sea Conservation Coalition (DSCC), the United Nations Food and Agriculture Organization (FAO), the North Pacific Anadromous Fish Commission (NPAFC), the North Pacific Marine Science Organization (PICES), and the Pew Charitable Trusts (Pew) attended as observers.
2. The meeting was opened by Dr. Janelle Curtis (Canada), who served as the SC Chair. She thanked the participants for attending the meeting and wished them happiness and good health. The Chair acknowledged the strong and historic presence of the Snuneymuxw First Nation in Nanaimo, recognized its role as past, present and future custodians of the local lands and waters, and expressed her appreciation to be able to hold the meeting in the traditional and unceded territory of the Snuneymuxw First Nation.
3. Elder Stephanie Thomas of the Snuneymuxw First Nation welcomed the participants to the Snuneymuxw First Nation's territory. She emphasized the importance of the ocean and its resources, noted the need to work as one to protect the ocean and conserve its resources, and wished the participants a successful meeting.
4. Dr. John Holmes, Division Manager, Stock Assessment and Research Division, Science Branch, Fisheries and Oceans Canada, welcomed the participants to Nanaimo. He noted that Canada has been a Member of the NPFC since its inception and expressed Canada's honour to be hosting an NPFC meeting for the first time. Dr. Holmes highlighted the protection of marine

ecosystems as being of particular importance to Canada and expressed his belief that advancing measures to protect marine ecosystems through the Commission would also benefit individual Members and their fisheries. He noted that a new challenge for fisheries scientists, including those of the NPFC, is how to incorporate climate change and ecosystem considerations when providing advice to fisheries managers and emphasized the importance of sharing practices and experiences. Lastly, Dr. Holmes expressed his hope that the meeting would yield fruitful and productive discussions.

5. The Executive Secretary, Dr. Robert Day, welcomed the participants to the meeting. Speaking on behalf of the Commission and its Chair, Mr. Shingo Ota, he thanked Elder Thomas for her welcome and Fisheries and Oceans Canada for hosting the meeting. The Executive Secretary also noted with pleasure that this would be the first in-person SC meeting since the COVID-19 pandemic. Finally, he expressed his hope that the SC would continue to advance its important work and support the continued progress of the NPFC in the lead-up to its 10th anniversary.

1.2 Appointment of Rapporteur

6. Mr. Alex Meyer was selected as rapporteur.

1.3 Meeting Arrangements

7. The Science Manager, Dr. Aleksandr Zavolokin, outlined the meeting arrangements.

Agenda Item 2. Adoption of Agenda

8. The agenda was adopted without revision (Annex A). The List of Documents and List of Participants are attached (Annexes B, C).

Agenda Item 3. Review of the NPFC Performance Review (NPFC PR) Panel Recommendations

3.1 Overview of key recommendations for SC over short term (next 1-5 years)

9. The SC reviewed the NPFC Performance Review recommendations that concern the SC and its subsidiary bodies and compiled a table with a summary of its comments and the comments of its subsidiary bodies on each recommendation (NPFC-2023-SC08-WP04 (Rev. 1)).
10. In reviewing NPFC Performance Review Recommendations 3.1.8, 3.4.3 and 4.2.4, the SC noted the need for a clear definition of what constitutes “bycatch” and recommended that the Commission develop such a definition.

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

ME and SSC PS)

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

11. The TWG CMSA Chair, Dr. Kazuhiro Oshima (Japan), summarized the outcomes and recommendations of the 7th TWG CMSA meeting (NPFC-2023-TWG CMSA07-Final Report).
12. The SC reviewed the recommendations of the TWG CMSA and endorsed the following recommendations:
 - (a) Adopt the Work Plan of the TWG CMSA (NPFC-2023-TWG CMSA07-WP01 (Rev. 1)).
 - (b) Endorse the TWG CMSA meeting schedule for 2023-2024 financial years: TWG CMSA08 on 22–25 January 2024 and TWG CMSA09 in 2024.
 - (c) Hire an invited expert to support the TWG CMSA in the future stock assessment project.
 - (d) Develop general protocols and guidelines for using git repositories for joint data analysis projects.
13. The SC noted that the TWG CMSA will use SAM as the chub mackerel stock assessment model and complete the first assessment in 2024.
14. The SC endorsed the report provided by the TWG CMSA Chair.

4.2 SSC on Bottom Fish and Marine Ecosystems

15. The Chair of the SSC on Bottom Fish and Marine Ecosystems (SSC BF-ME), Dr. Chris Rooper (Canada), summarized the outcomes and recommendations of the 4th SSC BF-ME meeting (NPFC-2023-SSC BFME04-Final Report).
16. The SC reviewed the recommendations of the SSC BF-ME and endorsed the following recommendations:
 - (a) Adopt the updated species summaries of North Pacific armorhead (NPA; Annex D), splendid alfonsino (SA; Annex E), sablefish (Annex F), and blackspotted and rougheye rockfishes (Annex G).
 - (b) Adopt the Terms of Reference (TOR) for Data Sharing of Catch and Effort Data for Depletion Analysis of North Pacific Armorhead (Annex N) and template for data sharing (Annex O).
 - (c) Communicate to the Commission that:
 - i. although NPA catch was slightly higher in 2022 than 2021, the catch remains at low levels relative to historical values.
 - ii. there are some indications that Japanese fishers have been avoiding catching NPA

since the voluntary catch limit was introduced in 2019.

- iii. there has been no indication of high recruitment of NPA detected in the monitoring survey.
- iv. SA catch has been about 1/2 of the mean for the last 10 years, but nominal CPUE is only slightly lower than the 10 year average.
- (d) Endorse the method proposed by Japan (NPFC-2019-SSC VME04-WP02) as one framework for identifying vulnerable marine ecosystems (VMEs), noting that the density thresholds should be further explored.
- (e) Endorse the updated 2023-2027 SSC BF-ME 5-Year Rolling Work Plan (NPFC-2023-SSC BFME04-WP01 (Rev. 1)).
- (f) Consider the SSC BF-ME's comments on the NPFC Performance Review recommendations that concern bottom fishing and marine ecosystems (NPFC-2023-SSC BFME04-WP19).
- (g) Hire an external expert to support the work of the Small Working Group on North Pacific Armorhead and Splendid Alfonsino (SWG NPA-SA).
- (h) Recommend that the Commission close two new areas as VME protection sites on Cobb Seamount as described in NPFC-2023-SSC BFME04-WP13.
- (i) Endorse a new interim encounter threshold for sponges of 350 kg.
- (j) Endorse encounter thresholds for pot gear of 2 kg for corals and 5 kg for Hexactinellida and Demospongiae in the NE Pacific.
- (k) Endorse pennatulaceans as a VME indicator taxa and include pennatulaceans in the encounter threshold of 50 kg for corals.
- (l) Endorse the revised CMM 2023-05 (Annex P).
- (m) Endorse the revised CMM 2023-06 (Annex Q).
- (n) Consider, in cooperation with TCC and the Commission, amending CMM 2023-05 to address the ambiguity around the referenced effort limits agreed in February 2007 in Paragraph 4A and amending CMM 2023-06 to determine the level of a historical average in Paragraph 3, i.
- (o) Look for opportunities for collaboration with other organizations such as the FAO ABNJ Deep-sea Fisheries Project, PICES or NPAFC to collect new data (such as biomass estimates from fishery-independent surveys or biological data collections) that would help with stock assessments for bottom fisheries and outstanding issues on VME such as VME recovery.

17. The SC noted the request from the SSC BF-ME to amend the SSC BF-ME's TOR to specifically mention the review and proposal of amendments to CMMs. The SC agreed to revise the TOR as described in Annex R.

18. The SC noted that the SSC BF-ME plans to assess the status of SA in 2024.
19. Based on the most recent stock assessments from the USA and Canada, the SC noted that the sablefish spawning stock biomass has been increasing since about 2018, supported by a large coastwide recruitment in around 2016.
20. The SC endorsed the report provided by the SSC BF-ME Chair.

4.3 SSC on Pacific Saurry

21. The Chair of the SSC on Pacific Saurry (SSC PS), Dr. Toshihide Kitakado (Japan), summarized the outcomes and recommendations of the 11th and 12th SSC PS meetings (NPFC-2023-SSC PS11-Final Report, NPFC-2023-SSC PS12-Final Report).
22. The SC reviewed the recommendations of the SSC PS and endorsed the following recommendations:
 - (a) Endorse the revised TOR of the SSC PS (Annex S).
 - (b) Endorse the revised Stock Assessment Protocol (Annex T).
 - (c) Endorse the stock assessment report (Annex U).
 - (d) Endorse the SSC PS Work Plan (NPFC-2023-SSC PS12-WP01 (Rev. 1)).
 - (e) Allocate funds for the participation of an invited expert in the next SSC PS and Working Group on New Stock Assessment Models (WG NSAM) meetings.
 - (f) Consider the SSC PS's comments on the NPFC Performance Review recommendations that concern Pacific saury (NPFC-2023-SSC PS12-WP10).
 - (g) Consider and endorse the following rationale and approach in its scientific advice to the Commission:
 - i. The current biomass is much lower than B_{MSY} and the total allowable catch (TAC) for 2023-2024 may not reduce fishing mortality (F) in those years. A harvest control rule (HCR) that reduces F when biomass is low may increase the probability of achieving long-term sustainable use of Pacific saury (i.e. higher long-term catch closer to MSY of around 396,570 tons). A reduction to the TAC for 2023-2024 would increase the probability of higher long-term biomass and catch levels in the Pacific saury stock.
 - ii. Recommend that the Commission, at its 8th meeting, in accordance with its schedule, adopt an interim HCR from the list to be provided by the SWG MSE PS. In case the Commission cannot adopt an interim HCR, the following management recommendation is provided.
 - iii. An HCR that reduces the target harvest rate and TAC when biomass falls below its

target level may be appropriate for Pacific saury. This type of HCR is used in managing many fisheries around the world. For example, if an HCR that reduces F linearly when biomass is below B_{MSY} is applied, the TAC calculated based on such an HCR ($B_{2023} * F_{MSY} * (B_{2023} / B_{MSY}) = 73,490$ tons could be smaller than the current catch. Note, the above HCR is currently being evaluated for management.

- iv. The SSC PS noted that a possible TAC catch limit in 2024 calculated by $B_{2023} * F_{MSY} * (B_{2023} / B_{MSY})$ based on the 2023 assessment would be lower relative to that based on the 2022 assessment, even though biomass in 2023 itself is higher than that in 2022. The SSC PS discussed why this was the case and agreed that the main reason is an overall reduction of scales in biomass estimates in the 2023 assessment relative to that in 2022 because of slight changes in model configurations, use of new abundance indices, and time lag between fishery-independent and dependent abundance indices, particularly that the most recent CPUE data (2023) are not included in the model used to set the current limit in 2024.
- v. There is a two-year lag between the collection of fishery data and stock assessment work. There is a one-year lag between the survey and stock assessment work. The condition of the stock may change substantially between collection of data and management so that management measures are less effective or less appropriate. Approaches to reducing the delay should be considered. Such approaches were considered in HCR analysis but were dropped due to time constraints.

23. The SC endorsed the reports provided by the SSC PS Chair.

Agenda Item 5. Report and recommendations from the Joint SC-TCC-COM Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS)

- 24. The co-Chair of the joint SC-TCC-COM Small Working Group on Management Strategy Evaluation for Pacific saury (SWG MSE PS), Dr. Toshihide Kitakado (Japan), informed participants about progress of the SWG MSE PS including the outcomes and recommendations of its 3rd and 4th meetings (NPFC-2023-SWG MSE PS03-Final Report, NPFC-2023-SWG MSE PS04-Final Report).
- 25. The SC Chair stressed the importance of having management perspectives at the upcoming SWG MSE PS meeting and strongly encouraged Members to have their managers attend the meeting.

Agenda Item 6. Priority species

6.1 Summary of progress on the remaining four priority species

26. The Leads of the Small Working Groups (SWGs) on neon flying squid (NFS), Japanese sardine (JS), Japanese flying squid (JFS), and blue mackerel (BM) reported on the SWGs' intersessional activities, including the relevant outcomes of the 1st and 2nd joint virtual meetings of these SWGs in 2023, in the respective sections below (6.1.1 – 6.1.4). Detailed summaries of the joint SWG meetings are available in NPFC-2023-SC08-WP16 (1st meeting) and NPFC-2023-SC08-WP17 (2nd meeting).

6.1.1 Neon flying squid

27. The SWG NFS Lead, Dr. Luoliang Xu (China), reported on the SWG NFS' intersessional activities. The SWG NFS has met twice intersessionally (as part of the joint meetings of the SWGs on NFS, JFS, JS, and BM). It shared and reviewed Members' catch and effort data; discussed stock assessment model candidates and data requirements, focusing on the surplus production model, depletion model and State space Assessment Model Used for IKA (SAMUIKA); calculated and discussed Members' nominal catch per unit effort (CPUE) and preliminary CPUE standardization work; shared and reviewed spatial information on catch and effort; and reviewed Japan's fishery-independent survey.

6.1.2 Japanese sardine

28. The SWG JS Lead, Dr. Chris Rooper (Canada), reported on the intersessional activities of the SWG JS (NPFC-2023-SC08-WP05). The SWG JS has met twice intersessionally (as part of the joint meetings of the SWGs on NFS, JFS, JS, and BM). It updated and reviewed Members' catch and effort data, discussed catch distribution, reviewed Japan's domestic assessment, prepared an updated species summary, calculated and discussed nominal CPUE using Members' shared data, and discussed the sharing of the code for the Japanese domestic stock assessment within the SWG.
29. The SC noted that Japan and China have shared their length frequency data and length-weight relationship data and requested Russia to also share these data, so that these data can be used to further improve the domestic Japanese sardine stock assessment updated annually by Japan and assist the NPFC in determining the status of this species in the Convention Area.

6.1.3 Japanese flying squid

30. The SWG JFS Lead, Dr. Hajime Matsui (Japan), reported on the SWG JFS' intersessional activities. The SWG JFS has met twice intersessionally (as part of the joint meetings of the SWGs on NFS, JFS, JS, and BM). It updated and reviewed Members' catch and effort data, reviewed Japan's domestic stock assessment models and results, discussed data needs to improve Japan's stock assessment, reviewed the distribution of the winter and autumn

spawning cohorts of JFS, and updated the species summary.

6.1.4 Blue mackerel

31. The SWG BM Lead, Dr. Shota Nishijima (Japan), reported on the SWG BM's intersessional activities. The SWG BM has met twice intersessionally (as part of the joint meetings of the SWGs on NFS, JFS, JS, and BM). It updated the species summary, updated Members' estimated catch and effort, reviewed the feasibility of calculating the proportion of BM and chub mackerel catch by gear, shared and reviewed data on BM fork length and age, reviewed methods for distinguishing BM and chub mackerel, reviewed historical catch and updated the estimate of the proportion of BM and chub mackerel, reviewed Japan's domestic stock assessment, and shared and reviewed BM length frequency data and length-weight relationship data.
32. The SC recommended that the Commission amend CMM 2023-11 For Japanese Sardine, Neon Flying Squid and Japanese Flying Squid to change "spotted mackerel" to "blue mackerel".
33. The SC discussed whether or not it is worthwhile assessing and managing chub and blue mackerel separately. The SC noted that the chub and blue mackerel fisheries are very similar as they are conducted with the same fishing gear and have the same fishing season, and that it is very difficult for fishers to distinguish between the two species. Therefore, from a management perspective, it could be possible to have joint management measures for the two fisheries. On the other hand, the SC also noted that there are differences in the catch distribution of chub and blue mackerels. The mackerel catch can be separated into each species with the ratio of blue mackerel provided from Members in the NPFC stock assessment. Therefore, from a scientific perspective, the two mackerel species should be assessed separately. The SC agreed that this matter could be discussed further when the results of the chub mackerel stock assessment are available.

6.2 Species summaries

6.2.1 Review of priority species summaries

34. The SWG NFS Lead presented the updated species summary document for NFS (NPFC-2023-SC08-WP14 (Rev. 1)).
35. The SC reviewed, further revised, and endorsed the updated species summary document for NFS (Annex H).
36. The SWG JS Lead presented the updated species summary document for JS (NPFC-2023-

SC08-WP06).

37. Regarding the figure on historical JS catch, Japan explained the reason for the large difference in the historical FAO data and the recent data. The historical FAO data contain data from two JS stocks (Tsushima Warm Current stock and Pacific stock), whereas the recent data, which are the data reported by Japan to the NPFC, only contain data on the Pacific stock. Japan suggested that, for consistency, the figure should only include data on the Pacific stock, which is the stock distributed in the Convention Area, and it offered to share these data after the meeting. The SC agreed to Japan's suggestion.
38. The SC reviewed, further revised, and endorsed the updated species summary document for JS (Annex I).
39. The SWG JFS Lead presented the updated species summary document for JFS (NPFC-2023-SC08-WP08).
40. The SC reviewed, further revised, and endorsed the updated species summary document for JFS (Annex J).
41. When reviewing the species summary documents for NFS, JS, and JFS, the SC noted that paragraphs 1 and 2 of CMM 2023-11 for Japanese Sardine, Neon Flying Squid and Japanese Flying Squid do not define the historical existing level of the number of fishing vessels. The SC noted that the TCC and the SWG Planning and Development (SWG PD) are assessing all CMMs to provide greater clarity, including on these paragraphs (and similar paragraphs for other species), while reviewing the Compliance Monitoring Scheme, and the SC expressed its support for these efforts to clarify CMMs.
42. The SWG BM Lead presented the updated species summary document for BM (NPFC-2023-SC08-WP07).
43. The SC reviewed and endorsed the updated species summary document for BM (Annex K).
44. The SC agreed that, like the SSC PS and the TWG CMSA, the subsidiary bodies for NFS, JS, JFS, and BM should include ecosystem considerations and the potential impacts of climate change in future discussions and work.
45. The SC Chair presented the species summary document for Pacific saury (NPFC-2023-SC08-

WP09 (Rev. 2)).

46. The SC reviewed, revised, and endorsed the updated species summary document for Pacific saury (Annex L).
47. The SC requested that the Secretariat create a standalone section on the NPFC website for stock assessment reports so that they can be more easily found and accessed.
48. The TWG CMSA Chair presented the species summary document for chub mackerel (NPFC-2023-SC08-WP15 (Rev. 1)).
49. The SC reviewed and endorsed the species summary document for chub mackerel (Annex M).

6.3 Changes to common and scientific species names

50. The Chair informed the SC that she had consulted a variety of parties on developing a potential process to change the common and scientific names of species used by the NPFC. Based on her consultations, she determined that it would be very challenging to develop a process that would encompass all proposals and circumstances for changing a common and/or scientific species name used by the NPFC.
51. The SC agreed to consider proposed changes to common and scientific species names used by the NPFC on a case by case basis.

6.4 Domestic stock assessments of NFS, JFS, JS, and BM

52. The Chair reminded the SC that, at the 2nd joint meeting of the SWGs on NFS, JFS, JS, and BM in 2023, participants agreed that the results of the domestic stock assessments of JFS, JS and BM conducted by Japan would be observed at SC08, incorporated in the species summary documents, and submitted to the Commission.
53. China presented its preliminary domestic stock assessment of NFS (NPFC-2023-SC08-IP10). China found that El Niño-Southern Oscillation (ENSO) events (Niño indices) heavily affect the distribution and the local and global abundance of NFS in three spatiotemporal models. Thus, Niño indices and related environmental factors should be strongly incorporated in the stock assessment models. The results of China's preliminary stock assessment showed that the status of NFS stock is healthy, although annual fluctuation in biomass has occurred. The projections showed that climate change seems to be beneficial for the NFS, but the biomass would decrease in the traditional fishing ground, increasing the difficulty of fishing in the future.

China also informed the SC that China will mandate the use of electronic logbooks for the NFS fishery from 1 January 2024 and that it will update its related NFS work accordingly.

54. Japan was concerned that CPUE might have been standardized using annual measures of environmental variables related to the productivity of NFS, which has a one-year longevity, and requested China to prepare a paper explaining the details of its CPUE standardization work, including the variables considered, and submit it to the next meeting of the new Small Scientific Committee on Neon Flying Squid (SSC NFS), which SC agreed to establish under Agenda Item 6.6.1.
55. China intends to present a paper explaining the details of its CPUE standardization for NFS at the SSC NFS meeting next year.
56. Russia suggested that China consider incorporating oceanographic conditions in its future NFS stock assessment work.
57. The SC noted that China's preliminary stock assessment indicated that the status of the NFS stock is healthy.
58. Japan presented its domestic stock assessment of JFS (NPFC-2023-SC08-IP06). The estimated total biomass of the winter spawning stock decreased largely from 2015 to 2016 and has remained low since then. The maximum sustainable yield (MSY) based reference points were estimated from the stochastic simulation with the Beverton Holt stock-recruitment (SR) relationship. In 2022, the estimated total biomass was 141,000 MT and spawning stock biomass (SSB) was 49,000 MT. SSB is lower than SSB_{MSY} , and F is lower than F_{MSY} in 2021. In the current stock assessment method, there are uncertainties such as the absolute value of stock abundance estimates.
59. Based on the latest Japanese domestic stock assessment for JFS, the SC noted that the estimated total biomass of the winter spawning stock decreased largely from 2015 to 2016 and has remained low since then, that SSB was lower than SSB_{MSY} and F was lower than F_{MSY} in 2021, and that the estimated total biomass was 141,000 MT and SSB was 49,000 MT in 2022.
60. Japan presented its domestic stock assessment of JS (NPFC-2023-SC08-IP04). Japan conducts its JS stock assessment by the tuned Virtual Population Analysis (VPA) with ridge penalty. The MSY-based reference points were estimated from the stochastic simulation from the normal regime SR relationship of the hockey stick function. In 2022, estimated total biomass

was 4.91 million MT and spawning stock biomass (SSB) was 2.41 million MT, which exceeded SSB_{MSY} (1.19 million MT). The current F ($F_{2020-2022}$) exceeded F_{MSY} . As future issues, it is necessary to reflect actual age composition for fishes captured outside the Japanese exclusive economic zone (EEZ). Greater consideration of how to treat regimes for future projection and biological reference points (BRPs) is also needed. Furthermore, CPUE standardization should be conducted.

61. China noted that JS may be landed as either targeted catch or bycatch and encouraged Japan to consider how to account for this in its future CPUE standardization work.
62. Based on the latest Japanese domestic stock assessment for JS, the SC noted that SSB exceeded SSB_{MSY} and current F ($F_{2020-2022}$) exceeded F_{MSY} .
63. Japan presented its domestic stock assessment of BM (NPFC-2023-SC08-IP05). Japan conducts its BM stock assessment by the tuned VPA. The MSY-based reference points were estimated from the stochastic simulation from the Ricker SR relationship. Biomass and SSB have been decreasing since 2011, and recruitment has been much lower than the expectation from the SR relationship. The status in 2021 is that overfishing ($F > F_{MSY}$) is occurring and the stock is overfished ($SSB < SSB_{MSY}$). For future assessments, it is necessary to reflect actual age composition of fishery catch outside the Japanese EEZ. The development and standardization of abundance indices should also be conducted.
64. Based on the latest Japanese domestic stock assessment for BM, the SC noted that biomass and SSB have been decreasing since 2011 and that the status in 2021 is that overfishing ($F > F_{MSY}$) is occurring and the stock is overfished ($SSB < SSB_{MSY}$).
65. The SC noted the usefulness of having information from Members' domestic stock assessments for NFS, JFS, JS, and BM. The SC requested that Japan submit English summaries of its updated domestic stock assessments for JFS, JS, and BM to SC09. The SC agreed that China's updated domestic stock assessment will be reviewed at the SSC NFS.
66. Japan presented a comparison of length-weight relationships (LWR) and catch numbers by size and age between China and Japan for JS and BM (NPFC-2023-SC08-WP11 (Rev. 1)). Japan compared the LWR and catch numbers by size and age between China and Japan, and found that JS caught by the Chinese fishery may be fatter than those caught by the Japanese fishery in 2021 and 2022, while the degree of obesity for BM did not differ much between China and Japan. It also found that fish caught by the Chinese fishery were smaller and probably younger

than those caught by the Japanese fishery for both JS and BM. These differences may reflect size-dependent spatial distributions of JS and BM: large and old fish may be distributed mainly along the Pacific coast of Japan, while only small and young fish may be distributed as far as the NPFC Convention Area. The current domestic stock assessment for the Pacific stocks of JS and BM in Japan assumed that the age composition of foreign catches was identical to that of the northern purse seine fishery in Japan. However, according to the current results, this assumption would be invalid and risky because the Chinese JS and BM fisheries are composed of smaller and younger fish, and the Chinese catch weight and number of JS and BM have been increasing. Continued sharing of data on length-weight relationships and size and age composition in Members' fisheries will be important for accurate estimates of stock abundance and fishery impacts through Japanese domestic stock assessment on those species.

67. Russia noted that its catch of JS has increased in recent years and suggested that it could share its gear-specific length and weight data from its fisheries, length and weight data from its surveys in the Northwestern Pacific Ocean, and, if needed, age data calculated using the Japanese age-length key (ALK).
68. The SC welcomed Russia's input and agreed that these data can be used to further improve the Japanese sardine stock assessment and assist the NPFC in determining the status of this species in the Convention Area.

6.5 Key milestones to achieve for NPFC stock assessments and provision of management advice

69. Canada presented a summary of the current assessment status for NPFC priority species and species that are targeted but not on the priority species list (sablefish, skilfish, rougheye and blackspotted rockfishes) as well as a draft set of standardized activities or milestones to achieve for conducting stock assessments and providing management advice on these species (NPFC-2023-SC08-IP12). Canada also suggested streamlining reporting to Commission from the SC with statements of status for each species, time series of catch and effort for all species, and standardized CPUE or biomass where available; establishing a cycle of an independent review of stock assessments every 5–10 years; and considering collecting fishery catch data through a regional observer program.
70. The summary of the current assessment status for NPFC priority species and sablefish, skilfish, and rougheye and blackspotted rockfishes, and the draft set of standardized activities or milestones to achieve for conducting stock assessments and providing management advice on these species are included as Annex V.

71. The EU and Canada developed and shared draft biological data provision templates for age, ALKs, length, and maturity at age (NPFC-2023-SC08-IP13).
72. The SC requested Members to test the biological data provision templates when submitting data to the SC's subsidiary bodies. The SC tasked its subsidiary bodies to evaluate the templates and present feedback to SC09, as well as to discuss the appropriateness of having a standardized approach for sharing data and present the outcomes of their discussions to SC09.
73. The SC agreed to establish a Small Working Group on Milestones and tasked it to further develop milestones for conducting stock assessments and providing management advice, discuss the potential use of the biological data provision templates, and present the outcomes at SC09.
74. The SC acknowledged that it may be difficult to develop a uniform set of milestones due to the differences among the NPFC priority species and encouraged the Small Working Group on Milestones to endeavor to identify common key steps to work towards to the extent possible.

6.6 Future roles and activities of the SWG NFS, SWG JFS, SWG JS, and SWG BM

75. The SC developed a table of future tasks for the SWG JFS, the SWG JS, the SWG BM and the Small Scientific Committee on Neon Flying Squid, which will supersede the SWG NFS as described in Agenda Item 6.6.1 below (Annex W).

6.6.1 Potential establishment of a new formal SC subsidiary body to focus on NFS

76. The SC agreed to establish a Small Scientific Committee on Neon Flying Squid (SSC NFS) to supersede the SWG NFS.
77. The SC agreed to appoint Dr. Luoliang Xu (China) as the SSC NFS Chair and Dr. Bungo Nishizawa (Japan) as the SSC NFS Vice-Chair.

6.6.2 Scientific project(s) to support CPUE standardization and assessment of NFS

78. The SC agreed that it would be worthwhile hiring a contractor to support the work of the SSC NFS.

6.6.3 Virtual or in-person meetings

79. The SC agreed to hold an initial virtual meeting of the SSC NFS in the intersessional period (in August or September 2024) to develop its TOR and Work Plan.

80. The SC agreed to hold joint virtual meetings of the SWG JFS, SWG JS, and SWG BM in the intersessional period.

Agenda Item 7. Climate change

7.1 Climate change effects on NPFC's priority species and associated ecosystems

81. The Science Manager presented an overview of the NPFC's Resolution on Climate Change and, for reference, potential scientific tasks that Members of South Pacific Regional Fisheries Management Organisation (SPRFMO) have identified in relation to climate change (NPFC-2023-SC08-IP08).
82. Dr. Tony Thompson (FAO) introduced the climate change-related aspects of the Areas Beyond National Jurisdiction (ABNJ) Deep Sea Fisheries (DSF) Project (NPFC-2023-SC08-OP02). The DSF Project would like to fund a consultancy and work with the NPFC on climate change. The consultancy would be guided by NPFC needs and focus on scientific aspects. The DSF Project aims to conduct similar consultancies with a number of regional fisheries management organizations (RFMOs) and eventually support a global workshop to further develop guidance for climate change among RFMOs. The consultancy would aim to summarize potential climate change impacts on managed stocks, non-target species and associated ecosystem; study climate change-related distribution shifts; review the most recent Intergovernmental Panel on Climate Change (IPCC) ocean climate change predictions in the North Pacific; summarize how this may affect the ecosystem and the likely impacts on managed stocks and non-target species; identify any new data requirements needed to detect and monitor climate-related changes; and consider how to integrate climate change effects into stock assessments and fishery management advice.
83. The SC agreed to continue to communicate with the FAO on developing a climate-change-related consultancy.
84. The Executive Secretary of the North Pacific Marine Science Organization (PICES), Dr. Sonia Batten, provided an overview and an update on the Basin-scale Events to Coastal Impacts (BECI) project (NPFC-2023-SC08-OP01). BECI has been endorsed by the United Nations Decade of Ocean Science and its objective is to implement an international ocean intelligence system of monitoring, research and analytical approaches that provides timely advice to decision-makers about the impact of current and future climate conditions on socio-ecological systems. Major components of the project are modeling; data mobilization; observation and monitoring; targeted at-sea research; and outreach, communication and coordination. In 2023, BECI convened a science plan development workshop and it is aiming to make a funding

announcement for an initial BECI project office and to appoint a Science Director to lead the development and implementation of BECI within this year. In 2024, BECI is aiming to establish its science plan and distribute it for comments, as well as to build an implementation plan and collaboration network.

7.1.1 Current knowledge

7.1.2 Ongoing research activities

85. China presented an overview of surveys conducted from 2021 to 2023 by Chinese research vessel “Song Hang” in the Northwestern Pacific Ocean in the NPFC Convention Area (NPFC-2023-SC08-WP12). This comprehensive program covers fisheries resources, larval-juvenile fish, plankton, and environmental surveys and has collected fundamental data and biological tissue samples that could improve understanding of the marine ecosystem in that part of the Convention Area. China welcomed any comments and suggestions for improving the survey, and invited participants to attend a workshop on survey design optimization for 2024 that will be held in March 2024 in Shanghai. China offered to financially support the travel of 1-2 participants from NPFC Members and other relevant experts.
86. Members provided some comments on the research surveys conducted by China and welcomed China’s effort to collect more data on fisheries resources and marine ecosystems in the Convention Area.

7.1.3 Research priorities and potential scientific projects for SC

87. The DSCC presented an overview of the research project “Defying Dissolution: Deep-sea Scleractinian Reefs in the North Pacific” (NPFC-2023-SC08-IP14). Scleractinian reefs were discovered below the aragonite saturation horizon (ASH) in the North Pacific. This may be because the ASH has shoaled since formation due to ocean acidification. To test this hypothesis, research cruises were conducted in fall 2021 and fall 2022. The cruises included species distribution studies, species distribution and habitat suitability modeling, carbonate chemistry and dissolution experiments, and other research activities. Depth analyses are ongoing and the preliminary results will be presented at Ocean Sciences in February 2024.
88. Canada presented an overview of a research proposal (NPFC-2023-SC08-IP07) it has submitted to Canada’s Competitive Science Research Fund (CSRF) to study the cumulative impacts of climate vulnerability and significant adverse impacts (SAIs) caused by bottom-contact fishing on vulnerable marine ecosystems (VMEs) in the NPFC Convention Area, specifically the Cobb-Eickelberg seamount chain in the Northeastern Pacific Ocean. The project is aimed at advancing progress on defining SAI, assessing the cumulative risks of SAIs

to VMEs caused by bottom-contact fishing and anticipated climate-induced changes, and using spatial optimization software to identify climate-resilient VMEs and potential VMEs to protect from SAIs.

Agenda Item 8. Data Collection and Management

8.1 Data Management System

89. The Data Coordinator, Mr. Sungkuk Kang, and a postdoctoral researcher under the NPFC Internship Program, Dr. Jihwan Kim, reported on the progress in the development of the SC-related data management system (NPFC-2023-SC08-IP03). The Data Coordinator explained updates to the Members Home, Significant dates/Events, Pacific Saury Weekly Report, Collaboration, and Annual reports sections, as well as updates to the NPFC GIS Map to include Pacific saury catch and effort data with sea surface temperature per 1 x 1 degree grid from 1994 to 2022. The NPFC Intern reported on the progress in the development of an NPFC neon flying squid map that will be similar to the Pacific Saury Catch and Effort Map, and invited Members to provide suggestions before the map is deployed on the Members' section of the NPFC website.
90. The SC noted that the NPFC Performance Review Panel had recommended developing GIS maps with catch and effort data for NFS, JS and JFS. The SC agreed that it could be useful to create such maps for NFS and JS. In the case of the JFS, the SC agreed that it may not be worthwhile as the JFS catch in the Convention Area is small and only taken by one Member.
91. The SC also discussed the distinction between the sharing of data for scientific analyses and stock assessment work within a scientific group of experts, and the displaying/visualization of data, for example on maps, for all NPFC Members. The SC agreed that, for scientific analyses and stock assessment work, data should be shared at the finest resolution possible. The SC agreed that the display/visualization could be done at coarser resolutions. The SC also noted that the appropriate resolution for displaying/visualizing data may differ by fisheries.
92. The SC requested the SSC NFS and the SWG JS to discuss whether it would be useful to create GIS maps with catch and effort data for NFS and JS. The SC agreed that, if the SSC NFS and/or the SWG JS determine that such maps would be useful, the SC would seek the Commission's guidance on how to present the data.
93. The Data Coordinator presented an overview of GIT repository options provided by GitHub and GitLab (NPFC-2023-SC08-WP13) and invited Members to indicate their preferences.

94. The SC expressed its preference for the GitHub Team plan. The SC requested the Secretariat to continue its discussions with GitHub to see if it is possible for the NPFC to utilize the GitHub Team Plan for free as a non-profit organization and report to TWG CMSA08 in January 2024.
95. The SC requested the Secretariat to develop guidelines and a manual for using GitHub in cooperation with Members. The SC encouraged Members to share any other resources that may be useful and requested the Secretariat to compile them into a list.

8.2 NPFC Data Sharing and Data Security Protocol

96. The Data Coordinator outlined the NPFC Data Sharing and Data Security Protocol that was developed and adopted by the Commission at its 7th meeting.

8.2.1 Revision of Regulations for Management of Scientific Data and Information

97. The Science Manager presented proposed revisions to the Regulations for Management of Scientific Data and Information to align it with the NPFC Data Sharing and Data Security Protocol (NPFC-2023-SC08-WP10).
98. The SC reviewed and endorsed the proposed revisions (Annex X).

8.3 Data needs, data gaps, and strategies to fill gaps

8.3.1 Information about species belonging to same ecosystem or dependent/associated with target stocks

99. The Chair reminded the SC that, in accordance with Article 10, paragraph 4(d), one of the functions of the SC shall be to assess the impacts of fishing activities on fisheries resources and species belonging to the same ecosystem or dependent upon or associated with the target stocks. She further pointed out that the NPFC Performance Review Panel has recommended that the SC and TCC should coordinate formal efforts to collect standardized data and validate bycatch of associated and dependent species, and that the SC develop strategies that address the lack of information needed to take ecosystem considerations into account for NPFC pelagic fisheries in the Convention Area, and include these in the SC's Research Plan, data collection procedures and obligations. The Chair also reminded the SC that SC06 agreed that the establishment of an observer program in the NPFC Convention Area would facilitate the collection of more data for such non-targeted species, as well as for NPFC priority species.
100. The SC agreed that it would be useful to have Members' historical information about discarded bycatch from the Convention Area. The SC requested Members to identify whether they have any historical information about species captured in surveys and/or discarded bycatch from

their fisheries in the Convention Area and to present summaries of such information to the relevant SC subsidiary body. The SC tasked its subsidiary bodies to review this information and report any potential impacts on species belonging to same ecosystem or dependent/associated with target stocks during SC09.

8.3.2 Potential roles of regional observer program or e-monitoring

101. The SC noted that its subsidiary bodies have identified some of the data needs and data gaps that could be filled by a regional observer program. The SC tasked its subsidiary bodies to review and update such data needs and gaps in light of advances in their scientific analyses and stock assessment work. The SC also tasked its subsidiary bodies to discuss the structure of a potential regional observer program, such as necessary levels of coverage by fishery and gear type. The SC agreed that these tasks would be a lower priority for the SSC PS and the TWG CMSA as they are currently working on the high priority tasks of the Pacific saury management strategy evaluation and the chub mackerel stock assessment, respectively.
102. The SC reaffirmed the scientific value of having a regional observer program. At the same time, some Members noted that the establishment of a regional observer program could be challenging and take a significant amount of time and suggested that Members' domestic observer programs could fill many of the data needs and gaps that have been identified. Other Members pointed out that it is difficult for Members to evaluate whether data collected by each other's observer programs are representative of the fished stock. The SC noted that the EU presented a template for collecting qualitative information about Members' sampling programs at TWG CMSA07. The SC requested the EU to share this template with Members and requested Members to fill it out and submit it to the relevant subsidiary bodies.
103. The SC noted that there remain some technical issues with electronic monitoring that require further discussion.
104. The EU pointed that a regional observer program and electronic monitoring are separate, albeit complementary, matters and that the SC should take care to distinguish between the two in its discussions. The logistical challenges associated with implementing a regional electronic monitoring program significantly add to the complexity of a scientific data collection initiative and might impede the discussions of traditional and well-established data collection methods such as observer programs.

Agenda Item 9. Scientific projects for 2024

9.1 Ongoing/planned projects

9.2 New projects

9.3 Review and prioritization of projects

105. The Science Manager presented a draft list of scientific projects that were discussed during the meetings of the SC and its subsidiary bodies (NPFC-2023-SC08-WP01 (Rev. 1)).

106. The SC agreed that capacity building within Members was important and support for scientists to attend training and meetings should be supported as much as possible. The SC agreed to add a new project to the list: “Other science meetings / capacity development.” With that support would come an obligation to transmit the skills and knowledge to the SC through reports, workshops, or shared scientific products (e.g. modeling methods or code).

107. The SC reviewed the list of proposed scientific projects and endorsed it for consideration by the Commission (Annex Y).

108. The Science Manager presented a special project to be sponsored by the Special Project Fund which is to hire an expert in the use of data limited methods in stock assessment to assist the SWG NPA-SA in conducting an assessment of the SA and possibly NPA stocks in the Emperor Seamounts as recommended by SSC BF-ME04 (NPFC-2023-SC08-IP11). The Secretariat, in cooperation with the Chair of SSC BF-ME04, will prepare a proposal and submit it to the Finance and Administration Committee (FAC) for consideration.

109. The SC recommended that the FAC endorse this as a special project.

Agenda Item 10. Cooperation with other organizations

110. The Science Manager outlined a compiled list of cooperation opportunities and requests from other organizations, for consideration by the SC (NPFC-2023-SC08-IP02).

10.1 Reports on the joint NPFC-PICES activities since the SC07 meeting, including a report from the PICES Secretariat

111. Dr. Sonia Batten (PICES), reported on recent and upcoming planned joint activities between PICES and NPFC (NPFC-2023-SC08-OP01), highlighting the following:

- (a) Participation by NPFC and PICES representatives at each other’s annual meetings
- (b) NPFC representation to the joint PICES-ICES Working Group (WG) on Small Pelagic Fish (WG 43)
- (c) Involvement by some NPFC scientists, including the Chair of the NPFC SC, in the Working Group on the Ecology of Seamounts (WG 47)
- (d) Co-sponsoring of a PICES-ICES-FAO symposium, “Small Pelagic Fish: New Frontiers

in Science and Sustainable Management” in 2022

- (e) Co-sponsoring of a topic session, “Environmental variability and small pelagic fishes in the North Pacific: exploring mechanistic and pragmatic methods for integrating ecosystem considerations into assessment and management” by the NPFC at the PICES-2022 Annual Meeting in Busan, Korea in September 2022
- (f) Co-convening of a hybrid workshop at PICES-2022 with members of WG47 on “Distributions of pelagic, demersal and benthic species associated with seamounts in the North Pacific Ocean and factors influencing their distributions”
- (g) Co-sponsoring of a topic session, “S14: BIO Topic Session Seamount biodiversity: vulnerable marine ecosystems (VMEs) and species associated with seamounts in the North Pacific Ocean,” at PICES-2023 in Seattle, USA.
- (h) Agreement by the NPFC and PICES to hold a joint international course/workshop on VME indicator taxa identification, and approval of financial contributions of US\$15,000 from each organization (postponed)
- (i) Revision of the NPFC-PICES Framework for Enhanced Scientific Collaboration to plan the next phase
- (j) Workshop in February 2024 to begin planning of the Small Pelagic Fish-2026 Symposium
- (k) Holding of PICES-2024 in Honolulu, USA
- (l) Endorsement of the BECI project by NPFC

112. The Science Manager reminded the SC that the planned joint international course/workshop on VME indicator taxa identification was first postponed because of the COVID-19 and subsequently further postponed due to difficulty finding a host for the course/workshop, which should be conducted in person. The course/workshop has since been removed from the SC’s list of scientific projects, but can be restored when the SC determines it to be appropriate to do so.

10.2 SC representation at PICES meetings

10.2.1 SC representation in the Joint ICES-PICES WGSPF

113. Dr. Chris Rooper (Canada) provided a report on the activities of the joint PICES-ICES Working Group on Small Pelagic Fish in 2023 of relevance to the NPFC (NPFC-2023-SC08-IP15). These include:

- (a) Two special issues in *Canadian Journal of Fisheries and Aquatic Sciences* (CJFAS) and *Marine Ecology Progress Series* (MEPS) resulting from the PICES-ICES-FAO symposium, “Small Pelagic Fish: New Frontiers in Science and Sustainable Management” conducted in 2022
- (b) Plans to hold a small report writing workshop in February 2024 in La Paz, Mexico

- (c) Proposal of a new PICES WG to jointly collaborate with the ongoing ICES WG
- (d) Plans to hold a PICES topic session on advances in observational, analytical, and modeling tools that lead to better observations and improved understanding of small pelagic fish at the PICES Annual Meeting in 2024
- (e) Plans to hold a Small Pelagic Fish symposium in spring 2026 in La Paz, Mexico

10.2.2 Report on PICES' topic session on VMEs and Seamounts

114. Ms. Devon Warawa (Canada) provided a report on the PICES S14: BIO Topic Session – “Seamount biodiversity: VMEs and species associated with seamounts in the North Pacific Ocean” and the business meeting of PICES WG47 on Ecology of Seamounts (NPFC-2023-SC08-IP16). At the topic session, the invited speaker, Dr. Ashley Rowden, presented a paper on “Methods and challenges for identifying VMEs and monitoring biodiversity on seamounts: a personal perspective from the South Pacific Ocean.” There were also presentations by NPFC scientists on topics such as association analysis of seamount benthos for identifying the validity of VME indicator taxa; visual surveys and distribution models to identify VMEs in the Convention Area; distribution, abundance and size structure of deep-sea corals and sponges in the Northeastern Pacific Ocean, and a study from the Emperor Seamounts of environmental DNA as a potential tool for understanding demersal ichthyofauna in seamounts. The PICES WG47 business meeting discussed the WG’s TOR and exchanged information and ideas about participants’ seamount research activities.

10.2.3 Selecting SC representatives to PICES 2024

115. The Chair reminded the SC of the criteria and process it agreed on at SC07 for selecting an SC representative to PICES 2024 and encouraged Members to submit nominations in the intersessional period.

10.3 Report on cooperation between NPFC and NPAFC

116. The Deputy Director of NPAFC, Dr. Ricardo Federizon, presented the current status of the Five-year Work Plan to implement the NPAFC/NPFC Memorandum of Cooperation (NPFC-2023-SC08-OP03 (Rev. 1)) with commentary from the NPAFC.

117. The SC welcomed the continued collaboration between the NPFC and the NPAFC to implement their Memorandum of Cooperation.

10.4 FAO ABNJ Deep-sea fisheries project

118. Dr. Tony Thompson (FAO) presented an update on the ABNJ DSF Project (NPFC-2023-SC08-OP02). The work of the project has four main components: strengthening and implementing

regulatory frameworks, strengthening effective management of deep-sea fisheries, improving understanding and management of cross-sectoral interactions on deep-sea fisheries, and knowledge management and communication. The DSF Project would like to support a number of regional studies to review modalities for incorporating climate change effects into the work of deep-sea RFMOs, including the NPFC. The DSF Project would also like to partner with the ICES to assess data-limited stocks, such as SA and NPA, and monitor rapid change and would like suggestions from NPFC of stock experts that would like to join this initiative. The DSF Project will hold a symposium in 2025 on the “Application of the Ecosystem Approach to Fisheries Management in ABNJ – recent development in the monitoring, assessment and mitigation of ecosystem impacts of fisheries.” The DSF Project is also reviewing the implementation of the FAO DSF Guidelines and will develop and publish the final draft in the FAO Fisheries and Aquaculture Technical Paper series in early 2024. The DSF Project thanks NPFC for its continued partnership with the DSF Project and looks forward to developing concrete joint activities to contribute to strengthened global fisheries management and protection of biodiversity in the ABNJ. To facilitate further progress, the DSF Project requests the NPFC to identify contact people for climate change work, data-limited stock assessments, and the ecosystem approach to fisheries management (EAFM) framework and symposium.

119. The SC identified the following points of contact for the DSF Project:

- (a) Climate change work: Dr. Erin Bohaboy (USA)
- (b) Data-limited stock assessment of SA and NPA: Dr. Takehiro Okuda (Japan)
- (c) EAFM framework and symposium: The NPFC Secretariat

10.5 Partnership with the Fisheries and Resources Monitoring System of FAO (FIRMS)

120. Dr. Aureliano Gentile (FAO) provided an overview of the FAO Blue Transformation strategy and an overview and update on the partnership between FIRMS and NPFC (NPFC-2023-SC08-OP04). The FAO Blue Transformation is a vision to expand aquatic food systems and increase their contribution to better production, better nutrition, better environment and better life. FIRMS was launched in 2004 to provide decision makers and others with high quality, authoritative information on global marine fisheries resources to develop informed fisheries and marine resource policies. FIRMS has steadily grown its membership as well as its information base and has now operationalized comprehensive reporting and developed a number of tools and products, such as the Global Record of Stocks and Fisheries (GRSF) areas database, an inventory of fishery management units, an inventory of fishing units, the FIRMS Global Tuna Atlas, regional databases on catch and effort. FIRMS Partners have also established core concepts, definitions, and data presentation formats and standards. In terms of recent key developments, FIRMS held a Steering Committee meeting to deliberate strategic

decisions for the next decade, is working on updating the FIRMS system, and is working to support SDG Indicator 14.4.1 (proportion of fish stocks within biologically sustainable levels). As for the NPFC's role in FIRMS, as a new Partner and data provider, NPFC is instrumental to increase the monitoring of the North Pacific region with data coverage and information, and with networking and flagging other opportunities for partnership.

121. The NPFC is invited to take part in assigning unique identifiers to NPFC stocks and fisheries and informing about the North Pacific fish stock structure; the FIRMS dissemination of the stock-by-stock disaggregation of the State of World Fisheries and Aquaculture (SOFIA) index, which will combine public data provided by RFBs and non-public data from the SDG14.4.1 Questionnaire and other national sources; contribute to the newly borne FAO sub-Committee on fisheries management; contribute to the GRSF Area database from the Member level; and contribute to the development of FIRMS information standards.
122. The SC welcomed the progress made so far in the partnership between NPFC and FIRMS and the plans for moving forward.

10.6 Partnership with WCPFC and ISC

123. On behalf of Dr. John Holmes, the Chair of the International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean (ISC), Ms. Sarah Hawkshaw (Canada) reported on progress towards concluding a Memorandum of Understanding (MOU) between the NPFC and the ISC (NPFC-2023-SC08-OP05). A draft MOU developed by the NPFC Executive Secretary was presented for discussion at ISC23 Plenary meeting held in July 2023 in Kanazawa, Japan. The MOU focuses on mutual interests, including exchanging data and scientific information in support of the work and objectives of both organizations; collaborating on research efforts relating to species and stocks of mutual interest; exchanging expertise gained, lessons learned and use of best practices in their areas of activity; and granting reciprocal observer status to representatives of the respective organizations in relevant meetings. The ISC Plenary was supportive of the MOU in general but sought to address some concerns. The ISC Chair is proposing changes based on the ISC Plenary's input. The ISC Chair and the NPFC Executive Secretary will work together to put in place language acceptable to both and the revised MOU will be presented for approval by each organization at the next available opportunity (NPFC: April 2024; ISC: June 2024).
124. The Executive Secretary informed the SC that the Western and Central Pacific Fisheries Commission (WCPFC) recently held its annual meeting, where it reviewed the draft MOU submitted by the NPFC and proposed revisions, and that the WCPFC is expected to submit a

revised proposal to NPFC in due course.

10.7 Partnership with SPRFMO

125. The Executive Secretary informed the SC that, following the 7th meeting of the Commission, the NPFC has signed an [MOU with SPRFMO](#) to facilitate consultation, cooperation, and collaboration between the two organizations.

10.8 Cooperation with other organizations

126. There was no discussion of cooperation with any other organizations.

Agenda Item 11. SC Terms of Reference (TOR) and 2024-2028 Research Plan and Work Plan

11.1 Review of the SC TOR

127. The SC reviewed its TOR and determined that no revisions are currently needed.

11.2 Five-year Research Plan

11.3 Five-year Work Plan

128. The SC reviewed and updated its 2023-2027 Five-Year Rolling Research Plan (NPFC-2022-SC08-WP02) and Work Plan (NPFC-2023-SC08-WP03 (Rev. 1)). The updated Research Plan and the Work Plan of the SC and its subsidiary bodies are attached as Annex Z.

11.4 Progress on addressing NPFC PR recommendations for SC

129. The SC's progress on addressing the NPFC Performance Review Panel's recommendations, as well as the SC's ongoing and future actions, are described in NPFC-2023-SC08-WP04 (Rev. 1).

Agenda Item 12. Other Matters

12.1 Coordination between SC and TCC

130. The Compliance Manager, Ms. Judy Dwyer, provided an update on the compliance program (NPFC-2023-SC08-IP09). She explained the current observer requirements as stipulated in the Convention and three CMMs, including the establishment of a regional observer and/or electronic monitoring program no later than COM09 for transshipment, and informed the SC that the SWG PD has had preliminary conversations on the development of a broader observer program that would also collect data on NPFC's pelagic fisheries. To ensure the data collected meet the SC's objectives, SC input will be needed to design the program, including in relation to scientific objectives, structure, minimum observer qualifications, data collection forms, training, certification, required coverage levels, operations, and data collection/reporting. The Compliance Manager also outlined the compliance-related recommendations from the NPFC

Performance Review Panel, as well as three new CMMs adopted by the Commission: a revised CMM on transshipment and new CMMs on sharks and marine pollution. In addition, the Compliance Manager reported on the launch and ongoing implementation of the NPFC Vessel Monitoring System (VMS) and pointed out that the related CMM (2023-12) also envisions potential use of the VMS to support scientific purposes.

131. The FAO suggested that it may be able to provide or help the NPFC develop a key for shark identification. The SC thanked the FAO for the offer.
132. The SC suggested it may be worthwhile for the SC Chair and the TCC Chair to hold periodic meetings, and, as appropriate, to include the Science Manager and the Compliance Manager, as well as the Chairs and leads of the subsidiary bodies of the SC and the TCC.
133. Based on the discussions above, the SC identifies the following as matters for coordination between the SC and the TCC and requests the Secretariat to inform the TCC of:
- (a) The SC supports the efforts of the TCC and the SWG PD to seek clarification on CMM 2023-11 for Japanese Sardine, Neon Flying Squid and Japanese Flying Squid to address the fact that paragraphs 1 and 2 do not define the historical existing level of the number of fishing vessels, and similar paragraphs in other CMMs.
 - (b) The SC intends to work in cooperation with TCC and the Commission to amend CMM 2023-05 to address the ambiguity around the referenced effort limits agreed in February 2007 in Paragraph 4A and to amend CMM 2023-06 to determine the level of a historical average in Paragraph 3, i.
 - (c) The SC will continue to discuss data needs and data gaps that could be filled by a regional observer program as described in paragraph 101 and inform the TCC about progress in these developments.

12.2 Other Matters

134. The SC reviewed the current list of NPFC priority species. The SC agreed that priority species should be species that are targeted or that are captured in large abundances in the Convention Area and therefore warrant prioritization for the provision of scientific advice. Based on this understanding, the SC recommended that the Commission add sablefish and skilfish to the list of NPFC priority species.

Agenda Item 13. Advice and recommendations to the Commission

135. Based on the recommendations from its SSCs, the TWG CMSA, and its SWGs, the SC recommends that the Commission:

- (a) Develop a clear definition of what constitutes “bycatch.”
- (b) Endorse its 5-Year Rolling Research and Work Plans (Annex Z).
- (c) Endorse the proposed scientific projects (Annex Y).
- (d) Consider the species summary documents as reference information when taking decisions on the management of the NPFC priority species (Annexes D-M), including the information about the trends in catch and effort and other scientific information relevant to management of NPA and SA and the information about domestic stock assessments in the species summaries for JFS, JS and BM.
- (e) Consider the scientific meetings schedule for 2024 as described in paragraph 138.

Chub Mackerel

- (f) Allocate funds for the participation of an invited expert in the TWG CMSA meetings to support the TWG CMSA in the stock assessment project (Scientific Projects, Annex Y).

Bottom Fish and Marine Ecosystems

- (g) Endorse the proposed revisions to CMM 2023-05 (Annex P), including:
 - i. A new interim encounter threshold for sponges of 350 kg based on analyses of fishery bycatch data.
 - ii. Additional group of cold water corals, pennatulaceans, as a VME indicator taxa.
 - iii. Modified nomenclature for cold water corals to reflect recent taxonomy revisions.
- (h) Endorse the proposed revisions to CMM 2023-06 (Annex Q), including:
 - i. A new interim encounter threshold for sponges of 350 kg for fishing gears other than pots based on analyses of fishery bycatch data.
 - ii. Additional group of cold water corals, pennatulaceans, as a VME indicator taxa.
 - iii. Modified nomenclature for cold water corals to reflect recent taxonomy revisions.
 - iv. Encounter thresholds for pot gear of 2 kg for corals and 5 kg for sponges.
 - v. Close two new areas as VME protection sites on Cobb Seamount.
- (i) Note that:
 - i. Although NPA catch was slightly higher in 2022 than 2021, the catch remains at low levels relative to historical values.
 - ii. There are some indications that Japanese fishers have been avoiding targeting NPA since the encouraged catch limit was introduced in 2019.
 - iii. There has been no indication of high recruitment of NPA detected in the monitoring survey.
 - iv. SA catch has been about 1/2 of the mean for the last 10 years, but nominal CPUE is only slightly lower than the 10 year average.
- (j) Consider, in cooperation with the SC and the TCC, amending CMM 2023-05 to address the ambiguity around the referenced effort limits agreed in February 2007 in Paragraph 4A and amending CMM 2023-06 to determine the level of a historical average in

Paragraph 3, i.

Pacific Saury

- (k) Endorse the stock assessment report (Annex U).
- (l) Consider the following to improve conservation and management of Pacific saury:
 - i. The current biomass is much lower than B_{MSY} and the TAC for 2023-2024 may not reduce fishing mortality (F) in those years. An HCR that reduces F when biomass is low may increase the probability of achieving long-term sustainable use of Pacific saury (i.e. higher long-term catch closer to MSY of around 396,570 tons). A reduction to the TAC for 2023-2024 would increase the probability of higher long-term biomass and catch levels in the Pacific saury stock.
 - ii. At the 8th Commission meeting, in accordance with its schedule, adopt an interim HCR from the list to be provided by the SWG MSE PS. In case the Commission cannot adopt an interim HCR, the following management recommendation is provided.
 - iii. An HCR that reduces the target harvest rate and TAC when biomass falls below its target level may be appropriate for Pacific saury. This type of HCR is used in managing many fisheries around the world. For example, if an HCR that reduces F linearly when biomass is below B_{MSY} is applied, the TAC calculated based on such an HCR ($B_{2023} * F_{MSY} * (B_{2023} / B_{MSY}) = 73,490$ tons) could be smaller than the current catch. Note, the above HCR is currently being evaluated for management.
 - iv. The SSC PS noted that a possible TAC catch limit in 2024 calculated by $B_{2023} * F_{MSY} * (B_{2023} / B_{MSY})$ based on the 2023 assessment would be lower relative to that based on the 2022 assessment, even though biomass in 2023 itself is higher than that in 2022. The SSC PS discussed why this was the case and agreed that the main reason is an overall reduction of scales in biomass estimates in the 2023 assessment relative to that in 2022 because of slight changes in model configurations, use of new abundance indices, and time lag between fishery-independent and dependent abundance indices, particularly that the most recent CPUE data (2023) are not included in the model used to set the current limit in 2024.
 - v. There is a two-year lag between the collection of fishery data and stock assessment work. There is a one-year lag between the survey and stock assessment work. The condition of the stock may change substantially between collection of data and management so that management measures are less effective or less appropriate. Approaches to reducing the delay should be considered. Such approaches were considered in HCR analysis but were dropped due to time constraints.
- (m) Allocate funds for the participation of an invited expert in the next SSC PS and WG NSAM meetings (Scientific Projects, Annex Y).

Other Priority Species

- (n) Add sablefish and skilfish to the list of NPFC priority species.
- (o) Amend CMM 2023-11 to change “spotted mackerel” to “blue mackerel.”

Data Sharing

- (p) Adopt the revised Regulations for Management of Scientific Data and Information (Annex X).
- (q) Update the data shared by the SC, TWG CMSA, SSC BF-ME, SSC PS, SSC NFS including subsidiary SWGs JFS, JS and BM, in accordance with their Work Plans.

Performance Review

- (r) Note that the SC reviewed the Performance Review recommendations and provided comments on SC-related recommendations (NPFC-2023-SC08-WP04 (Rev. 1)).

136. In relation to other tasks for the SC specified in CMMs and the Convention, the SC informs the Commission of the following:

- (a) The SC agreed to establish a Small Working Group on Milestones and tasked it to further develop milestones for conducting stock assessments and providing management advice (Annex V), and discuss the potential use of the biological data provision templates.

Chub Mackerel

- (b) The SC will develop general protocols and guidelines for using GIT repositories for joint data analysis projects.
- (c) The TWG CMSA will use SAM as the chub mackerel stock assessment model and complete the first assessment in 2024.

Bottom Fish and Marine Ecosystems

- (d) The SC adopted the TOR for Data Sharing of Catch and Effort Data for Depletion Analysis of North Pacific Armorhead (Annex N) and template for data sharing (Annex O).
- (e) The SC revised the TOR for the SSC BF-ME as described in Annex R.
- (f) The SC endorsed the method proposed by Japan (NPFC-2019-SSC VME04-WP02) as one framework for identifying VMEs, noting that the density thresholds should be further explored.
- (g) The SC will look for opportunities for collaboration with other organizations such as the FAO ABNJ Deep-sea Fisheries Project, PICES or NPAFC to collect new data (such as biomass estimates from fishery-independent surveys or biological data collections) that would help with stock assessments for bottom fisheries and outstanding issues on VME such as VME recovery.
- (h) The SSC BF-ME plans to assess the status of SA in 2024.
- (i) Based on the most recent sablefish stock assessments from the USA and Canada, the SC

noted that the spawning stock biomass has been increasing since about 2018, supported by a large coastwide recruitment in around 2016.

Pacific Saury

- (j) The SC endorsed the revised TOR of the SSC PS (Annex S).
- (k) The SC endorsed the revised Stock Assessment Protocol for Pacific Saury (Annex T).

Other Priority Species

- (l) The SC noted that China's preliminary stock assessment indicated that the status of the NFS stock is healthy.
- (m) Based on the latest Japanese domestic stock assessment for JFS, the SC noted that the estimated total biomass of the winter spawning stock decreased largely from 2015 to 2016 and has remained low since then, that SSB was lower than SSB_{MSY} and F was lower than F_{MSY} in 2021, and that the estimated total biomass was 141,000 MT and SSB was 49,000 MT in 2022.
- (n) Based on the latest Japanese domestic stock assessment for JS, the SC noted that SSB exceeded SSB_{MSY} and current F ($F_{2020-2022}$) exceeded F_{MSY} .
- (o) Based on the latest Japanese domestic stock assessment for BM, the SC noted that biomass and SSB have been decreasing since 2011 and that the status in 2021 is that overfishing ($F > F_{MSY}$) is occurring and the stock is overfished ($SSB < SSB_{MSY}$).
- (p) The SC agreed to establish the SSC NFS to supersede the SWG NFS.

Data Collection and Sharing

- (q) The SC will continue to develop biological data provision templates for age, ALKs, length, and maturity at age.
- (r) The SC will continue discussions on data gaps that could be filled by the establishment of an observer program in the NPFC Convention Area.

Climate change

- (s) The SC will communicate with the FAO on developing a climate-change-related consultancy which will be funded by FAO.

Cooperation with Other Organizations

- (t) The SC expressed its support for the development and implementation of the BECI project, which will provide valuable information for the SC's analyses, including those related to climate change.
- (u) The SC agreed to continue its cooperation with DSF Project and identified focal point contacts for the joint activities on climate change, data-limited stock assessments and EAFM.

SC Chair and vice-Chair

- (v) The SC selected Dr. Janelle Curtis (Canada) to continue to serve as the SC Chair and Dr. Jie Cao (China) to continue to serve as the SC vice-Chair.

Agenda Item 14. Next meeting of SC and its subsidiary bodies

14.1 Meeting Schedule for 2024/2025

137.The Science Manager presented a proposed meeting schedule for 2024-2025 and a call for interest to host scientific meetings (NPFC-2023-SC08-IP01).

14.2 Meeting format and Venue

138.The SC suggested the following provisional meeting schedule for the 2024 operational year:

- (a) TWG CMSA09: 16–19 July in Yokohama, Japan (hybrid)
- (b) SSC NFS01: 22–23 August (virtual)
- (c) SSC PS13: 26–30 August 2024 (virtual)
- (d) SSC BF-ME05: 9–11 December 2024 in Tokyo, Japan (hybrid)
- (e) SSC PS14: 11–13, 16 December 2024 (3.5 days) in Tokyo, Japan (hybrid)
- (f) SC09: 17–20 December 2024 in Tokyo, Japan (hybrid)
- (g) TWG CMSA10: Early 2025 (4 days, virtual)

139.The SC’s subsidiary bodies will hold informal web meetings to check progress and plan intersessional work, when needed.

140.Members were invited to consider hosting scientific meetings in the 2025 operational year and inform the Secretariat preferably by summer 2024.

Agenda Item 15. Press release

141.The SC endorsed the press release for publication on the NPFC website after the meeting.

Agenda Item 16. Selection of SC Chair and Vice-Chair

142.The SC re-elected Dr. Janelle Curtis (Canada) as the SC Chair.

143.The SC re-elected Dr. Jie Cao (China) as the SC Vice-Chair.

Agenda Item 17. Adoption of the Report

144.The SC08 Report was adopted by consensus.

Agenda Item 18. Close of the Meeting

145.The Executive Secretary congratulated the SC on the conclusion of its meeting and expressed his appreciation to the Chair and all participants for their contribution to its success.

146.Canada thanked the participants again for coming to Nanaimo.

147.The SC expressed its appreciation to Canada and the Secretariat for their hard work to organize the meeting and its gratitude for Canada’s generous hospitality.

148.The SC thanked the Chair for her leadership and guidance.

149.The SC expressed its appreciation to everyone who contributed to the NPFC’s scientific work in the intersessional period and to the Chairs and Leads of the SC’s subsidiary bodies.

150.The SC thanked the rapporteur for his support.

151.The meeting closed at 15:10 on 19 December 2023, Nanaimo time.

Annex A – Agenda

Annex B – List of documents

Annex C – List of participants

Annex D – Species summary for North Pacific armorhead

Annex E – Species summary for splendid alfonsino

Annex F – Species summary for sablefish

Annex G – Species summary for blackspotted and rougheye rockfishes

Annex H – Species summary for neon flying squid

Annex I – Species summary for Japanese sardine

Annex J – Species summary for Japanese flying squid

Annex K – Species summary for blue mackerel

Annex L – Species summary for Pacific saury

Annex M – Species summary for chub mackerel

Annex N – Terms of Reference for data sharing of catch and effort data for depletion analysis of North Pacific armorhead

Annex O – Template for data sharing of catch and effort data for depletion analysis of North Pacific armorhead

Annex P – Revised CMM 2023-05 - Conservation and Management Measure for Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northwestern Pacific Ocean

Annex Q – Revised CMM 2023-06 - Conservation and Management Measure for Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northeastern Pacific

Ocean

Annex R – Revised Terms of Reference of the SSC BF-ME

Annex S – Revised Terms of Reference of the SSC PS

Annex T – Revised Stock Assessment Protocol for Pacific Saury

Annex U – Stock assessment report for Pacific saury

Annex V – Summary of the current assessment status for NPFC priority species and sablefish, skilfish, and rougheye and blackspotted rockfishes

Annex W – Table of tasks for the SWG JFS, the SWG JS, the SWG BM, and the SSC NFS in 2024

Annex X – Revised Regulations for Management of Scientific Data and Information

Annex Y – Scientific projects

Annex Z – Five-Year Research Plan and Work Plan of the Scientific Committee

Annex A

Agenda

Agenda Item 1. Opening of the Meeting

- 1.1 Welcome Address and Introductions
- 1.2 Appointment of Rapporteur
- 1.3 Meeting Arrangements

Agenda Item 2. Adoption of Agenda

Agenda Item 3. Review of NPFC Performance Review (NPFC PR) Panel Recommendations

- 3.1 Overview of key recommendations for SC over short term (next 1-5 years)

Agenda Item 4. Review of reports and recommendations from the Technical Working Group on Chub Mackerel Stock Assessment (TWG CMSA) and the Small Scientific Committees (SSC BF-ME and SSC PS)

- 4.1 Technical Working Group on Chub Mackerel Stock Assessment
- 4.2 SSC on Bottom Fish and Marine Ecosystems
- 4.3 SSC on Pacific Saury

Agenda Item 5. Report and recommendations from the Joint SC-TCC-COM Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS)

Agenda Item 6. Other priority species

- 6.1 Summary of progress on the remaining four priority species
 - 6.1.1 Neon flying squid
 - 6.1.2 Japanese sardine
 - 6.1.3 Japanese flying squid
 - 6.1.4 Blue mackerel
- 6.2 Species summaries
 - 6.2.1 Review of priority species summaries
 - 6.2.2 Potential additions
- 6.3 Changes to common and scientific species names
- 6.4 Domestic stock assessments of NFS, JFS, JS, and BM
- 6.5 Key milestones to achieve for NPFC stock assessment and provision of management advice
- 6.6 Future roles and activities of SWG NFS, SWG JFS, SWG JS, and SWG BM

- 6.6.1 Potential establishment of a new formal SC subsidiary body to focus on NFS
- 6.6.2 Scientific project(s) to support CPUE standardization and assessment of NFS
- 6.6.3 Virtual or in-person meetings

Agenda Item 7. Climate Change

- 7.1 Climate change effects on NPFC's priority species and associated ecosystems
 - 7.1.1 Current knowledge
 - 7.1.2 Ongoing research activities
 - 7.1.3 Research priorities and potential scientific projects

Agenda Item 8. Data Collection and Management

- 8.1 Data Management System
- 8.2 NPFC Data Sharing and Data Security Protocol
 - 8.2.1 Revision of Regulations for Management of Scientific Data and Information
- 8.3 Data needs, data gaps and strategies to fill gaps
 - 8.3.1 Information about species belonging to same ecosystem or dependent/associated with target stocks
 - 8.3.2 Potential roles of regional observer program and/or e-monitoring

Agenda Item 9. Scientific projects for 2024 and 2025

- 9.1 Ongoing/planned projects
- 9.2 New projects
 - 9.2.1 Potential project(s) for PS
 - 9.2.2 Potential project(s) for CM
 - 9.2.3 Potential project(s) for NPA and SA
 - 9.2.4 Potential project(s) for NFS
 - 9.2.5 Other potential projects
- 9.3 Review, prioritization and funding of projects

Agenda Item 10. Cooperation with other organizations

- 10.1 Reports on the joint NPFC-PICES activities since the SC07 meeting, including a report from the PICES Secretariat
- 10.2 SC representation at scientific meetings
 - 10.2.1 SC representation in the joint PICES/ICES Working Group on Small Pelagic Fish (WGSPF)
 - 10.2.2 Report on PICES' topic session on VMEs and Seamounts
 - 10.2.3 Selecting SC representatives to PICES 2024

- 10.3 Report on cooperation between NPFC and NPAFC
- 10.4 FAO ABNJ Deep-sea fisheries project
- 10.5 Partnership with the Fisheries and Resources Monitoring System of FAO (FIRMS)
- 10.6 Partnership with WCPFC and ISC
- 10.7 Partnership with SPRFMO
- 10.8 Cooperation with other organizations

Agenda Item 11. SC Terms of Reference (TOR) and 2023-2027 Research Plan and Work Plan

- 11.1 Review of the Scientific Committee TOR
- 11.2 Five-year Research Plan
- 11.3 Five-year Work Plan
- 11.4 Progress on addressing NPFC PR recommendations for SC

Agenda Item 12. Other matters

- 12.1 Coordination between SC and TCC
- 12.2 Other issues

Agenda Item 13. Advice and recommendations to the Commission

Agenda Item 14. Next meetings of SC and its subsidiary bodies

- 14.1 Meeting schedule for 2024/2025
- 14.2 Meeting format and venue

Agenda Item 15. Press release

Agenda Item 16. Selection of SC Chair and SC Vice-Chair

Agenda Item 17. Adoption of the Report

Agenda Item 18. Close of the Meeting

Annex B**List of Documents****MEETING INFORMATION PAPERS**

Document Number	Title
NPFC-2023-SC08-MIP01 (Rev. 2)	Meeting Information
NPFC-2023-SC08-MIP02	Provisional Agenda
NPFC-2023-SC08-MIP03 (Rev. 2)	Annotated Indicative Schedule

WORKING PAPERS

Document Number	Title
NPFC-2023-SC08-WP01 (Rev. 1)	Scientific projects
NPFC-2022-SC08-WP02	NPFC SC Research Plan
NPFC-2023-SC08-WP03	Five-Year Work Plan of the Scientific Committee
NPFC-2023-SC08-WP04 (Rev. 1)	NPFC Performance Review recommendations for discussion at SC08
NPFC-2023-SC08-WP05	Report of Small Working Group for Japanese Sardine
NPFC-2023-SC08-WP06	Japanese Sardine Species Summary
NPFC-2023-SC08-WP07 (Rev. 1)	Blue Mackerel Species Summary
NPFC-2023-SC08-WP08 (Rev. 1)	Japanese Flying Squid Species Summary
NPFC-2023-SC08-WP09 (Rev. 3)	Pacific Sauri Species Summary
NPFC-2023-SC08-WP10	Revised Regulations for Management of Scientific Data and Information
NPFC-2023-SC08-WP11 (Rev. 1)	Comparison of Length-Weight Relationships and Catch Numbers by Size and Age between China and Japan for Japanese Sardine and Blue Mackerel
NPFC-2023-SC08-WP12	Overview surveys from 2021 to 2023 by Chinese research vessel "Song Hang" in the NPFC convention area
NPFC-2023-SC08-WP13	GIT Repository Plan
NPFC-2023-SC08-WP14 (Rev. 1)	Neon Flying Squid Species Summary
NPFC-2023-SC08-WP15 (Rev. 1)	Chub Mackerel Species Summary
NPFC-2023-SC08-WP16	Summary of the 1st joint meeting of the Small Working Groups on NFS, JFS, JS, and BM
NPFC-2023-SC08-WP17	Summary of the 2nd joint meeting of the Small Working Groups on NFS, JFS, JS, and BM
NPFC-2023-SC08-WP18	Revised Terms of Reference for the Small Scientific Committee on Bottom Fish and Marine Ecosystems

INFORMATION PAPERS

Document Number	Title
NPFC-2023-SC08-IP01 (Rev. 2)	Meeting schedule for 2024-2025 and call for interest to host scientific meetings
NPFC-2023-SC08-IP02	A compiled list of cooperation opportunities and requests from other organizations
NPFC-2023-SC08-IP03	NPFC Data Management System
NPFC-2023-SC08-IP04	Domestic stock assessment of Japanese sardine by Japan
NPFC-2023-SC08-IP05	Domestic stock assessment of blue mackerel by Japan
NPFC-2023-SC08-IP06	Domestic stock assessment of Japanese flying squid by Japan
NPFC-2023-SC08-IP07	The cumulative impacts of climate vulnerability and significant adverse impacts (SAIs) caused by bottom-contact fishing on vulnerable marine ecosystems (VMEs) in the North Pacific Fisheries Commission (NPFC) Convention Area
NPFC-2023-SC08-IP08	Resolution on Climate Change
NPFC-2023-SC08-IP09	Compliance program update
NPFC-2023-SC08-IP10	Update Information of Chinese NFS fishery in the Northwest Pacific Ocean
NPFC-2023-SC08-IP11	Special project for hiring an expert to assist the SWG NPA-SA in conducting an assessment for Splendid Alfonsino and North Pacific Armorhead
NPFC-2023-SC08-IP12	Science Advice Progress and Milestones
NPFC-2023-SC08-IP13	Data Provision Templates
NPFC-2023-SC08-IP14	Defying Dissolution: Deep-Sea Scleractinian Reefs in the North Pacific
NPFC-2023-SC08-IP15	ICES PICES Working Group on Small Pelagic Fishes
NPFC-2023-SC08-IP16	Report on PICES' topic session on VMEs and Seamounts
NPFC-2023-SC08-IP17 (Rev. 1)	Press release

OBSERVER PAPERS

Document Number	Title
NPFC-2023-SC08-OP01	Report on Joint NPFC-PICES activities for SC08
NPFC-2023-SC08-OP02	FAO Deep-sea Fisheries Project
NPFC-2023-SC08-OP03 (Rev. 1)	Five-year Work Plan to implement NPAFC/NPFC Memorandum of Cooperation (MOC)

NPFC-2023-SC08-OP04	Update from FIRMS
NPFC-2023-SC08-OP05	NPFC-ISC MOU Status Update

REFERENCE DOCUMENTS

Document Number	Title
NPFC-2023-TWG CMSA07-Final Report	TWG CMSA07 meeting report
NPFC-2023-SWG MSE PS04-Final Report	SWG MSE PS03 and SWG MSE PS04 meeting reports
	Memorandum of Understanding between the South Pacific Regional Fisheries Management Organisation (SPRFMO) and the North Pacific Fisheries Commission (NPFC)
	Partnership Arrangement between FIRMS and NPFC
	NPFC Data Sharing and Data Security Protocol

Annex C**List of Participants****CHAIR**

Janelle CURTIS

Janelle.Curtis@dfo-mpo.gc.ca

Luoliang XU*

luoliang.xu@maine.edu

Heng ZHANG*

zhangh1@ecsf.ac.cn

CANADA

Chris ROOPER

chris.rooper@dfo-mpo.gc.ca

Jie CAO

jcao22@ncsu.edu

Sarah HAWKSHAW*

sarah.hawkshaw@dfo-mpo.gc.ca

EUROPEAN UNION

Karolina MOLLA GAZI

karolina.mollagazi@wur.nl

Susanna FULLER*

Susannafuller@oceansnorth.ca

JAPAN**CHINA**

Qiuyun MA

qyma@shou.edu.cn

Kazuhiro OSHIMA

oshima_kazuhiro28@fra.go.jp

Libin DAI

libin.dai@qq.com

Shuya NAKATSUKA

nakatsuka_shuya49@fra.go.jp

Jintao WANG

jtwang@shou.edu.cn

Naohiko AKIMOTO*

naohiko@sol.dti.ne.jp

Zhou FANG*

zfang@shou.edu.cn

Midori HASHIMOTO

hashimoto_midori91@fra.go.jp

Guanyu HU*

1132843496@qq.com

Kazunari HIGASHIGUCHI*

higashiguchi_kazunari34@fra.go.jp

Toshihide KITAKADO

kitakado@kaiyodai.ac.jp

Hiroshi KUBOTA*

kubota_hiroshi89@fra.go.jp

Hajime MATSUI

matsui_hajime90@fra.go.jp

Taketsugu MORIYAMA*

moriyama_taketsugu91@fra.go.jp

Shin-Ichiro NAKAYAMA

nakayama_shinichiro16@fra.go.jp

Shota NISHIJIMA

nishijima_shota02@fra.go.jp

Bungo NISHIZAWA

nishizawa_bungo05@fra.go.jp

Suguru OKAMOTO*

okamoto_suguru05@fra.go.jp

Takehiro OKUDA*

okuda_takehiro83@fra.go.jp

Kota SAWADA

sawada_kota27@fra.go.jp

Wataru TANOUE

wataru_tanoue550@maff.go.jp

KOREA

Jeongseok PARK

jeongseokpark@korea.kr

Hyejin SONG

hyejinsong@korea.kr

RUSSIA

Oleg KATUGIN*

okatugin@mail.ru

Dmitrii ANTONENKO*

dmantonenko@yandex.ru

Vladimir KULIK*

vladimir.kulik@tinro.ru

Emilia CHERNIENKO*

emilya.chernienko@tinro.ru

CHINESE TAIPEI

Wen-Bin HUANG

bruce@gms.ndhu.edu.tw

Yi-Jay CHANG

yjchang@ntu.edu.tw

Tung-hsieh CHIANG

chiangdon@ofdc.org.tw

Jhen HSU

jhenhsu@ntu.edu.tw

Chiao-Chih SHIH

hennessy@squid.org.tw

UNITED STATES

Erin BOHABOY

erin.bohaboy@noaa.gov

VANUATU

Lucy Andrea JOY
ljoy@fisheries.gov.vu

Mei-Chin JUAN
meichin.mdfc@gmail.com

Rocky KAKU
rky.kaku@gmail.com

OBSERVERS

Deep Sea Conservation Coalition

Amy BACO-TAYLOR*
abacotaylor@fsu.edu

Matthew GIANNI
matthewgianni@gmail.com

Bronwen GOLDER*
bronwen@savethehighseas.org

Eunhee KIM*
ekim@cies.re.kr

Lance MORGAN*
Lance.Morgan@marine-conservation.org

Lisa SPEER*
lspeer@nrdc.org

Food and Agriculture Organization (FAO)

Anthony THOMPSON
Anthony.Thompson@fao.org

Aureliano GENTILE
Aureliano.Gentile@fao.org

North Pacific Anadromous (NPAFC)

Ricardo FEDERIZON
rfederizon@npafc.org

North Pacific Marine Science Organization (PICES)

Sonia BATTEN
sonia.batten@pices.int

Kathryn BERRY
kathryn.berry@pices.int

The Pew Charitable Trusts

Nichola CLARK*
nclark@pewtrusts.org

Dave GERSHMAN*
dgershman@oceanfdn.org

Raiana MCKINNEY*
rmckinney@pewtrusts.org

Sebastian NICHOLLS*
snicholls@pewtrusts.org

Ashley WILSON*
awilson@pewtrusts.org

RAPPORTEUR

Alex MEYER
meyer@urbanconnections.jp

NPFC SECRETARIAT

Robert DAY
rday@npfc.int

Alex ZAVOLOKIN
azavolokin@npfc.int

Judy DWYER*
jdwyer@npfc.int

Yuko YOSHIMURA-TAKAMIYA
ytakamiya@npfc.int

Sungkuk KANG
skang@npfc.int

Jihwan KIM
jkim@npfc.int

Natsuki HOSOKAWA
nhosokawa@npfc.int

* Online participants

Annex D

Species summary for North Pacific armorhead

North Pacific armorhead (*Pentaceros wheeleri*)

Common names: Pelagic armorhead, Slender armorhead (English); 胸五棘鯛 (Chinese);

クサカリツボダイ (Japanese); 북방돔돔 (Korean); кабан-рыба (Russian)

Biological Information

North Pacific armorhead has a unique life history consisting of a pelagic larva phase and a demersal adult stage on the seamounts (Kiyota et al. 2016). Distribution of the larva includes Gulf of Alaska to North Pacific Ocean off central California and south of Japan, with center of abundance at the Emperor Seamounts. Following their settlements in the seamounts, adults make morphological changes from the “fat” type to the “lean” type concurrent with their dietary shifts. Vertical distribution of the adults ranges from 300-500 m. Juveniles at the epipelagic stage mainly feeds on copepods, shifting the targets towards fish and large crustaceans with growth.

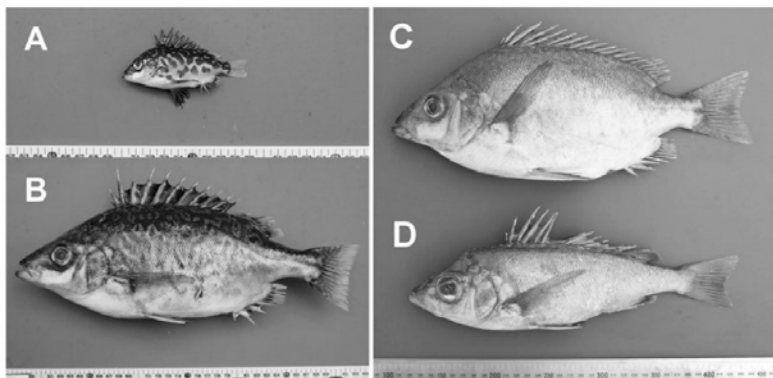


Figure 1: Photographs of *Pentaceros wheeleri*. A) Pelagic juvenile, B) pelagic subadult, C) demersal adult (fat type), D) demersal adult (lean type) (from Kiyota et al. 2016)

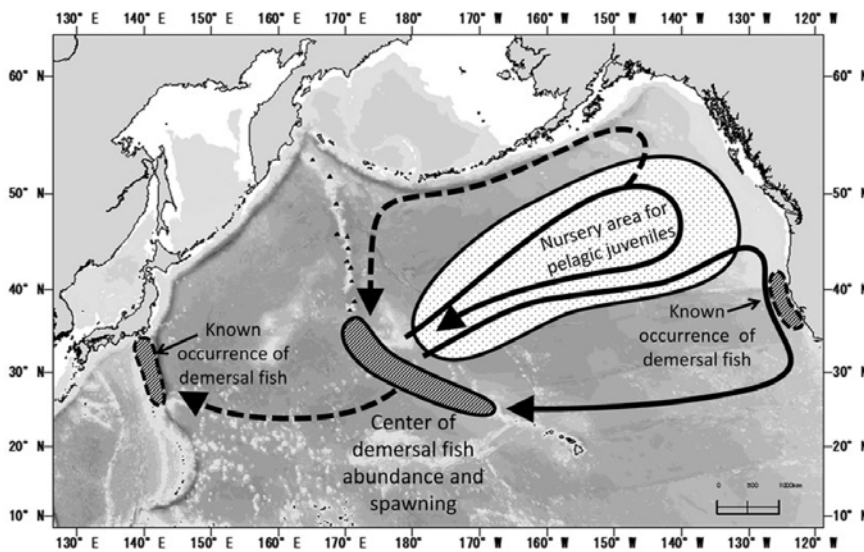


Figure 2: Known demersal habitats and hypothesized pelagic migration routes of *Pentaceros wheeleri* (Kiyota et al. 2016 Figure 4, modified from Boehlert and Sasaki 1988).

Fishery

Historical catches by Russia and Japan from the combined Emperor Seamounts were high and reached 100 thousand tons in 1970s, followed by a crash (Figure 3). One or two Korean bottom trawl vessels operated from 2004 to 2019. Currently North Pacific armorhead is caught by Japan on the Emperor Seamounts using bottom trawls and gillnets. This fishery is a potential source of significant adverse impacts on vulnerable marine ecosystems due to bottom contact gear.

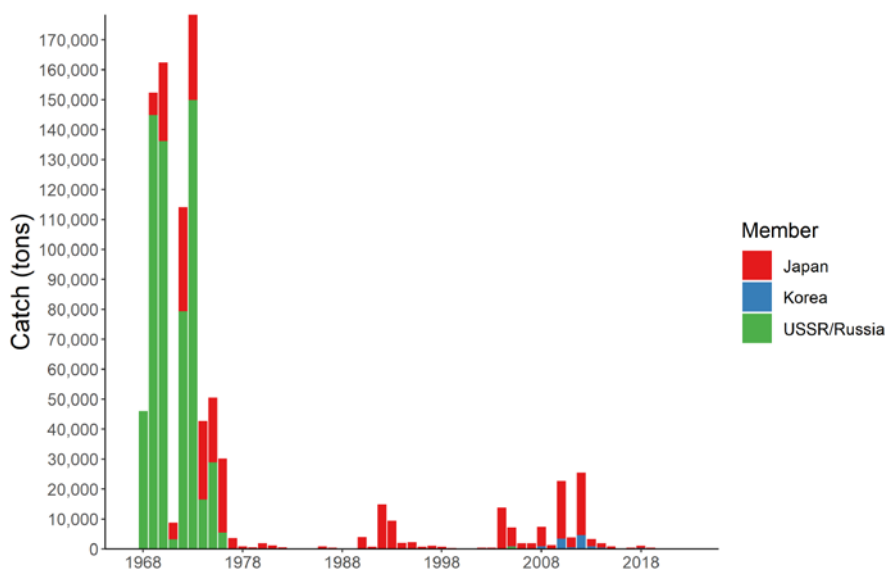


Figure 3: Historical trends of North Pacific armorhead catches in NPFC waters. The annual amounts of catch by each country are shown by the bar plot.

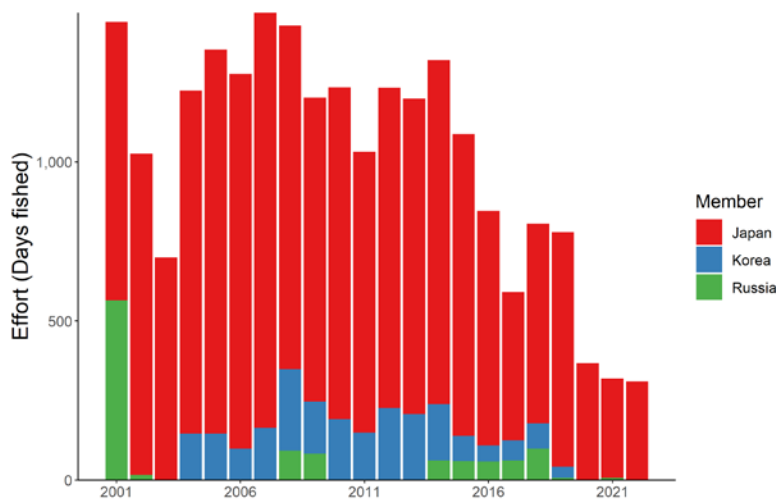


Figure 4. Historical fishing effort for North Pacific armorhead. The annual fishing efforts by each country are shown by barplot. The efforts are calculated by the total fishing days operated during the year

Assessment

There is no current or accepted assessment for North Pacific armorhead.

There are no biomass estimates available for this species in NPFC waters. An age- or length-structured stock assessment is unlikely to be feasible given the life history of North Pacific armorhead. Data limited approaches may be examined in the future.

Management

Active Management Measures

The following NPFC conservation and management measures pertain to this species:

- CMM 2023-05 For Bottom Fisheries and Protection of VMEs in the NW Pacific Ocean

Available from <https://www.npfc.int/active-conservation-and-management-measures>

Table 1: Current status of management measures

Item	Status	Description
Biological reference point	Not accomplished	Not established
Stock status	Unknown	Status determination criteria not established

Item	Status	Description
Catch limit	Intermediate	Upper limit: 15,000 tons (only for Japan), No operation from November to December, Restriction of trawl mesh size
Harvest control rule	Not accomplished	Catch limit depending on the recruitment strength
Other	Intermediate	No expansion of fishing beyond established areas, No operation in the designated areas, No more increase in the fishing vessels

In 2019, an adaptive management plan was implemented for North Pacific armorhead (NPFC-2019-SSC BF02-WP05, CMM 2019-05). This plan specifies data collection via an annual monitoring survey to be conducted in March-June each year on Koko, Yuryaki, Kammu and/or Colahan Seamounts. If the survey finds evidence of strong recruitment (see CMM 2021-05 and NPFC-2019-SSC BF02-IP01 for details) some areas in the Emperor Seamounts are closed and a 12,000 ton catch limit is encouraged. In low recruitment years, a 700 ton catch limit is encouraged.

Data Availability

Table 2: Catch data

Data	Member	Fishery	Year	Comments
Annual catch	Japan	Trawl	1969-present	
		Gillnet	1990-present	
	Korea	Trawl	2004-2019	
	Russia	Trawl	1970-1987; 1997; 2001-2002; 2005-2006; 2011; 2013	
CPUE	Japan	Trawl	1970-present	Logbook data available
		Gillnet	2008-present	Logbook data available
	Korea	Trawl	2013-2019	Logbook data

Data	Member	Fishery	Year	Comments
				available
	Russia	Trawl	2001-2002; 2005-2006; 2011; 2013	

Table 3: Biological data

Data	Member	Year	Comments
Age	Japan		A preliminary daily ring analysis for ca. 300 fish
	Korea	2013-2019	
	Russia		
Length	Japan	2009-present	Protocol revised (see NPFC-2018-SSC BF01-WP03)
	Korea	2013-2019	
	Russia		
Maturity	Japan	2013-present	
	Korea	2013-2019	
	Russia	1970-1987; 1997; 2011; 2013	

References

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Kiyota M., Nishida K., Murakami C. and Yonezaki S. 2016. History, biology, and conservation of Pacific endemics 2. The North Pacific armorhead, *Pentaceros wheeleri* (Hardy, 1983) (Perciformes, Pentacerotidae). Pacific Science 70(1): 1-20.

Annex E

Species summary for splendid alfonsino

Splendid alfonsino (*Beryx splendens*)

Common names: Splendid alfonsino (English); 红金眼鲷 (Chinese); キンメダイ (Japanese); 빛금눈돔 (Korean); Низкотельный берикс (Russian)

Biological Information

Global distribution ranges from tropical to temperate oceans. Historical catch records in the Emperor Seamount suggest the distribution from Nintoku (45 °N) to Hancock (30 °N). Settlement occurs following a certain period of the pelagic life stage. Adults show a vertical distribution from 200 to 800 m with diel vertical migration, feeding on crustaceans, cephalopods, and fish during the night. Limited information is available for recruitment and reproduction processes in the Emperor Seamounts, whereas the population in the Japanese coast shows 4–5 years to sexually mature and spawning occurs during summer (Shotton 2016).

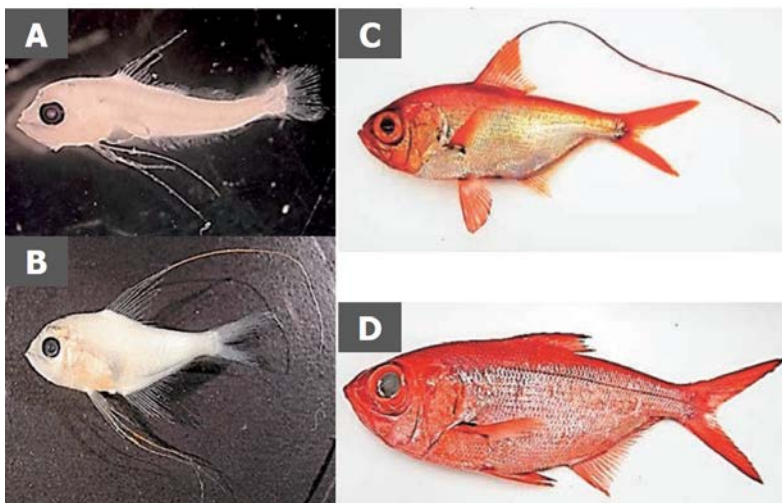


Figure 1: Photographs of *Beryx splendens* on different developmental stages A) postlarva, B) juvenile, C) young, D) adult (from Watari et al. 2017)

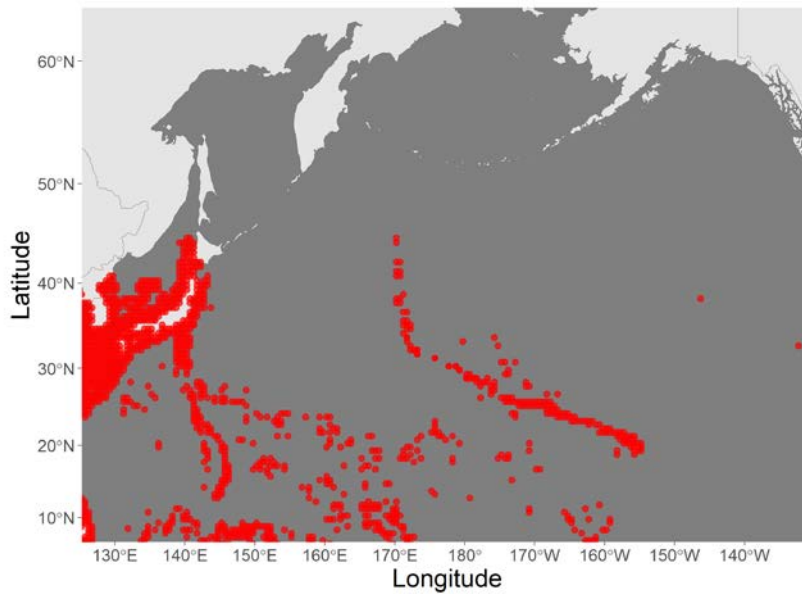


Figure 2: Known distribution of *Beryx splendens* around NPFC waters. Points indicate observation data from original sources (AquaMaps 2019, October)

Fishery

Since the discovery of large populations of North Pacific armorhead in the Emperor Seamount in the late 1960s, splendid alfonsino has been exploited as an alternative resource to the armorhead due to the large temporal fluctuation of the armorhead population. The main fishing methods are bottom trawls and gillnets.

Historical catch record (Figure 3) shows the highest catch proportion by Japan, followed by Korea and Russia. Russia terminated their fishery nearly a decade ago. Fishing pressure somewhat reflects the recruitment condition of North Pacific armorhead. In 2010 and 2012, when high recruitment of the armorhead occurred, the annual catch decreased below 1,000 tons, whereas it increased up to 4,000 tons ever since then.

Size composition analysis from the catch data by Japanese trawlers suggests the substantial decrease in size of fish in catches over the past decade, raising the concern about growth and recruitment overfishing (Sawada et al. 2018).

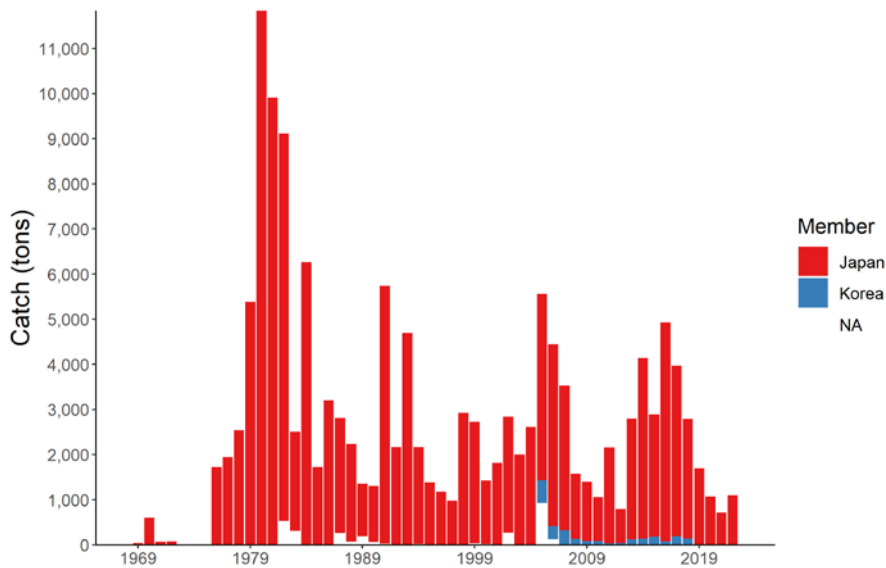


Figure 3: Historical trends of splendid alfonsino catches in NPFC waters. The annual amounts of catch by each country are shown by the bar plot.

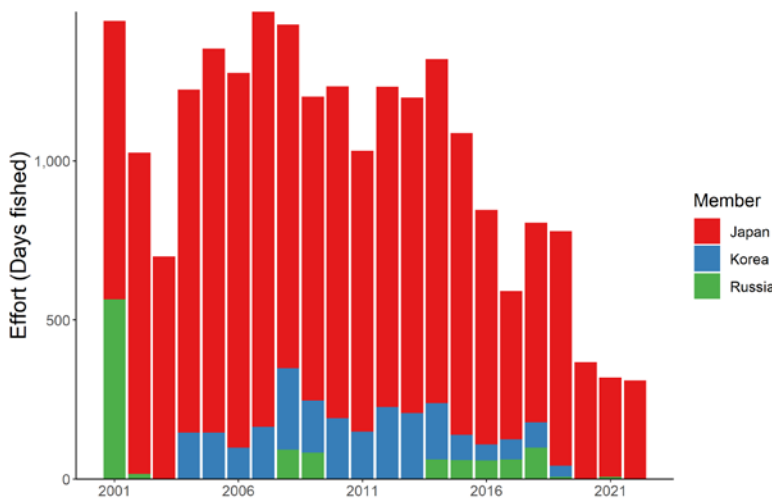


Figure 4. Historical fishing efforts for splendid alfonsino. The annual fishing efforts by each country are shown by barplot. The efforts are calculated by the total fishing days operated during the year

Assessment

There are no biomass estimates available for splendid alfonsino in NPFC waters.

An age- or length-structured stock assessment may be feasible given the life history of this species. Surplus production models developed by Japan in 2008 showed that the average fishing mortality is 20–28 % higher than the MSY level (Nishimura and Yatsu 2008). This analysis,

however, remains unreliable as the estimated CPUE is biased due to target shifts between North Pacific armorhead and splendid alfonsino and the estimated intrinsic population growth rate parameter was too high for long-lived deep-sea fish.

Data limited approaches, such as YPR or SPR analysis that do not require detailed resource parameters or fishing data, should be explored in the future.

Management

Active Management Measures

The following NPFC conservation and management measures pertain to this species:

- CMM 2023-05 For Bottom Fisheries and Protection of VMEs in the NW Pacific Ocean

Available from <https://www.npfc.int/active-conservation-and-management-measures>

Table 1: Current status of management measures

Item	Status	Description
Biological reference point	Not accomplished	Not established
Stock status	Unknown	Status determination criteria not established
Catch limit	Intermediate	No operation from November to December, Restriction of trawl mesh size
Harvest control rule	Not accomplished	Not established
Other	Intermediate	No expansion of fishing beyond established areas, No operation in the designated areas, No more increase in the fishing vessels

Currently, there is no accepted harvest control rule for this species.

In 2016, the management measures were implemented, which includes limiting the fishing effort to the 2007's level, prohibiting fisheries from November to December (which corresponds to the spawning season for North Pacific armorhead) and not allowing fisheries in C-H Seamount and the southeastern part of Koko Seamount (for the protection of VMEs)

In 2019, an additional measure was adopted, which includes the regulation of the mesh size (trawl: > 13 cm) to protect juvenile fish of this species. The effectiveness of this measure yet to be clearly demonstrated (Sawada and Ichii 2020).

Data Availability

Table 2: Catch data

Data	Member	Fishery	Year	Comments	
Annual catch	Japan	Trawl	1969-present		
		Gillnet	1990-present		
	Korea	Trawl	2004-2019		
	Russia	Trawl	1969-1988; 2002; 2005; 2006; 2010; 2011; 2013; 2019		
CPUE	Japan	Trawl	1970-present	Logbook available	data
		Gillnet	2008-present	Logbook available	data
	Korea	Trawl	2013-2019	Logbook available	data
	Russia	Trawl	1969-1988; 2010; 2019		

Table 3: Biological data

Data	Member	Year	Comments
Age	Japan	2013-present	annual ring analysis
	Korea	2013-2017, 2019	
	Russia		
Length	Japan	2009-present	Protocol revised (see NPFC-2018-SSC BF01-WP03)
	Korea	2013-2019	
	Russia		
Maturity	Japan	2013-present	
	Korea	2013-2017, 2019	
	Russia	1969-1988; 2010; 2011; 2013; 2019	

References

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Kaschner, K., Kesner-Reyes, K., Garilao, C., Segschneider, J., Rius-Barile, J. Rees, T., & Froese, R. (2019, October). AquaMaps: Predicted range maps for aquatic species. Retrieved from <https://www.aquamaps.org>.

Shotton, R. (2016). Global review of alfonsino (*Beryx* spp.), their fisheries, biology and management. FAO Fisheries and Aquaculture Circular, (C1084), I.

Sawada, K., Nishida, K., Yonezaki, S. and Kiyota, M. (2018). Review of biology and fisheries of splendid alfonsino *Beryx splendens*, especially in the Emperor seamounts area. NPFC-2018-SSC-BF01-WP03. 26 pp.

Sawada, K., and Ichii, T. (2020) Catch size composition of splendid alfonsino in the Emperor Seamounts area before and after the implementation of the mesh size regulation. NPFC-2020-SSC-BFME01-WP05 (Rev. 1). 3 pp.

Nishimura, A., & Yatsu, A. (2008, October). Application of surplus-production models to splendid alfonsino stock in the Southern Emperor and Northern Hawaiian Ridge (SE-NHR). In Fifth Intergovernmental Meeting on Establishment of New Mechanism for Management of High Seas Bottom Trawl Fisheries in the North Western Pacific Ocean (NWPBT/SWG-05), Tokyo, 17-18 October 2008 (pp. 1-11).

Species summary for sablefish

Sablefish (*Anoplopoma fimbria*)**Common names:**

Black cod (USA & Canada)

ギンダラ, Gindara (Japan)

은대구, Eun-Daegu (Korea)

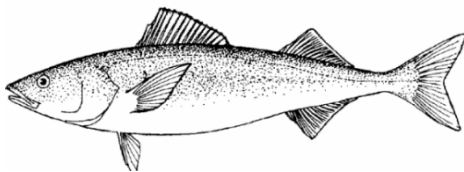


Figure 1. Sablefish (*Anoplopoma fimbria*).

Management

Active NPFC Management Measures

The following NPFC conservation and management measures (CMM) pertain to this species:

- CMM 2023-06 For Bottom Fisheries and Protection of VMEs in the NE Pacific Ocean
- CMM 2019-10 For Sablefish in the Northeastern Pacific Ocean

Available from <https://www.npfc.int/active-conservation-and-management-measures>

Management Summary

The current management measure for sablefish specifies both catch and effort limits. The allowable catch of sablefish in the eastern portion of the Convention Area is based on a long-term mean of historical catches from seamounts by Canada. It allows for 34 mt to be landed each month for the 6 months of the fishing season (April to September). The fishery is also managed through input controls by only allowing a single vessel to fish in each month. The 1-3 Canadian vessels licensed to fish in the NPFC Convention Area are submitted to the NPFC Secretariat annually.

Current status of management measures

Convention.or.Management.Principle	Status	Comment.or.Consideration
Biological reference point(s)	Unknown	Established for USA and Canada assessments
Stock status	Known	Healthy (in USA and Canada assessments)
Catch limit	Known	Allowable catch of 34 mt per month (6 month season)
Harvest control rule	Undefined	Established for USA and Canada assessments
Other	Known	Effort control (single vessel per month)

Assessment

Although genetic and other evidence indicates there is a single stock of sablefish in the eastern North Pacific Ocean (including the NPFC Convention Area), three stock assessments are carried out in the three domestic jurisdictions Alaska (U.S.A.), British Columbia (Canada) and the U.S. West Coast (U.S.A.) where sablefish are harvested.

Canada uses a management strategy evaluation (MSE) process to generate recommended harvest each year. Underlying the MSE is a statistical catch-at-age structured operating model (stock assessment model) that gets updated on a 3 – 5 year cycle (DFO 2016, DFO 2020). A new revision of the operating model by Canada was completed in 2022 (DFO 2023). The USA conducts two stock assessments (one for Alaska and one for the US West Coast). Both are conducted using age-structured models and are routinely updated. The current Alaska assessment (Goethel et al. 2022) and most recent USA West Coast assessment (Kapur et al. 2021) are available online.

No stock assessment is conducted for the portion of the sablefish population found in the NPFC Convention area.

Data**Surveys**

Canada has conducted two longline trap surveys in British Columbia waters. From 1990-2009 a standardized trap survey was conducted at set stations annually. From 2003 to the present DFO conducts a stratified random trap survey along the outer shelf and slope of the BC coast. Both of these surveys generate a fishery independent CPUE as well as biological data that is used in the assessment. In Alaska, three survey indices are available for use in assessing the status of the

sablefish population. There is a longline survey conducted at standard survey stations that provides a relative index of abundance. It has been conducted at depths from 200-1000 m annually since 1978 (cooperatively with Japan from 1978-1994). Bottom trawl surveys are conducted annually or biennially in the three main ecosystems in Alaska since 1982. The U.S. West Coast primarily uses fishery independent survey data from the west coast groundfish bottom trawl survey conducted from 2003-present over depths of 55 to ~1300 m as an index of sablefish abundance. The bottom trawl survey follows a random-stratified survey design with four vessels (in most years) conducting the survey annually. The trawl survey data is analyzed with the VAST model (Thorson 2019) to produce the index of abundance for sablefish.

There is currently no survey conducted in the eastern NPFC Convention Area that captures or monitors sablefish populations.

Fishery

The Canadian high seas Sablefish fishery typically operates at 1-4 seamounts in the commission area (Cobb, Eickleberg, Warwick and Brown Bear seamounts). Historically other seamounts have been fished for sablefish both inside and outside Canada's EEZ.

Fishing is conducted with longlined traps. Since 2014 a maximum of 3 vessels per year have been allowed to fish in NPFC waters. Historically the number of fishing vessels has averaged <3 per year (since 2008). The number of fishing days is the number of unique calendar days during which gear was set. The number of fishing days has averaged from about 25 to greater than 100, but in most years has averaged between 50 and 75 (Figure 2).

No Canadian vessels have chosen to fish for Sablefish in the Convention Area since 2020. This is likely due to a combination of economics (high fuel prices and the large distance to the seamounts), the availability of quota in the domestic fishery which is easier to access and hesitancy about the requirements under the implementation of the new NPFC AIS policy.

Both Canada and the U.S.A. have large domestic fisheries that target sablefish inside their EEZ's. Sablefish is also captured as bycatch in domestic trawl fisheries in Canada and the U.S.A.

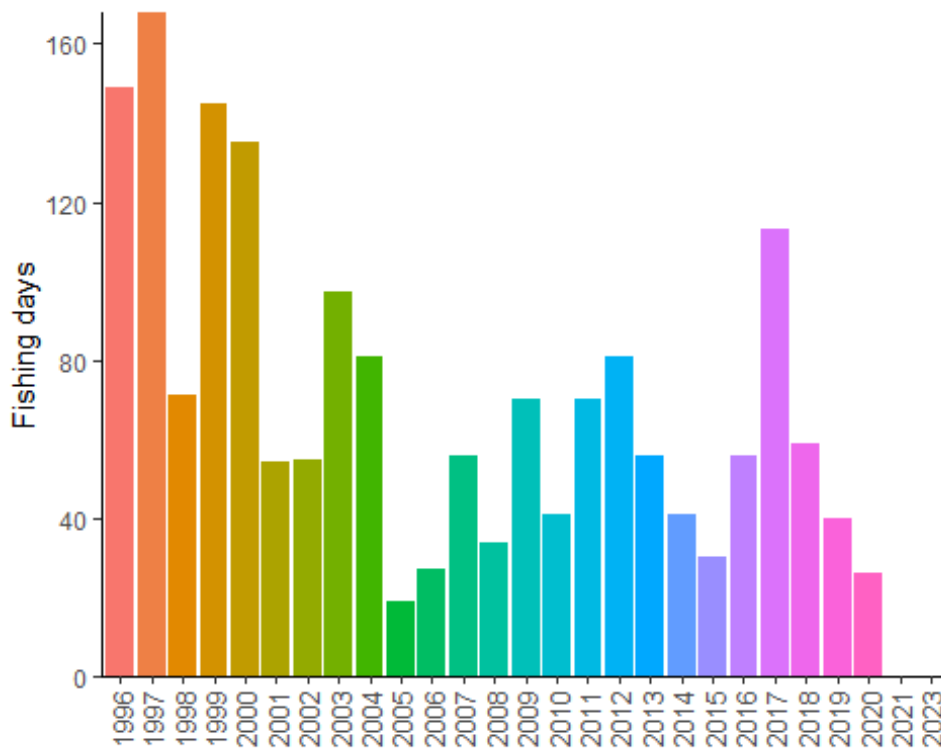


Figure 2. Fishing effort (in number of fishing days) for the Sablefish longline trap fishery conducted in NPFC waters (1996-present). Data are averaged across 3 years to comply with data privacy restrictions.

Output controls limit the amount of fish that can be landed during a trip. Authorized vessels are subject to monthly vessel limits of 34 mt of Sablefish, 2.3 mt of combined Rougheye and Blackspotted rockfish and 0.45 mt of other rockfish, sole and flounder (all in round weight). These measures have been in place since 2011.

Catches of Sablefish from NPFC region seamounts has ranged from an average of about 10 mt per year in 2005-2008 to about 67 mt in 2017 (Figure 3). Average annual catches were relatively low from 2002 to 2016 at NPFC seamounts and then increased in 2017-2018, with a decline to low levels in the last years. This increase in part probably reflects shifting effort due to closures of seamounts within Canada's EEZ. An examination of coastwide shifts in the spatial pattern of fishing effort showed that fishing effort has become concentrated on Cobb Seamount, with increasing effort in shallower waters relative to the past (Figure 4).

There has been no fishing effort at seamounts from 2021-2023 resulting in no catch.

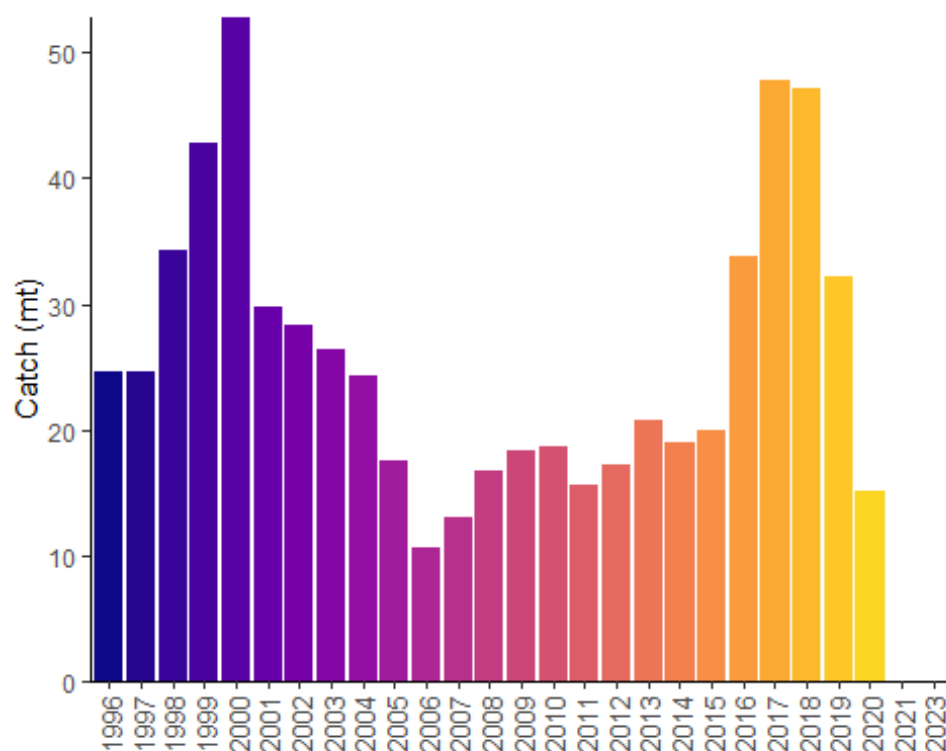


Figure 3. Landings of sablefish in the Canadian Sablefish fishery in NPFC region (1996-present). Data are averaged across 3 years to comply with data privacy restrictions.

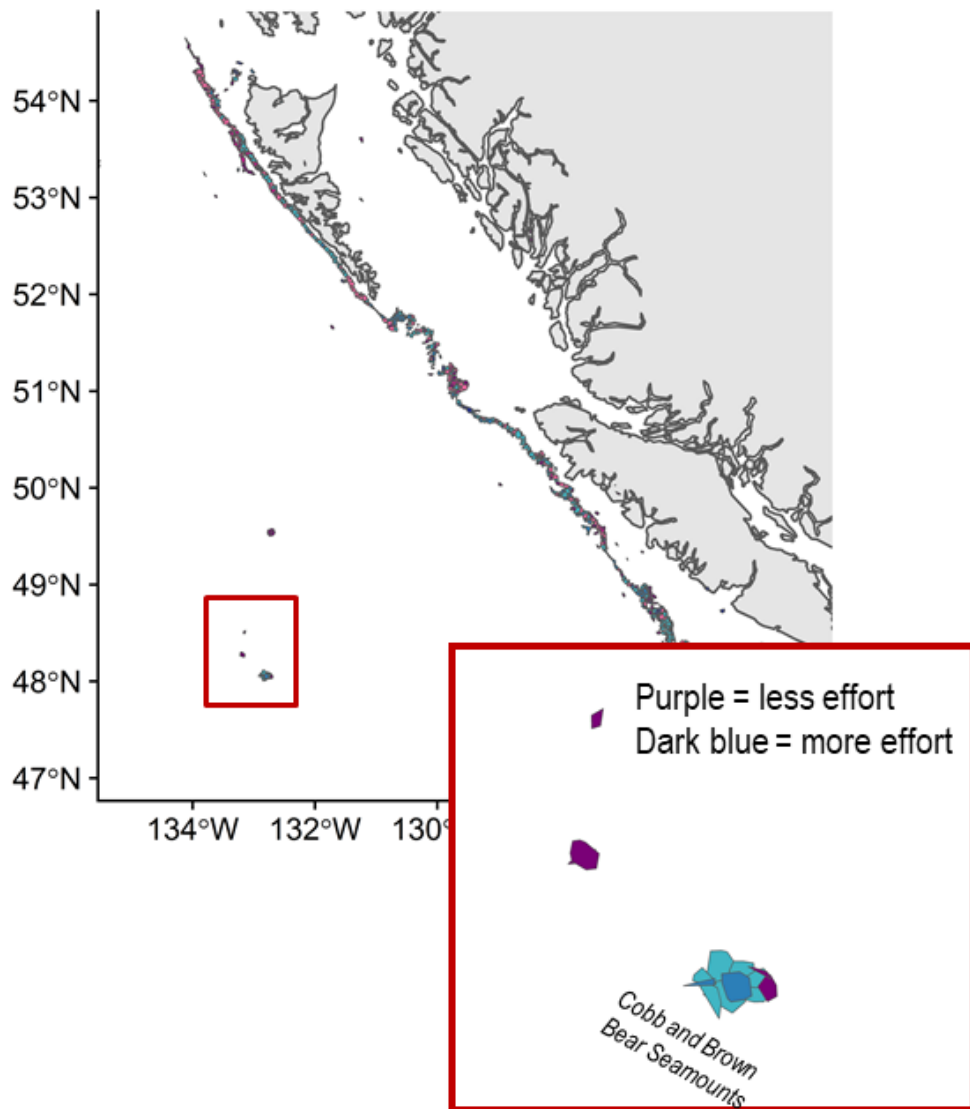


Figure 4. Relative change in spatial distribution of effort for Sablefish trap fishery from 2010-2017 to 2018-2019. Inset shows seamounts in the NPFC Convention Area.

Catch per unit of effort (mt/fishing days) for Sablefish has been increasing over the last 10 years (Figure 5), averaging 0.37 mt/fishing day (CV = 47%). CPUE was not calculated in 2023, but has generally been increasing since 2012.

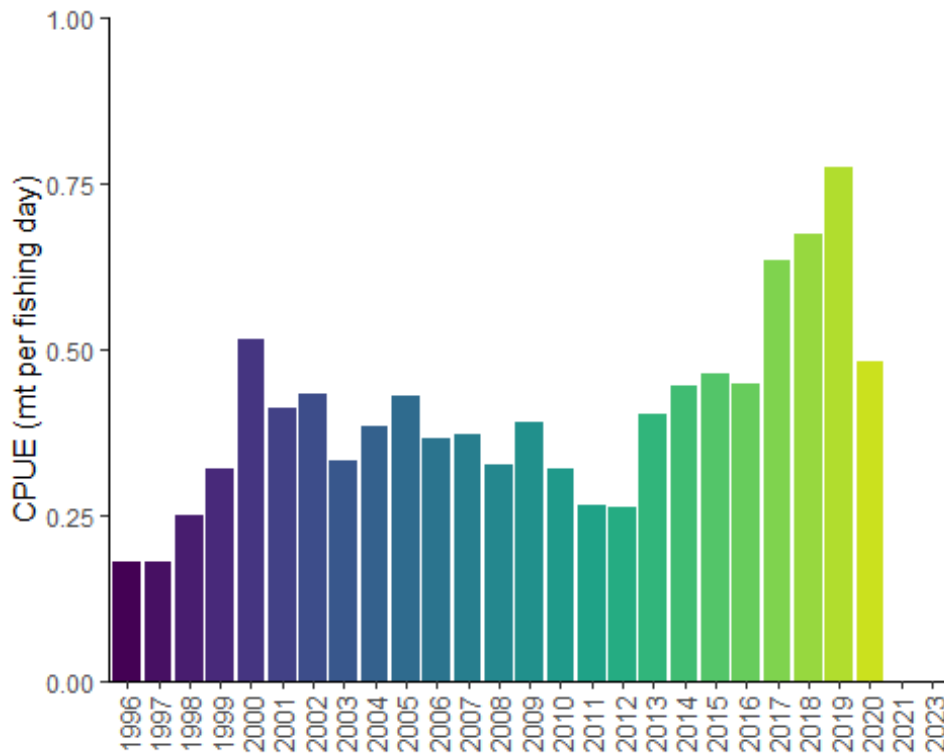


Figure 5. Catch per unit of effort for Canadian Sablefish fishery in NPFC region. Data are averaged across 3 years to comply with data privacy restrictions.

Biological collections

Under the seamount fishing protocol, 5 randomly selected fish per trip are saved by the vessel for sampling when it returns to port. These sablefish are sampled for length, weight and sex. Otoliths are collected for age estimation.

In 2020 due to COVID 19 restrictions, there were no biological samples collected from Sablefish captured in the Convention Area. Historical data will be provided to the NPFC Science Committee, when and as required, in conjunction with the NPFC's Interim Guidance for Management of Scientific Data Used in Stock Assessments.

Domestic fisheries in the U.S.A. and Canada also collect biological data. Data including length, weight and sex are collected from the scientific survey and by observers and dockside samplers from the commercial fisheries. Otoliths for estimating fish ages are also collected from both the surveys and the fisheries.

Data availability from Members regarding blackspotted and rougheye rockfishes

Data	Source	Years	Comment
Catch	Canada	1965-present	Catches from national waters and convention area
	USA	~1960-present	Catches in national waters
CPUE	Canada	~1988-present	
	USA	~1988-present	
Survey	Canada	1990-2009	Longline trap standard survey
	Canada	2003-present	Longline trap random survey
	USA	1978-present	Alaska longline survey
	USA	1982-present	Alaska bottom trawl surveys
	USA	2003-present	West Coast bottom trawl survey
Age data	Canada	variable	Commercial and survey catches, including NPFC Convention Area
	USA	variable	Commercial and survey catches
Length data	Canada	variable	Commercial and survey catches, including NPFC Convention Area
	USA	variable	Commercial and survey catches
Maturity/fecundity	Canada	variable	Commercial and survey catches in national waters
	USA	variable	Research cruises in national waters

Special Comments

The most recent stock assessments from the USA and Canada indicate the spawning stock biomass has been increasing since about 2018, supported by a large coastwide recruitment in ~2016 (data from Gothel et al. 2022, DFO 2023, Kapur et al 2021).

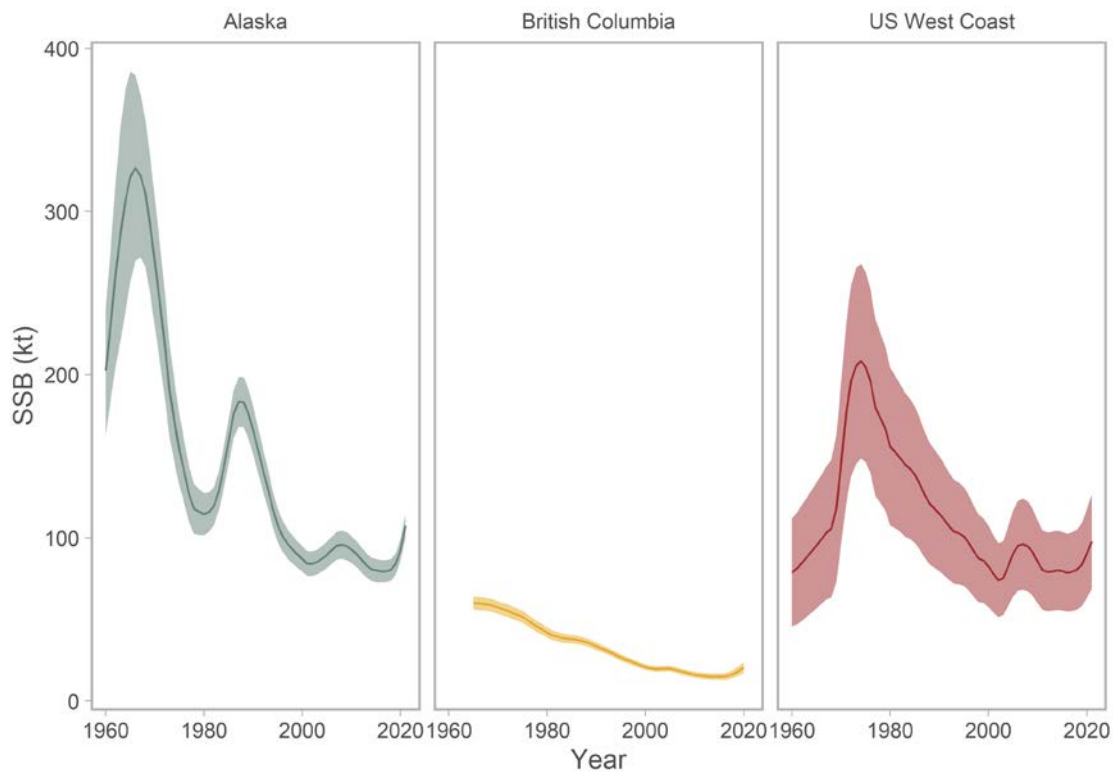


Figure 6. Sablefish (*Anaplopoma fimbria*) biomass estimated from stock assessments in Alaska, Canada and the US West Coast.

Biological Information

Distribution

Sablefish are widely distributed throughout the Pacific Ocean from northern Mexico to the Gulf of Alaska, westward to the Aleutian, and northward into the Bering Sea (Figure 7; Wolotira et al. 1993). They are also found along the western margin of the Pacific Ocean from southern Japan through the Kamchatka Peninsula and northward into the Bering Sea. Adult sablefish occur along the continental slope, shelf gullies, and in deep fjords, generally at depths greater than 200 m. Juvenile sablefish spend their first two to three years on the continental shelf at shallower depths. Spawning is generally in the winter and spring (October-April) and occurs near the shelf break. Spawning timing generally occurs earlier in the south (October-February in California) and later

in the north (January – April in Alaska). Eggs are found at depth and larvae are found in surface waters (Shotwell et al. 2020).

Life history

Larval sablefish feed on zooplankton prey. Juveniles shift from pelagic to benthic prey including fishes and invertebrates. Adults consume mostly benthic fishes and invertebrates. Sablefish mature at 4 to 5 years. In the eastern Pacific, Sablefish have traditionally been thought to form two populations based on differences in growth rate, size at maturity, and tagging studies. The northern population inhabits Alaska and northern British Columbia waters and the southern population inhabits southern British Columbia, Washington, Oregon, and California waters, with mixing of the two populations occurring off southwest Vancouver Island and northwest Washington. However, recent genetic work by Jasonowicz et al. (2017) found no population sub-structure throughout their range along the US West Coast to Alaska, and suggested that observed differences in growth and maturation rates may be due to phenotypic plasticity or are environmentally driven. Tagging evidence suggests that the sablefish inhabiting seamounts in the NPFC Convention Area are not distinct from the coast wide sablefish population.

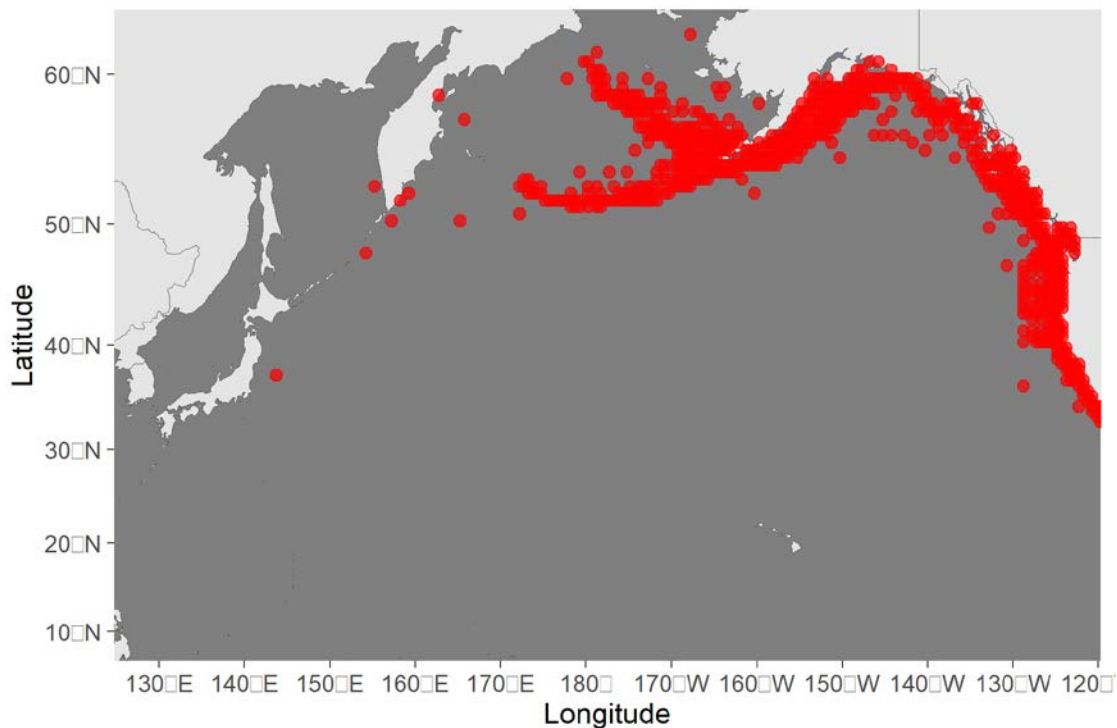


Figure 7. Map of distribution of sablefish in the North Pacific.

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Species summary for blackspotted and roughey rockfishes

Blackspotted and Roughey Rockfishes

(*Sebastes melanostictus* and *Sebastes aleutianus*)

Common names:

アラメヌケ, Aramenuke (Japan)

한볼락, Han Bollak (Korea)

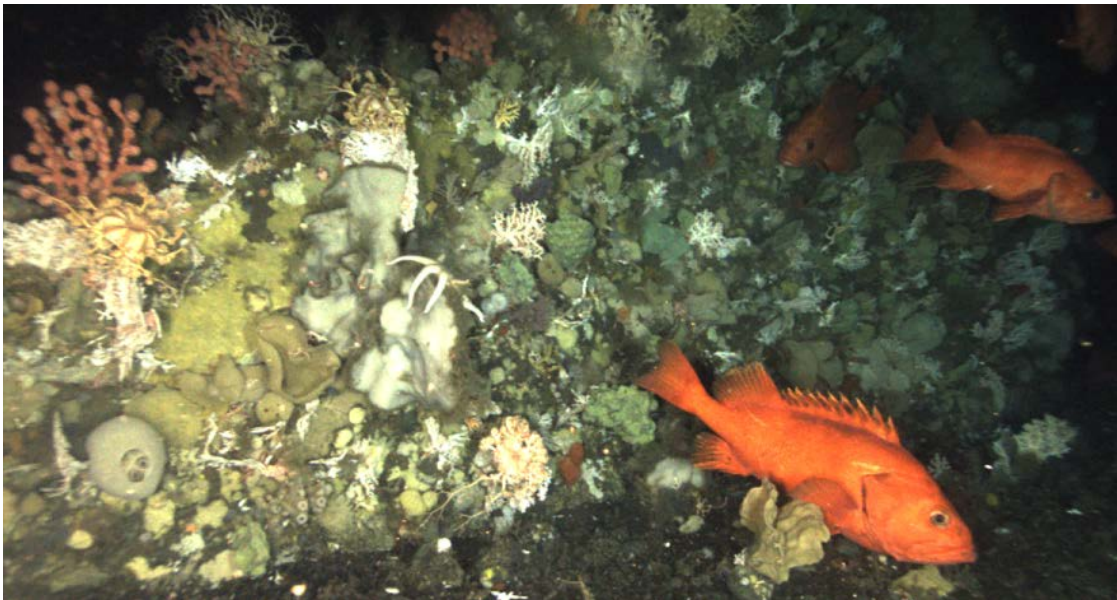


Figure 1. Blackspotted rockfish (*Sebastes melanostictus*).

Management

Active NPFC Management Measures

The following NPFC conservation and management measures (CMM) pertain to this species:

- CMM 2023-06 For Bottom Fisheries and Protection of VMEs in the NE Pacific Ocean
- CMM 2019-10 For Sablefish in the Northeastern Pacific Ocean

Available from <https://www.npfc.int/active-conservation-and-management-measures>

Management Summary

Blackspotted and rougheye rockfishes are captured in the longline trap fishery that targets sablefish (*Anaplopoma fimbria*) at seamounts in the eastern part of the NPFC Convention Area. The current management measure for blackspotted and rougheye rockfishes specifies both catch and effort limits. The allowable catch of blackspotted and rougheye rockfishes in the eastern portion of the Convention Area is based on a long-term mean of historical catches from seamounts by Canada. It allows for 2.3 mt to be landed each month for the 6 months of the fishing season (April to September). The fishery is also managed through input controls by only allowing a single vessel to fish in each month. The 1-3 Canadian vessels licensed to fish in the NPFC Convention Area are submitted to the NPFC Secretariat annually.

Current status of management measures

Convention.or.Management.Principle	Status	Comment.or.Consideration
Biological reference point(s)	Not accomplished	Not established
Stock status	Unknown	Status determination criteria not established
Catch limit	Known	Allowable catch of 2.3 mt per month (6 month season)
Harvest control rule	Not accomplished	Not established
Other	Known	Effort control (single vessel per month)

Assessment

No stock assessment is conducted for blackspotted and rougheye rockfishes in the NPFC Convention area.

It is unclear if the blackspotted and rougheye rockfish population on seamounts in the NPFC Convention Area is distinct from the population on the continental shelf of Canada. There is evidence of population structure in other regions, such as Alaska, where population trends and genetics indicate some structure on the order of ~1000 km (Shotwell and Hanselman 2019, Gharrett et al. 2007, Shotwell et al. 2014). This is about twice the distance from the continental shelf to the fished seamounts in the NPFC Convention Area, however there is potentially a large barrier to dispersal of deepwater between the shelf and the seamounts. There is no available

tagging data to indicate whether the blackspotted and rougheye rockfishes at seamounts are connected to populations in domestic waters on the continental shelf. It is likely that the seamount populations are distinct stocks with distinct population trajectories.

Domestic stock assessments for blackspotted and rougheye rockfishes conducted in Canada assume there are two populations in domestic waters. These are assessed using a statistical catch at age model (DFO 2020). Assessments are also carried out in Alaska (Sullivan 2022, Spencer et al. 2022).

Data

Surveys

There is currently no survey conducted in the eastern NPFC Convention Area that captures or monitors blackspotted and rougheye rockfish populations.

Fishery

The Canadian high seas sablefish fishery typically operates at 1-4 seamounts in the commission area (Cobb, Eickleberg, Warwick and Brown Bear seamounts). Historically other seamounts have been fished for blackspotted and rougheye rockfishes both inside and outside Canada's EEZ.

Fishing is conducted with longlined traps. Since 2014 a maximum of 3 vessels per year have been allowed to fish in NPFC waters. Historically the number of fishing vessels has averaged <3 per year (since 2008). The number of fishing days is the number of unique calendar days during which gear was set. The number of fishing days has averaged from about 25 to greater than 100, but in most years has averaged between 50 and 75 (Figure 2).

No Canadian vessels have chosen to fish for Sablefish in the Convention Area since 2020. This is likely due to a combination of economics (high fuel prices and the large distance to the seamounts), the availability of quota in the domestic fishery which is easier to access and hesitancy about the requirements under the implementation of the new NPFC AIS policy.

Both Canada and the U.S.A. have domestic fisheries that target blackspotted and rougheye rockfishes inside their EEZ's. Blackspotted and rougheye rockfishes is also targeted in domestic trawl fisheries in Canada and the U.S.A.

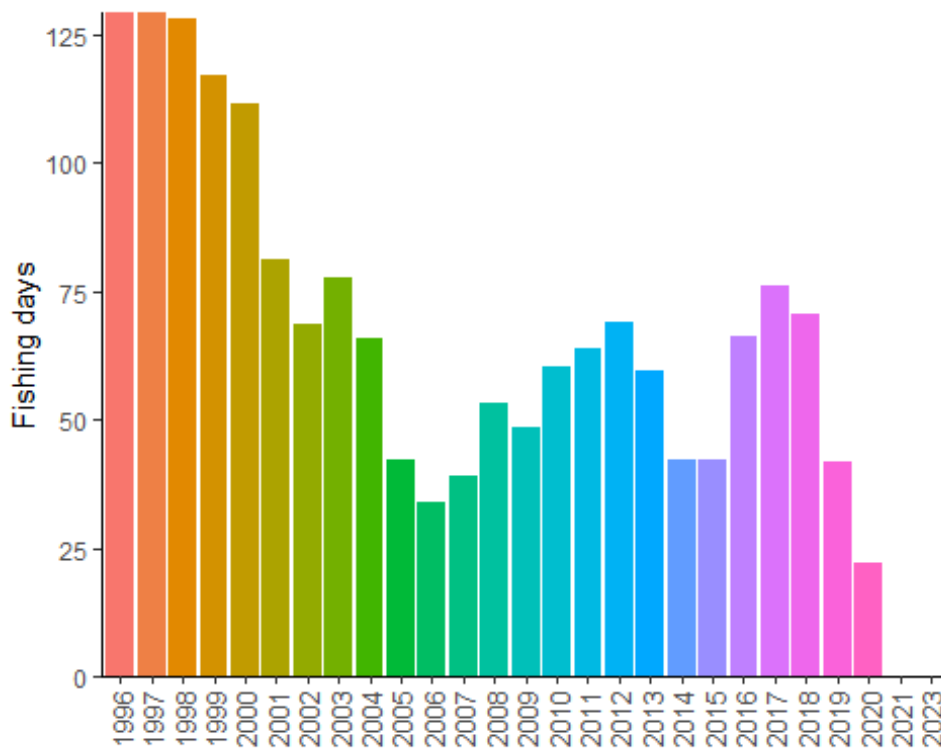


Figure 2. Fishing effort (in number of fishing days) for the Sablefish longline trap fishery conducted in NPFC waters (1996-present). Data are averaged across 3 years to comply with data privacy restrictions.

Output controls limit the landings of combined rougheye and blackspotted rockfish to 2.3 mt (in round weight). These measures have been in place since 2011.

Catches of blackspotted and rougheye rockfishes from NPFC region seamounts has ranged from an average of about 0.5 mt per year in 1996-2014 to about 4 mt in 2017 (Figure 3). Average annual catches were relatively low from 1996 to 2016 at NPFC seamounts and then increased in 2017-2018, with a decline to low levels in the last years. This increase in part probably reflects shifting sablefish effort due to closures of seamounts within Canada's EEZ. An examination of coastwide shifts in the spatial pattern of fishing effort showed that fishing effort has become concentrated on Cobb Seamount, with increasing effort in shallower waters perhaps reflecting increased targeting of blackspotted and rougheye rockfishes relative to the past (Figure 4).

There has been no fishing effort at seamounts from 2021-2023 resulting in no catch.

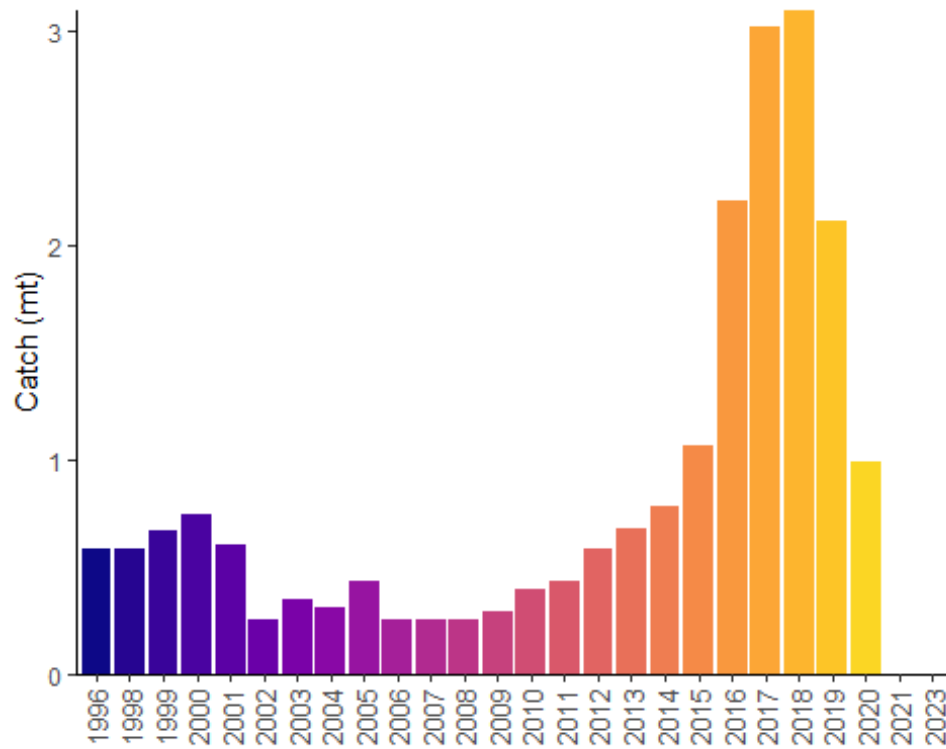


Figure 3. Landings of blackspotted and roughey rockfishes in the Canadian Sablefish fishery in NPFC region (1996-present). Data are averaged across 3 years to comply with data privacy restrictions.

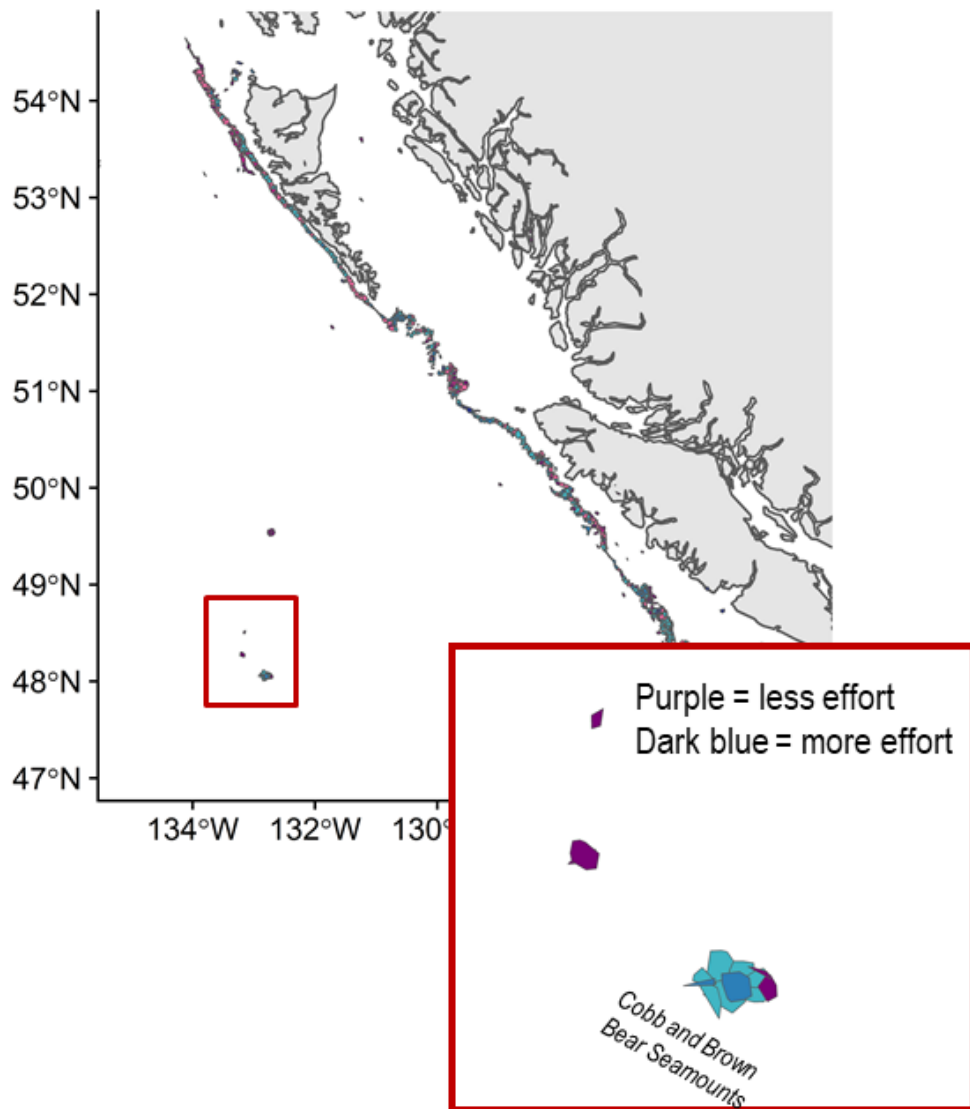


Figure 4. Relative change in spatial distribution of effort for Sablefish trap fishery from 2010-2017 to 2018-2019. Inset shows seamounts in the NPFC Convention Area.

Catch per unit of effort (mt/fishing days) for blackspotted and rougheye rockfishes has been increasing over the last 10 years (Figure 5), averaging 0.01 mt/fishing day (CV = 107%). CPUE was not calculated in 2023 due to the absence of fishing in the Convention Area, but has generally been increasing since 2012.

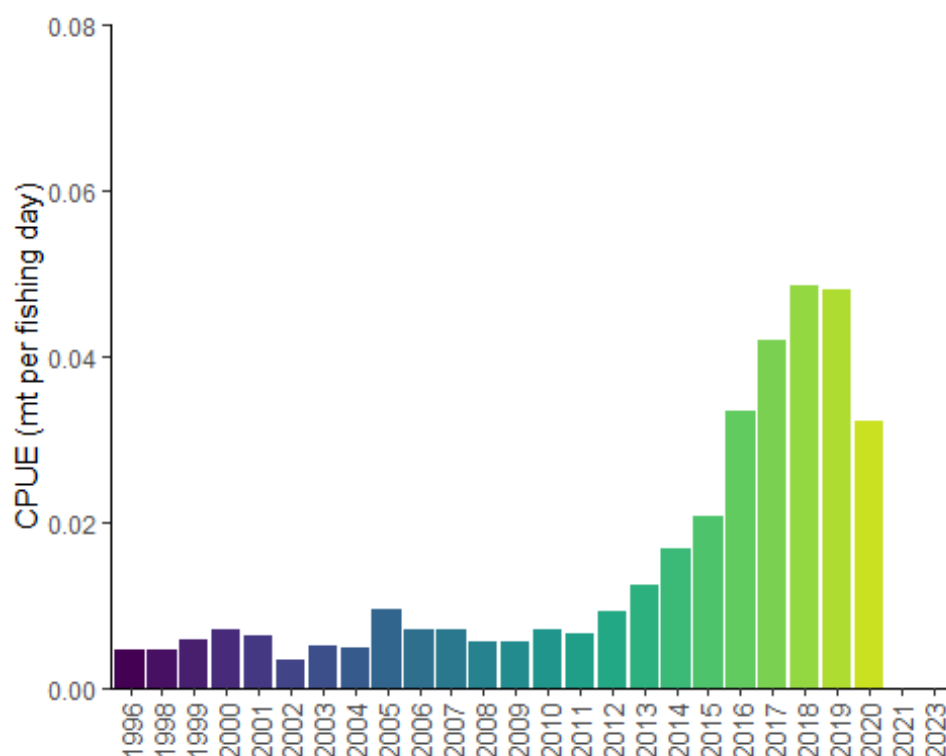


Figure 5. Catch per unit of effort for blackspotted and rougheye rockfishes in the Canadian Sablefish fishery in NPFC region. Data are averaged across 3 years to comply with data privacy restrictions.

Biological collections

No biological collections are taken from blackspotted and rougheye rockfishes captured in the NPFC Convention Area. Biological data are available from domestic fisheries and surveys in Canada.

Data availability from Members regarding blackspotted and rougheye rockfishes

Data	Source	Years	Comment
Catch	Canada	1996-present	Catches from national waters and convention area
CPUE	Canada	1996-present	
Survey	None		Survey data are available from Canada and U.S.A. national waters

Data	Source	Years	Comment
Age data	None		Data available from Canada and U.S.A. domestic fisheries and surveys
Length data	None		Data available from Canada and U.S.A. domestic fisheries and surveys
Maturity/fecundity	None		Data available from Canada and U.S.A. domestic fisheries and surveys

Special Comments

None

Biological Information

Distribution

Blackspotted and roughey rockfishes are widely distributed throughout the Pacific Ocean from California to the Gulf of Alaska, westward to the Aleutian, and northward into the Bering Sea (Figure 6; Love et al. 2002). They are also found along the western margin of the Pacific Ocean from the Kuril Islands through the Kamchatka Peninsula and northward into the Bering Sea. Adult blackspotted and roughey rockfishes occur in rocky habitat along the continental slope, shelf gullies, and in deep fjords, generally at depths from 150 to 450 m (Love et al. 2002). Juvenile blackspotted and roughey rockfishes are found at shallower depths (250-300 m) at the continental shelf break. Until recently, these species were considered a single species (roughey rockfish; Orr and Hawkins 2008).

Life history

Blackspotted and roughey rockfishes are extremely long-lived, with maximum ages > 200 years. They mature late at about 20 years of age. These characteristics make them vulnerable to overfishing. The species are live-bearing, extruding larvae generally in the spring (February-June). Blackspotted and roughey rockfishes are benthic feeders, consuming mostly shrimps, crabs and fishes (Yang and Nelson 2000).

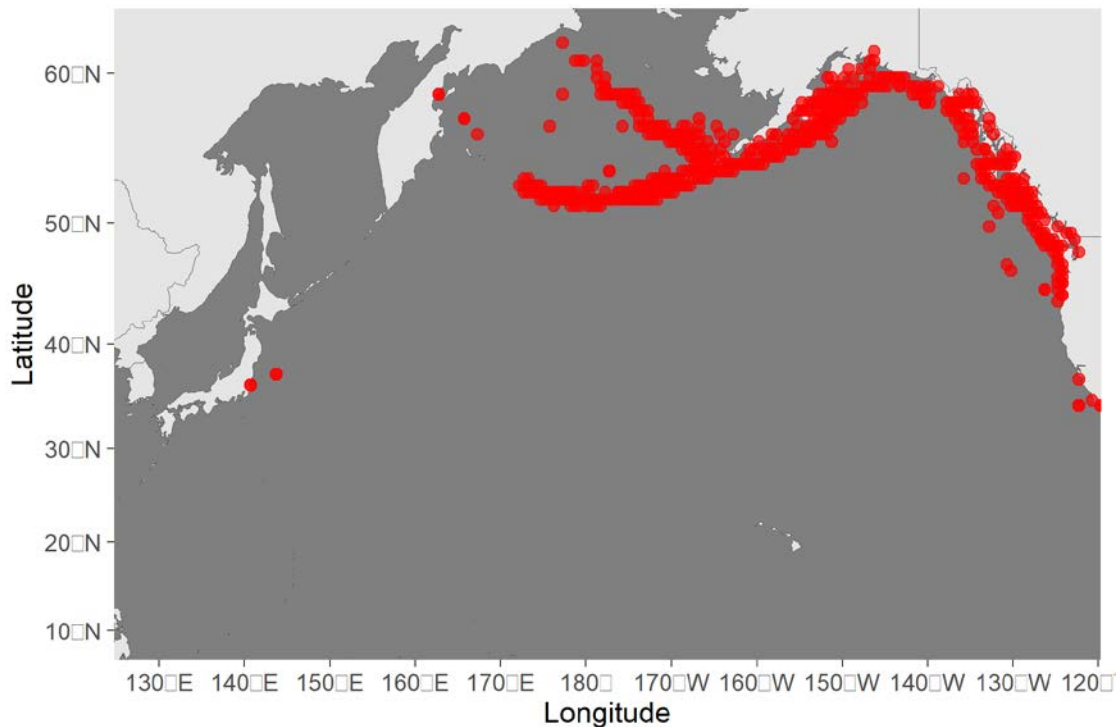


Figure 6. Map of distribution of blackspotted and rougheye rockfishes in the North Pacific.

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Annex H

Species summary for neon flying squid

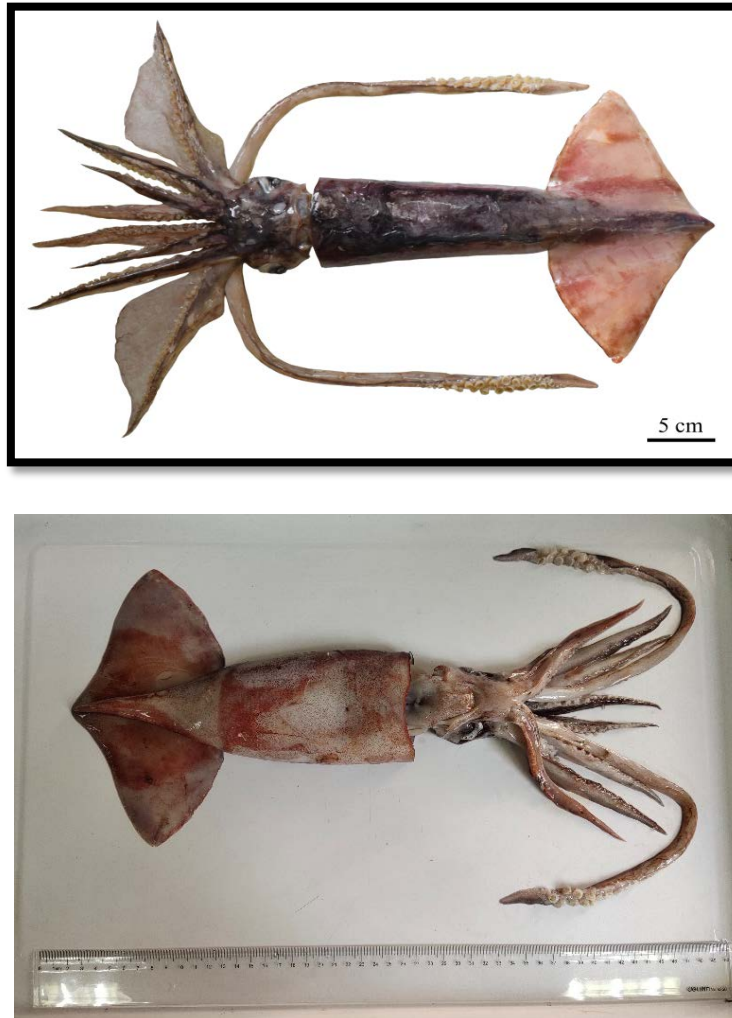


Figure 1. The pictures of neon flying squid

Neon Flying Squid (*Ommastrephes bartramii*)

Common names:

柔鱼 [rou yu] (Chinese); neon flying squid (English); アカイカ [akaika] (Japanese); 빨강오징어 (Korean); Кальмар Бартрама [kalmar bartrama] (Russian); 赤魷 [chi-you] (Chinese Taipei).

Other common names: Red flying squid; Webbed flying squid; Red ocean squid

(<https://www.sealifebase.ca/comnames/CommonNamesList.php?ID=58132&GenusName=Ommastrephes&SpeciesName=bartramii&StockCode=3971>)

Management

Active management measures

The following NPFC conservation and management measure (CMM) pertains to this species:

CMM 2023-11 For Japanese Sardine, Neon Flying Squid and Japanese Flying Squid

Available from <https://www.npfc.int/active-conservation-and-management-measures>.

Management summary





Does not specify catch limits.

Members of the Commission and CNCPs with substantial harvest of neon flying squid in the Convention Area shall refrain from expansion, in the Convention Area, of the number of fishing vessels authorized to fish such species from the historical existing level.

Members of the Commission and CNCPs without substantial harvest of the neon flying squid in the Convention Area are encouraged to refrain from expansion, in the Convention Area, of the number of fishing vessels entitled to fly their flags and authorized to fish for such species from the historical existing level.

Members of the Commission participating in fishing for the neon flying squid in areas under their jurisdiction adjacent to the Convention Area are requested to take compatible measures.

Table1. Management Summary

Convention/Management		
Principle	Status	Comment/Consideration
Biological reference point(s)		Not established.
Stock status		Status determination criteria not established.
Catch or effort limits		Recommended effort limits.
Harvest control rule		Not established.
Other		

 OK  Intermediate  Not accomplished  Unknown

Stock assessment

No unified stock assessment has been conducted by NPFC for the species.

Some members have conducted stock assessment or related studies for neon flying squid based on the information only from their own fisheries or surveys (Ichii et al. 2006; Chen, 2010; Cao et al.

2014).

Data

Survey

Japan conducted drift net survey in summer from 1999-2020 and jigging survey in winter from 2018~2020. Russia conducted upper epipelagic surveys from 1984-1992 and from 1999-2019 (see details in Table 2).

Fishery

Neon flying squid was harvested by China, Japan, Korea, Russia, Chinese Taipei and Vanuatu. Fishing methods included jigging, drift net, dip net and set net.

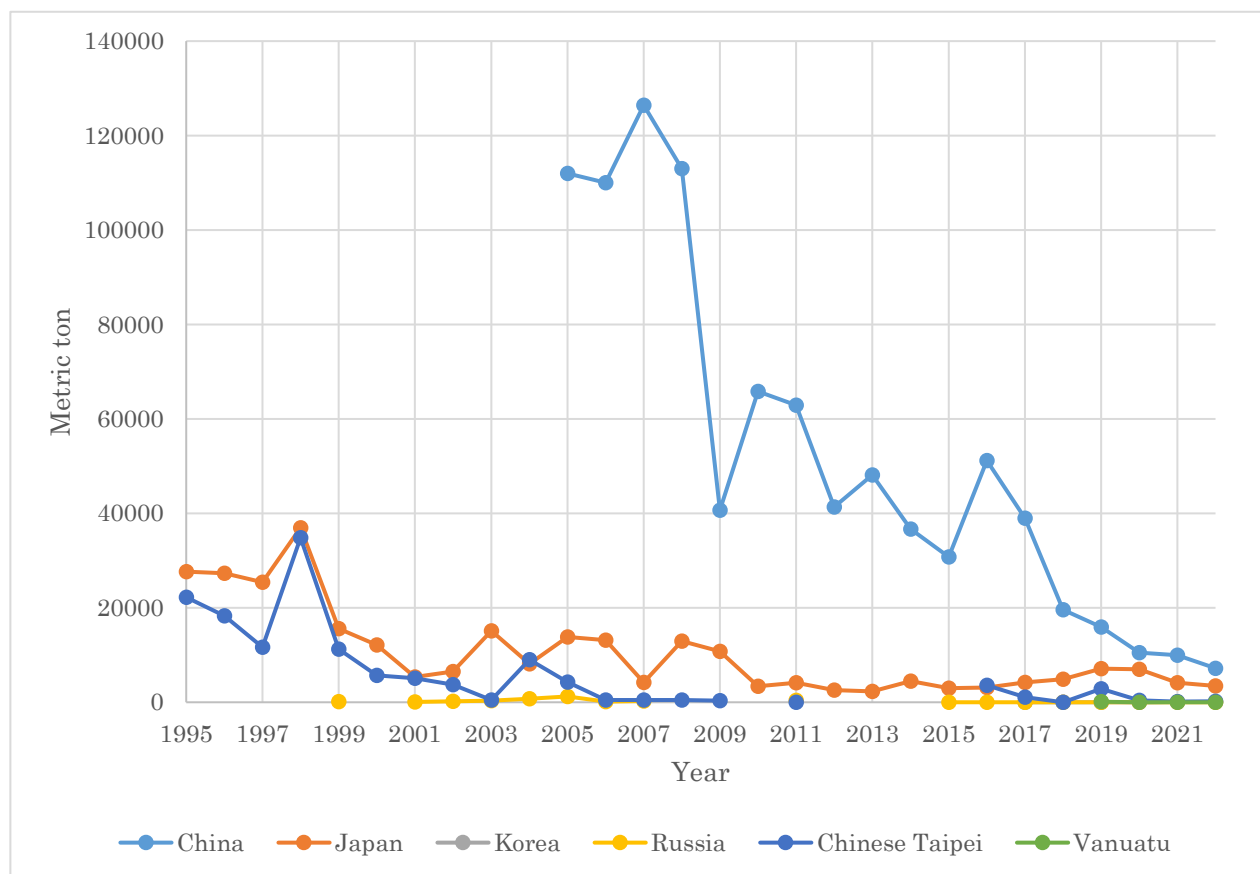


Figure 2. The historical catch of neon flying squid reported by members.

Data availability

Table 2. Data availability from Members regarding neon flying squid

Category and data sources	Description	Years with available data	Average sample size/ year or data coverage	Potential issues to be reviewed
CHINA				
Catch statistics				
Squid-jigging fisheries	Official statistics, reports from annual report	Official statistics: 2005-2019 Fishery data before 2005 (need to be confirmed)	Coverage = 100%	The neon flying squid catches are obtained from the fisheries logbook data provided by the fisheries company
Size composition data				
Length measurements	Sampling from commercial squid-jigging fishing vessels	2010-2016 Data before 2005 (need to be confirmed)	800-1000 fish/year	May lack representativeness
Aging	Sampling from commercial squid-jigging fishing vessels	2010-2016 Data before 2005 (need to be confirmed)	80-200 fish/year	May lack representativeness
Abundance indices (commercial)				
Squid-jigging fisheries	Squid-jigging logbook	1995-2019 Fishery data before 2005 (need to be confirmed)	Coverage=100%	Will conduct standardization

Category and data sources	Description	Years with available data	Average sample size/ year or data coverage	Potential issues to be reviewed
JAPAN				
Catch statistics				
Jigging fishery	Logbook	1995-2020	Coverage=100%	
Size composition data				
Length and weight measurements	Drift net survey (Summer)	1999-2020	500-600 squid/year	
	Jigging survey (Winter)	2018-2020	300-400 squid/year	
Abundance indices (survey)				
Summer survey on abundance of the autumn and winter-spring cohorts	Drift net survey CPUE for each cohort (individuals/panel)	1999-2020	20-30 stations/year	Small samples of male and matured female for the autumn cohort
Winter survey on abundance of the winter-spring cohort	Jigging survey CPUE (individuals/line)	2018-2020	12-16 stations/year	
Abundance indices (commercial)				
Jigging fishery	Logbook Standardized CPUE of the winter-spring cohort	1995-2020	Coverage=100%	Standardize CPUE for the autumn cohort

Category and data sources	Description	Years with available data	Average sample size/ year or data coverage	Potential issues to be reviewed
KOREA				
Catch statistics				

Jigging	Official statistics, reports from fisheries	2017 and 2019	Coverage =100%	
Size composition data				
Length measurements	Measured by observers while onboard	2017	3100 fish	Measurement details to be reviewed
Abundance indices (commercial)				
Jigging	Logbook data available	2017	60 set 2017	Data coverage details to be reviewed

Category and data sources	Description	Years with available data	Average sample size/year or data coverage	Potential issues to be reviewed
RUSSIA				
Catch statistics				
Drift net fishery	Official statistics, reports from fisheries associations	Official statistics: 1982-1990, 1999-2007, 2011 1985-1998, 2008-2010 and 2012-2020 (no data available); publications: 1972-2012	Coverage 1982-1984 ?%, 1999-2007, 2011 =100%	Data coverage details to be reviewed
Size composition data				
Length measurements	Sampling from commercial fishing vessels. Sampling during research	1999-2007, 2011 2012-2019	100-4,000 squids /year (ca. 50 measurements per sampling)	Data coverage details to be reviewed

	surveys.			
Abundance indices (survey)				
Summer-autumn surveys to assess pelagic squids abundance	Upper epipelagic surveys	1984-1992, 1999-2019 (August-November)	60-80 stations/year 60-80 stations/year	Changes in abundance and migration patterns; development survey protocol and conduct standardization

Category and data sources	Description	Years with available data	Average sample size/ year or data coverage	Potential issues to be reviewed
CHINESE TAIPEI				
Catch statistics				
Dip net fishery	Fishing gear used in different periods: 1977~1979: jigging 1980~1983: jigging and gillnet 1984~1992: gillnet 1993 till now: jigging	Data from 1977~1996 was provided by Taiwan Squid Fishery Association, data from 1997~2017 was based on logbook, and data from 2018~2020 was the statistics on landings.	Coverage 1977-1996 = ? % Coverage 1997-2017 = ? % Coverage 2017-2020 = 100%	Only catch data is available before 1997.
Set net				

Category and data sources	Description	Years with available data	Average sample size/ year or data coverage	Potential issues to be reviewed
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VANUATU					
Catch statistics					
squid jigging fishery	from logbook	2019	logbook from 2013 to now, coverage 100%	VU has authorized 4 vessels to conduct Pacific saury and squid jigging fishery in NPFC Convention Area. However, the vessel only targets neon flying squid by hand when they couldn't catch Pacific saury. Until now, we have only had squid catch information in 2019.	

Biological Information

Distribution and migration

Neon flying squid is an oceanic squid distributed in temperate and subtropical waters of the Pacific, Indian and Atlantic Oceans. The North Pacific population occurs mainly between 20° and 50°N, and comprises two cohorts: a fall cohort with a hatching period from September to February and a winter–spring cohort with a hatching period mainly from January to May, but extending to August. Neon flying squid makes an annual round-trip migration between its subtropical spawning grounds and its northern feeding grounds near the Subarctic Boundary.

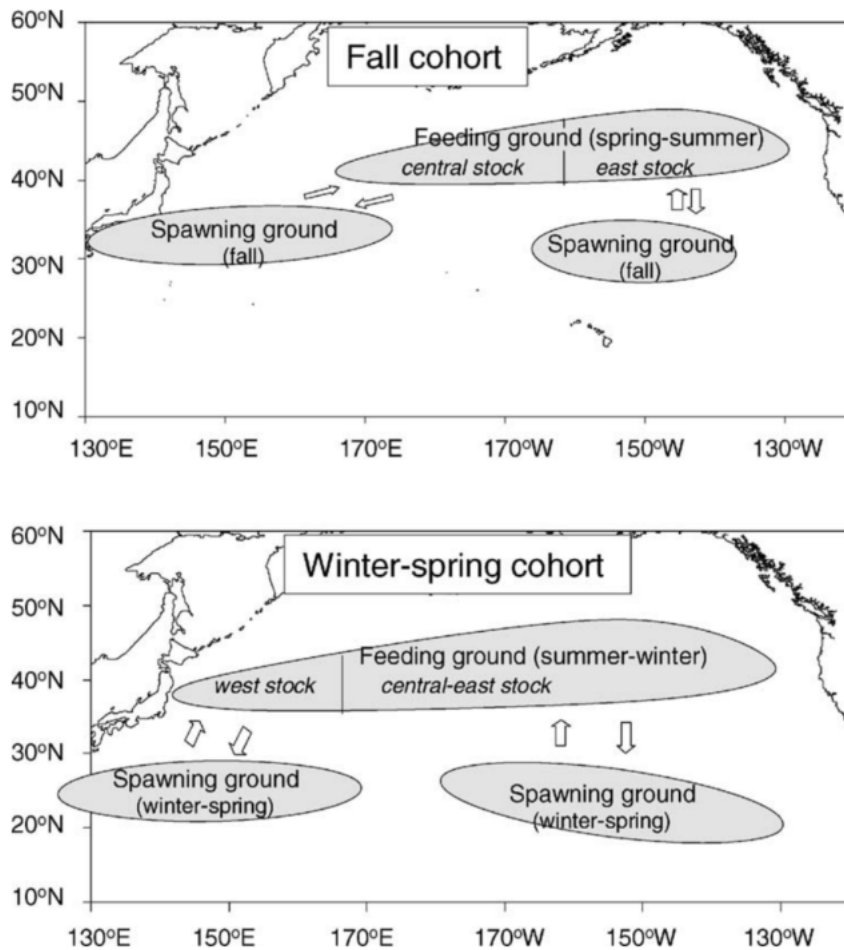


Figure 3. Migration patterns of the fall and winter-spring cohorts of neon flying squid in the North Pacific.

Life history

Growth is exponential during the first 30 days after hatching and then becomes more or less linear. It is suggested that this shift in growth accompanies a change in the feeding behavior that is thought to occur once the fused tentacles, which form a proboscis in the hatchlings, separate and become functional.

Neon flying squid at 7-10 months of age and has an estimated 1-year life span. Size at maturity is about 30–33 cm ML in males and 40–55 cm ML in females. The maximum ML is around 45 cm in males and 60 cm in females.

During its northward migration and at the feeding grounds in the central North Pacific, neon flying squid feeds mainly on fishes, squids and crustaceans. Many marine mammals feed on neon flying squid. It is an important prey of northern fur seals in the central North Pacific, and a minor prey of short-beaked common dolphins (Bower and Ichii 2005).

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Species summary for Japanese sardine

Japanese sardine (*Sardinops melanostictus*)**Common names:**

拟沙丁鱼, Ni Sha Ding Yu (China)

マイワシ, Maiwashi (Japan)

정어리, Jeong-eoli (Korea)

Дальневосточная сардина (Russia)

遠東擬沙丁魚, Yuan-Dong-Ni-Sha-Ding-Yu (Chinese Taipei)



Figure 1. Japanese Sardine (*Sardinops melanostictus*).

Management

Active NPFC Management Measures

The following NPFC conservation and management measure (CMM) pertains to this species:

- CMM 2023-11 For Japanese Sardine, Neon Flying Squid and Japanese Flying Squid

Available from <https://www.npfc.int/active-conservation-and-management-measures>

Management Summary

The current management measure for Japanese Sardine does not specify catch or effort limits. The CMM states that Members and Cooperating non-Contracting Parties currently harvesting Japanese Sardine should refrain from expansion of the number of fishing vessels authorized to fish Japanese Sardine in the Convention Area. New harvest capacity should also be avoided until as stock assessment has been completed.

A stock assessment for Japanese Sardine is conducted by Japan within their EEZ and used for management of the domestic fishery.

Table 1. Current status of NPFC management measures

Convention Management Principle	or Status	Comment or Consideration
Biological reference point(s)	Not accomplished	Not established for NPFC CA (Established in Japan EEZ)
Stock status	Unknown	Status determination criteria not established for NPFC CA (Established in Japan EEZ)
Catch limit	Intermediate	Recommended catch, effort limits
Harvest control rule	Not accomplished	Not established for NPFC CA (Established in Japan EEZ)
Other		

Assessment

There is currently no stock assessment for Japanese Sardine conducted by NPFC for the Convention Area.

Japan conducts stock assessments for the Pacific stock of Japanese sardine using tuned virtual population analysis (VPA) and MSY-based reference points (Furuichi et al. in press). Only the Pacific stock is distributed into the NPFC Convention Area. The most recent stock assessment in Japan included foreign catches from China and Russia, with some assumptions about age composition of these catches. Information on the size, weight and age of the catch from the NPFC CA would be useful if it were made available for Japan's stock assessment.

Estimated recruitment, biomass, and spawning stock biomass (SSB) have gradually increased since 2010 (Figure 2a). Japan uses a hockey-stick stock-recruitment relationship with regime shifts between a standard-recruitment state and a high-recruitment state and considers the current state to be the standard-recruitment state (Figure 2b). In the last five years (2018-2022), SSB was estimated to be higher than SSB_{msy} but F has been gradually increasing at higher levels than F_{msy} (Figure 2c).

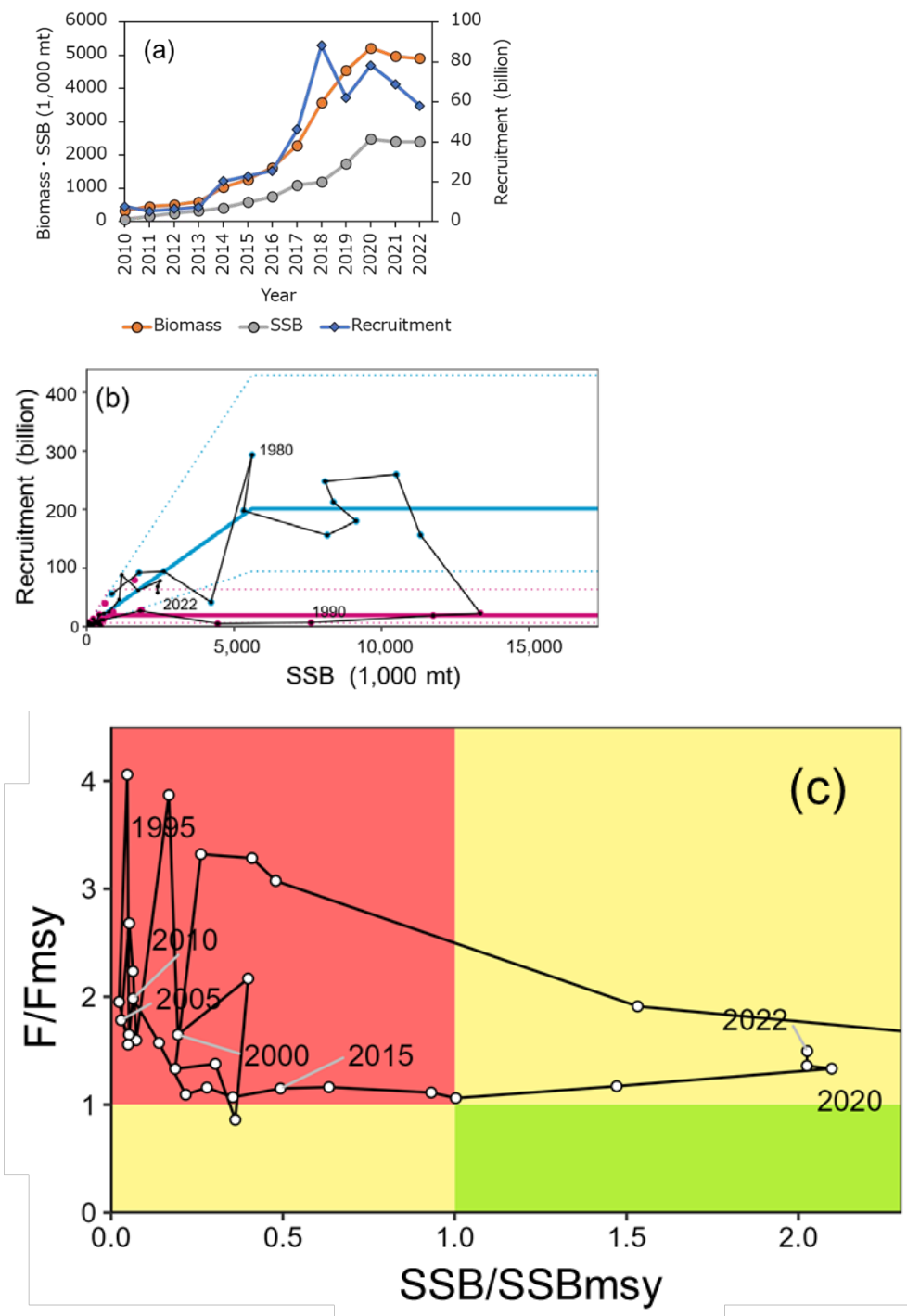


Figure 2. Time series of spawning stock biomass, total biomass and recruitment from the domestic Japanese Sardine stock assessment (panel a) and stock recruit relationship (panel b). Kobe plot indicating historical and current status of Japanese sardine in relation to MSY-based reference points reprinted from Japan's domestic stock assessment of Japanese Sardine (Furuichi et al. in press; panel c).

Data

Surveys

Japan conducts three surveys that estimate recruitment for a number of pelagic species, including Japanese Sardine (Table 2). The surveys target pre-recruits and juveniles to determine an index of recruitment. Japan also conducts a monthly egg and larval survey that is used to estimate spawning stock biomass. Surveys are conducted in spring (1995-2020), summer (2001-2020) and fall (2005-2020) at 30-80 stations per year. The survey protocol can be found at (Oozeki et al. 2007). Russia has conducted a summertime acoustic-trawl survey since 2010 that examines mid-water and upper epipelagic species including Japanese Sardine.

Fishery

China, Japan and Russia catch Japanese sardine. China does not target the species, but it is captured as bycatch in other fisheries (e.g. chub mackerel). Catches are primarily by purse seine, with a smaller component of the catch taken by pelagic trawl. China's catch of Japanese Sardine is taken exclusively from the Convention Area from April to December. China's existing catch records are from 2016 to 2020 and show increasing catches during that time period as the stock may have been increasing. The historical catches (prior to 2016) are unknown, thought to be low and likely need to be confirmed.

Japan's fishery for Japanese Sardine occurs inside their EEZ and is mostly conducted by large purse seine vessels (>90% of the catch). Additional components of the fishery include set nets, dip nets and other gears. The fishery experienced very high catches in the 1980's and early 1990's, a decline to very low catches from 1995 to ~2010 and has been recovering since then. The fishery is conducted year round, but mainly during the summer season.

The Russian fishery occurs inside their EEZ and is prosecuted primarily by pelagic trawling (>90% of the catch), with a smaller component of the catch coming from purse seines. The success of Russian fishery depends on the migration patterns and overall abundance of Japanese Sardine, as the sardine move into Russian waters when their abundance is high. For this reason, there was no catch from 1994-2011 when the stock abundance was low, but in recent years (since 2016) as the stock has recovered and water temperatures have been warm there have been increasing catches in Russia. The Russian fishery occurs primarily from June to November.

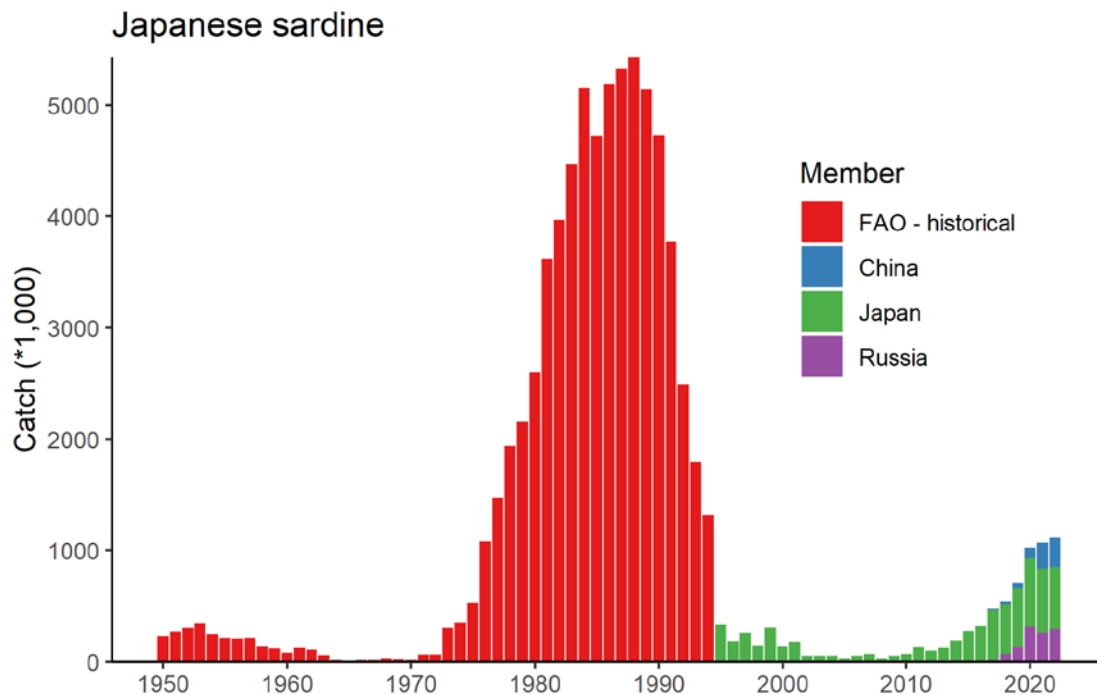


Figure 3. Historical catch of Japanese Sardine.

Other NPFC Members (Canada, Korea, Chinese Taipei, USA and Vanuatu) do not target Japanese Sardine. Chinese Taipei has some historical records of Japanese Sardine bycatch in the Pacific Saury fishery (~100 mt) and Korea has a small amount of historical bycatch data from the bottom trawl fishery. Vanuatu, USA and Canada have no record of Japanese Sardine catches.

Fishery catch data is available for Members from the NPFC website

([https://www.npfc.int/system/files/2022-03/NPFC-2023-AR-](https://www.npfc.int/system/files/2022-03/NPFC-2023-AR-Annual%20Summary%20Footprint%20-%20Japanese%20Sardine.xlsx)

[Annual%20Summary%20Footprint%20-%20Japanese%20Sardine.xlsx](https://www.npfc.int/system/files/2022-03/NPFC-2023-AR-Annual%20Summary%20Footprint%20-%20Japanese%20Sardine.xlsx)) since 2001. Prior years fishery catch data was downloaded from FAO data collections at <https://www.openfisheries.org> using rfisheries package (Karthik Ram, Carl Boettiger, and Dyck 2013).

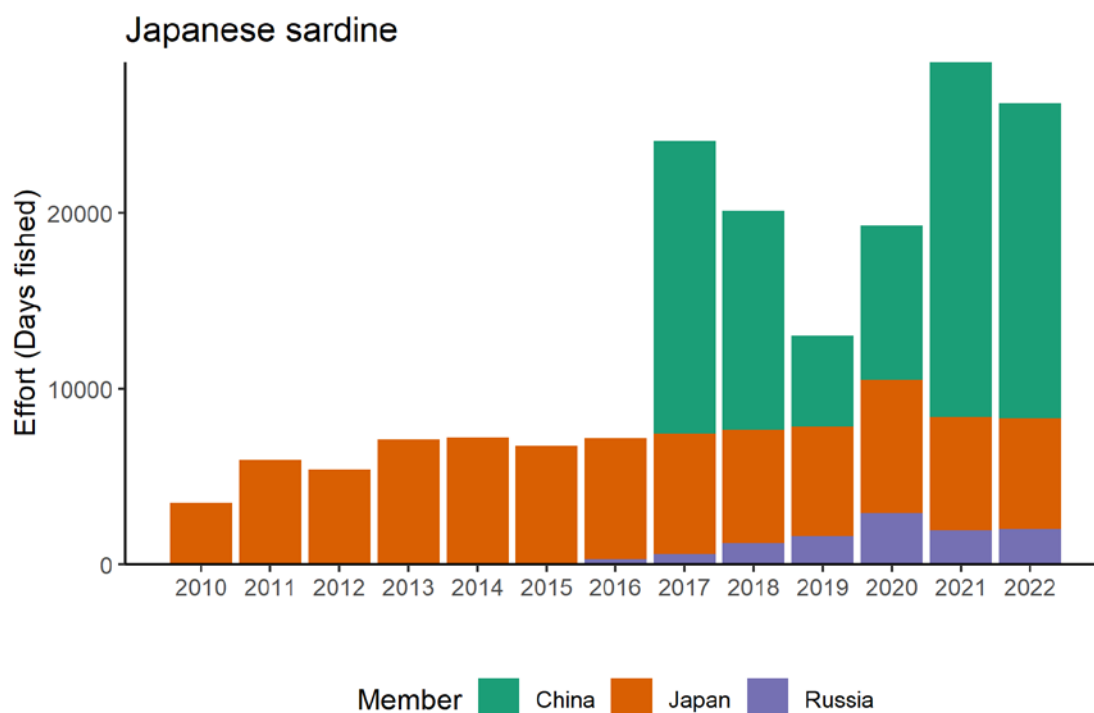


Figure 4. Historical fishing effort for Japanese Sardine.

Biological collections

China has collected biological data from fishery catches of Japanese Sardine since 2020. These collections included length data as well as maturity and age structures.

Russia collects length and weight data, age structures (scales) and maturity data from both commercial catches and surveys.

Japan also collects length, weight, maturity and age data from the survey and fishery to support their stock assessment.

Data availability from Members regarding Japanese sardine

Data	Source	Years	Comment
Catch	China	2016-present	Catches from convention area
	Japan	1995-present	Historical catch data from 1968 available, catches in national waters
	Korea		Minor bycatch in bottom trawl fishery

Data	Source	Years	Comment
	Russia	2016-present	Catches primarily in national waters, not convention area
	Chinese Taipei		Minor bycatch in Pacific saury fishery
CPUE			not developed
Survey	Japan		Pre-recruit survey
	Japan		Juvenile survey
	Japan		Monthly egg and larval survey
	Russia	2010-present	Acoustic-trawl survey
Age data	China	2020-present	Commercial catch
	Japan		Commercial and survey catches
	Russia		Commercial and survey catches
Length data	China	2020-present	Commercial catch
	Japan		Commercial and survey catches
	Russia		Commercial and survey catches
Maturity/fecundity	China	2020-present	Commercial catch
	Japan		Commercial and survey catches
	Russia		Commercial and survey catches

Special Comments

None

Biological Information

Distribution

Japanese sardine (*Sardinops melanostictus*; Figure 1) are a pelagic species that occurs in large migratory schools in the coastal waters of China, Chinese Taipei, Japan, Korea and Russia (Figure 5, (Kaschner et al. 2019)). They generally migrate from the south to the north during summer, returning to inshore areas in the south to spawn in the winter. Japanese sardine feed mainly on zooplankton and phytoplankton.

Life history

Japanese sardine are short-lived and fast growing, maturing early at 2-years old. Their maximum length is ~24 cm and their maximum reported age is 25 years (Whitehead 1985). Their growth rates and spawning patterns are highly influenced by the environment (Niino et al. 2021)

Taxonomically, the Japanese sardine are closely related to other species around the globe including *Sardinops* from southern Africa, Australia, South America and California.

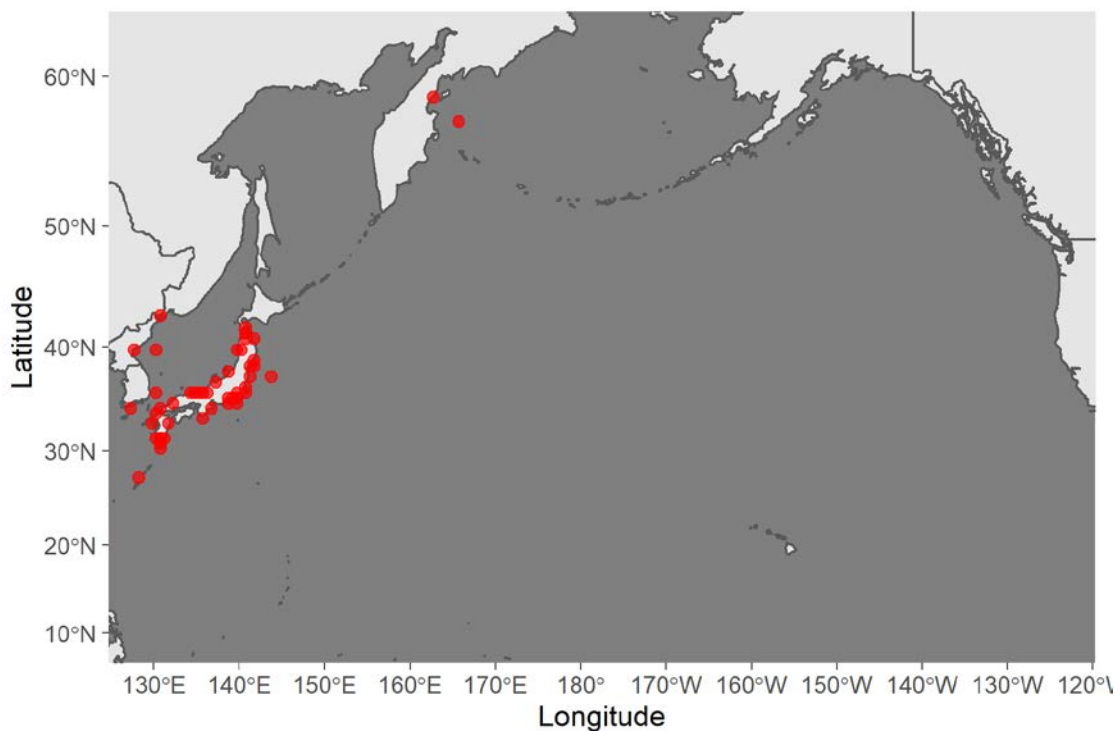


Figure 5. Map of distribution of Sardine species in the North Pacific.

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Annex J

Species summary for Japanese flying squid



Japanese Flying Squid (*Todarodes pacificus*)

Common names:

太平洋褶柔鱼 [tai ping yang zhe rou yu] (Chinese); Japanese flying squid (English); スルメイカ [surume-ika] (Japanese); 살오징어 [sal-o-jing-eo] (Korean); тихоокеанский кальмар [tihookeanskiy Kalmar] (Russian); 日本魷 [ri-ben-you] (Chinese Taipei).

Other common names: Japanese common squid, Pacific flying squid.

Management

Active NPFC Management Measures

The following NPFC conservation and management measure pertains to this species:

CMM 2021-11 For Japanese Sardine, Neon Flying Squid and Japanese Flying Squid

Available from <https://www.npfc.int/active-conservation-and-management-measures>.

Management Summary

The current management measure for Japanese flying squid (JFS) does not specify catch or effort limits. The CMM states that Members and Cooperating non-Contracting Parties currently harvesting JFS should refrain from expansion of the number of fishing vessels authorized to fish JFS in the Convention Area. New harvest capacity should also be avoided until a stock assessment has been completed.

Japan has been conducting stock assessment annually for two stocks of JFS such as the autumn- and winter-spawning stocks since 1997. Japanese domestic total allowable catch (TAC) has been annually set for JFS based on acceptable biological catch (ABC) determined based on the stock assessment results.

Table 1. Management Summary

Convention/Management Principle	Status	Comment/Consideration
Biological reference point(s)	●	Not established for NPFC CA (Established in Japan EEZ).
Stock status	○	Status determination criteria not established for NPFC CA (Established in Japan EEZ).
Catch limit	●	Not established for NPFC CA (Established in Japan EEZ).
Harvest control rule	●	Not established for NPFC CA (Established in Japan EEZ).
Other		



OK



Intermediate



Not accomplished



Unknown

Stock Assessment

No stock assessment has been conducted by NPFC for the Convention Area.

Japan conducts annual stock assessments for the autumn-spawning stock and winter-spawning

stock of JFS (Figure 1, Miyahara et al. 2023, Okamoto et al. 2023). The latest stock assessment for the winter-spawning stock in Japan included overseas catch from Russia, China and Korea (Fig. 1a). Estimated biomass and spawning stock biomass (SSB) have decreased drastically since 2015 (Fig. 1b). Japan uses a Beverton–Holt stock-recruitment relationship (Fig. 1c). In 2021, SSB was estimated lower than SSB_{msy} and F was lower than F_{msy} (Fig. 1d).

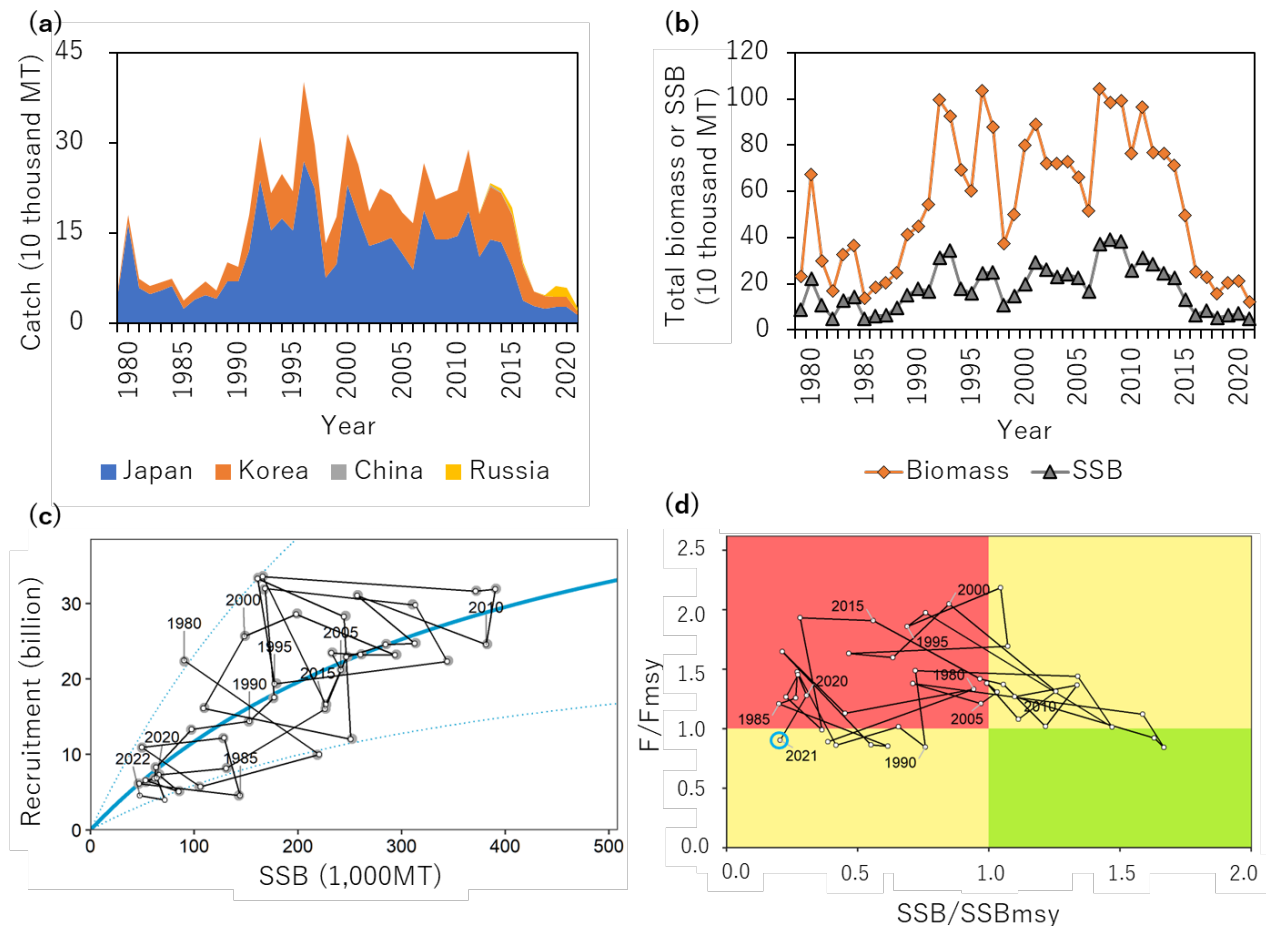


Figure 1. Summary of the stock assessment for the winter-spawning stock Japanese flying squid by Japan (Okamoto et al. 2023). (a) Time series of catch of each Member from fishing year 1979 to 2021. (b) Estimated biomass and SSB. (c) Stock-recruitment relationship. (d) Kobe plot.

Data

Survey

JFS are encountered in several surveys conducted by Japan and Russia. Japanese surveys encounter multiple life history stages of one or more seasonal stocks, including larvae (winter survey), recruits (May-June), and adults (July-September). Russia conducts a survey of JFS during their feeding migration into Krill Islands waters, this results in number and biomass estimated by area swept method for Krill Islands waters (annual, for winter stock only). While this survey captures only a

portion of the stock so not fully representing stock biomass, it may help identify environmental impact on migration patterns, timing, etc.

Fishery

The winter-spawning stock of JFS is harvested in the NPFC Convention Area (see Biological Information).

JFS are caught by Members in both the Convention Area and National Waters. Catch tables are available at the NPFC website (https://www.npfc.int/system/files/2023-04/NPFC-2023-AR-Annual%20Summary%20Footprint%20-%20Squids%20%28Rev.%201%29_0.xlsx). Catches of JFS in the Convention Area are low, as the majority of catches comes from Japanese and Russian national waters (Figure 2). JFS are caught using a variety of gears, most commonly squid jigging and trawl, but purse seine and set net are also used. They are predominantly caught as a targeted species, not as bycatch in other fisheries. However, in some seasons, they can be caught as bycatch in the Japanese sardine fishery. Chinese fishing fleets do not target JFS but encounter them in low quantities as bycatch in other fisheries.

There is no fishery CPUE index developed for this species in the Convention Area. Japan has already developed fishery-dependent/independent abundance indices to use in the domestic stock assessment.

Age data are collected by port samplers from a subset of Japanese fishing ports and for several Japanese prefectural research bodies. The squid's statolith is used for counting daily ages and estimating hatching dates (Nakamura and Sakurai 1991).

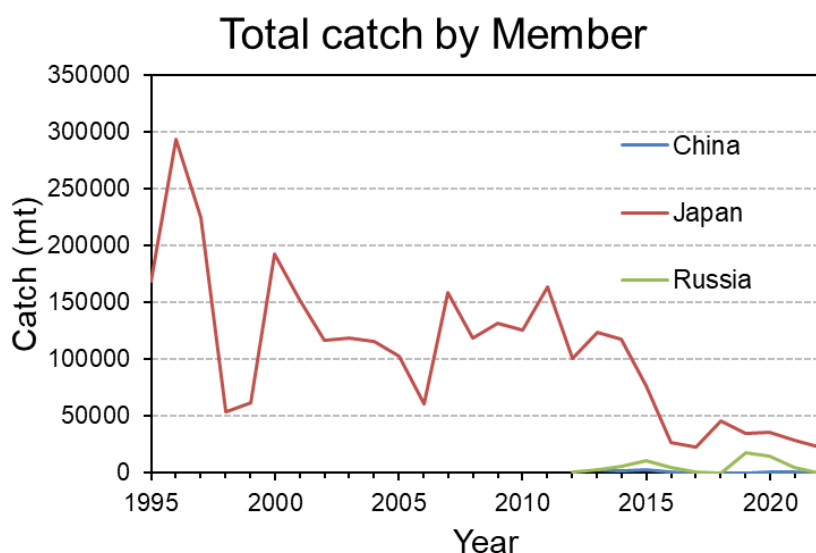


Figure 2. Total catch (mt) for each Member reporting Japanese flying squid catches during 1995-present.

Data table

Table 2. Data availability from Members regarding Japanese flying squid
Japanese flying squid: China, Japan, Russia.*

* No fishery targets Japanese flying squid. No relevant data.

Category and data sources	Description	Years with available data	Average sample size/ year or data coverage	Potential issues to be reviewed
JAPAN				
Catch statistics				
Coastal jigging fishery	Official statistics; Reports from fisheries associations and markets	1979-2022 (only after 1995 at some ports)	Coverage = 100%	
Offshore jigging fishery	Logbook	1979-2022	Coverage = 100%	
Trawl fishery	Logbook	1980-2022	Coverage = 100%	
Purse seine fishery	Official statistics; Reports from fisheries associations and markets (only at Hachinohe and Mie);	1995-2022	Coverage = 100%	
Set net	Official statistics; Reports from fisheries association	1995-2022	Coverage = 100%	
Size composition data				
Length measurements	Port sampling by eight local fisheries research bodies at major ports on the Pacific side	1979-2022	3000-15000 fish/year (about 50 individuals measured per a single size sampling)	Data coverage in the eastern Hokkaido (Nemuro Strait)

Aging	Port sampling by three local fisheries associations and nine fisheries research bodies	2012-2022	500-1200 fish/year	Data coverage in the eastern Hokkaido (Nemuro Strait)
Abundance indices (survey)				
Winter survey for larvae	BONGO net	2001-2022	65-204 stations/year	Review survey protocol and conduct standardization
Survey for recruitment from May to June	Midwater trawl	1996-2022	24-63 stations/year	Review survey protocol and conduct standardization
Survey for recruitment in June	Jigging	1972-2022	25-83 stations/year	Review survey protocol and conduct standardization
Survey for recruitment from June to July	Midwater trawl mainly targeting saury	2001-2022	33-136 stations/year	Review survey protocol and conduct standardization
Survey for recruitment in July	Midwater trawl	2019-2022	20-40 stations/year	Short time series (four years)
Survey for recruitment in August	Jigging	1979-2022	28-66 stations/year	Review survey protocol and conduct standardization
Abundance indices (commercial)				
Coastal jigging fishery	Monthly catch and effort data reported by fisheries associations and markets in the seven major regions during fishing season	1979-2022	25-37 observations/year	

	from July to December; Standardized CPUE for domestic stock assessment			
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Category and data sources	Description	Years with available data	Average sample size/year or data coverage	Potential issues to be reviewed
RUSSIA				
Catch statistics				
Jigging fishery	Official statistics, reports from fisheries associations	Official statistics: 1964-1970, 2013-2022, 1971-2012 (no data available); publications: 1967-2018	Coverage 1964-1970 ?%; Coverage 2013-2022 =100%	Data coverage details to be reviewed
Midwater trawl fishery				
Size composition data				
Length measurements	Sampling from commercial fishing vessels. Sampling during research surveys.	1966-1975 1992-2022	500-3,000 squids /year (ca. 50 measurements per sampling)	Data coverage details to be reviewed
Aging	-	-	-	-
Abundance indices (survey)				
Summer trawl and acoustic (echo integration) surveys to assess pelagic squids abundance	Mid-water upper epipelagic surveys	1992-2022 (June-July) 1992-2022 (July-August)	60-80 stations/year 60-80 stations/year	Changes in abundance and migration patterns; development survey protocol and conduct standardization

Biological Information

Distribution and migration

JFS are distributed mainly in the northwest Pacific (Figs 3 and 4) and their northward/southward shifts in distribution range occur in response to changes in water temperature (Murata 1990, Sakurai et al. 2013). JFS extent their distribution up to 50° N in September. There are northmost (eastmost) and southmost occurrences recorded in Canada and Hong Kong, respectively (Jereb and Roper 2010, Okutani 2015).

The autumn- and winter-spawning stocks have spatially different nursery areas and migration patterns (Fig 4). Although the nursery area of the autumn-spawning stock is located in the Sea of Japan, the winter-spawning stock has the nursery area east of Hokkaido and Tohoku regions of Japan, of which a part overlaps the NPFC Convention Area. Both stocks conduct southward migration via the Sea of Japan towards each spawning grounds. The main spawning grounds of the autumn-spawning stock are in the Tsushima Strait and in the Sea of Japan off southern Honshu Island (Goto 2002, Yamamoto et al. 2002), while those of the winter-spawning stock are in the East China Sea (Okutani and Watanabe 1983, Bower et al. 1999).

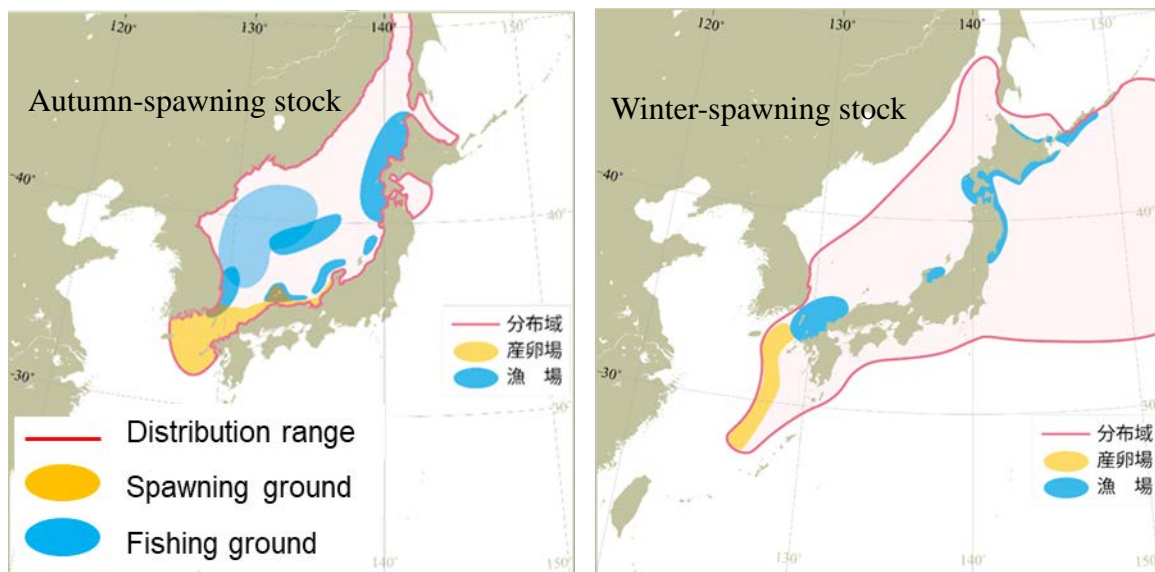


Figure 3. Distribution ranges, spawning grounds, and fishing grounds of the autumn- and winter-spawning stocks. These figures were modified based on Miyahara et al. (2023) and Okamoto et al. (2023).

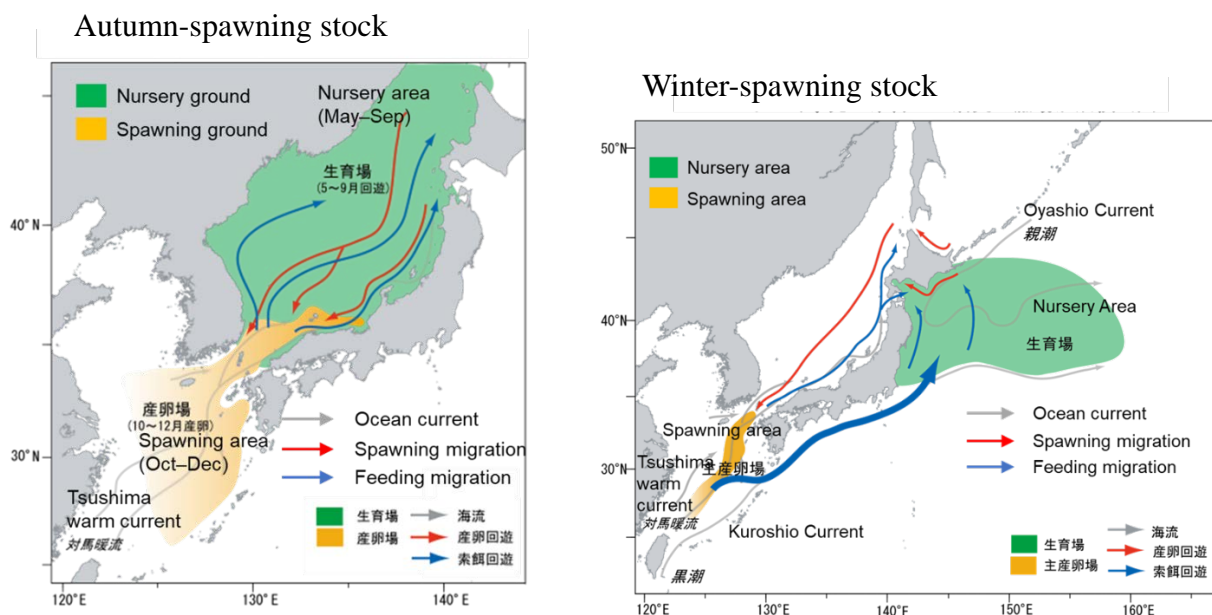


Figure 4. Seasonal migration of the autumn- and winter-spawning stocks. These figures were modified based on Miyahara et al. (2023) and Okamoto et al. (2023).

Stock Structure

There are distinct sub-populations (stocks) which spawn during different seasons (Murata 1990, Sakurai et al. 2013). The autumn-spawning stock is most abundance, followed by the winter-spawning stock which is distributed in the waters off eastern Japan Oyashio region (Sakurai et al. 2013, Miyahara et al. 2023, Okamoto et al. 2023). There is, in addition, minor stock of spring/summer spawned squid.

Life history

Maximum size thought to be 50 cm (mantle length) for females, smaller for males (Jereb and Roper 2010). Females are thought to mature around 20-25 cm (mantle length). The JFS lifespan is approximately one year (Murata 1990). JFS prey on myctophids, anchovies, crustaceans, gastropod larvae, and chaetognaths, and are preyed upon by rays and several marine mammals (Jereb and Roper 2010, Uchikawa and Kidokoro 2013).

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Annex K

Species summary for blue mackerel



Blue mackerel (*Scomber australasicus*)

澳洲鲈 [ao-zhou-tai] (Chinese), ゴマサバ [gomasaba] (Japanese), 망치고등어 [Mang-chi-go-deung-eo] (Korean), пятнистая скумбрия [pyatnistaya skumbriya] (Russian), 花腹鯖 [Hua-Fu-Ching] (Chinese Taipei)

Other common names: Spotted mackerel

Management

Active NPFC Management Measures

None

Management Summary

- ✓ Conservation and Management Measure has not been set for blue mackerel in the NPFC.
- ✓ In Japan, total allowable catch (TAC) has been introduced to management of mackerels (blue mackerel and chub mackerel) since 1997.

Convention/Management Principle	Status	Comment/Consideration
Biological reference point(s)	●	Not established for NPFC CA (Established in Japan EEZ).
Stock status	○	Status determination criteria not established for NPFC CA (Established in Japan EEZ).
Catch limit	●	Not established for NPFC CA (Established in Japan EEZ).
Harvest control rule	●	Not established for NPFC CA (Established in Japan EEZ).
Other		



OK



Intermediate



Not accomplished



Unknown

Stock Assessment

No stock assessment has been conducted by NPFC.

Japan conducts stock assessments for the Pacific stock and the East China Sea stock of blue mackerel (BM) using tuned virtual population analysis (VPA) and MSY-based reference points

(Yukami et al. 2019a, Hayashi et al. 2019). Only the Pacific stock is distributed as far as the NPFC Convention Area. The most recent stock assessment in Japan included foreign catches from China and Russia, with some assumptions on species composition and age composition of mackerel (Fig. 1a). Estimated recruitment, biomass, and spawning stock biomass (SSB) have declined dramatically since the 2010s (Fig. 1b). Japan uses a Ricker stock-recruitment relationship. In the last two years (2020-2021), SSB was estimated to be lower than SSB_{msy} and F was higher than F_{msy} (Fig. 1d).

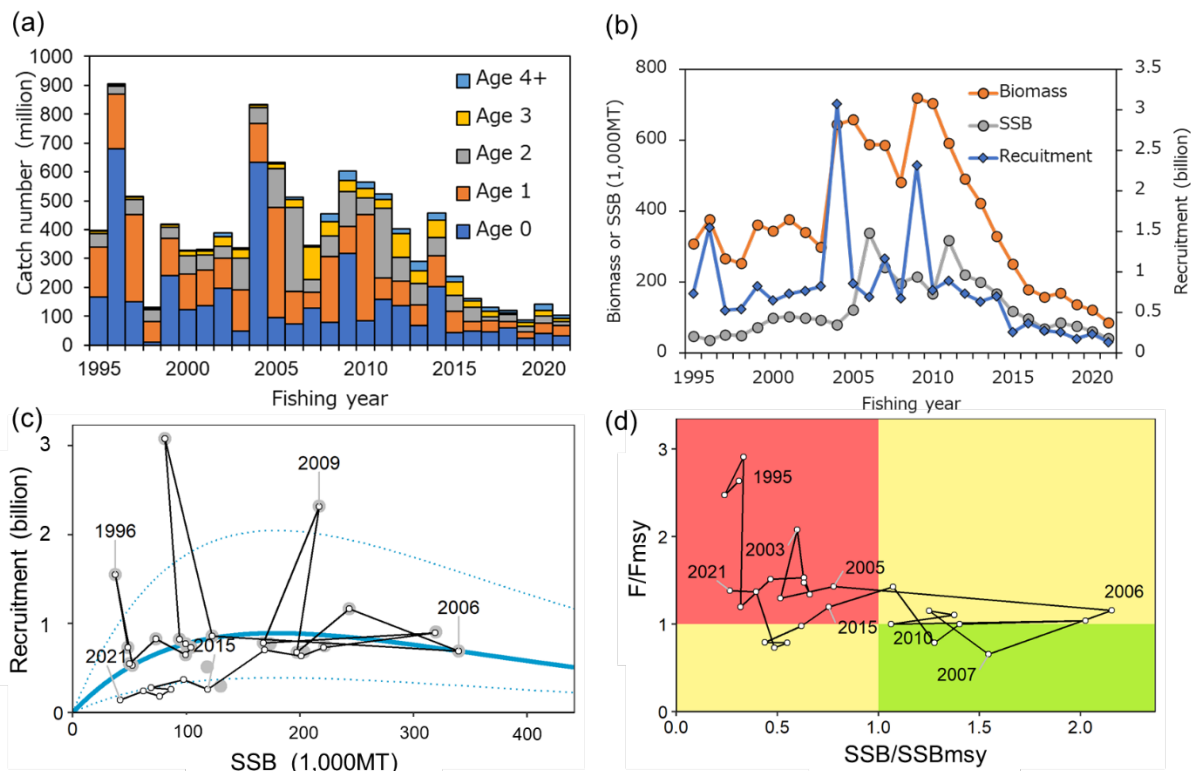


Figure 1: Summary of the stock assessment for the Pacific BM stock by Japan (Yukami et al. 2023). (a) Time series of catch number by age. (b) Estimated biomass, SSB, and recruitment. (c) Stock-recruitment relationship. (d) Kobe plot.

Data

Survey

Japan conducts three surveys: (1) egg and larval distribution survey (every month), (2) juvenile survey (May-Jul since 2001), and (3) pre-recruit fish survey (Aug-Oct since 2001). The egg survey

has been used as an abundance index for SSB in Japan's domestic stock assessment (Figs. 2, 3). Other members do not conduct surveys for BM.

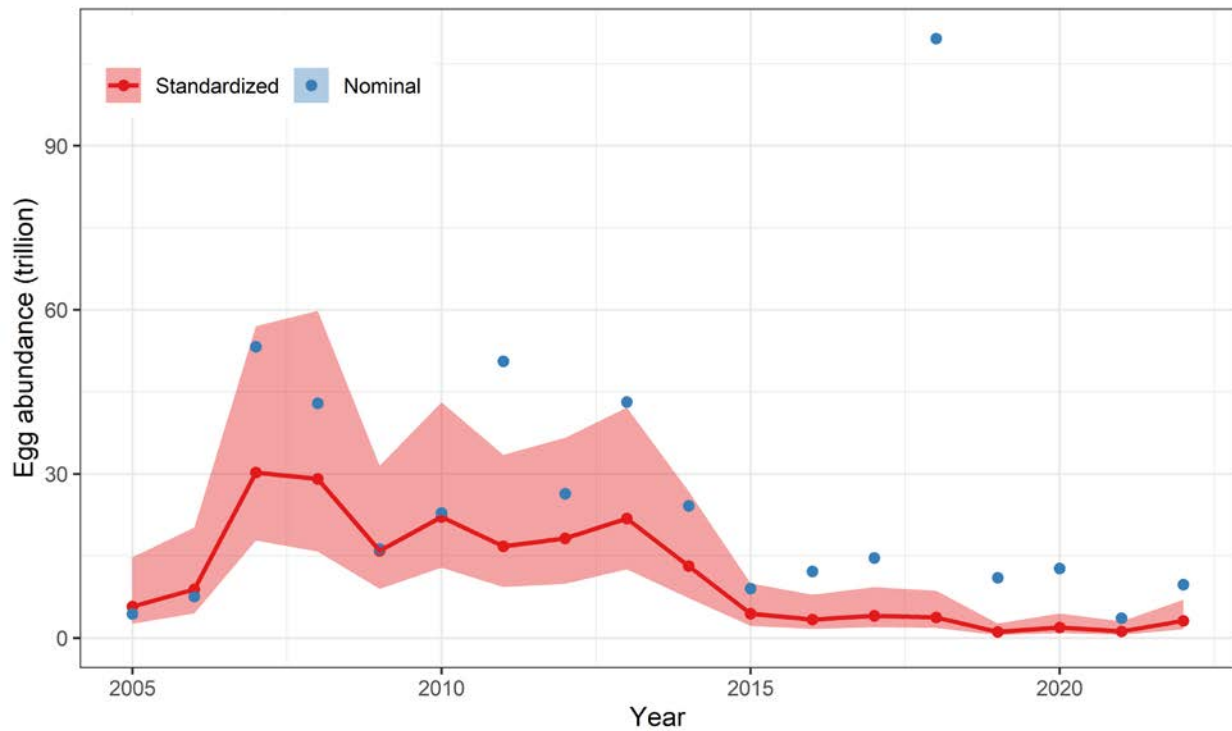


Figure 2: Time series of egg abundance indices. Nominal standardized indices are shown. This standardization incorporates the effect of species misidentification of chub mackerel as blue mackerel, which is a reason why standardized values are lower than nominal values in most years typically 2018. See Kanamori et al. (2021) for details.

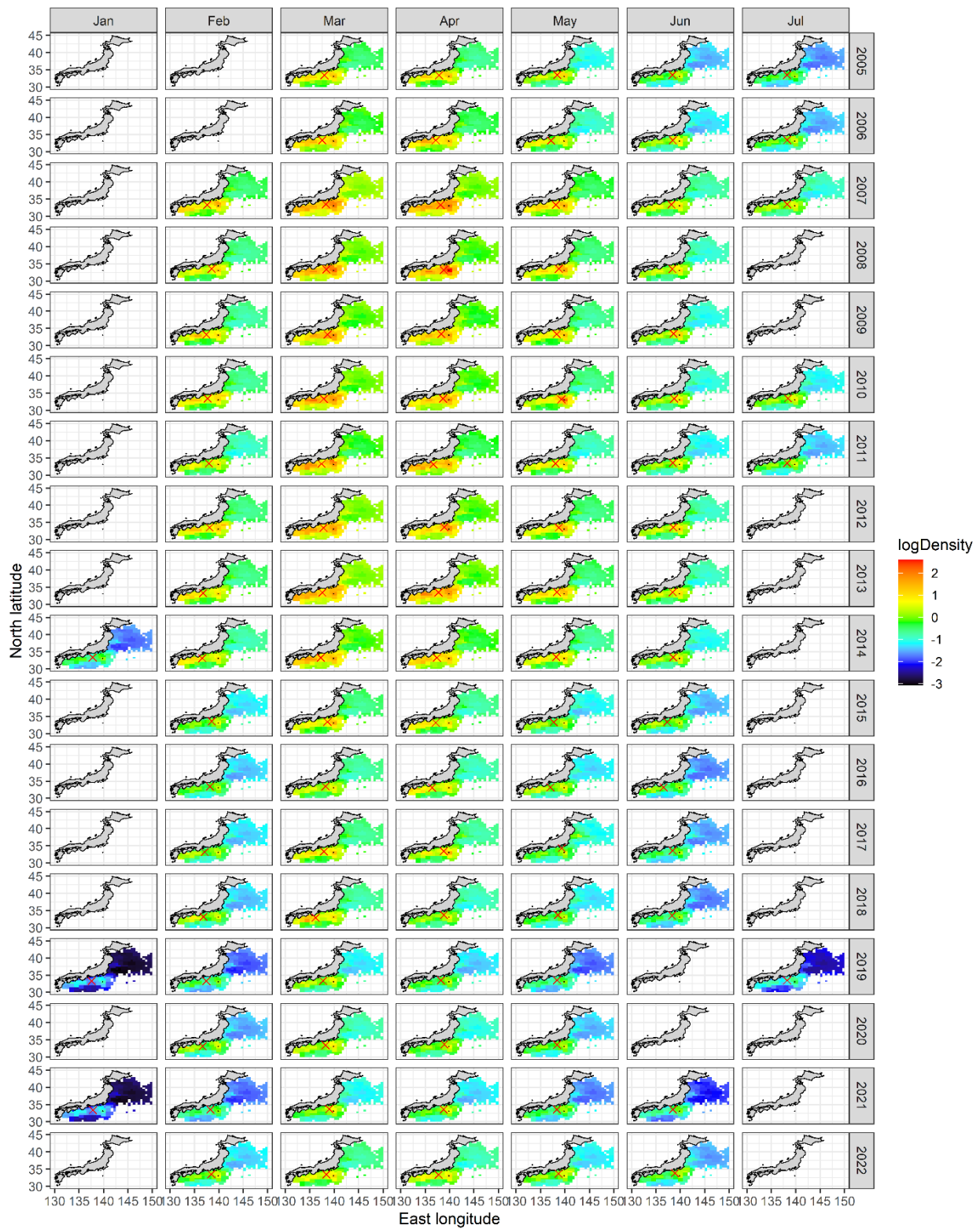


Figure 3: Spatial distributions of BM eggs on the Pacific coast of Japan by month (column) by year (row), estimated from the seasonal VAST model (Thorson et al. 2020) with the egg survey data. The sign of X in red represents the centroid of abundance distributions.

Fishery

The fishing grounds of Japanese fisheries are located in the waters on the continental shelves and slopes, around the waters of islands within Japan's EEZ. The main fishing gears of Japan are purse seine (large vessels >40 GRT and small vessels <40 GRT), set net and dip net. In the 1980s, BM were mainly caught by dip net. From the 1990s, the large and small-scale purse seine fisheries dominated the catch. BM catch has decreased since the 2010s (Fig. 4). Chub and blue mackerels are caught together by the fisheries and summed up as "mackerel" in Japan's fishery statistics of Japan. The catch of BM was estimated from the mixing ratio survey of landings. Japan conducts the identification of each species by external shape; BM has distinct black spots on both sides of the body, and the interval between the splines of the first dorsal fin of BM is narrower than that of chub mackerel. The proportion of BM catch in the total mackerel catch was about 10% from 2016 to 2022.

China conducts a BM fishery only in the NPFC Convention Area, in the same fishing grounds as for chub mackerel. China takes samples to determine the composition of mackerel species in the catch and collects biological information. The proportion of blue mackerel is about 10% of the mackerel catch from 2014 to 2021, but increases to 25% in 2022. Thus, it is estimated that the catch weight of China (27.7 thousand MT) exceeded that of Japan (24.7 thousand MT) in 2022 (Fig. 4).

In Russia, there are no accurate catch statistics on the proportion of blue and chub mackerels. However, the portion of BM is very small and probably comprises less than 1% of the total mackerel catch by Russia.

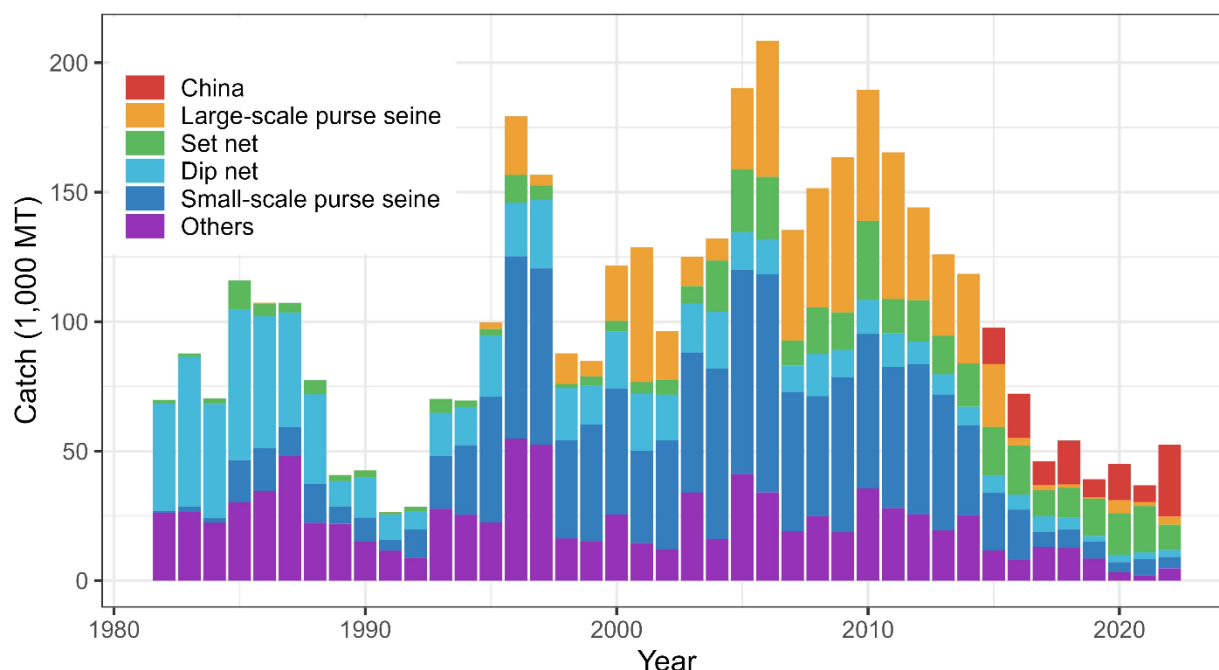


Figure 4: Time series of catch weight from 1982 to 2022 for the Pacific BM stock. Colors represent different fisheries in Japan, and purse seine and pelagic trawl fisheries in China are aggregated as red. Russia is assumed not to have fished for BM.

Data table

Data availability tables which include information about catch, abundance indices and biological data from China and Japan are respectively shown below (Tables 1, 2). For Russia, no relevant data are available.

Table 1: Data availability table from China.

Category and data sources	Description	Years with available data	Average sample size/ year or data coverage	Potential issues to be reviewed
CHINA				

Catch statistics				
Purse seine fishery Trawl fishery	Official statistics, reports from annual report	Official statistics: 2015-2022	Coverage=100 %	The blue mackerel and Japanese sardine catches are from the fishing catch provided by the fishery company
Size composition data				
Length measurements	Port sampling by Institute and technology group.	2018-2022	550-800 fish/year	Details to be reviewed
Aging	Sampling during research surveys and from commercial fishing vessels	2020-2022	30-180 fish/year	Details to be reviewed
Catch at age (CAA)	Estimate CAA from the above data	2020-2022	Age-length keys are to be developed	Evaluate uncertainty of catch at age, especially on changes of growth depending on recruitment abundance
Abundance indices (survey)				

Abundance indices (commercial)				
Purse seine fishery	Purse seine logbook	2015-2022	10-60/year	Should separate blue mackerel and chub mackerel Will conduct standardization

Table 2: Data availability table from Japan.

Category and data sources	Description	Years with available data	Average sample size/year or data coverage	Potential issues to be reviewed
JAPAN				
Catch statistics				
Purse seine fishery	Official statistics; reports from fisheries associations and markets	Official statistics: 1950-2022, other reports: 1982-2022	Coverage=100 %	The spotted mackerel catches are estimated from chub and spotted mackerel catches based on port sampling data
Dip net fishery				
Set net				
Size composition data				
Length measurements	Port sampling by 17 local fishery institutes in 17 prefectures	1995-2022	4,000-40,000 (average 10,000) fish/year (ca.	Data coverage review

			100 measurements per sampling)	
Aging	Port sampling by 17 local fishery institutes in 17 prefectures	1995-2022	500-1000 fish/year	Data coverage review
Catch at age (CAA)	CAA is estimated with length measurement and aging data	1995-2022	Age-length keys are created approximately by quarter and local regions	Evaluation of uncertainty in catch at age, especially on changes in growth depending on recruitment abundance
Abundance indices (survey)				
Year-round for egg density	Almost all local fisheries research bodies join this survey program. NORPAC net is sampling gear. This survey is conducted for small pelagic species.	2005-2022	ca. 6000 stations in total, 1000- 4000 stations with spotted mackerel eggs/year	Review survey protocol and conduct standardization
Abundance indices (commercial)				
Dip net fishery	Logbook data are collected from fishermen in Shizuoka prefecture since 1995	1995-2022	100-500/year	Standardization

Special Comments

Although the Small Working Group (SWG) previously used ‘spotted mackerel’ as the common name of this species, the SWG recommended to SC to change the common name to ‘blue mackerel’ for consistency with the FAO database of fish species.

Catch statistics specific to blue mackerel in the NPFC Convention Area are not available because combined catch of chub and blue mackerels have been reported to NPFC (<https://www.npfc.int/summary-footprint-chub-mackerel-fisheries>). China and Japan began to share data on the proportion of BM in the mackerel fishery and data on the size composition of the BM catch to allow for accurate stock assessment of BM.

Biological Information

The below descriptions are mostly extracted from Yukami et al. (2019b).

Distribution and migration

Blue mackerel is distributed from Japan to Australia and New Zealand in the Indo-West Pacific (Froese and Pauly 2022). Blue mackerel around Japan is divided into two stocks by spatial distributions in Japanese stock assessments: Pacific stock and East China Sea stock (Hayashi et al. 2019, Yukami et al. 2019; Fig. 5). Below we describe biological information based on the Pacific stock of blue mackerel.

Blue mackerel tends to distribute in warm offshore waters. The main distribution area for adults is around water of the Kuroshio current. The larvae hatch around the Kuroshio current and are distributed from the coastal water of southern Honsyu to the transition water between Kuroshio and Oyashio currents located 165 to 170 East longitude, the same as the chub mackerel larvae. The juveniles sized at 5 to 15cm fork length (FL) transferred to transition water, migrate to north as they grow, feed at the area from coastal water of eastern Hokkaido and Kurill Islands to the subarctic water around 165 degree East longitude where the surface temperature around 13°C in summer to fall. They reach 20 to 25cm FL in fall to winter, and migrate south to the coastal waters of Joban and Boso to offshore water around Kuroshio current for wintering. A wintering ground in the water

near Emperor Seamounts was observed for 2004 year class which had high recruitment. Age 1 fish did not appear in the water north of Sanriku district after wintering until 1980, but they have migrated to the water from Tohoku to Hokkaido with the increase of surface temperature since 2001. They return south for wintering and migrate to the Izu Islands water for spawning in spring. Many schools distribute near Kuroshio current at the coastal water of southern Honshu all the year and are targeted by many fisheries. These are different from the schools that largely migrate from near the Kuroshio current at the Izu Island to Tohoku and Hokkaido waters. It is suggested that many fish above age 3 do not migrate north of Sanriku district and stay at the western water near the cape Ashizuri with small migrations or stay near the spawning grounds. Furthermore, it is considered that the observation of schools mainly consisting of age 8 fish at the Emperor seamounts area in 2008 to 2015 were due to the dominant recruitment spawned at the water south of Hachijo Island.

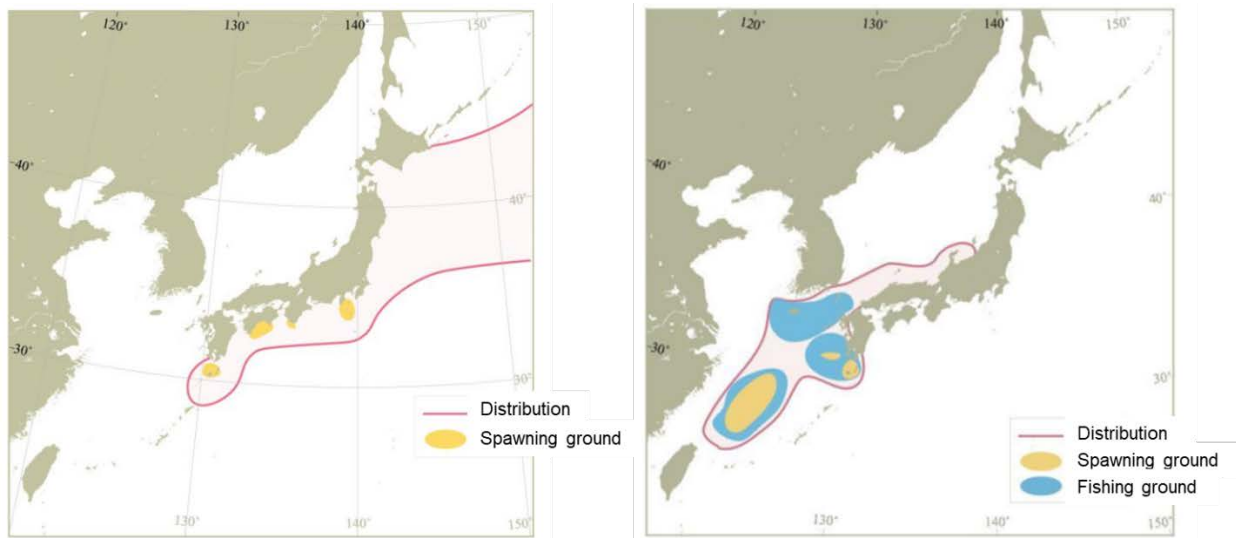


Figure 5: Distribution and spawning ground of the Pacific stock (left) and the East China Sea stock (right) of blue mackerel.

Age and growth

The larvae grow 1mm per day until 5cm FL after hatching observed by otolith reading, then it grows 15cm after 80days, and over 20cm of 120 days after hatching. The scale annuli reading is practical for the fish after subadult stage, it is used for the survey. Otolith annuli and daily ring readings are

also effective for age determination. It is suggested that fish becoming 20-25cm FL at age 0 in fall, 28-31cm at age 1 in summer, 30-34cm at age 2, 33-36cm at age 3, around 37cm at age 4, and 45cm at the maximum. The longevity was estimated around age 6 from size composition of catch, but the oldest age 11 was reported. The growth at younger ages is different by area, and in the western area of offshore Kumano there is a tendency for faster growth than fish occur in the water north of Izu Islands. The average length (FL), weight (the averages in caught fish in 2017 to 2021) by age are shown in Fig. 6.

The length-weight (LW) relationships in Japan and China are shown in Fig. 7 (see also Furuichi et al. 2021). Although the estimated parameters from the Chinese samples in 2021 and 2022 were different from the others probably due to the small sample sizes and narrow sampling ranges of length (Table 3), their shapes are almost identical. This suggests that the degree of obesity for BM was little different between Chinese and Japanese fishing grounds.

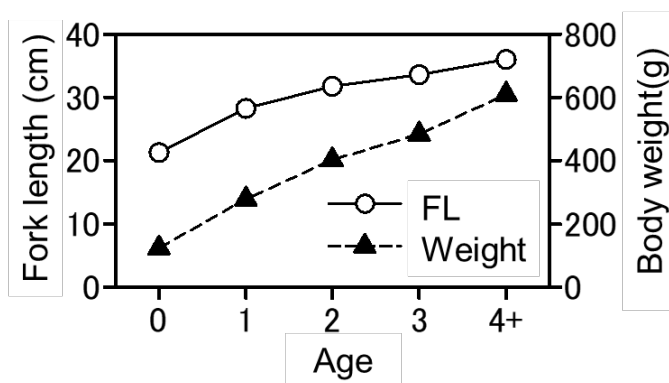


Figure 6: Relationship between age and fork length and relationship between age and body weight of BM (the averages of caught fish for the latest five years 2017-2021).

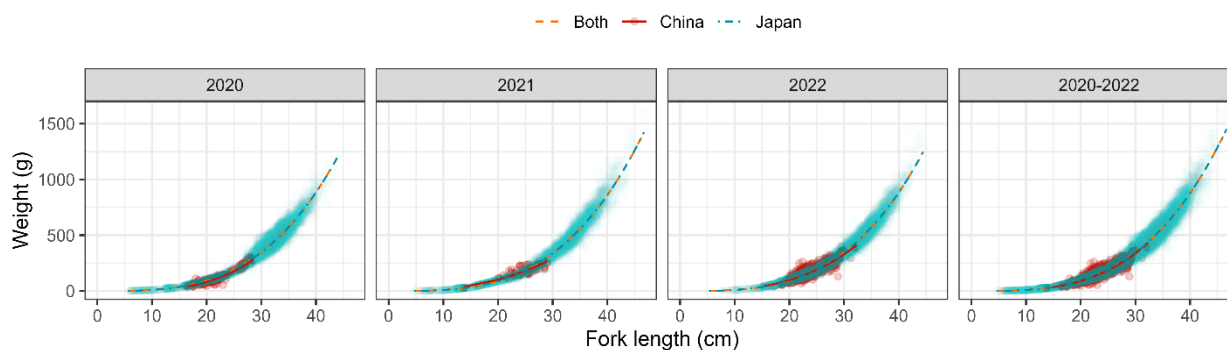


Figure 7: Relationships between fork length and weight from 2020 to 2022 of BM in Japan.

Table 3: Parameters of the relationship between fork length (cm) and weight (g) by Member from 2020 to 2022. The parameters are estimated by the least square method from the equation $W = aL^b$. 'Both' in the 'Member' column represents China + Japan and N represents sample size.

Year	Member	a	b	N
2020	Both	0.0054	3.25	9818
2020	China	0.0024	3.49	218
2020	Japan	0.0056	3.25	9600
2021	Both	0.0053	3.25	7711
2021	China	0.0398	2.62	56
2021	Japan	0.0052	3.26	7655
2022	Both	0.0051	3.27	12405
2022	China	0.0117	3.01	632
2022	Japan	0.0051	3.27	11773
2020-2022	Both	0.0053	3.26	29934
2020-2022	China	0.0049	3.28	906
2020-2022	Japan	0.0053	3.26	29028

Reproduction

The blue mackerel mature and spawn above 30cm FL from the observation of ovary tissue. The mature age was considered age 2 and above and it is assumed that all the fish age 2 and above are mature and spawn (Figs. 6, 8). The spawning grounds are found from the waters southern Kyusyu and cape Ashizuri to the Kuroshio current water near Izu Islands (Fig5). The recruitments hatched at the larger spawning ground in the East China sea supposed to migrate into the Pacific water. A spawning season are from December to June next year at the western waters of cape Ashizuri, January to March in the East China sea, and February to March near the water of cape Ashizur. The spawning season of main spawning ground of blue mackerel near Izu Island are March to June, but it is considered that it is not suitable as spawning grounds by the short spawning season from the ovary tissue observation and small amount of spawning eggs sampled. However, it is supposed that larvae and juvenile occurring in the north of transition area consist of the fish hatched at the Izu Island spawning grounds in March to June, same as chub mackerel.

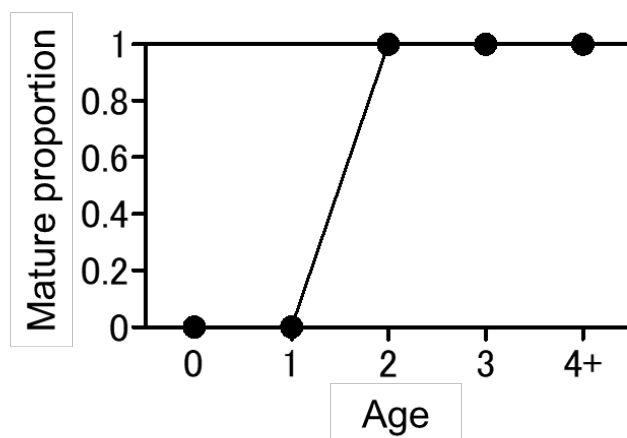


Figure 8: Mature proportion by age.

Predator-prey relationship

Larvae feed on planktonic crustaceans and larvae of anchovy or sardines. Juveniles feed on small teleost and cephalopods with preys mentioned above. It preys on fishes including anchovy, benthooth and lantern fishes, crustaceans like krill and cephalopods at the Kumano Nada fishing

ground, horned krill and anchovy at Sanriku fishing ground and copepod, krill, anchovy, lantern fishes, cephalopod like Euploteuthidae and salpa in the transition area between Kuroshio and Oyashio where located offshore of Joban and Sanriku. Predation on blue mackerel by whales is observed during periods of high abundance.

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Species summary for Pacific saury

Pacific saury (*Cololabis saira*)**Common names:**

秋刀魚, Qiū dāoyú (China)

サンマ, 秋刀魚, Sanma (Japan)

꽁치, kkongchi (Korea)

сайра, Saira (Russia)

秋刀魚, Chiu-dao-yu or 山瑪魚, San-ma-hi (Chinese Taipei)



Figure 1. Pacific Saury (*Cololabis saira*).

Management

Active NPFC Management Measures

The following NPFC conservation and management measure (CMM) pertains to this species:

- CMM 2023-08 For Pacific Saury

Available from <https://www.npfc.int/active-conservation-and-management-measures>

Management Summary

The current management measure for Pacific Saury specifies both catch and effort limits guided by science advice provided in the form of a stock assessment conducted by the Small Scientific Committee on Pacific Saury. For 2023 and 2024 Members of the Commission agree that the annual catches of Pacific saury in the Convention Area and the areas under their jurisdiction adjacent to the Convention Area should not exceed 250,000 metric tons. In these years, the annual total allowable catch (TAC) of Pacific saury in the Convention Area shall be limited to 150,000 metric tons. Each Member of the Commission shall reduce the annual total catch of Pacific saury by the fishing vessels entitled to fly its flag in 2023 and 2024 by 55% from its reported catch in 2018.

The current management measure also states that each Member of the Commission participating in Pacific saury fisheries shall implement either of the following measures;

- (a) to reduce the number of fishing vessels flying its flag and fishing for Pacific saury in the Convention Area by 10% from the number of its fishing vessels that fished for Pacific saury in the Convention Area in 2018; or
- (b) to prohibit fishing vessels flying its flag from engaging in fishing for Pacific saury in the Convention Area outside its designated fishing period of no longer than 180 consecutive days each year.

In order to protect juvenile fish, Members of the Commission shall take measures for fishing vessels flying their flags to refrain from fishing for Pacific saury in the areas east of 170°E from June to July.

Table 1. Current status of NPFC management measures

Convention Managment Principle	or Status	Comment or Consideration
Biological reference point(s)	Established	Updated annually in stock assessment
Stock status	Established	Updated annually in stock assessment
Catch limit	Established	Recommended catch limits updated routinely by Commission
Harvest control rule	Intermediate	In progress by SWG MSE PS
Other	Not accomplished	Management strategy evaluation in progress, Age structured model development in progress

Assessment

A stock assessment for Pacific Saury is conducted annually by the NPFC's Small Scientific Committee on Pacific Saury (SSC PS) available at: https://www.npfc.int/system/files/2023-02/SSC%20PS10%20report_0.pdf. The assessment has been a collaborative effort among Members of SSC PS based on a Bayesian state-space production model (BSSPM) since 2019 (Figure 2).

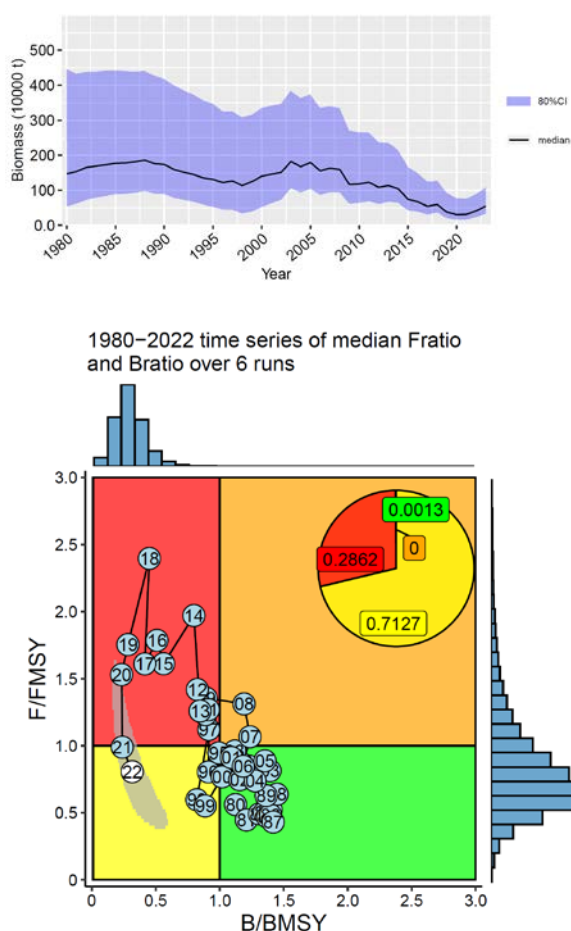


Figure 2. Time series of biomass (left panel) and Kobe plot (right panel) Pacific Saury stock assessment.

The total catch of Pacific saury has been in decline since approximately 2010 (Figure 3). Similarly the biomass estimated by the BSSPM stock assessment has also generally declined from its peak during the past two decades.

Data

Surveys

Since 2003, Japan has been conducting a biomass survey covering a wide area of the NPFC Convention area with several research vessels before its main fishing season. The main purpose of the surveys is to understand the distribution and abundance of Pacific saury and to develop abundance indices for use in stock assessments. Fish sampling also contributes to the understanding of length composition and its inter-annual change.

Fishery

The fishing grounds are west of 180° E but differ among Members who fish for Pacific saury: China, Japan, Korea, Russia, Chinese Taipei, and Vanuatu. The stick-held dip net gear has become

the dominant fishing technique to catch Pacific saury in the northwest Pacific Ocean. Near the coast Japan also catches Pacific Saury with setnet gear. The fishing is mainly carried out from June–November with peaks typically in the late summer or fall. Other NPFC Members (Canada and USA) do not target Pacific saury.

Standardized catch per unit effort (CPUE) is calculated by all Members participating in the Pacific saury fishery and a joint standardized CPUE is calculated across all Member each year and utilized in the assessment (Hsu et al. 2023).

Updated data on Pacific saury catches in the northwestern Pacific Ocean from 1995 are available on the NPFC website: <https://www.npfc.int/pacific-saury-catches>. Prior years fishery catch data was downloaded from FAO data collections at <https://www.openfisheries.org> using rfisheries package (Karthik Ram, Carl Boettiger, and Dyck 2013).

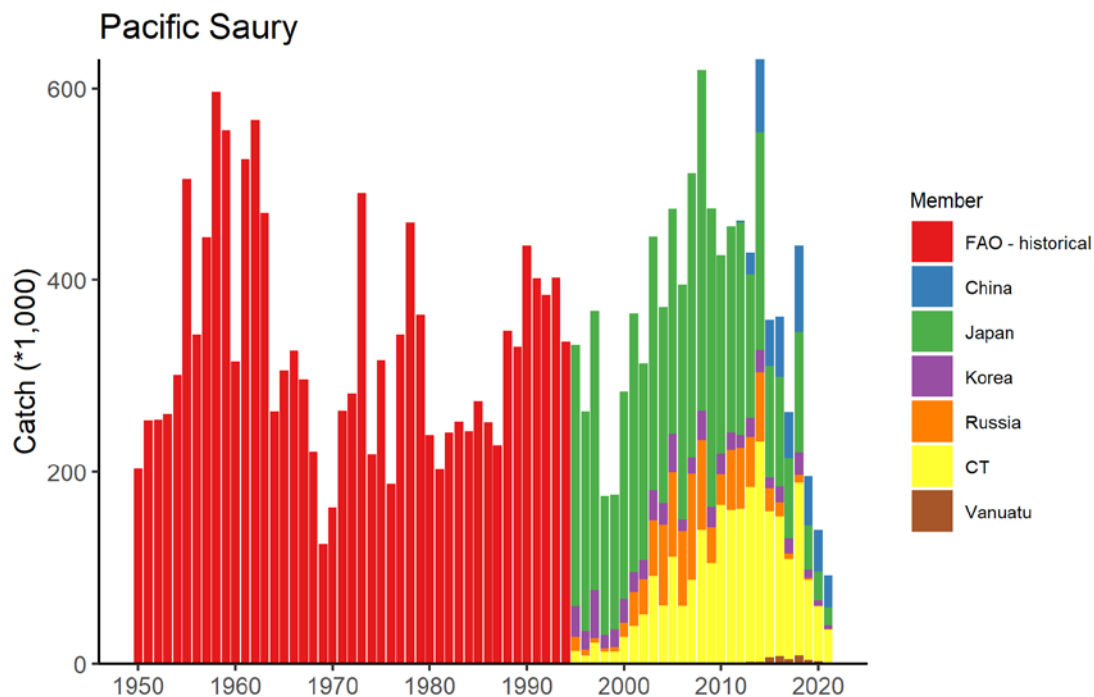


Figure 3. Historical catch of Pacific Saury.

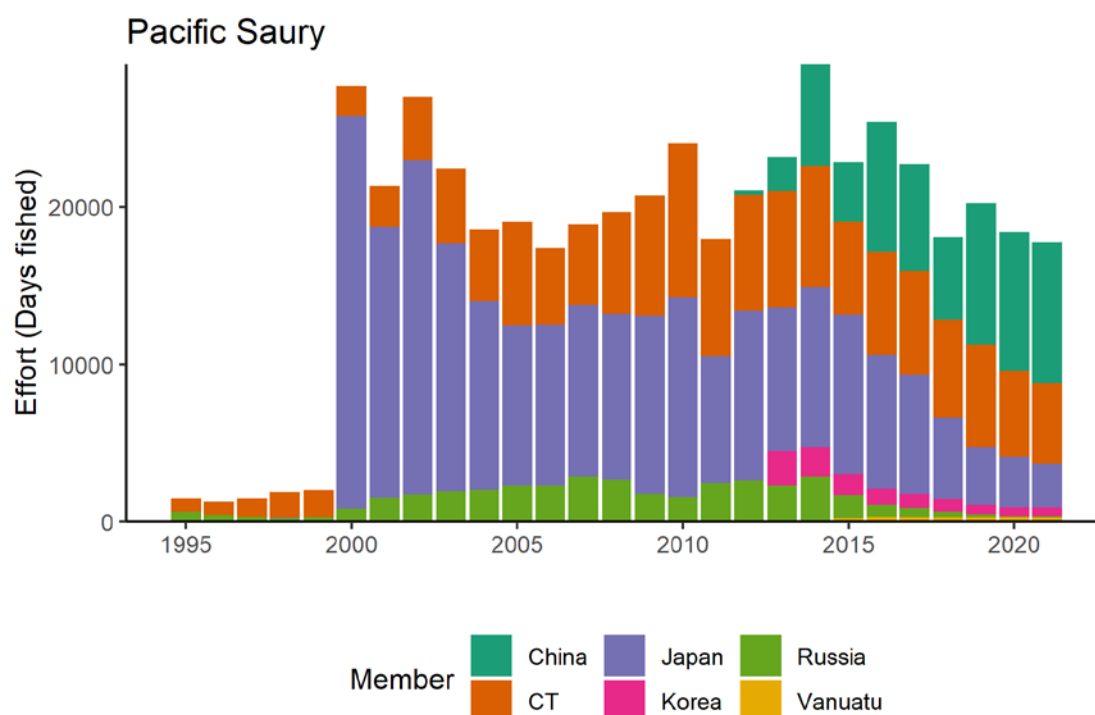


Figure 4. Historical fishing effort for Pacific saury.

Biological collections

All Members collect some size data from fishery catches of Pacific saury. These collections included length data as well as maturity and age structures from some Members.

Japan also collects length, weight, maturity and age data from the survey to support the stock assessment.

Data availability from Members regarding Pacific Saury

Data	Source	Years	Comment
Catch	China	2013-present	Catches from convention area
	Japan	1950-present	Japan's time series of catch data are broken into Early (1980-1993) and Late (1994-2021) CPUE because of time-varying q in the early part of the time series
	Korea	2001-present	
	Russia	1994-	

Data	Source	Years	Comment
		present	
	Chinese Taipei	2001-present	
	Vanuatu	2011-present	
CPUE			CPUE calculated individually by China, Japan, Korea, Russian, Chinese Taipei, and Vanuatu and as a joint CPUE
Survey	Japan		Fishery-independent biomass survey
Length data	All Members		Fishery-independent biomass survey (Japan), fishery data
	Japan		Commercial catch
Maturity/fecundity	Japan		Fishery-independent biomass survey
Age	Japan		Fishery-independent biomass survey

Special Comments

None

Biological Information

Distribution

Pacific saury (*Cololabis saira* Brevoort, 1856) has a wide distribution extending in the subarctic and subtropical North Pacific Ocean from inshore waters of Japan and the Kuril Islands to eastward to the Gulf of Alaska and southward to Mexico. Pacific saury is a commercially important fish in the western North Pacific Ocean (Parin 1968; Hubbs and Wisner 1980). In recent years, the age-0 fish have mainly been distributed in the eastern region east of 170°E in June and July.

Life history

Pacific saury are short-lived and fast growing. Based on analysis of daily otolith increments, Pacific saury reaches approximately 20 cm in knob length (distance from the tip of lower jaw to the posterior end of the muscular knob at the base of a caudal peduncle; hereafter called body length) in 6 or 7 months after hatching (Watanabe et al. 1988; Suyama et al. 1992). There is some variation in growth rate depending on the hatching month during this long spawning season (Kurita et

al. 2004) and geographical differences (Suyama et al. 2012b). The maximum lifespan is 2 years (Suyama et al. 2006). The age 1 fish grow to over 27 cm in body length in June and July when Japanese research surveys are conducted and reach over 29 cm in the fishing season between August and December (Suyama et al. 2006). The spawning season of Pacific saury is relatively long, beginning in September and ending in June of the following year (Watanabe and Lo 1989). Pacific saury spawns over a vast area from the Japanese coastal waters to eastern offshore waters (Baitaliuk et al. 2013). The main spawning grounds are considered to be located in the Kuroshio-Oyashio transition region in fall and spring and in the Kuroshio waters and the Kuroshio Extension waters in winter (Watanabe and Lo 1989). The minimum size of maturity of Pacific saury has been estimated at about 25 cm in the field (Hatanaka 1956) or rearing experiments (Nakaya et al. 2010). In rare cases, saury have been found to mature at 22 cm (Sugama 1957; Hotta 1960). Under rearing experiments, Pacific saury begins spawning 8 months after hatching, and spawning activity continues for about 3 months (Suyama et al. 2016). Batch fecundity is about 1,000 to 3,000 eggs (Kosaka 2000). Pacific saury is a highly migratory species that migrates extensively between the northern feeding grounds in the Oyashio waters around Hokkaido and the Kuril Islands in summer and the spawning areas in the Kuroshio waters off southern Japan in winter (Fukushima 1979; Kosaka 2000). Pacific saury in offshore regions (east of 160°E) also migrate westward toward the coast of Japan after October every year (Suyama et al. 2012a). Genetic evidence suggests there are no distinct stocks in the Pacific saury population based on 141 individuals collected from five distant locales (East China Sea, Sea of Okhotsk, northwest Pacific Ocean, central North Pacific Ocean, and northeast Pacific Ocean) (Chow et al. 2009). The Pacific saury larvae prey on the nauplii of copepods and other small-sized zooplankton. As they grow, they begin to prey on larger zooplankton such as krill (Odate 1977). The Pacific saury is preyed on by large fish ranked higher in the food chain, such as *Thunnus alalunga* (Nihira 1988) and coho salmon, *Oncorhynchus kisutch* (Sato and Hirakawa 1976) as well as by animals such as minke whales *Balaenoptera acutorostrata* (Konishi et al. 2009) and sea birds (Ogi 1984).

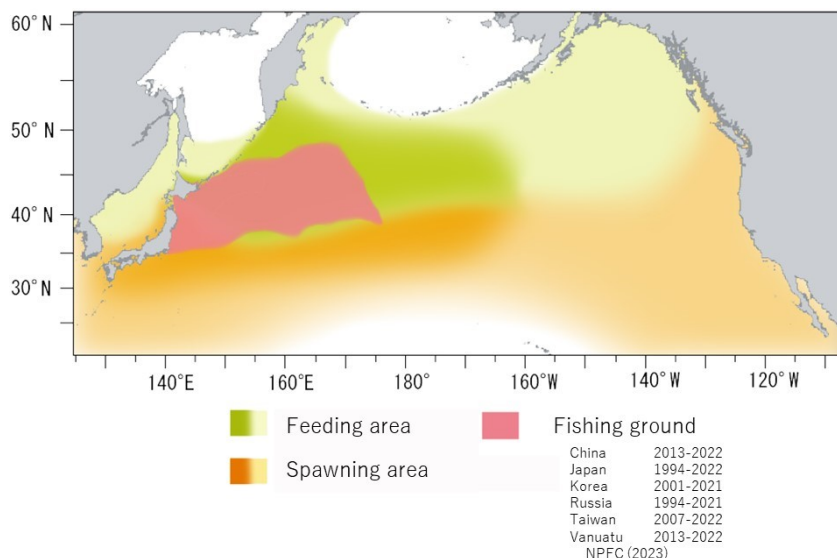


Figure 5. Map of distribution of Pacific saury in the North Pacific.

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Species summary for chub mackerel

Chub mackerel (*Scomber japonicus*)

Common names:

鲐鱼, Taiyu (China)

マサバ, Masaba (Japan)

고등어, Godeungeo (Korea)

Японская скумбрия, Yaponskaya skumbriya (Russia)

白腹鯖, Bai-Fu-Qing (Chinese Taipei)



Management

Active NPFC Management Measures

The following NPFC conservation and management measure (CMM) pertains to this species:

- CMM 2023-07 For Chub Mackerel






Available from <https://www.npfc.int/cmm-2023-07-chub-mackerel-effective-date-26-july-2023>

Management Summary

The current conservation and management measure (CMM) for Chub mackerel does not specify catch or effort limits. The CMM states that Members and Cooperating non-Contracting Parties

currently harvesting Chub mackerel should refrain from expansion of the number of fishing vessels authorized to fish Chub mackerel in the Convention Area.

A stock assessment for Chub mackerel is conducted by Japan in Northwest Pacific since 1997 and used for management of the domestic fishery.

Convention/Management Principle	Status	Comment/Consideration
Biological reference point(s)		<p>The TWG CMSA agreed to base its future discussions on the following candidate biological reference points:</p> <p>(a) F-based reference points</p> <p>i. F_{MSY}</p> <p>ii. $F_{\%SPR}$</p> <p>iii. $F_{0.1}$, F_{max}</p> <p>(b) Biomass-based reference points (including SSB, summary biomass, etc.)</p> <p>i. B_{MSY}</p> <p>ii. $\%B_0$</p> <p>iii. Certain historical level of B</p>
Stock status		Status determination criteria not established.
Catch limit		Not established
Harvest control rule		Not established.
Other		Encouragement to refrain from expansion, in the Convention Area, of the number of fishing vessels.



OK



Intermediate



Not accomplished



Unknown

Assessment

No stock assessment on Chub mackerel has been conducted by NPFC for the Convention Area so far. The Technical Working Group on Chub mackerel Stock Assessment (TWG CMSA) agreed to use a State-space Stock Assessment Model (SAM) for stock assessment of this species (TWG CMSA 2023). After data preparatory meeting, which will be held in January 2024, the Group will conduct its first stock assessment of Chub mackerel in 2024.

Japan conducts an assessment on the Pacific stock of Chub mackerel using tuned VPA (Yukami et al. 2023).

Data

Surveys

China has been conducting a five-year scientific survey program using its fishery research vessel "Song Hang" with mid-trawl as the main survey gear in the NPFC convention area from 2021 to 2025 (Ma et al. 2023).

Japan annually conducts two mid-water trawls surveys in summer (2001-2023) and autumn (1995-2023) that serve information on recruitment abundance indices of age-0 fish to the Japanese domestic stock assessment of the Pacific stock of Chub mackerel (Table 1) (Yukami et al. 2023). The autumn mid-water trawl survey also provides age-1 fish abundance indices for the stock assessment. Japan also conducts a year-round egg survey providing egg density as index of spawning stock biomass for the stock assessment. The survey protocol can be found at Oozeki et al. (2007).

Russia has conducted a summertime acoustic-trawl survey since 2010 that examines mid-water and upper epipelagic species including Chub mackerel.

Fishery

China, Japan and Russia catch Chub mackerel (Figure 1). China harvests this species dominantly by light purse seine fishery in the NPFC Convention Area. A smaller component of the catch is taken by pelagic trawl. Chinese catch statistics on mackerels in the NPFC Convention Area are available from 2015. The Chinese mackerel fisheries in the NPFC Convention Area initiated in 2014 mainly caught the three fish species such as Chub mackerel, blue mackerel, and Japanese sardine (Zhang et al. 2023). Blue mackerel catch accounts for 6% to 15.2%, about 10% on average, in the mackerels catch up to 2021. In 2022, the proportion increased to 22.5%.

Japan's fishery for Chub mackerel occurs inside their Exclusive Economic Zone (EEZ) and is mostly conducted by large purse seine vessels ($\geq 50\%$ of the catch). Additional components of the fishery include set nets, dip nets and other gears. Proportion of Chub mackerel catch in mackerels catch is obtained through extensive port sampling. The Chub mackerel catch accounts for 61% to 97%, 84% on average, of the mackerels catch in 2017-2021.

The Russian fisheries catching mackerels are operated in their EEZ and is prosecuted primarily by mid-water trawling ($>90\%$ of the catch), with a smaller component of the catch coming from purse seiners and bottom trawlers. The Russian mackerels catch, comprising approximately 100% of Chub mackerel, are available in the NPFC Annual Summary Footprint since 2014.

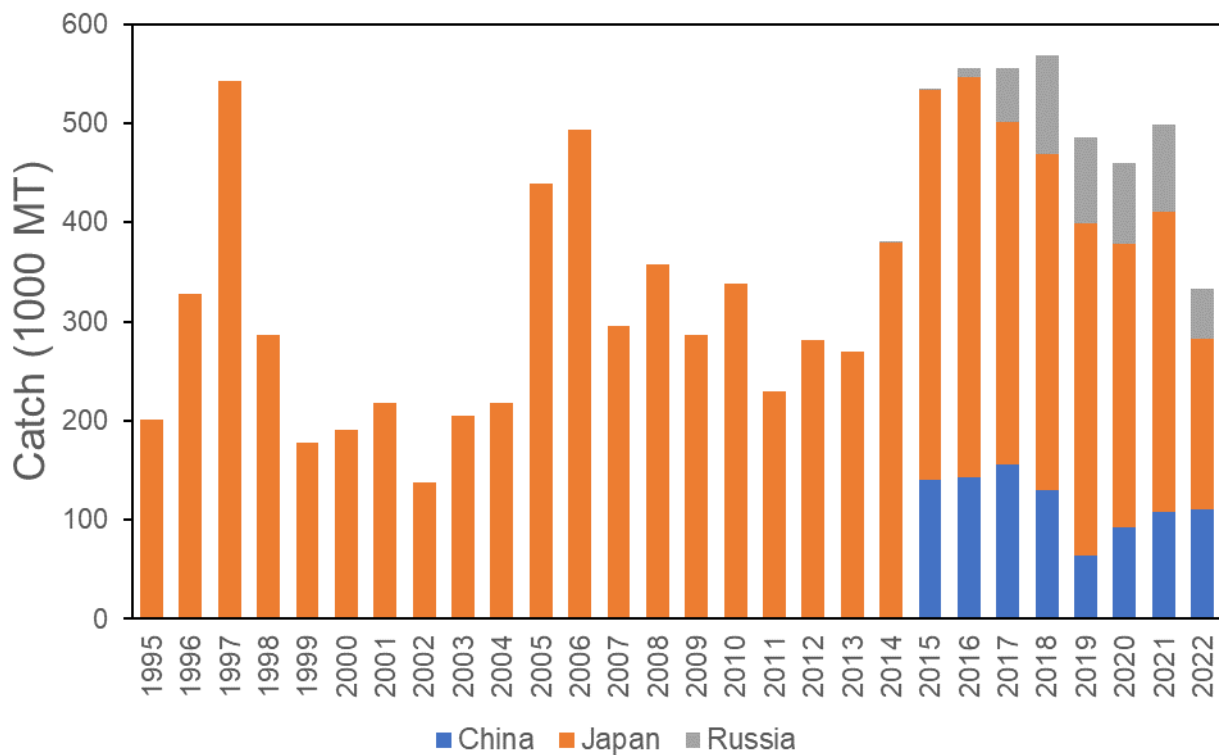


Figure 1. Historical catch of mackerels obtained from annual summery footprint of Chub and Blue mackerels.

Other NPFC Members (Canada, EU, Korea, Chinese Taipei, USA and Vanuatu) do not have Chub mackerel catch records in the NPFC Convention Area.

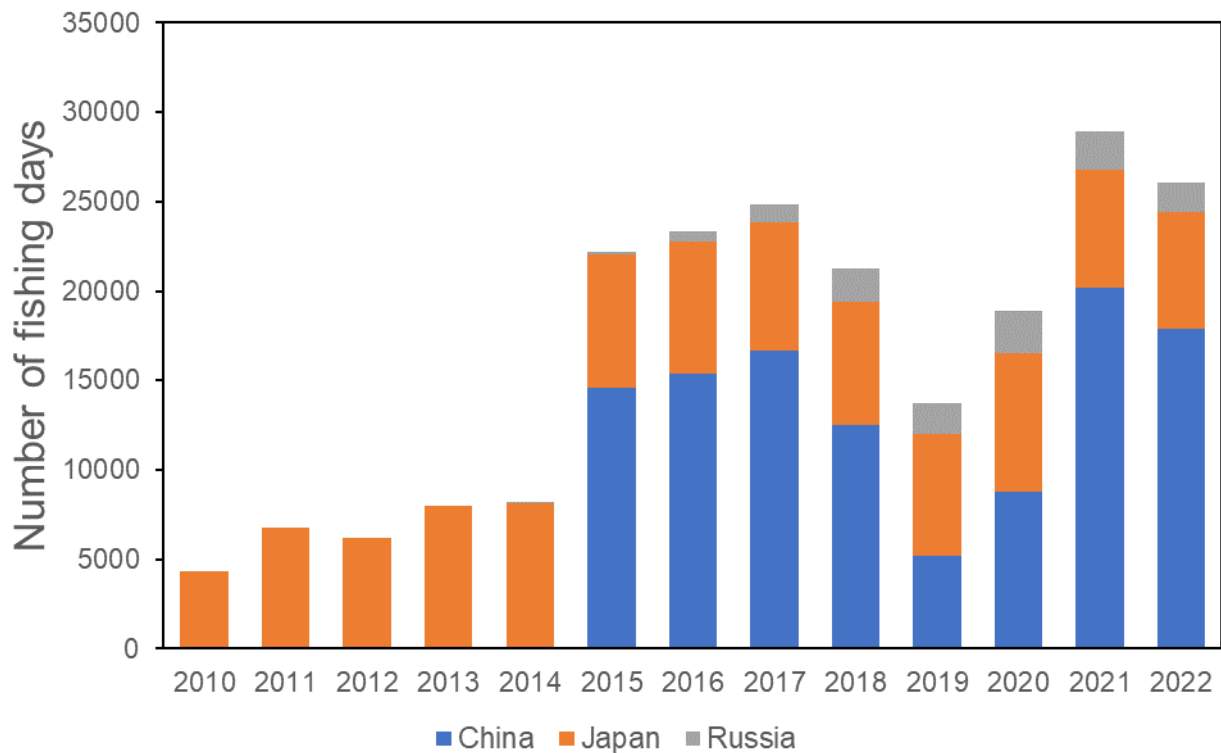


Figure 2. Historical fishing effort for mackerels obtained from annual summary footprint of Chub and Blue mackerels.

Biological collections

China has collected length frequency data of commercial catch through onboard and port samplings since 2016. Aging of the samples has been started since 2017.

Japan also collects length, weight, maturity and age data from the survey and fishery to support their stock assessment.

Russian length frequency and aging data of commercial catch are available since 2016. The length frequency data obtained through research surveys are available since 2010.

Table 1: Data availability from Members regarding Chub mackerel.

Category and data sources	Description	Years with available data	Average sample size/year or data coverage	Potential issues to be reviewed
JAPAN				
Catch statistics				
Purse seine fishery	Official statistics, reports from fisheries associations and markets	Official statistics: 1950-2022, other reports: 1970-2022	Coverage=100%	The Chub mackerel catches are estimated from Chub and blue mackerel catches based on port sampling data for purse seine and set net fisheries. No detailed information of the ratio is presented.
Dip net fishery				
Set net				
Size composition data				
Length measurements	Port sampling by 17 local fishery institutes in 17 prefectures	1970-2022	20,000-120,000 (average 40,000) fish/year (ca. 100 measurements per sampling)	Detailed information in NPFC-2020-TWG CMSA03-WP02.
Aging	Port sampling by 17 local fishery institutes in 17 prefectures	1970-2022	500-1000 fish/year	Detailed information in NPFC-2020-TWG CMSA03-WP02.
Catch at age (CAA)	Estimate CAA from the above data	1970-2022	Age-length keys are created approximately by quarter and local regions	Evaluate uncertainty of catch at age; Changes of growth depending on recruitment

				abundance is reviewed in NPFC-2022-TWG CMSA05-IP06 and published as Kamimura et al (2022, https://doi.org/10.1093/icesjms/fsab191)
Abundance indices (survey)				
Spring survey for recruitment	Mainly for sardine and Chub mackerel of pre-recruits. This research is conducted for biological research of early life history. Mid-water trawl	1995-2022	30-60 stations/year	Too early for the use of abundance index
Summer survey for recruitment	Mainly for saury, mid-water trawl	2001-2022	60-80 stations/year	Detailed information on data and standardization is in NPFC-2022-TWG CMSA06-WP11 (Rev.1). Detailed sampling design and method are shown in Hashimoto et al. (2020, https://doi.org/10.1007/s12562-020-01407-3) .
Autumn survey for recruitment and age 1 fish	Mainly for sardine and Chub mackerel, mid-water trawl	1995-2022	30-60 stations/year	Detailed information on data and standardization for recruitment is in NPFC-2022-TWG CMSA06-WP11

				(Rev.1). That for age 1 has not been presented.
Year-round for egg density	Almost all local fishery institutes join this survey program. NORPAC net. Not only for Chub mackerel.	1978-2022 (2005-, species identification between Chub and blue mackerel)	ca. 6000 stations in total, 1000-4000 stations with Chub mackerel eggs/year	Detailed information on data and standardization is in NPFC-2022-TWG CMSA06-WP10
Abundance indices (commercial)				
Dip net fishery	Log book data are collected from fishermen in Kanagawa prefecture since 2003 and Shizuoka prefecture since 2013 (ca. 10 and 90% of total dip net catch in 2017, respectively)	2003-2022	10-100/year	Detailed information on its data and standardization is in NPFC-2022-TWG CMSA06-WP09
RUSSIA				
Catch statistics				
Purse seine fishery	Official statistics, reports from fisheries associations	Official statistics: 1980-1993, 2015-2022, 1994-2014 (no data available); publications: 1970-2022	Coverage 1980-1993 ?%; Coverage 2015-2022 =100%	Data coverage details to be reviewed
Pelagic trawl fishery				
Size composition data				
Length measurements	Sampling from commercial fishing vessels. Sampling during research surveys.	2016-2022 2010-2022	1,000-10,000 fish/year (ca. 100 measurements per sampling)	Data coverage details to be reviewed

Aging	Sampling during research surveys and from commercial fishing vessels	2016-2022	300-500 fish/year	Details to be reviewed
Catch at age (CAA)	Estimate CAA from the above data	2016-2022	Age-length keys are to be developed	Evaluate uncertainty of catch at age, especially on changes of growth depending on recruitment abundance
Abundance indices (survey)				
Summer trawl and acoustic (echointegration) surveys to assess pelagic fish abundance and recruitment	Mid-water upper epipelagic surveys	2010-2022 (June-July) 2015-2022 (July-August)	60-80 stations/year 60-80 stations/year	Changes in abundance and migration patterns; development survey protocol and conduct standardization
Abundance indices (fishery)				
Daily reports of catch by each vessel	Target (>50%) Mid-water trawls	2015-2022 September-December		Test the effect of targeting
CHINA				
Catch statistics				
Purse seine fishery	Official statistics, reports from annual report	Official statistics: 2014-2022	Coverage=100%	The Chub mackerel catches are from the fishing catch provided by the fishery company
Trawl fishery	Official statistics, reports from annual report	Official statistics: 2014-2022	Coverage=100%	Catches are from the fishing catch provided by the fishery company
Size composition data				

Length measurements	Port sampling by Institute and technology group.	2016-2022	550-800 fish/year	Details to be reviewed
Length measurements	Purse seine vessel sampling from commercial vessel	2016-2022	530-1050 fish/year	Details to be reviewed
Aging	Sampling during research surveys and from commercial fishing vessels	2017-2022	30-180 fish/year	Details to be reviewed
Abundance indices (commercial)				
Purse seine fishery	Purse seine logbook (Technical group for Chub mackerel Fishery, Distant-water Fishery Society of China)	2014-2022 April- November	10-105/year	Review survey protocol and conduct standardization

Special Comments

None

Biological Information

Distribution

The Pacific stock of Chub mackerel is distributed from the southern coastal waters on the Pacific side of Japan to offshore area off the Kuril Islands (Figure 3). This stock corresponding to straddling one is harvested in both national waters of Japan and Russia and the NPFC Convention Area. Adult fish spawn in Izu Islands waters in spring and then engage northward feeding migration to waters of Sanriku to east Hokkaido from summer to autumn.

Life history

Longevity of Chub mackerel is estimated to be 7 or 8 years old. There was the oldest record of 11 years old. It is known that growth of this stock could be changed according to recruitment abundance and oceanic environment (Watanabe and Yatsu 2004). Recent decrease in mean weight by age was highly likely induced by feeding competition in conjunction with intra-/inter-specific increase of density resulted from biomass increases of Chub mackerel and Japanese sardine

(Kamimura et al. 2021). Adult female spawns more than once during a spawning season. Maturity at age was changed depending on changes in growth (Watanabe and Yatsu 2006).

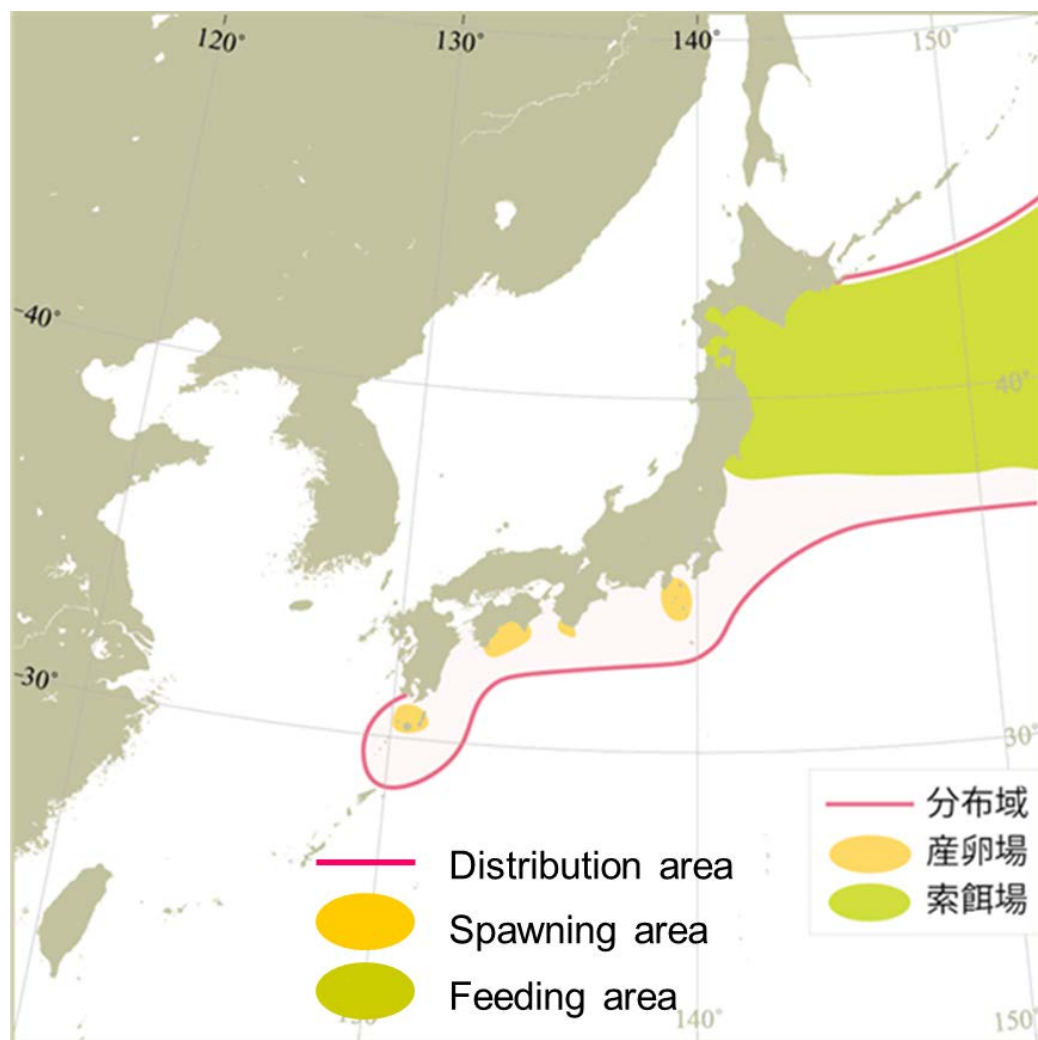


Figure 3. Map of distribution of Chub mackerel in the North Pacific (Yukami et al. 2023)

Literature cited

Kamimura, Y., M. Taga, R. Yukami, C. Watanabe and S. Furuichi (2021) Intra- and inter specific density dependence of body condition, growth, and habitat temperature in chub mackerel (*Scomber japonicus*). ICES J. Mar. Sci., 78, 3254-3264.

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Oozeki, Y., A. Takasuka, H. Kubota and M. Barange (2007) Characterizing spawning habitats of Japanese sardine (*Sardinops melanostictus*), Japanese anchovy (*Engraulis japonicus*), and Pacific round herring (*Etrumeus teres*) in the northwestern Pacific. CalCOFI Reports, 48, 191-203.

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Watanabe, C. and A. Yatsu (2004) Effects of density-dependence and sea surface temperature on inter-annual variation in length-at-age of chub mackerel (*Scomber japonicus*) in the Kuroshio-Oyashio area during 1970–1997. Fish. Bull., 102, 196-206.

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Zhang, H., Han, H., Sun, Y., Xiang, X., Li, Y. and Shi, Y. (2023) Data description on fisheries bycatch in the chub mackerel fisheries in China. NPFC-2023-TWG CMSA07-WP12 (Rev. 1). 3pp. <https://www.npfc.int/system/files/2023-09/NPFC-2023-TWG%20CMSA07-WP12%28Rev%201%29%20Data%20description%20on%20fisheries%20bycatch%20in%20CM%20fisheries%20in%20China.pdf>

Annex N

Terms of Reference for data sharing of catch and effort data for depletion analysis of North Pacific armorhead

1. The SSC BF-ME03 tasked the SWG NPA-SA to explore alternative approaches to assess the status of North Pacific armorhead (NPA) stock, given the difficulty of applying life history based approaches to NPA.
2. The SWG NPA-SA agreed to conduct depletion analysis, which was applied to NPA during the Scientific Working Group in the Preparatory Conference of NPFC, to estimate past recruitment, harvest rate and spawning stock biomass.
3. All Members with fishing activities that catch NPA since 2013 will contribute available data on NPA catch and effort. Shared data should also include date, seamount, fishing gear and target (if available).
4. The SWG NPA-SA participants will collaborate on any analyses of these data.
5. The provided data will be used for the purposes of the above-mentioned analysis and will not be shared, distributed, or used for other purposes without the consent of the data provider.

Annex O

**Template for data sharing of catch and effort data for depletion analysis of North Pacific
armorhead**

ID	Member	Date	Date	Gear	Source	Seamount	Catch live		Effort	
		start	end				weight kg		Effort	unit
shot1	Japan	1/1/2030	1/1/2030	trawl	fishery	Colahan	180		100	minutes
shot2	Russia	1/1/2030	1/1/2030	trawl	survey	Milwaukee	100		115	minutes
daily	Korea	2/1/2030	2/1/2030	gillnet	fishery	Suiko	200		280	panels
weekly	Japan	3/1/2030	3/7/2030	longline	fishery	Koko	50		5000	hooks

Effort description	Intended target species	Intended target species
		FAO code
Duration of the estimated period of seabed contact	North Pacific armorhead	EDJ
Duration of the estimated period of seabed contact	NA	NA
Number of net panels retrieved	Splendid alfonsino	BYX
Number of hooks retrieved	Skilfish	ESZ

Annex P

Revised CMM 2023-05 - Conservation and Management Measure for Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northwestern Pacific Ocean

CMM 2023-05

(Entered into force 26 July 2023)

**CONSERVATION AND MANAGEMENT MEASURE
FOR BOTTOM FISHERIES AND PROTECTION OF VULNERABLE MARINE
ECOSYSTEMS IN THE NORTHWESTERN PACIFIC OCEAN**

The North Pacific Fisheries Commission (NPFC),

Strongly supporting protection of vulnerable marine ecosystems (VMEs) and sustainable management of fish stocks based on the best scientific information available;

Recalling the United Nations General Assembly Resolutions (UNGA) on Sustainable Fisheries, particularly paragraphs 66 to 71 of the UNGA59/25 in 2004, paragraphs 69 to 74 of UNGA60/31 in 2005, and paragraphs 69 and 80 to 91 of UNGA61/105 in 2006;

Noting, in particular, paragraphs 66 and 69 of UNGA59/25 that call upon States to take action urgently to address the issue of bottom trawl fisheries on VMEs and to cooperate in the establishment of new regional fisheries management organizations or arrangements;

Recognizing further that fishing activities, including bottom fisheries, are an important contributor to the global food supply and that this must be taken into account when seeking to achieve sustainable fisheries and to protect VMEs;

Recognizing the importance of collecting scientific data to assess the impacts of these fisheries on marine species and VMEs;

Concerned about possible adverse impacts of unregulated expansion of bottom fisheries on marine

species and VMEs in the western part of the Convention Area.

Adopts the following Conservation and Management Measure:

1. Scope

A. Coverage

These Measures are to be applied to all bottom fishing activities throughout the high seas areas of the Northwestern Pacific Ocean, defined, for the purposes of this document, as those occurring in the Convention Area as set out in Article 4 of the Convention text to the west of the line of 175 degrees W longitude (here in after called “the western part of the Convention Area”) including all such areas and marine species other than those species already covered by existing international fisheries management instruments, including bilateral agreements and Regional Fisheries Management Organizations or Arrangements.

B. Management target

Bottom fisheries conducted by vessels operating in the western part of the Convention Area.

2. General purpose

Sustainable management of fish stocks and protection of VMEs in the western part of the Convention Area.

The objective of these Measures is to ensure the long-term conservation and sustainable use of the fisheries resources in the Convention Area while protecting the marine ecosystems of the North Pacific Ocean in which these resources occur.

These measures shall set out to prevent significant adverse impacts on VMEs in the Convention Area of the North Pacific Ocean, acknowledging the complex dependency of fishing resources and species belonging to the same ecosystem within VMEs.

The Commission shall re-evaluate, and as appropriate, revise, the definition based on further consideration of the work done through FAO and by NPFC.

3. Principles

The implementation of this CMM shall:

- (a) be based on the best scientific information available,
- (b) be in accordance with existing international laws and agreements including UNCLOS and other relevant international instruments,
- (c) establish appropriate and effective conservation and management measures,
- (d) be in accordance with the precautionary approach, and
- (e) incorporate an ecosystem approach to fisheries management.

4. Measures

Members of the Commission shall take the following measures in order to achieve sustainable management of fish stocks and protection of VMEs in the western part of the Convention Area:

- A. Limit fishing effort in bottom fisheries on the western part of the Convention Area to the level agreed in February 2007 in terms of the number of fishing vessels and other parameters which reflect the level of fishing effort, fishing capacity or potential impacts on marine ecosystems.
- B. Not allow bottom fisheries to expand into the western part of the Convention Area where no such fishing is currently occurring, in particular, by limiting such bottom fisheries to seamounts located south of 45 degrees North Latitude and refrain from bottom fisheries in other areas of the western part of the Convention Area covered by these measures and also not allow bottom fisheries to conduct fishing operation in areas deeper than 1,500m.
- C. Notwithstanding subparagraphs A and B above, exceptions to these restrictions may be provided in cases where it can be shown that any fishing activity beyond such limits or in any new areas would not have significant adverse impacts (SAIs) on marine species or any VME. Such fishing activity is subject to an exploratory fishery protocol (Annex 1).
- D. Any determinations pursuant to subparagraph C that any proposed fishing activity will not have SAIs on marine species or any VME are to be in accordance with the Science-based

Standards and Criteria (Annex 2), which are consistent with the FAO International Guidelines for the Management of Deepsea Fisheries in the High Seas.

- E. Any determinations, by any flag State or pursuant to any subsequent arrangement for the management of the bottom fisheries in the areas covered by these measures, that fishing activity would not have SAIs on marine species or any VMEs, shall be made publicly available through agreed means.
- F. Prohibit its vessels from engaging in directed fishing on the following taxa: ~~Aleyonacea~~, black corals (Antipatharia), ~~Gorgonaceagorgonians~~, ~~and pennatulaceans~~, stony corals (Scleractinia), soft corals, the classes of Demospongiae and Hexactinellida in the phylum Porifera as well as any other indicator species for VMEs as may be identified from time to time by the SC and approved by the Commission.
- G. Further, considering accumulated information regarding fishing activities in the western part of the Convention Area, in areas where, in the course of fishing operations, cold water corals more than 50Kg or sponges more than ~~350~~500Kg are encountered in one gear retrieval, Members of the Commission shall require vessels flying their flag to cease bottom fishing activities in that location. In such cases, the vessel shall not resume fishing activities until it has relocated a sufficient distance, which shall be no less than 1 nautical mile, so that additional encounters with VMEs are unlikely. All such encounters, including the location, gear type, date, time and name and weight of the VME indicator species, shall be reported to the Secretariat, through the Member, within one business day. The Executive Secretary shall, within one business day, notify the other Members of the Commission and at the same time implement a temporary closure in the area to prohibit bottom fishing vessels from contacting the sea floor with their trawl nets. Members shall inform their fleets and enforcement operations within one business day of the receipt of the notification from the Executive Secretary. It is agreed that the VME indicator taxa include ~~fivefour~~ groups of cold water corals, ~~specifically-Aleyonacea~~, black corals (Antipatharia), ~~Gorgonaceagorgonians~~, pennatulaceans, ~~and-stony corals~~ (Scleractinia), and soft corals.; The VME indicator taxa also include and the classes of Demospongiae and Hexactinellida in the phylum Porifera.

- H. Based on all the available data, including data on the VME encounter and distribution received from the fishing vessel(s), research survey data, visual survey data, and/or model results, the Scientific Committee (SC) shall assess and conclude if the area has a VME. If so, the SC shall recommend to the Commission that the temporary closure be made permanent, although the boundary of the closure may be adjusted, or suggest other appropriate measures. Otherwise, the Executive Secretary shall inform the Members that they may reopen the area to their vessels.
- I. C-H seamount and Southeastern part of Koko seamount, specifically for the latter seamount, the area South of 34 degrees 57 minutes North, East of the 400m isobaths, East of 171 degrees 54 minutes East, North of 34 degrees 50 minutes North, are closed precautionary for potential VME conservation. Fishing in these areas requires exploratory fishery protocol (Annex 1).
- J. Ensure that the distance between the footrope of the gill net and sea floor is greater than 70 cm.
- K. Apply a bottom fisheries closure from November to December.
- L. Limit annual catch of North Pacific armorhead to 15,000 tons for Japan. In years when strong recruitment of North Pacific armorhead is not detected by the monitoring survey (Annex 6), the Commission encourages Japan to limit their catch of North Pacific armorhead by vessels flying its flag to 500 tons, and encourages Korea to limit their catch of North Pacific armorhead by vessels flying its flag to 200 tons. When a strong recruitment of North Pacific armorhead is detected by the monitoring survey (Annex 6), the Commission encourages that Japan limit the annual catch of North Pacific armorhead by vessels flying its flag to 10,000 tons, and that Korea limit the annual catch of North Pacific armorhead by vessels flying its flag to 2,000 tons. The Commission encourages that catch overages for any given year be subtracted from the applicable annual catch limit in the following year, and that catch underages during any given year not be added to the applicable annual catch limit during the following year.

- M. During a year when high recruitment is detected, bottom fishing with trawl gear shall be prohibited in specific areas in the Emperor seamounts where half of the catch occurred in 2010 and 2012 (Annex 6). Determination of a strong recruitment year and of the specific areas where bottom fishing with trawl gear is prohibited shall be communicated to all Members and Cooperating Non-Contracting Parties following the procedure specified in Annex 6.
- N. Catch in the monitoring surveys shall not be included in the catch limits specified in paragraphs L but shall be reported to the Secretariat.
- O. Development of new fishing activity for the North Pacific armorhead and splendid alfonsino in the Convention Area by Members without documented historical catch for North Pacific armorhead and splendid alfonsino in the Convention Area shall be determined in accordance with relevant provisions, including but not limited to Article 3, paragraph (h) and Article 7, subparagraphs 1(g) and (h) of the Convention.
- P. Fishing activity for the North Pacific armorhead and splendid alfonsino in the Convention Area by Members with documented historical catch for North Pacific armorhead and splendid alfonsino in the Convention Area is not precluded.
- Q. Members shall require vessels flying their flags to use trawl nets with mesh size greater than or equal to 130mm of stretched mesh with 5kg tension in the codend when conducting fishing activities for North Pacific armorhead or splendid alfonsino.
- R. Task the Scientific Committee with reviewing the appropriate methods for establishing catch limits, and the adequacy and practicability of the adaptive management plan described in subparagraphs K, L, M, N, O, P, Q and Annex 6 from time to time and recommending revisions and actions, if necessary.
- S. Prohibit its bottom fishing vessels from contacting the sea floor with their trawl nets in the following two sites with VME indicator species. A Member of the Commission whose

fishing vessels entered these areas shall report to the TCC as to how it ensured the compliance of this measure.

Sites with VME indicator species (Areas surrounded by the straight lines linking the 4 geographical points below)

Northwestern part of Koko Seamount	35-44.75 N 171-07.60 E	35-44.75 N 171-07.80 E
	35-43.80 N 171-07.80 E	35-43.80 N 171-08.00 E
Northern Ridge of Colahan Seamount	31-03.85 N 175-53.40 E	31-03.85 N 175-53.65 E
	31-03.5 N 175-53.50 E	31-03.05 N 175-53.85 E

5. Contingent Action

Members of the Commission shall submit to the SC their assessments of the impacts of fishing activity on marine species or any VMEs, including the proposed management measures to prevent such impact. Such submissions shall include all relevant data and information in support of any such assessment. Procedures for such reviews including procedures for the provision of advice and recommendations from the SC to the submitting Member are attached (Annex 3). Members will only authorize bottom fishing activity pursuant to paragraph 4 (C).

6. Scientific Information

To facilitate the scientific work associated with the implementation of these measures, each Member of the Commission shall undertake:

A. Reporting of information for purposes of defining the footprint

In implementing paragraphs 4A and 4B, the Members of the Commission shall provide for each year, the number of vessels by gear type, size of vessels (tons), number of fishing days or days on the fishing grounds, total catch by species, and areas fished (names of seamounts) to the Secretariat. The Secretariat shall circulate the information received to the other Members consistent with the approved Regulations for Management of Scientific Data and Information. To support assessments of the fisheries and refinement of conservation and management measures, Members of the Commission are to provide updated information on an annual basis.

B. Collection of information

- (i) Collection of scientific information from each bottom fishing vessel operating in the western part of the Convention Area.
 - (a) Catch and effort data
 - (b) Related information such as time, location, depth, temperature, etc.
- (ii) As appropriate, the collection of information from research vessels operating in the western part of the Convention Area.
 - (a) Physical, chemical, biological, oceanographic, meteorological, etc.
 - (b) Ecosystem surveys.
 - (c) Seabed mapping (e.g. multibeam or other echosounder); seafloor images by drop camera, remotely operated underwater vehicle (ROV) and/or autonomous underwater vehicle (AUV).

(iii) Collection of observer data

Duly designated observers from the flag member shall collect information from bottom fishing vessels operating in the western part of the Convention Area. Observers shall collect data in accordance with Annex 5. Each Member of the Commission shall submit the reports to the Secretariat in accordance with Annex 4. The Secretariat shall compile this information on an annual basis and make it available to the Members of the Commission.

7. Control of bottom fishing vessels

To strengthen its control over bottom fishing vessels flying its flag, each Member of the Commission shall ensure that all such vessels operating in the western part of the Convention Area be equipped with an operational vessel monitoring system.

8. Observers

All vessels authorized to bottom fishing in the western part of the Convention Area shall carry an observer on board.

Annex 1

EXPLORATORY FISHERY PROTOCOL IN THE NORTH PACIFIC OCEAN

1. From 1 January 2009, all bottom fishing activities in new fishing areas and areas where fishing is prohibited in a precautionary manner or with bottom gear not previously used in the existing fishing areas, are to be considered as “exploratory fisheries” and to be conducted in accordance with this protocol.
2. Precautionary conservation and management measures, including catch and effort controls, are essential during the exploratory phase of deep sea fisheries. Implementation of a precautionary approach to sustainable exploitation of deep sea fisheries shall include the following measures:
 - (i) precautionary effort limits, particularly where reliable assessments of sustainable exploitation rates of target and main by-catch species are not available;
 - (ii) precautionary measures, including precautionary spatial catch limits where appropriate, to prevent serial depletion of low-productivity stocks;
 - (iii) regular review of appropriate indices of stock status and revision downwards of the limits listed above when significant declines are detected;
 - (iv) measures to prevent significant adverse impacts on vulnerable marine ecosystems; and
 - (v) comprehensive monitoring of all fishing effort, capture of all species and interactions with VMEs.
3. When a member of the Commission would like to conduct exploratory fisheries, it is to follow the following procedure:
 - (i) Prior to the commencement of fishing, the member of the Commission is to circulate the information and assessment in Appendix 1.1 to the members of the Scientific Committee (SC) for review and to all members of the Commission for information, together with the impact assessment. Such information is to be provided to the other members at least 30 days in advance of the meeting at which the information shall be reviewed.
 - (ii) The assessment in (i) above is to be conducted in accordance with the procedure set forth in “Science-based Standards and Criteria for Identification of VMEs and Assessment of Significant Adverse Impacts on VMEs and Marine Species (Annex 2)”, with the

understanding that particular care shall be taken in the evaluation of risks of the significant adverse impact on vulnerable marine ecosystems (VMEs), in line with the precautionary approach.

- (iii) The SC is to review the information and the assessment submitted in (i) above in accordance with “SC Assessment Review Procedures for Bottom Fishing Activities (Annex 3).”
 - (iv) The exploratory fisheries are to be permitted only where the assessment concludes that they would not have significant adverse impacts (SAIs) on marine species or any VMEs and on the basis of comments and recommendations of SC. Any determinations, by any Member of the Commission or the SC, that the exploratory fishing activities would not have SAIs on marine species or any VMEs, shall be made publicly available through the NPFC website.
- 4. The member of the Commission is to ensure that all vessels flying its flag conducting exploratory fisheries are equipped with a satellite monitoring device and have an observer on board at all times.
 - 5. Within 3 months of the end of the exploratory fishing activities or within 12 months of the commencement of fishing, whichever occurs first, the member of the Commission is to provide a report of the results of such activities to the members of the SC and all members of the Commission. If the SC meets prior to the end of this 12-month period, the member of the Commission is to provide an interim report 30 days in advance of the SC meeting. The information to be included in the report is specified in Appendix 1.2.
 - 6. The SC is to review the report in 5 above and decide whether the exploratory fishing activities had SAIs on marine species or any VME. The SC then is to send its recommendations to the Commission on whether the exploratory fisheries can continue and whether additional management measures shall be required if they are to continue. The Commission is to strive to adopt conservation and management measures to prevent SAIs on marine species or any VMEs. If the Commission is not able to reach consensus on any such measures, each fishing member of the Commission is to adopt measures to avoid any SAIs on VMEs.

7. Members of the Commission shall only authorize continuation of exploratory fishing activity, or commencement of commercial fishing activity, under this protocol on the basis of comments and recommendations of the SC.
8. The same encounter protocol should be applied in both fished and unfished areas specified in Annex 2, paragraph 4(1)(a).

Appendix 1.1

Information to be provided before exploratory fisheries start

1. A harvesting plan

- Name of vessel
- Flag member of vessel
- Description of area to be fished (location and depth)
- Fishing dates
- Anticipated effort
- Target species
- Bottom fishing gear-type used
- Area and effort restrictions to ensure that fisheries occur on a gradual basis in a limited geographical area.

2. A mitigation plan

- Measures to prevent SAIs to VMEs that may be encountered during the fishery

3. A catch monitoring plan

- Recording/reporting of all species brought onboard to the lowest possible taxonomic level
- 100% satellite monitoring
- 100% observer coverage

4. A data collection plan

- Data is to be collected in accordance with “Type and Format of Scientific Observer Data to be Collected” (Annex 5)

Appendix 1.2

Information to be included in the report

- Name of vessel
- Flag member of vessel
- Description of area fished (location and depth)
- Fishing dates
- Total effort
- Bottom fishing gear-type used
- List of VME encountered (the amount of VME indicator species for each encounter specifying the location: longitude and latitude)
- Mitigation measures taken in response to the encounter of VME
- List of all organisms brought onboard
- List of VMEs indicator species brought onboard by location: longitude and latitude

Annex 2

SCIENCE-BASED STANDARDS AND CRITERIA FOR IDENTIFICATION OF VMES AND ASSESSMENT OF SIGNIFICANT ADVERSE IMPACTS ON VMES AND MARINE SPECIES

1. Introduction

Members of the Commission have hereby established science-based standards and criteria to guide their implementation of United Nations General Assembly (UNGA) Resolution 61/105 and the measures adopted by the Members in respect of bottom fishing activities in the North Pacific Ocean (NPO). In this regard, these science-based standards and criteria are to be applied to identify vulnerable marine ecosystems (VMEs) and assess significant adverse impacts (SAIs) of bottom fishing activities on such VMEs or marine species and to promote the long-term sustainability of deep sea fisheries in the Convention Area. The science-based standards and criteria are consistent with the FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas, taking into account the work of other RFMOs implementing management of deep-sea bottom fisheries in accordance with UNGA Resolution 61/105. The standards and criteria are to be modified from time to time as more data are collected through research activities and monitoring of fishing operations.

2. Purpose

- (1) The purpose of the standards and criteria is to provide guidelines for each member of the Commission in identifying VMEs and assessing SAIs of individual bottom fishing activities¹ on VMEs or marine species in the Convention Area. Each member of the Commission, using the best information available, is to decide which species or areas are to be categorized as VMEs, identify areas where VMEs are known or likely to occur, and assess whether individual bottom fishing activities would have SAIs on such VMEs or marine species. The results of these tasks are to be submitted to and reviewed by the Scientific Committee with a view to reaching a common understanding among the members of the

¹ “individual bottom fishing activities” means fishing activities by each fishing gear. For example, if ten fishing vessels operate bottom trawl fishing in a certain area, the impacts of the fishing activities of these vessels on the ecosystem are to be assessed as a whole rather than on a vessel-by-vessel basis. It should be noted that if the total number or capacity of the vessels using the same fishing gear has increased, the impacts of the fishing activities are to be assessed again.

Commission.

- (2) For the purpose of applying the standards and criteria, the bottom fisheries are defined as follows:
 - (a) The fisheries are conducted in the Convention Area;
 - (b) The total catch (everything brought up by the fishing gear) includes species that can only sustain low exploitation rates; and
 - (c) The fishing gear is likely to contact the seafloor during the normal course of fishing operations.

3. Definition of VMEs

- (1) Although Paragraph 83 of UNGA Resolution 61/105 refers to seamounts, hydrothermal vents and cold-water corals as examples of VMEs, there is no definitive list of specific species or areas that are to be regarded as VMEs.
- (2) Vulnerability is related to the likelihood that a population, community or habitat will experience substantial alteration by fishing activities and how much time will be required for its recovery from such alteration. The most vulnerable ecosystems are those that are both easily disturbed and are very slow to recover or may never recover. The vulnerabilities of populations, communities and habitats are to be assessed relative to specific threats. Some features, particularly ones that are physically fragile or inherently rare may be vulnerable to most forms of disturbance, but the vulnerability of some populations, communities and habitats may vary greatly depending on the type of fishing gear used or the kind of disturbance experienced. The risks to a marine ecosystem are determined by its vulnerability, the probability of a threat occurring and the mitigation means applied to the threat. Accordingly, the FAO Guidelines only provide examples of potential vulnerable species groups, communities and habitats as well as features that potentially support them (Annex 2.1).
- (3) A marine ecosystem is to be classified as vulnerable based on its characteristics. The following list of characteristics is used as criteria in the identification of VMEs.
 - (a) Uniqueness or rarity - an area or ecosystem that is unique or that contains rare species whose loss could not be compensated for by other similar areas. These include:
 - (i) Habitats that contain endemic species;
 - (ii) Habitats of rare, threatened or endangered species that occur in discrete areas;

- (iii) Nurseries or discrete feeding, breeding, or spawning areas.
 - (b) Functional significance of the habitat – discrete areas or habitats that are necessary for the survival, function, spawning/reproduction or recovery of fish stocks, particular life-history stages (e.g. nursery grounds or rearing areas), or of rare, threatened or endangered marine species.
 - (c) Fragility – an ecosystem that is highly susceptible to degradation by anthropogenic activities
 - (d) Life-history traits of component species that make recovery difficult – ecosystems that are characterized by populations or assemblages of species with one or more of the following characteristics:
 - (i) Slow growth rates
 - (ii) Late age of maturity
 - (iii) Low or unpredictable recruitment
 - (iv) Long-lived
 - (e) Structural complexity – an ecosystem that is characterized by complex physical structures created by significant concentrations of biotic and abiotic features. In these ecosystems, ecological processes are usually highly dependent on these structured systems. Further, such ecosystems often have high diversity, which is dependent on the structuring organisms.
- (4) Management response may vary, depending on the size of the ecological unit in the Convention Area. Therefore, the spatial extent of the ecological unit is to be decided first. That is, whether the ecological unit is the entire Area, or the current fishing ground, namely, the Emperor Seamount and Northern Hawaiian Ridge area (hereinafter called “the ES-NHR area”), or a group of the seamounts within the ESNHR area, or each seamount in the ES-NHR area, is to be decided using the above criteria.

4. Identification of potential VMEs

(1) Fished seamounts

(a) Identification of fished seamounts

It is reported that four types of fishing gear are currently used by the members of the Commission in the ES-NHR area, namely, bottom trawl, bottom gillnet, bottom longline

and pot. A fifth type of fishing gear (coral drag) was used in the ES-NHR area from the mid-1960s to the late 1980s and is possibly still used by non-members of the Commission. These types of fishing gear are usually used on the top or slope of seamounts, which could be considered VMEs. It is therefore necessary to identify the footprint of the bottom fisheries (fished seamounts) based on the available fishing record. The following seamounts have been identified as fished seamounts: Suiko, Showa, Youmei, Nintoku, Jingu, Ojin, Northern Koko, Koko, Kinmei, Yuryaku, Kammu, Colahan, and CH. Since the use of most of these gears in the ES-NHR area dates back to the late 1960s and 1970s, it is important to establish, to the extent practicable, a time series of where and when these gears have been used in order to assess potential long-term effects on any existing VMEs.

Fishing effort may not be evenly distributed on each seamount since fish aggregation may occur only at certain points of the seamount and some parts of the seamount may be physically unsuitable for certain fishing gears. Thus, it is important to know actual fished areas within the same seamount so as to know the gravity of the impact of fishing activities on the entire seamount.

Due consideration is to be given to the protection of commercial confidentiality when identifying actual fishing grounds.

(b) Assessment on whether a specific seamount that has been fished is a VME

After identifying the fished seamounts or fished areas of seamounts, it is necessary to assess whether each fished seamount is a VME or contains VMEs in accordance with the criteria in 3 above, individually or in combination using the best available scientific and technical information as well as Annex 2.1. A variety of data would be required to conduct such assessment, including pictures of seamounts taken by an ROV camera or drop camera, biological samples collected through research activities and observer programs, and detailed bathymetry map. Where site-specific information is lacking, other information that is relevant to inferring the likely presence of VMEs is to be used. The flow chart to identify data that can be used to identify VMEs is attached in Annex 2.3.

(2) New fishing areas

Any place other than the fished seamounts above is to be regarded as a new fishing area. If a member of the Commission is considering fishing in a new fishing area, such a fishing area is to be subject to, in addition to these standards and criteria, an exploratory fishery protocol (Annex 1).

5. Assessment of SAIs on VMEs or marine species

- (1) Significant adverse impacts are those that compromise ecosystem integrity (i.e., ecosystem structure or function) in a manner that: (i) impairs the ability of affected populations to replace themselves; (ii) degrades the long-term natural productivity of habitats; or (iii) causes, on more than a temporary basis, significant loss of species richness, habitat or community types. Impacts are to be evaluated individually, in combination and cumulatively.
- (2) When determining the scale and significance of an impact, the following six factors are to be considered:
 - (a) The intensity or severity of the impact at the specific site being affected;
 - (b) The spatial extent of the impact relative to the availability of the habitat type affected;
 - (c) The sensitivity/vulnerability of the ecosystem to the impact;
 - (d) The ability of an ecosystem to recover from harm, and the rate of such recovery;
 - (e) The extent to which ecosystem functions may be altered by the impact; and
 - (f) The timing and duration of the impact relative to the period in which a species needs the habitat during one or more life-history stages.
- (3) Temporary impacts are those that are limited in duration and that allow the particular ecosystem to recover over an acceptable timeframe. Such timeframes are to be decided on a case-by-case basis and be on the order of 5-20 years, taking into account the specific features of the populations and ecosystems.
- (4) In determining whether an impact is temporary, both the duration and the frequency with which an impact is repeated is to be considered. If the interval between the expected disturbances of a habitat is shorter than the recovery time, the impact is to be considered more than temporary.
- (5) Each member of the Commission is to conduct assessments to establish if bottom fishing activities are likely to produce SAIs in a given seamount or other VMEs. Such an impact assessment is to address, *inter alia*:

- (a) Type of fishing conducted or contemplated, including vessel and gear types, fishing areas, target and potential bycatch species, fishing effort levels and duration of fishing;
 - (b) Best available scientific and technical information on the current state of fishery resources, and baseline information on the ecosystems, habitats and communities in the fishing area, against which future changes are to be compared;
 - (c) Identification, description and mapping of VMEs known or likely to occur in the fishing area;
 - (d) The data and methods used to identify, describe and assess the impacts of the activity, identification of gaps in knowledge, and an evaluation of uncertainties in the information presented in the assessment;
 - (e) Identification, description and evaluation of the occurrence, scale and duration of likely impacts, including cumulative impacts of activities covered by the assessment on VMEs and low-productivity fishery resources in the fishing area;
 - (f) Risk assessment of likely impacts by the fishing operations to determine which impacts are likely to be SAIs, particularly impacts on VMEs and low-productivity fishery resources (Risk assessments are to take into account, as appropriate, differing conditions prevailing in areas where fisheries are well established and in areas where fisheries have not taken place or only occur occasionally);
 - (g) The proposed mitigation and management measures to be used to prevent SAIs on VMEs and ensure long-term conservation and sustainable utilization of low-productivity fishery resources, and the measures to be used to monitor effects of the fishing operations.
- (6) Impact assessments are to consider, as appropriate, the information referred to in these Standards and Criteria, as well as relevant information from similar or related fisheries, species and ecosystems.
- (7) Where an assessment concludes that the area does not contain VMEs or that significant adverse impacts on VMEs or marine species are not likely, such assessments are to be repeated when there have been significant changes to the fishery or other activities in the area, or when natural processes are thought to have undergone significant changes.

6. Proposed conservation and management measures to prevent SAIs

As a result of the assessment in 5 above, if it is considered that individual fishing activities are causing or likely to cause SAIs on VMEs or marine species, the member of the Commission is

to adopt appropriate conservation and management measures to prevent such SAIs. The member of the Commission is to clearly indicate how such impacts are expected to be prevented or mitigated by the measures.

7. Precautionary approach

If after assessing all available scientific and technical information, the presence of VMEs or the likelihood that individual bottom fishing activities would cause SAIs on VMEs or marine species cannot be adequately determined, members of the Commission are only to authorize individual bottom fishing activities to proceed in accordance with:

- (a) Precautionary, conservation and management measures to prevent SAIs;
- (b) Measures to address unexpected encounters with VMEs in the course of fishing operations;
- (c) Measures, including ongoing scientific research, monitoring and data collection, to reduce the uncertainty; and
- (d) Measures to ensure long-term sustainability of deep sea fisheries.

8. Template for assessment report

Annex 2.2 is a template for individual member of the Commission to formulate reports on identification of VMEs and impact assessment.

Annex 2.1

Examples of potential vulnerable species groups, communities and habitats as well as features that potentially support them

The following examples of species groups, communities, habitats and features often display characteristics consistent with possible VMEs. Merely detecting the presence of an element itself is not sufficient to identify a VME. That identification is to be made on a case-by-case basis through application of relevant provisions of the Standards and Criteria, particularly Sections 3, 4 and 5.

Examples of species groups, communities and habitat forming species that are documented or considered sensitive and potentially vulnerable to deep-sea fisheries in the high-seas, and which may contribute to forming VMEs:

a.	certain cold-water corals, e.g., reef builders and coral forest including: stony corals (scleractinia), alcyonaceans and gorgonians (octocorallia), black corals (antipatharia), and hydrocorals (stylasteridae),
b.	Some types of sponge dominated communities,
c.	communities composed of dense emergent fauna where large sessile protozoans (xenophyophores) and invertebrates (e.g., hydroids and bryozoans) form an important structural component of habitat, and
d.	seep and vent communities comprised of invertebrate and microbial species found nowhere else (i.e., endemic).

Examples of topographical, hydrophysical or geological features, including fragile geological structures, that potentially support the species groups or communities referred to above:

- a. submerged edges and slopes (e.g., corals and sponges)
- b. summits and flanks of seamounts, guyots, banks, knolls, and hills (e.g., corals, sponges and xenophyphores)
- c. canyons and trenches (e.g., burrowed clay outcrops, corals),
- d. hydrothermal vents (e.g., microbial communities and endemic invertebrates), and
- e. cold seeps (e.g., mud volcanoes, microbes, hard substrates for sessile invertebrates).

Annex 2.2

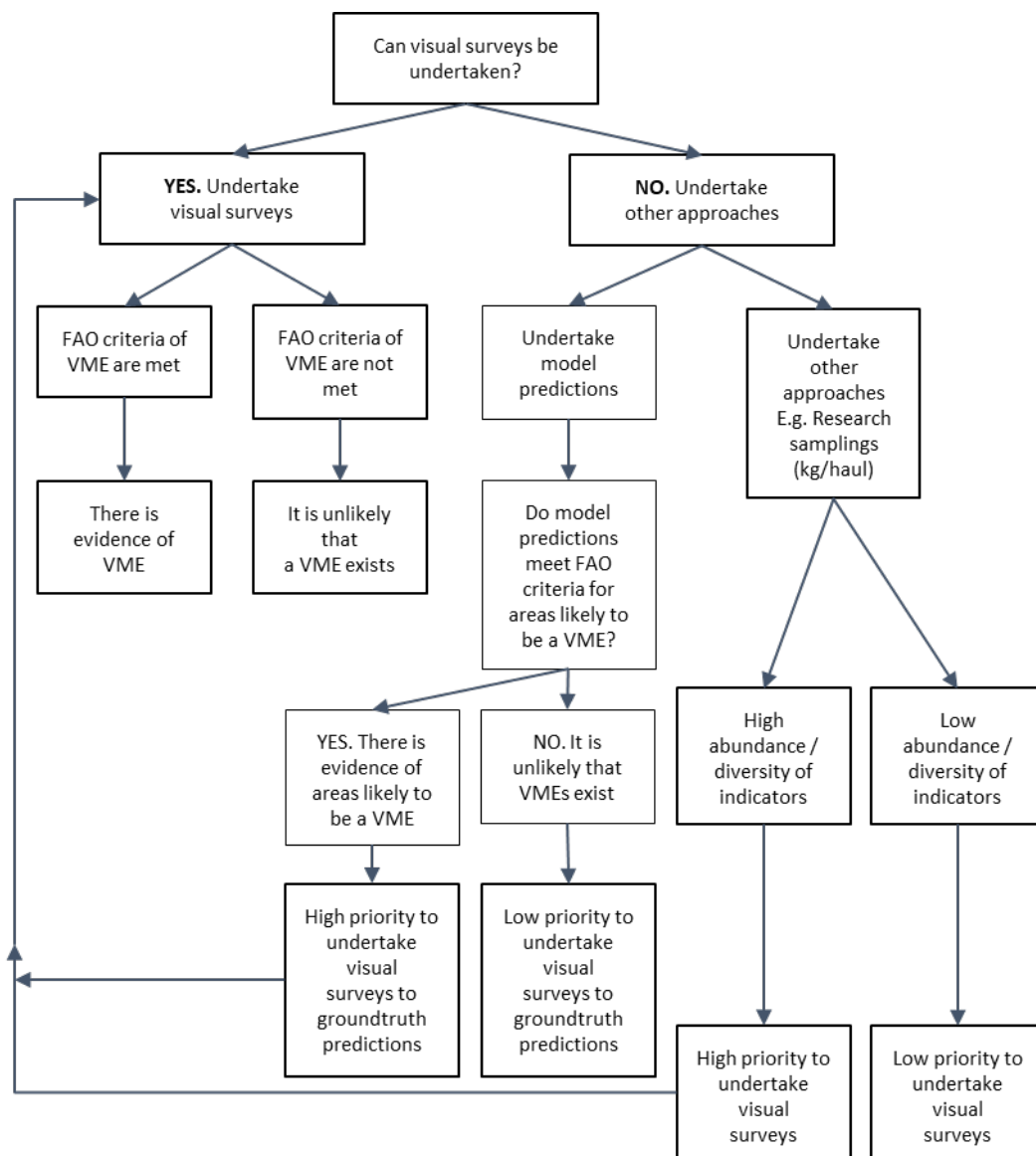
Template for reports on identification of VMEs and assessment of impacts caused by individual fishing activities on VMEs or marine species

1. Name of the member of the Commission
2. Name of the fishery (e.g., bottom trawl, bottom gillnet, bottom longline, pot)
3. Status of the fishery (existing fishery or exploratory fishery)
4. Target species
5. Bycatch species
6. Recent level of fishing effort (every year at least since 2002)
 - (1) Number of fishing vessels
 - (2) Tonnage of each fishing vessel

- (3) Number of fishing days or days on the fishing ground
- (4) Fishing effort (total operating hours for trawl, # of hooks per day for long-line, # of pots per day for pot, total length of net per day for gillnet)
- (5) Total catch by species
- (6) Names of seamounts fished or to be fished
- 7. Fishing period
- 8. Analysis of status of fishery resources
 - (1) Data and methods used for analysis
 - (2) Results of analysis
 - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties
- 9. Analysis of status of bycatch species resources
 - (1) Data and methods used for analysis
 - (2) Results of analysis
 - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties
- 10. Analysis of existence of VMEs in the fishing ground
 - (1) Data and methods used for analysis
 - (2) Results of analysis
 - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties
- 11. Impact assessment of fishing activities on VMEs or marine species including cumulative impacts, and identification of SAIs on VMEs or marine species, as detailed in Section 5 above, Assessment of SAIs on VMEs or marine species
- 12. Other points to be addressed
- 13. Conclusion (whether to continue or start fishing with what measures, or stop fishing).

Annex 2.3

Flow chart to identify data that can be used to identify VMEs in the NPFC Convention Area



Annex 3

**SCIENTIFIC COMMITTEE ASSESSMENT REVIEW PROCEDURES FOR BOTTOM
FISHING ACTIVITIES**

1. The Scientific Committee (SC) is to review identifications of vulnerable marine ecosystems (VMEs) and assessments of significant adverse impact on VMEs, including proposed management measures intended to prevent such impacts submitted by individual Members.
2. Members of the Commission shall submit their identifications and assessments to members of the SC at least 21 days prior to the SC meeting at which the review is to take place. Such submissions shall include all relevant data and information in support of such determinations.
3. The SC will review the data and information in each assessment in accordance with the Science-based Standards and Criteria for Identification of VMEs and Assessment of Significant Adverse Impacts on VMEs and Marine Species (Annex 2), previous decisions of the Commission, and the FAO Technical Guidelines for the Management of Deep Sea Fisheries in the High Seas, paying special attention to the assessment process and criteria specified in paragraphs 47-49 of the Guidelines.
4. In conducting the review above, the SC will give particular attention to whether the deep-sea bottom fishing activity would have a significant adverse impact on VMEs and marine species and, if so, whether the proposed management measures would prevent such impacts.
5. Based on the above review, the SC will provide advice and recommendations to the submitting Members on the extent to which the assessments and related determinations are consistent with the procedures and criteria established in the documents identified above; and whether additional management measures will be required to prevent SAIs on VMEs.
6. Such recommendations will be reflected in the report of the SC meeting at which the assessments are considered.

Annex 4

**FORMAT OF NATIONAL REPORT SECTIONS ON DEVELOPMENT AND
IMPLEMENTATION OF SCIENTIFIC OBSERVER PROGRAMMES**

Report Components

Annual Observer Programme implementation reports should form a component of annual National Reports submitted by members to the Scientific Committee. These reports should provide a brief overview of observer programmes conducted in the NPFC Convention Area. Observer programme reports should include the following sections:

A. Observer Training

An overview of observer training conducted, including:

- Overview of training programme provided to scientific observers.
- Number of observers trained.

B. Scientific Observer Programme Design and Coverage

Details of the design of the observer programme, including:

- Which fleets, fleet components or fishery components were covered by the programme.
- How vessels were selected to carry observers within the above fleets or components.
- How was observer coverage stratified: by fleets, fisheries components, vessel types, vessel sizes, vessel ages, fishing areas and seasons.

Details of observer coverage of the above fleets, including:

- Components, areas, seasons and proportion of total catches of target species, specifying units used to determine coverage.
- Total number of observer employment days, and number of actual days deployed on observation work.

C. Observer Data Collected

List of observer data collected against the agreed range of data set out in Annex 5, including:

- Effort Data: Amount of effort observed (vessel days, net panels, hooks, etc), by area and season and % observed out of total by area and seasons
- Catch Data: Amount of catch observed of target and by-catch species, by area and season, and % observed out of total estimated catch by species, area and seasons
- Length Frequency Data: Number of fish measured per species, by area and season.
- Biological Data: Type and quantity of other biological data or samples (otoliths, sex, maturity, etc.) collected per species.
- The size of length-frequency and biological sub-samples relative to unobserved quantities.

D. Detection of Fishing in Association with Vulnerable Marine Ecosystems

- Information about VME encounters (species and quantity in accordance with Annex 5, H, 2).

E. Tag Return Monitoring

- Number of tags returns observed, by fish size class and area.

F. Problems Experienced

- Summary of problems encountered by observers and observer managers that could affect the NPFC Observer Programme Standards and/or each member's national observer programme developed under the NPFC standards.

Annex 5

**NPFC BOTTOM FISHERIES OBSERVER PROGRAMME STANDARDS: SCIENTIFIC
COMPONENT**

TYPE AND FORMAT OF SCIENTIFIC OBSERVER DATA TO BE COLLECTED

A. Vessel & Observer Data to be collected for Each Trip

1. Vessel and observer details are to be recorded only once for each observed trip.
2. The following observer data are to be collected for each observed trip:
 - (a) NPFC vessel ID.
 - (b) Observer's name.
 - (c) Observer's organisation.
 - (d) Date observer embarked (UTC date).
 - (e) Port of embarkation.
 - (f) Date observer disembarked (UTC date).
 - (g) Port of disembarkation.

B. Catch & Effort Data to be collected for Trawl Fishing Activity

1. Data are to be collected on an un-aggregated (tow by tow) basis for all observed trawls.
2. The following data are to be collected for each observed trawl tow:
 - (a) Tow start date (UTC).
 - (b) Tow start time (UTC).
 - (c) Tow end date (UTC).
 - (d) Tow end time (UTC).
 - (e) Tow start position (Lat/Lon, 1 minute resolution).
 - (f) Tow end position (Lat/Lon, 1 minute resolution).
 - (g) Type of trawl, bottom or mid-water.
 - (h) Type of trawl, single, double or triple.
 - (i) Height of net opening (m).

- (j) Width of net opening (m).
- (k) Mesh size of the cod-end net (stretched mesh, mm) and mesh type (diamond, square, etc).
- (l) Gear depth (of footrope) at start of fishing (m).
- (m) Bottom (seabed) depth at start of fishing (m).
- (n) Gear depth (of footrope) at end of fishing (m).
- (o) Bottom (seabed) depth at end of fishing (m).
- (p) Status of the trawl operation (no damage, lightly damaged*, heavily damaged*, other (specify)).
 *Degree may be evaluated by time for repairing (<=1hr or >1hr).
- (q) Duration of estimated period of seabed contact (minute)
- (r) Intended target species.
- (s) Catch of all species retained on board, split by species, in weight (to the nearest kg).
- (t) Estimate of the amount (weight or volume) of all living marine resources discarded, split by species.
- (u) Record of the numbers by species of all marine mammals, seabirds or reptiles caught.

C. Catch & Effort Data to be collected for Bottom Gillnet Fishing Activity

1. Data are to be collected on an un-aggregated (set by set) basis for all observed bottom gillnet sets.
2. The following data are to be collected for each observed bottom gillnet set:
 - (a) Set start date (UTC).
 - (b) Set start time (UTC).
 - (c) Set end date (UTC).
 - (d) Set end time (UTC).
 - (e) Set start position (Lat/Lon, 1 minute resolution).
 - (f) Set end position (Lat/Lon, 1 minute resolution).
 - (g) Net panel ("tan") length (m).
 - (h) Net panel ("tan") height (m).
 - (i) Net mesh size (stretched mesh, mm) and mesh type (diamond, square, etc)
 - (j) Bottom depth at start of setting (m).

- (k) Bottom depth at end of setting (m).
- (l) Number of net panels for the set.
- (m) Number of net panels retrieved.
- (n) Number of net panels actually observed during the haul.
- (o) Actually observed catch of all species retained on board, split by species, in weight (to the nearest kg).
- (p) An estimation of the amount (numbers or weight) of marine resources discarded, split by species, during the actual observation.
- (q) Record of the actually observed numbers by species of all marine mammals, seabirds or reptiles caught.
- (r) Intended target species.
- (s) Catch of all species retained on board, split by species, in weight (to the nearest kg).
- (t) Estimate of the amount (weight or volume) of all marine resources discarded* and dropped off, split by species. * Including those retained for scientific samples.
- (u) Record of the numbers by species of all marine mammals, seabirds or reptiles caught (including those discarded and dropped-off).

D. Catch & Effort Data to be collected for Bottom Long Line Fishing Activity

1. Data are to be collected on an un-aggregated (set by set) basis for all observed longline sets.
2. The following fields of data are to be collected for each set:
 - (a) Set start date (UTC).
 - (b) Set start time (UTC).
 - (c) Set end date (UTC).
 - (d) Set end time (UTC).
 - (e) Set start position (Lat/Lon, 1 minute resolution).
 - (f) Set end position (Lat/Lon, 1 minute resolution).
 - (g) Total length of longline set (m).
 - (h) Number of hooks or traps for the set.
 - (i) Bottom (seabed) depth at start of set.
 - (j) Bottom (seabed) depth at end of set.
 - (k) Number of hooks or traps actually observed during the haul.

- (l) Intended target species.
- (m) Actually observed catch of all species retained on board, split by species, in weight (to the nearest kg).
- (n) An estimation of the amount (numbers or weight) of marine resources discarded* or dropped-off, split by species, during the actual observation. * Including those retained for scientific samples.
- (o) Record of the actually observed numbers by species of all marine mammals, seabirds or reptiles caught (including those discarded and dropped-off).

E. Length-Frequency Data to Be Collected

1. Representative and randomly distributed length-frequency data (to the nearest mm, with record of the type of length measurement taken) are to be collected for representative samples of the target species and other main by-catch species. Total weight of length-frequency samples should be recorded, and observers may be required to also determine sex of measured fish to generate length-frequency data stratified by sex. The length-frequency data may be used as potential indicators of ecosystem changes (for example, see: Gislason, H. et al. (2000. ICES J Mar Sci 57: 468-475), Yamane et al. (2005. ICES J Mar Sci, 62: 374-379), and Shin, Y-J. et al. (2005. ICES J Mar Sci, 62: 384-396)).
2. The numbers of fish to be measured for each species and distribution of samples across area and month strata should be determined, to ensure that samples are properly representative of species distributions and size ranges.

F. Biological sampling to be conducted (optional for gillnet and long line fisheries)

1. The following biological data are to be collected for representative samples of the main target species and, time permitting, for other main by-catch species contributing to the catch:
 - (a) Species
 - (b) Length (to the nearest mm), with record of the type of length measurement used.
 - (c) Length and depth in case of North Pacific armorhead.
 - (d) Sex (male, female, indeterminate, not examined)
 - (e) Maturity stage (immature, mature, ripe, ripe-running, spent)

2. Representative stratified samples of otoliths are to be collected from the main target species and, time permitting, from other main by-catch species regularly occurring in catches. All otoliths to be collected are to be labelled with the information listed in 1 above, as well as the date, vessel name, observer name and catch position.
3. Where specific trophic relationship projects are being conducted, observers may be requested to also collect stomach samples from certain species. Any such samples collected are also to be labelled with the information listed in 1 above, as well as the date, vessel name, observer name and catch position.
4. Observers may also be required to collect tissue samples as part of specific genetic research programmes implemented by the SC.
5. Observers are to be briefed and provided with written length-frequency and biological sampling protocols and priorities for the above sampling specific to each observer trip.

G. Data to be collected on Incidental Captures of Protected Species

1. Flag members operating observer programs are to develop, in cooperation with the SC, lists and identification guides of protected species or species of concern (seabirds, marine mammals or marine reptiles) to be monitored by observers.
2. The following data are to be collected for all protected species caught in fishing operations:
 - (a) Species (identified as far as possible, or accompanied by photographs if identification is difficult).
 - (b) Count of the number caught per tow or set.
 - (c) Life status (vigorous, alive, lethargic, dead) upon release.
 - (d) Whole specimens (where possible) for onshore identification. Where this is not possible, observers may be required to collect sub-samples of identifying parts, as specified in biological sampling protocols.

H. Detection of Fishing in Association with Vulnerable Marine Ecosystems

1. The SC is to develop a guideline, species list and identification guide for benthic species (e.g. sponges, sea fans, corals) whose presence in a catch will indicate that fishing occurred in

association with a vulnerable marine ecosystem (VME). All observers on vessels are to be provided with copies of this guideline, species list and ID guide.

2. For each observed fishing operation, the following data are to be collected for all species caught, which appear on the list of vulnerable benthic species:
 - (a) Species (identified as far as possible or accompanied by a photograph where identification is difficult).
 - (b) An estimate of the quantity (weight (kg) or volume (m³)) of each listed benthic species caught in the fishing operation.
 - (c) An overall estimate of the total quantity (weight (kg) or volume (m³)) of all invertebrate benthic species caught in the fishing operation.
 - (d) Where possible, and particularly for new or scarce benthic species which do not appear in ID guides, whole samples should be collected and suitable preserved for identification on shore.

I. Data to be collected for all Tag Recoveries

1. The following data are to be collected for all recovered fish, seabird, mammal or reptile tags:
 - (a) Observer name.
 - (b) Vessel name.
 - (c) Vessel call sign.
 - (d) Vessel flag.
 - (e) Collect, label (with all details below) and store the actual tags for later return to the tagging agency.
 - (f) Species from which tag recovered.
 - (g) Tag colour and type (spaghetti, archival).
 - (h) Tag numbers (The tag number is to be provided for all tags when multiple tags were attached to one fish. If only one tag was recorded, a statement is required that specifies whether or not the other tag was missing)
 - (i) Date and time of capture (UTC).
 - (j) Location of capture (Lat/Lon, to the nearest 1 minute)
 - (k) Animal length / size (to the nearest cm) with description of what measurement was taken (such as total length, fork length, etc).

- (l) Sex (F=female, M=male, I=indeterminate, D=not examined)
- (m) Whether the tags were found during a period of fishing that was being observed (Y/N)
- (n) Reward information (e.g. name and address where to send reward)

(It is recognised that some of the data recorded here duplicates data that already exists in the previous categories of information. This is necessary because tag recovery information may be sent separately to other observer data.)

J. Hierarchies for Observer Data Collection

1. Trip-specific or programme-specific observer task priorities may be developed in response to specific research programme requirements, in which case such priorities should be followed by observers.
2. In the absence of trip- or programme-specific priorities, the following generalised priorities should be followed by observers:
 - (a) Fishing Operation Information
 - All vessel and tow / set / effort information.
 - (b) Monitoring of Catches
 - Record time, proportion of catch (e.g. proportion of trawl landing) or effort (e.g. number of hooks), and total numbers of each species caught.
 - Record numbers or proportions of each species retained or discarded.
 - (c) Biological Sampling
 - Length-frequency data for target species.
 - Length-frequency data for main by-catch species.
 - Identification and counts of protected species.
 - Basic biological data (sex, maturity) for target species.
 - Check for presence of tags.
 - Otoliths (and stomach samples, if being collected) for target species.
 - Basic biological data for by-catch species.
 - Biological samples of by-catch species (if being collected)
 - Photos

3. The monitoring of catches and biological sampling procedures should be prioritised among species groups as follows:

Species	Priority (1 highest)
Primary target species (such as North Pacific armorhead and splendid alfonsino)	1
Other species typically within top 10 in the fishery (such as mirror dory, and oreos)	2
Protected species	3
All other species	4

The allocation of observer effort among these activities will depend on the type of operation and setting. The size of sub-samples relative to unobserved quantities (e.g. number of hooks/panels examined for species composition relative to the number of hooks/panels retrieved) should be explicitly recorded under the guidance of member country observer programmes.

K. Coding Specifications to be used for Recording Observer Data

1. Unless otherwise specified for specific data types, observer data are to be collected in accordance with the same coding specifications as specified in this Annex.
2. Coordinated Universal Time (UTC) is to be used to describe times.
3. Degrees and minutes are to be used to describe locations.
4. The following coding schemes are to be used:
 - (a) Species are to be described using the FAO 3 letter species codes or, if species do not have a FAO code, using scientific names.
 - (b) Fishing methods are to be described using the International Standard Classification of Fishing Gear (ISSCFG - 29 July 1980) codes.
 - (c) Types of fishing vessel are to be described using the International Standard Classification of Fishery Vessels (ISSCFV) codes.
5. Metric units of measure are to be used, specifically:
 - (a) Kilograms are to be used to describe catch weight.
 - (b) Metres are to be used to describe height, width, depth, beam or length.
 - (c) Cubic metres are to be used to describe volume.
 - (d) Kilowatts are to be used to describe engine power.

Annex 6

Implementation of the Adaptive Management for North Pacific armorhead

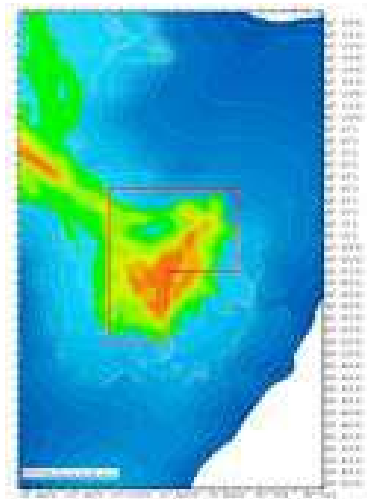
1. Monitoring survey for the detection of strong recruitment of North Pacific armorhead

(1) Location of monitoring surveys

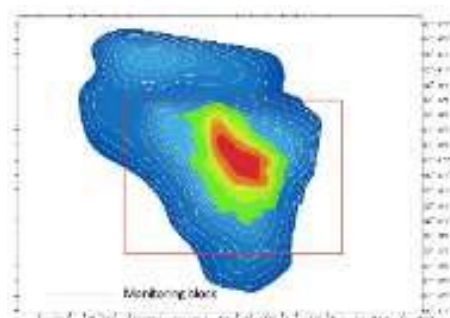
Monitoring surveys for the detection of strong recruitment of North Pacific armorhead will be conducted by trawl fishing vessels in the pre-determined four (24) monitoring blocks of Koko (South eastern), Yuryaku, Kammu (North western) and/or Colahan seamounts.

Monitoring blocks

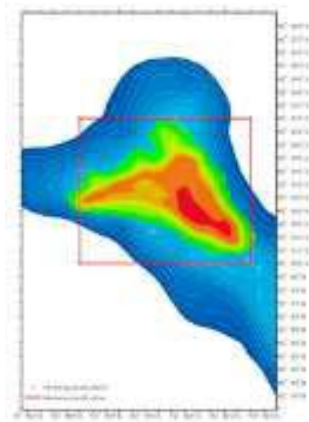
- (1) Koko seamount (34°51' –35°04'N, 171°49' –172°00' E)



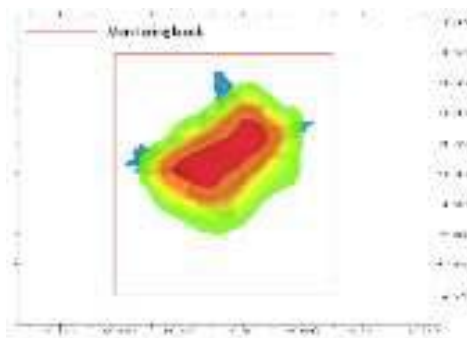
- (2) Yuryaku seamount (32°35' –32°45'N, 172°10' –172°24'E)



(3) Kammu seamount (32°10'–32°21'N, 172°44'–172°57'E)



(4) Colahan seamount (30°57'–31°05'N, 175°50'–175°57'E)



(2) Schedule for monitoring surveys

Monitoring surveys will be conducted from March 1st to June 30th each year, with at least a one week interval between monitoring surveys. For each survey, a trawl fishing vessel will conduct a monitoring survey in one of the four monitoring blocks that is the nearest from the location of the trawl fishing vessel at the time of prior notification in (4) below. The base schedule for monitoring surveys will be notified to the Executive Secretary by the end of February of each year. The base schedule may be revised during the year subject to prior notification to the Executive Secretary.

(3) Data to be collected during monitoring surveys

For each monitoring survey, a trawl net will be towed for one hour. A scientific observer onboard

the trawl fishing vessel will calculate nominal-CPUE (kg/hour) of North Pacific armorhead. The scientific observer will also calculate fat index* (FI) of randomly sampled 100 individuals of North Pacific armorhead by measuring fork length (FL) and body height (BH) of each individual.

(*fat index (FI) = body height (BH) / fork length (FL))

(4) Prior notifications and survey results

At least three (3) days before each survey, a prior notification with monitoring date/time, location and trawl fishing vessel name will be provided by the flag state of the trawl fishing vessel to the Executive Secretary.

No later than three (3) days after each survey, the survey result including date/time, location, catch, nominal-CPUE (kg/hour) and percentage of fish with fat index (FI)>0.3 will be provided by the flag state to the Executive Secretary.

The Executive Secretary will circulate these prior notifications and survey results to all Members of the Commission without delay.

2. Areas where bottom fishing with trawl gear is prohibited when high recruitment is detected

(1) Criteria for a high recruitment

It is considered that high recruitment has occurred if the following criteria are met in four (4) consecutive monitoring surveys.

- Nominal CPUE > 10t/h
- Individuals of fat index (FI)> 0.3 account for 80% or more

(2) Areas where bottom fishing with trawl gear is prohibited

Bottom fishing with trawl gear shall be prohibited in the following two (2) seamount areas (*)

during the year when high recruitment is detected. In such a case, all monitoring surveys scheduled during the year will be cancelled.

- Northern part of Kammu seamount (north of 32°10.0' N)
- Yuryaku seamount

(*) The catch of North Pacific armorhead in the above two seamounts accounts for a half of the total catch in the entire Emperor Seamounts area based on the catch records in 2010 and 2012.

(3) Notification by the Secretariat

When the criteria for high recruitment are met as defined in 2(1) above, the Executive Secretary will notify all Members of the Commission of the fact with a defined date/time from which bottom fishing with trawl gear is prohibited in the areas as defined in 2(2) above until the end of the year.

Annex Q

Revised CMM 2023-06 - Conservation and Management Measure for Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northeastern Pacific Ocean

CMM 2023-06

(Entered into force 26 July 2023)

**CONSERVATION AND MANAGEMENT MEASURE
FOR BOTTOM FISHERIES AND PROTECTION OF VULNERABLE MARINE
ECOSYSTEMS IN THE NORTHEASTERN PACIFIC OCEAN**

The North Pacific Fisheries Commission (NPFC):

Seeking to ensure the long term conservation and sustainable use of the fishery resources of the Northeastern Pacific Ocean and, in so doing, protect the vulnerable marine ecosystems that occur there, in accordance with the Sustainable Fisheries Resolutions adopted by the United Nations General Assembly (UNGA) including, in particular, paragraphs 66 to 71 of the UNGA59/25 in 2004, paragraphs 69 to 74 of UNGA60/31 in 2005, paragraphs 69 and 80 to 91 of UNGA61/105 in 2006, and paragraphs 113 to 124 of UNGA64/72 in 2009;

Recalling that paragraph 85 of UNGA 61/105 calls upon participants in negotiations to establish regional fisheries management organizations or arrangements with the competence to regulate bottom fisheries to adopt permanent measures in respect of the area of application of the instruments under negotiation;

Noting that North Pacific Fisheries Commission has previously adopted interim measures for the Northeastern Pacific Ocean;

Conscious of the need to adopt permanent measures for the Northeastern Pacific Ocean to ensure that this area is not left as the only major area of the Pacific Ocean where no such measures are in place;

Hereby adopt the following Conservation and Management Measure (CMM) for bottom fisheries

of the Northeastern Pacific Ocean while working to develop and implement other permanent management arrangements to govern these and other fisheries in the North Pacific Ocean.

Scope

1. These Measures are to be applied to all bottom fishing activities throughout the high seas areas of the Northeastern Pacific Ocean, defined, for the purposes of this document, as those occurring in the Convention Area as set out in Article 4 of the Convention text to the east of the line of 175 degrees W longitude (here in after called “the eastern part of the Convention Area”) including all such areas and marine species other than those species already covered by existing international fisheries management instruments, including bilateral agreements and Regional Fisheries Management Organizations or Arrangements.

For the purpose of these Measures, the term vulnerable marine ecosystems is to be interpreted and applied in a manner consistent with the International Guidelines on the Management of Deep Sea Fisheries on the High Seas adopted by the FAO on 29 August 2008 (see Annex 2 for further details).

2. The implementation of these Measures shall:
 - a. be based on the best scientific information available in accordance with existing international laws and agreements including UNCLOS and other relevant international instruments,
 - b. establish appropriate and effective conservation and management measures,
 - c. be in accordance with the precautionary approach, and
 - d. incorporate an ecosystem approach to fisheries management.

3. Actions by Members of the Commission

Members of the Commission will take the following actions in respect of vessels operating under its Flag or authority in the area covered by these Measures:

- a. Conduct the assessments called for in paragraph 83(a) of UNGA Resolution 61/105, in a manner consistent with the FAO Guidelines and the Standards and Criteria included in Annex 2;
- b. Submit to the SC their assessments conducted pursuant to subparagraph (a) of this paragraph, including all relevant data and information in support of any such assessment,

and receive advice and recommendations from the SC, in accordance with the procedures in Annex 3;

- c. Taking into account all advice and recommendations received from the SC, determine whether the fishing activity or operations of the vessel in question are likely to have a significant adverse impact on any vulnerable marine ecosystem;
- d. If it is determined that the fishing activity or operations of the vessel or vessels in question would have a significant adverse impact on vulnerable marine ecosystems, adopt conservation and management measures to prevent such impacts on the basis of advice and recommendations of the SC, which are subject to adoption by the Commission;
- e. Ensure that if any vessels are already engaged in bottom fishing, that such assessments have been carried out in accordance with paragraph 119(a)/UNGA RES 2009, the determination called for in subparagraph (c) of this paragraph has been rendered and, where appropriate, managements measures have been implemented in accordance with the advice and recommendations of the SC, which are subject to adoption by the Commission;
- f. Further ensure that they will only authorize fishing activities on the basis of such assessments and any comments and recommendations from the SC;
- g. Prohibit its vessels from engaging in directed fishing on the following taxa: ~~Aleyonacea~~, black corals (Antipatharia), Gorgonaceagorgonians, ~~and pennatulaceans~~, stony corals (Scleractinia), soft corals, the classes of Demospongiae and Hexactinellida in the phylum Porifera as well as any other indicator species for vulnerable marine ecosystems as may be identified from time to time by the SC and approved by the Commission;
- h. In respect of areas where vulnerable marine ecosystems are known to occur or are likely to occur, based on the best available scientific information, ensure that bottom fishing activities do not proceed unless conservation and management measures have been established to prevent significant adverse impacts on vulnerable marine ecosystems;
- i. Limit fishing effort in bottom fisheries on the Eastern part of the Convention Area to the level of a historical average (baseline to be determined through consensus in the SC based on information to be provided by Members) in terms of the number of fishing vessels and other parameters which reflect the level of fishing effort, fishing capacity or potential impacts on marine ecosystems dependent on new SC advice;
- j. Further, considering accumulated information regarding fishing activities in the Eastern part of the Convention Area, in areas where, in the course of fishing operations with pot gear,

cold water corals that exceed ~~250~~50Kg or sponges (Demospongiae and Hexactinellida) that exceed 5005Kg of Hexactinellida and Demospongiae are encountered in one gear retrieval, Members of the Commission shall require vessels flying their flag to cease bottom fishing activities in that location. In the course of fishing operations with all other gears, cold water corals that exceed 50Kg or sponges (Demospongiae and Hexactinellida) that exceed 350Kg are encountered in one gear retrieval, Members of the Commission shall require vessels flying their flag to cease bottom fishing activities in that location. In such cases, the vessel shall not resume fishing activities until it has relocated a sufficient distance, which shall be no less than 1 nautical mile, so that additional encounters with VMEs are unlikely. All such encounters, including the location, gear type, date, time and name and weight of the VME indicator species, shall be reported to the Secretariat, through the Member, within one business day. The Executive Secretary shall notify the other Members of the Commission and at the same time implement a temporary closure in the area to prohibit its bottom fishing vessels from contacting the sea floor with their trawl nets. Members shall inform their fleets and enforcement operations within one business day of the receipt of the notification from the Executive Secretary. It is agreed that the VME indicator taxa include cold water corals ~~Aleyonacea,~~ black corals (Antipatharia), Gorgonaceagorgonians, pennatulaceans, and stony corals (Scleractinia), and soft corals. ~~The VME indicator taxa also include and~~ the classes of Demospongiae and Hexactinellida in the phylum Porifera.

- k. Based on all the available data, including data on the VME encounter and distribution received from the fishing vessel(s), research survey data, visual survey data, and/or model results, the Scientific Committee (SC) shall assess and conclude if the area has a VME. If so, the SC shall recommend to the Commission that the temporary closure be made permanent, although the boundary of the closure may be adjusted, or suggest other appropriate measures. Otherwise, the Executive Secretary shall inform the Members that they may reopen the area to their vessels.

- k-1. Prohibit bottom fishing vessels from fishing in the following areas in order to achieve sustainable protection of VMEs in the eastern part of the Convention Area:

<u>Area</u>	<u>Latitude</u>	<u>Longitude</u>
<u>Northwestern Cobb Seamount</u>	<u>46.8178 N</u>	<u>130.872 W</u>
	<u>46.7703 N</u>	<u>130.861 W</u>
	<u>46.8277 N</u>	<u>130.825 W</u>
	<u>46.7802 N</u>	<u>130.814W</u>
<u>Northeastern Cobb Seamount</u>	<u>46.7759 N</u>	<u>130.735 W</u>
	<u>46.7675 N</u>	<u>130.694 W</u>
	<u>46.7482 N</u>	<u>130.756 W</u>
	<u>46.7399 N</u>	<u>130.716 W</u>

4. All assessments and determinations by any Member as to whether fishing activity would have significant adverse impacts on vulnerable marine ecosystems, as well as measures adopted in order to prevent such impacts, will be made publicly available through agreed means.

Control of Bottom Fishing Vessels

5. Members will exercise full and effective control over each of their bottom fishing vessels operating in the high seas of the Northeastern Pacific Ocean, including by means of fishing licenses, authorizations or permits, and maintenance of a record of these vessels as outlined in the Convention and applicable CMM.
6. New and exploratory fishing will be subject to the exploratory fishery protocol included as Annex 1.

Scientific Committee (SC)

7. Scientific Committee will provide scientific support for the implementation of these CMMs.

Scientific Information

8. The Members shall provide all available information as required by the Commission for any current or historical fishing activity by their flag vessels, including the number of vessels by gear type, size of vessels (tons), number of fishing days or days on the fishing grounds, total catch by species, areas fished (names or coordinates of seamounts), and information from scientific observer programmes (see Annexes 4 and 5) to the NPFC Secretariat as soon as possible and no

later than one month prior to SC meeting. The Secretariat will make such information available to SC.

Scientific research activities for stock assessment purposes are to be conducted in accordance with a research plan that has been provided to SC prior to the commencement of such activities.

Annex 1

EXPLORATORY FISHERY PROTOCOL IN THE NORTH PACIFIC OCEAN

1. From 1 January 2009, all bottom fishing activities in new fishing areas and areas where fishing is prohibited in a precautionary manner or with bottom gear not previously used in the existing fishing areas, are to be considered as “exploratory fisheries” and to be conducted in accordance with this protocol.

2. Precautionary conservation and management measures, including catch and effort controls, are essential during the exploratory phase of deep sea fisheries. Implementation of a precautionary approach to sustainable exploitation of deep sea fisheries shall include the following measures:

- i. precautionary effort limits, particularly where reliable assessments of sustainable exploitation rates of target and main by-catch species are not available;
- ii. precautionary measures, including precautionary spatial catch limits where appropriate, to prevent serial depletion of low-productivity stocks;
- iii. regular review of appropriate indices of stock status and revision downwards of the limits listed above when significant declines are detected;
- iv. measures to prevent significant adverse impacts on vulnerable marine ecosystems; and
- v. comprehensive monitoring of all fishing effort, capture of all species and interactions with VMEs.

3. When a member of the Commission would like to conduct exploratory fisheries, it is to follow the following procedure:

(1) Prior to the commencement of fishing, the member of the Commission is to circulate the information and assessment in Appendix 1.1 to the members of the Scientific Committee (SC) for review and to all members of the Commission for information, together with the impact assessment. Such information is to be provided to the other members at least 30 days in advance of the meeting at which the information shall be reviewed.

(2) The assessment in (1) above is to be conducted in accordance with the procedure set forth in “Science-based Standards and Criteria for Identification of VMEs and Assessment of Significant Adverse Impacts on VMEs and Marine Species (Annex 2)”, with the understanding that particular care shall be taken in the evaluation of risks of the significant adverse impact on vulnerable marine ecosystems (VMEs), in line with the precautionary approach.

(3) The SC is to review the information and the assessment submitted in (1) above in accordance with “SC Assessment Review Procedures for Bottom Fishing Activities (Annex 3).”

(4) The exploratory fisheries are to be permitted only where the assessment concludes that they would not have significant adverse impacts (SAIs) on marine species or any VMEs and on the basis of comments and recommendations of SC. Any determinations, by any Member of the Commission or the SC, that the exploratory fishing activities would not have SAIs on marine species or any VMEs, shall be made publicly available through the NPFC website.

4. The member of the Commission is to ensure that all vessels flying its flag conducting exploratory fisheries are equipped with a satellite monitoring device and have an observer on board at all times.

5. Within 3 months of the end of the exploratory fishing activities or within 12 months of the commencement of fishing, whichever occurs first, the member of the Commission is to provide a report of the results of such activities to the members of the SC and all members of the Commission. If the SC meets prior to the end of this 12-month period, the member of the Commission is to provide an interim report 30 days in advance of the SC meeting. The information to be included in the report is specified in Appendix 1.2.

6. The SC is to review the report in 5 above and decide whether the exploratory fishing activities had SAIs on marine species or any VME. The SC then is to send its recommendations to the Commission on whether the exploratory fisheries can continue and whether additional management measures shall be required if they are to continue. The Commission is to strive to adopt conservation and management measures to prevent SAIs on marine species or any VMEs. If the Commission is not able to reach consensus on any such measures, each fishing member of the Commission is to adopt measures to avoid any SAIs on VMEs.

7. Members of the Commission shall only authorize continuation of exploratory fishing activity, or commencement of commercial fishing activity, under this protocol on the basis of comments and recommendations of the SC.

8. The same encounter protocol should be applied in both fished and unfished areas specified in Annex 2, paragraph 4(1)(a).

Appendix 1.1

Information to be provided before exploratory fisheries start

1. A harvesting plan

- Name of vessel
- Flag member of vessel
- Description of area to be fished (location and depth)
- Fishing dates
- Anticipated effort
- Target species
- Bottom fishing gear-type used
- Area and effort restrictions to ensure that fisheries occur on a gradual basis in a limited geographical area.

2. A mitigation plan

- Measures to prevent SAIs to VMEs that may be encountered during the fishery

3. A catch monitoring plan

- Recording/reporting of all species brought onboard to the lowest possible taxonomic level
- 100% satellite monitoring
- 100% observer coverage

4. A data collection plan

- Data is to be collected in accordance with “Type and Format of Scientific Observer Data to be

Collected” (Annex 5)

Appendix 1.2

Information to be included in the report

- Name of vessel
- Flag member of vessel
- Description of area fished (location and depth)
- Fishing dates
- Total effort
- Bottom fishing gear-type used
- List of VME encountered (the amount of VME indicator species for each encounter specifying the location: longitude and latitude)
- Mitigation measures taken in response to the encounter of VME
- List of all organisms brought onboard
- List of VMEs indicator species brought onboard by location: longitude and latitude

Annex 2

**SCIENCE-BASED STANDARDS AND CRITERIA FOR IDENTIFICATION OF VMES
AND ASSESSMENT OF SIGNIFICANT ADVERSE IMPACTS ON VMES AND MARINE
SPECIES**

1. Introduction

Members of the Commission have hereby established science-based standards and criteria to guide their implementation of United Nations General Assembly (UNGA) Resolution 61/105 and the measures adopted by the Members in respect of bottom fishing activities in the North Pacific Ocean (NPO). In this regard, these science-based standards and criteria are to be applied to identify vulnerable marine ecosystems (VMEs) and assess significant adverse impacts (SAIs) of bottom fishing activities on such VMEs or marine species and to promote the long-term sustainability of deep sea fisheries in the Convention Area. The science-based standards and criteria are consistent with the FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas, taking into account the work of other RFMOs implementing management of deep-sea bottom fisheries in accordance with UNGA Resolution 61/105. The standards and criteria are to be modified from time to time as more data are collected through research activities and monitoring of fishing operations.

2. Purpose

(1) The purpose of the standards and criteria is to provide guidelines for each member of the Commission in identifying VMEs and assessing SAIs of individual bottom fishing activities² on VMEs or marine species in the Convention Area. Each member of the Commission, using the best information available, is to decide which species or areas are to be categorized as VMEs, identify areas where VMEs are known or likely to occur, and assess whether individual bottom fishing activities would have SAIs on such VMEs or marine species. The results of these tasks are to be submitted to and reviewed by the Scientific Committee with a view to reaching a common understanding among the members of the Commission.

(2) For the purpose of applying the standards and criteria, the bottom fisheries are defined as

² “individual bottom fishing activities” means fishing activities by each fishing gear. For example, if ten fishing vessels operate bottom trawl fishing in a certain area, the impacts of the fishing activities of these vessels on the ecosystem are to be assessed as a whole rather than on a vessel-by-vessel basis. It should be noted that if the total number or capacity of the vessels using the same fishing gear has increased, the impacts of the fishing activities are to be assessed again.

follows:

- (a) The fisheries are conducted in the Convention Area;
- (b) The total catch (everything brought up by the fishing gear) includes species that can only sustain low exploitation rates; and
- (c) The fishing gear is likely to contact the seafloor during the normal course of fishing operations

3. Definition of VMEs

(1) Although Paragraph 83 of UNGA Resolution 61/105 refers to seamounts, hydrothermal vents and cold water corals as examples of VMEs, there is no definitive list of specific species or areas that are to be regarded as VMEs.

(2) Vulnerability is related to the likelihood that a population, community or habitat will experience substantial alteration by fishing activities and how much time will be required for its recovery from such alteration. The most vulnerable ecosystems are those that are both easily disturbed and are very slow to recover, or may never recover. The vulnerabilities of populations, communities and habitats are to be assessed relative to specific threats. Some features, particularly ones that are physically fragile or inherently rare may be vulnerable to most forms of disturbance, but the vulnerability of some populations, communities and habitats may vary greatly depending on the type of fishing gear used or the kind of disturbance experienced. The risks to a marine ecosystem are determined by its vulnerability, the probability of a threat occurring and the mitigation means applied to the threat. Accordingly, the FAO Guidelines only provide examples of potential vulnerable species groups, communities and habitats as well as features that potentially support them (Annex 2.1).

(3) A marine ecosystem is to be classified as vulnerable based on its characteristics. The following list of characteristics is used as criteria in the identification of VMEs.

- (a) Uniqueness or rarity - an area or ecosystem that is unique or that contains rare species whose loss could not be compensated for by other similar areas. These include:
 - (i) Habitats that contain endemic species;
 - (ii) Habitats of rare, threatened or endangered species that occur in discrete areas;
 - (iii) Nurseries or discrete feeding, breeding, or spawning areas

(b) Functional significance of the habitat – discrete areas or habitats that are necessary for the survival, function, spawning/reproduction or recovery of fish stocks, particular life-history stages (e.g. nursery grounds or rearing areas), or of rare, threatened or endangered marine species.

(c) Fragility – an ecosystem that is highly susceptible to degradation by anthropogenic activities

(d) Life-history traits of component species that make recovery difficult – ecosystems that are characterized by populations or assemblages of species with one or more of the following characteristics:

- (i) Slow growth rates
- (ii) Late age of maturity
- (iii) Low or unpredictable recruitment
- (iv) Long-lived

(e) Structural complexity – an ecosystem that is characterized by complex physical structures created by significant concentrations of biotic and abiotic features. In these ecosystems, ecological processes are usually highly dependent on these structured systems. Further, such ecosystems often have high diversity, which is dependent on the structuring organisms.

(4) Management response may vary, depending on the size of the ecological unit in the Convention Area. Therefore, the spatial extent of the ecological unit is to be decided first. For example, whether the ecological unit is a group of seamounts, or an individual seamount in the Convention Area, is to be decided using the above criteria.

4. Identification of potential VMEs

(1) Fished seamounts

(a) Identification of fished seamounts

It is reported that two types of fishing gear are currently used by members of the Commission in the NE area, namely long-line hook and long-line trap. The footprint of the bottom fisheries (fished seamounts) is identified based on the available fishing record. The following seamounts have been identified as fished seamounts at some point in the

past: Brown Bear, Cobb, Warwick, Eickelberg, Pathfinder, Miller, Murray, Cowie, Surveyor, Pratt, and Durgin. It is important to establish, to the extent practicable, a time series of where and when these gears have been used in order to assess potential long-term effects on any existing VMEs.

Fishing effort may not be evenly distributed on each seamount since fish aggregation may occur only at certain points of the seamount and some parts of the seamount may be physically unsuitable for certain fishing gears. Thus, it is important to know actual fished areas within the same seamount so as to know the gravity of the impact of fishing activities on the entire seamount.

Due consideration is to be given to the protection of commercial confidentiality when identifying actual fishing grounds.

(b) Assessment on whether a specific seamount that has been fished is a VME

After identifying the fished seamounts or fished areas of seamounts, it is necessary to assess whether each fished seamount is a VME or contains VMEs in accordance with the criteria in 3 above, individually or in combination using the best available scientific and technical information as well as Annex 2.1. A variety of data would be required to conduct such assessment, including pictures of seamounts taken by an ROV camera or drop camera, biological samples collected through research activities and observer programs, and detailed bathymetry map. Where site-specific information is lacking, other information that is relevant to inferring the likely presence of VMEs is to be used. The flow chart to identify data that can be used to identify VMEs is attached in Annex 2.3.

(2) New fishing areas

Any place other than the fished seamounts above is to be regarded as a new fishing area. If a member of the Commission is considering fishing in a new fishing area, such a fishing area is to be subject to, in addition to these standards and criteria, an exploratory fishery protocol (Annex 1).

5. Assessment of SAIs on VMEs or marine species

(1) Significant adverse impacts are those that compromise ecosystem integrity (i.e., ecosystem structure or function) in a manner that: (i) impairs the ability of affected populations to replace themselves; (ii) degrades the long-term natural productivity of habitats; or (iii) causes, on more than a temporary basis, significant loss of species richness, habitat or community types. Impacts are to be evaluated individually, in combination and cumulatively.

(2) When determining the scale and significance of an impact, the following six factors are to be considered:

- (a) The intensity or severity of the impact at the specific site being affected;
- (b) The spatial extent of the impact relative to the availability of the habitat type affected;
- (c) The sensitivity/vulnerability of the ecosystem to the impact;
- (d) The ability of an ecosystem to recover from harm, and the rate of such recovery;
- (e) The extent to which ecosystem functions may be altered by the impact; and
- (f) The timing and duration of the impact relative to the period in which a species needs the habitat during one or more life-history stages.

(3) Temporary impacts are those that are limited in duration and that allow the particular ecosystem to recover over an acceptable timeframe. Such timeframes are to be decided on a case-by-case basis and be on the order of 5-20 years, taking into account the specific features of the populations and ecosystems.

(4) In determining whether an impact is temporary, both the duration and the frequency with which an impact is repeated is to be considered. If the interval between the expected disturbances of a habitat is shorter than the recovery time, the impact is to be considered more than temporary.

(5) Each member of the Commission is to conduct assessments to establish if bottom fishing activities are likely to produce SAIs in a given seamount or other VMEs. Such an impact assessment is to address, *inter alia*:

- (a) Type of fishing conducted or contemplated, including vessel and gear types, fishing areas, target and potential bycatch species, fishing effort levels and duration of fishing;
- (b) Best available scientific and technical information on the current state of fishery

- resources, and baseline information on the ecosystems, habitats and communities in the fishing area, against which future changes are to be compared;
- (c) Identification, description and mapping of VMEs known or likely to occur in the fishing area;
 - (d) The data and methods used to identify, describe and assess the impacts of the activity, identification of gaps in knowledge, and an evaluation of uncertainties in the information presented in the assessment
 - (e) Identification, description and evaluation of the occurrence, scale and duration of likely impacts, including cumulative impacts of activities covered by the assessment on VMEs and low-productivity fishery resources in the fishing area;
 - (f) Risk assessment of likely impacts by the fishing operations to determine which impacts are likely to be SAIs, particularly impacts on VMEs and low-productivity fishery resources (Risk assessments are to take into account, as appropriate, differing conditions prevailing in areas where fisheries are well established and in areas where fisheries have not taken place or only occur occasionally);
 - (g) The proposed mitigation and management measures to be used to prevent SAIs on VMEs and ensure long-term conservation and sustainable utilization of low-productivity fishery resources, and the measures to be used to monitor effects of the fishing operations.
- (6) Impact assessments are to consider, as appropriate, the information referred to in these Standards and Criteria, as well as relevant information from similar or related fisheries, species and ecosystems.
- (7) Where an assessment concludes that the area does not contain VMEs or that significant adverse impacts on VMEs or marine species are not likely, such assessments are to be repeated when there have been significant changes to the fishery or other activities in the area, or when natural processes are thought to have undergone significant changes.

6. Proposed conservation and management measures to prevent SAIs

As a result of the assessment in 5 above, if it is considered that individual fishing activities are causing or likely to cause SAIs on VMEs or marine species, the member of the Commission is to adopt appropriate conservation and management measures to prevent such SAIs. The member of

the Commission is to clearly indicate how such impacts are expected to be prevented or mitigated by the measures.

7. Precautionary approach

If after assessing all available scientific and technical information, the presence of VMEs or the likelihood that individual bottom fishing activities would cause SAIs on VMEs or marine species cannot be adequately determined, members of the Commission are only to authorize individual bottom fishing activities to proceed in accordance with:

- (a) Precautionary, conservation and management measures to prevent SAIs;
- (b) Measures to address unexpected encounters with VMEs in the course of fishing operations;
- (c) Measures, including ongoing scientific research, monitoring and data collection, to reduce the uncertainty; and
- (d) Measures to ensure long-term sustainability of deep sea fisheries.

8. Template for assessment report

Annex 2.2 is a template for individual member of the Commission to formulate reports on identification of VMEs and impact assessment.

ANNEX 2.1

EXAMPLES OF POTENTIAL VULNERABLE SPECIES GROUPS, COMMUNITIES AND HABITATS AS WELL AS FEATURES THAT POTENTIALLY SUPPORT THEM

The following examples of species groups, communities, habitats and features often display characteristics consistent with possible VMEs. Merely detecting the presence of an element itself is not sufficient to identify a VME. That identification is to be made on a case-by-case basis through application of relevant provisions of the Standards and Criteria, particularly Sections 3, 4 and 5.

Examples of species groups, communities and habitat forming species that are documented or considered sensitive and potentially vulnerable to deep-sea fisheries in the high-seas, and which may contribute to forming VMEs:

a.	certain coldwater corals, e.g., reef builders and coral forest including: stony corals (scleractinia), alcyonaceans and gorgonians (octocorallia), black corals (antipatharia), and hydrocorals (stylasteridae),
b.	Some types of sponge dominated communities,
c.	communities composed of dense emergent fauna where large sessile protozoans (xenophyphores) and invertebrates (e.g., hydroids and bryozoans) form an important structural component of habitat, and
d.	seep and vent communities comprised of invertebrate and microbial species found nowhere else (i.e., endemic).

Examples of topographical, hydrophysical or geological features, including fragile geological structures, that potentially support the species groups or communities, referred to above:

a.	submerged edges and slopes (e.g., corals and sponges),
b.	summits and flanks of seamounts, guyots, banks, knolls, and hills (e.g., corals, sponges, xenophyphores),
c.	canyons and trenches (e.g., burrowed clay outcrops, corals),
d.	hydrothermal vents (e.g., microbial communities and endemic invertebrates), and
e.	cold seeps (e.g., mud volcanoes, microbes, hard substrates for sessile invertebrates).

ANNEX 2.2

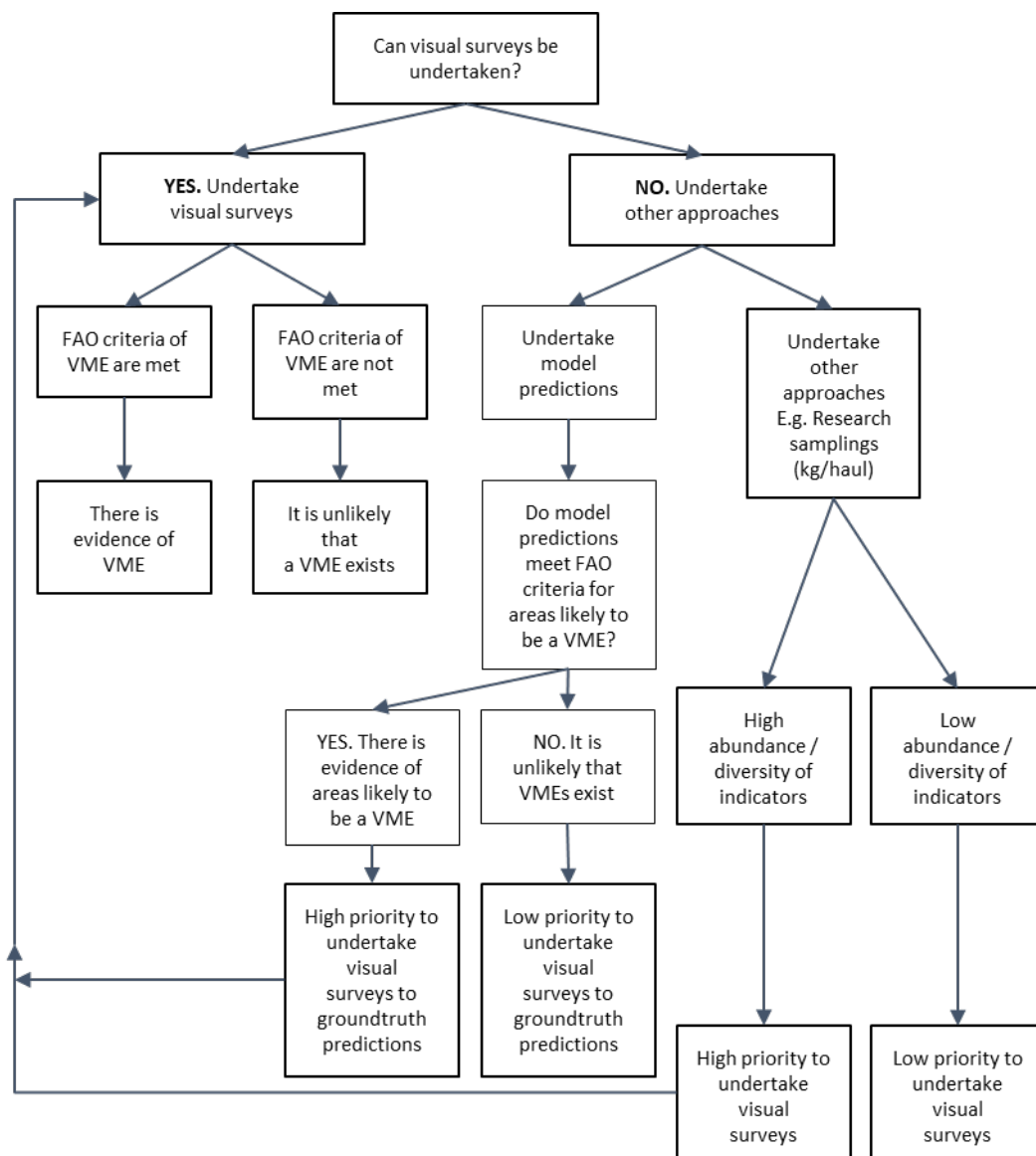
TEMPLATE FOR REPORTS ON IDENTIFICATION OF VMEs AND ASSESSMENT OF IMPACTS CAUSED BY INDIVIDUAL FISHING ACTIVITIES ON VMEs OR MARINE SPECIES

1. Name of the member of the Commission
2. Name of the fishery (e.g., bottom trawl, bottom gillnet, bottom longline, pot)
3. Status of the fishery (existing fishery or exploratory fishery)
4. Target species
5. Bycatch species
6. Recent level of fishing effort (every year at least since 2002)
 - (1) Number of fishing vessels
 - (2) Tonnage of each fishing vessel
 - (3) Number of fishing days or days on the fishing ground
 - (4) Fishing effort (total operating hours for trawl, # of hooks per day for long-line, # of pots per day for pot, total length of net per day for gillnet)
 - (5) Total catch by species
 - (6) Names of seamounts fished or to be fished
7. Fishing period
8. Analysis of status of fishery resources
 - (1) Data and methods used for analysis
 - (2) Results of analysis
 - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties
9. Analysis of status of bycatch species resources
 - (1) Data and methods used for analysis
 - (2) Results of analysis
 - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties
10. Analysis of existence of VMEs in the fishing ground

- (1) Data and methods used for analysis
 - (2) Results of analysis
 - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties
- 11. Impact assessment of fishing activities on VMEs or marine species including cumulative impacts, and identification of SAIs on VMEs or marine species, as detailed in Section 5 above, Assessment of SAIs on VMEs or marine species
 - 12. Other points to be addressed
 - 13. Conclusion (whether to continue or start fishing with what measures, or stop fishing).

Annex 2.3

Flow chart to identify data that can be used to identify VMEs in the NPFC Convention Area



Annex 3

**SCIENTIFIC COMMITTEE ASSESSMENT REVIEW PROCEDURES FOR BOTTOM
FISHING ACTIVITIES**

1. The Scientific Committee (SC) is to review identifications of vulnerable marine ecosystems (VMEs) and assessments of significant adverse impact on VMEs, including proposed management measures intended to prevent such impacts submitted by individual Members.
2. Members of the Commission shall submit their identifications and assessments to members of the SC at least 21 days prior to the SC meeting at which the review is to take place. Such submissions shall include all relevant data and information in support of such determinations.
3. The SC will review the data and information in each assessment in accordance with the Science-based Standards and Criteria for Identification of VMEs and Assessment of Significant Adverse Impacts on VMEs and Marine Species (Annex 2), previous decisions of the Commission, and the FAO Technical Guidelines for the Management of Deep Sea Fisheries in the High Seas, paying special attention to the assessment process and criteria specified in paragraphs 47-49 of the Guidelines.
4. In conducting the review above, the SC will give particular attention to whether the deep-sea bottom fishing activity would have a significant adverse impact on VMEs and marine species and, if so, whether the proposed management measures would prevent such impacts.
5. Based on the above review, the SC will provide advice and recommendations to the submitting Members on the extent to which the assessments and related determinations are consistent with the procedures and criteria established in the documents identified above; and whether additional management measures will be required to prevent SAIs on VMEs.
6. Such recommendations will be reflected in the report of the SC meeting at which the assessments are considered.

Annex 4

**FORMAT OF NATIONAL REPORT SECTIONS ON DEVELOPMENT AND
IMPLEMENTATION OF SCIENTIFIC OBSERVER PROGRAMMES**

Report Components

Annual Observer Programme implementation reports should form a component of annual National Reports submitted by members to the Scientific Committee. These reports should provide a brief overview of observer programmes conducted in the NPFC Convention Area. Observer programme reports should include the following sections:

A. Observer Training

An overview of observer training conducted, including:

- Overview of training programme provided to scientific observers.
- Number of observers trained.

B. Scientific Observer Programme Design and Coverage

Details of the design of the observer programme, including:

- Which fleets, fleet components or fishery components were covered by the programme.
- How vessels were selected to carry observers within the above fleets or components.
- How was observer coverage stratified: by fleets, fisheries components, vessel types, vessel sizes, vessel ages, fishing areas and seasons.

Details of observer coverage of the above fleets, including:

- Components, areas, seasons and proportion of total catches of target species, specifying units used to determine coverage.
- Total number of observer employment days, and number of actual days deployed on observation work.

C. Observer Data Collected

List of observer data collected against the agreed range of data set out in Annex 5, including:

- Effort Data: Amount of effort observed (vessel days, net panels, hooks, etc), by area and season and % observed out of total by area and seasons
- Catch Data: Amount of catch observed of target and by-catch species, by area and season, and % observed out of total estimated catch by species, area and seasons
- Length Frequency Data: Number of fish measured per species, by area and season.
- Biological Data: Type and quantity of other biological data or samples (otoliths, sex, maturity, etc) collected per species.
- The size of length-frequency and biological sub-samples relative to unobserved quantities.

D. Detection of Fishing in Association with Vulnerable Marine Ecosystems

- Information about VME encounters (species and quantity in accordance with Annex 5, H, 2).

E. Tag Return Monitoring

- Number of tags returns observed, by fish size class and area.

F. Problems Experienced

- Summary of problems encountered by observers and observer managers that could affect the NPFC Observer Programme Standards and/or each member's national observer programme developed under the NPFC standards.

Annex 5

**NPFC BOTTOM FISHERIES
OBSERVER PROGRAMME STANDARDS: SCIENTIFIC COMPONENT**

TYPE AND FORMAT OF SCIENTIFIC OBSERVER DATA TO BE COLLECTED

A. Vessel & Observer Data to be collected for Each Trip

1. Vessel and observer details are to be recorded only once for each observed trip.
2. The following observer data are to be collected for each observed trip:
 - a) NPFC vessel ID
 - b) Observer's name.
 - c) Observer's organisation.
 - d) Date observer embarked (UTC date).
 - e) Port of embarkation.
 - f) Date observer disembarked (UTC date).
 - g) Port of disembarkation.

B. Catch & Effort Data to be collected for Trawl Fishing Activity

1. Data are to be collected on an un-aggregated (tow by tow) basis for all observed trawls.
2. The following data are to be collected for each observed trawl tow:
 - a) Tow start date (UTC).
 - b) Tow start time (UTC).
 - c) Tow end date (UTC).
 - d) Tow end time (UTC).
 - e) Tow start position (Lat/Lon, 1 minute resolution).
 - f) Tow end position (Lat/Lon, 1 minute resolution).
 - g) Type of trawl, bottom or mid-water.
 - h) Type of trawl, single, double or triple.
 - i) Height of net opening (m).
 - j) Width of net opening (m).
 - k) Mesh size of the cod-end net (stretched mesh, mm) and mesh type (diamond, square, etc).
 - l) Gear depth (of footrope) at start of fishing (m).

- m) Bottom (seabed) depth at start of fishing (m).
- n) Gear depth (of footrope) at end of fishing (m).
- o) Bottom (seabed) depth at end of fishing (m).
- p) Status of the trawl operation (no damage, lightly damaged*, heavily damaged*, other (specify)). *Degree may be evaluated by time for repairing (≤ 1 hr or > 1 hr)
- q) Duration of estimated period of seabed contact (minute)
- r) Intended target species.
- s) Catch of all species retained on board, split by species, in weight (to the nearest kg).
- t) Estimate of the amount (weight or volume) of all living marine resources discarded, split by species.
- u) Record of the numbers by species of all marine mammals, seabirds or reptiles caught.

C. Catch & Effort Data to be collected for Bottom Gillnet Fishing Activity

1. Data are to be collected on an un-aggregated (set by set) basis for all observed bottom gillnet sets.
2. The following data are to be collected for each observed bottom gillnet set:
 - a) Set start date (UTC).
 - b) Set start time (UTC).
 - c) Set end date (UTC).
 - d) Set end time (UTC).
 - e) Set start position (Lat/Lon, 1 minute resolution).
 - f) Set end position (Lat/Lon, 1 minute resolution).
 - g) Net panel ("tan") length (m).
 - h) Net panel ("tan") height (m).
 - i) Net mesh size (stretched mesh, mm) and mesh type (diamond, square, etc)
 - j) Bottom depth at start of setting (m).
 - k) Bottom depth at end of setting (m).
 - l) Number of net panels for the set.
 - m) Number of net panels retrieved.
 - n) Number of net panels actually observed during the haul.
 - o) Actually observed catch of all species retained on board, split by species, in weight (to the nearest kg).

- p) An estimation of the amount (numbers or weight) of marine resources discarded, split by species, during the actual observation.
- q) Record of the actually observed numbers by species of all marine mammals, seabirds or reptiles caught.
- r) Intended target species.
- s) Catch of all species retained on board, split by species, in weight (to the nearest kg).
- t) Estimate of the amount (weight or volume) of all marine resources discarded* and dropped-off, split by species. * Including those retained for scientific samples.
- u) Record of the numbers by species of all marine mammals, seabirds or reptiles caught (including those discarded and dropped-off).

D. Catch & Effort Data to be collected for Bottom Long Line Fishing Activity

1. Data are to be collected on an un-aggregated (set by set) basis for all observed longline sets.
2. The following fields of data are to be collected for each set:
 - a) Set start date (UTC).
 - b) Set start time (UTC).
 - c) Set end date (UTC).
 - d) Set end time (UTC).
 - e) Set start position (Lat/Lon, 1 minute resolution).
 - f) Set end position (Lat/Lon, 1 minute resolution).
 - g) Total length of longline set (m).
 - h) Number of hooks or traps for the set.
 - i) Bottom (seabed) depth at start of set.
 - j) Bottom (seabed) depth at end of set.
 - k) Number of hooks or traps actually observed during the haul.
 - l) Intended target species.
 - m) Actually observed catch of all species retained on board, split by species, in weight (to the nearest kg).

- n) An estimation of the amount (numbers or weight) of marine resources discarded* or dropped-off, split by species, during the actual observation. * Including those retained for scientific samples.
- o) Record of the actually observed numbers by species of all marine mammals, seabirds or reptiles caught (including those discarded and dropped-off).

E. Length-Frequency Data to Be Collected

1. Representative and randomly distributed length-frequency data (to the nearest mm, with record of the type of length measurement taken) are to be collected for representative samples of the target species and other main by-catch species. Total weight of length-frequency samples should be recorded, and observers may be required to also determine sex of measured fish to generate length-frequency data stratified by sex. The length-frequency data may be used as potential indicators of ecosystem changes (for example, see: Gislason, H. et al. (2000. ICES J Mar Sci 57: 468-475), Yamane et al. (2005. ICES J Mar Sci, 62: 374-379), and Shin, Y-J. et al. (2005. ICES J Mar Sci, 62: 384-396)).
2. The numbers of fish to be measured for each species and distribution of samples across area and month strata should be determined, to ensure that samples are properly representative of species distributions and size ranges.

F. Biological sampling to be conducted (optional for gillnet and long line fisheries)

1. The following biological data are to be collected for representative samples of the main target species and, time permitting, for other main by-catch species contributing to the catch:
 - a) Species
 - b) Length (to the nearest mm), with record of the type of length measurement used.
 - c) Length and depth in case of North Pacific armorhead.
 - d) Sex (male, female, indeterminate, not examined)
 - e) Maturity stage (immature, mature, ripe, ripe-running, spent)

2. Representative stratified samples of otoliths are to be collected from the main target species and, time permitting, from other main by-catch species regularly occurring in catches. All otoliths to be collected are to be labelled with the information listed in 1 above, as well as the date, vessel name, observer name and catch position.
3. Where specific trophic relationship projects are being conducted, observers may be requested to also collect stomach samples from certain species. Any such samples collected are also to be labelled with the information listed in 1 above, as well as the date, vessel name, observer name and catch position.
4. Observers may also be required to collect tissue samples as part of specific genetic research programmes implemented by the SC.
5. Observers are to be briefed and provided with written length-frequency and biological sampling protocols and priorities for the above sampling specific to each observer trip.

G. Data to be collected on Incidental Captures of Protected Species

1. Flag members operating observer programs are to develop, in cooperation with the SC, lists and identification guides of protected species or species of concern (seabirds, marine mammals or marine reptiles) to be monitored by observers.
2. The following data are to be collected for all protected species caught in fishing operations:
 - a) Species (identified as far as possible, or accompanied by photographs if identification is difficult).
 - b) Count of the number caught per tow or set.
 - c) Life status (vigorous, alive, lethargic, dead) upon release.
 - d) Whole specimens (where possible) for onshore identification. Where this is not possible, observers may be required to collect sub-samples of identifying parts, as specified in biological sampling protocols.

H. Detection of Fishing in Association with Vulnerable Marine Ecosystems

1. The SC is to develop a guideline, species list and identification guide for benthic species (e.g. sponges, sea fans, corals) whose presence in a catch will indicate that fishing occurred in association with a vulnerable marine ecosystem (VME). All observers on vessels are to be provided with copies of this guideline, species list and ID guide.
2. For each observed fishing operation, the following data are to be collected for all species caught, which appear on the list of vulnerable benthic species:
 - a) Species (identified as far as possible, or accompanied by a photograph where identification is difficult).
 - b) An estimate of the quantity (weight (kg) or volume (m³)) of each listed benthic species caught in the fishing operation.
 - c) An overall estimate of the total quantity (weight (kg) or volume (m³)) of all invertebrate benthic species caught in the fishing operation.
 - d) Where possible, and particularly for new or scarce benthic species which do not appear in ID guides, whole samples should be collected and suitable preserved for identification on shore.

I. Data to be collected for all Tag Recoveries

1. The following data are to be collected for all recovered fish, seabird, mammal or reptile tags:
 - a) Observer name.
 - b) Vessel name.
 - c) Vessel call sign.
 - d) Vessel flag.
 - e) Collect, label (with all details below) and store the actual tags for later return to the tagging agency.
 - f) Species from which tag recovered.
 - g) Tag colour and type (spaghetti, archival).
 - h) Tag numbers (The tag number is to be provided for all tags when multiple tags were attached to one fish. If only one tag was recorded, a statement is required that specifies whether or not the other tag was missing)

- i) Date and time of capture (UTC).
- j) Location of capture (Lat/Lon, to the nearest 1 minute)
- k) Animal length / size (to the nearest cm) with description of what measurement was taken (such as total length, fork length, etc).
- l) Sex (F=female, M=male, I=indeterminate, D=not examined)
- m) Whether the tags were found during a period of fishing that was being observed (Y/N)
- n) Reward information (e.g. name and address where to send reward)

(It is recognised that some of the data recorded here duplicates data that already exists in the previous categories of information. This is necessary because tag recovery information may be sent separately to other observer data.)

J. Hierarchies for Observer Data Collection

- 2. Trip-specific or programme-specific observer task priorities may be developed in response to specific research programme requirements, in which case such priorities should be followed by observers.
- 3. In the absence of trip- or programme-specific priorities, the following generalised priorities should be followed by observers:
 - a) Fishing Operation Information
 - All vessel and tow / set / effort information.
 - b) Monitoring of Catches
 - Record time, proportion of catch (e.g. proportion of trawl landing) or effort (e.g. number of hooks), and total numbers of each species caught.
 - Record numbers or proportions of each species retained or discarded.
 - c) Biological Sampling
 - Length-frequency data for target species.
 - Length-frequency data for main by-catch species.

- Identification and counts of protected species.
- Basic biological data (sex, maturity) for target species.
- Check for presence of tags.
- Otoliths (and stomach samples, if being collected) for target species.
- Basic biological data for by-catch species.
- Biological samples of by-catch species (if being collected)
- Photos

4. The monitoring of catches and biological sampling procedures should be prioritised among species groups as follows:

Species	Priority (1 highest)
Primary target species (such as North Pacific armorhead and splendid alfonsino)	1
Other species typically within top 10 in the fishery (such as mirror dory, and oreos)	2
Protected species	3
All other species	4

The allocation of observer effort among these activities will depend on the type of operation and setting. The size of sub-samples relative to unobserved quantities (e.g. number of hooks/panels examined for species composition relative to the number of hooks/panels retrieved) should be explicitly recorded under the guidance of member country observer programmes.

K. Coding Specifications to be used for Recording Observer Data

1. Unless otherwise specified for specific data types, observer data are to be collected in accordance with the same coding specifications as specified in this Annex.
2. Coordinated Universal Time (UTC) is to be used to describe times.

3. Degrees and minutes are to be used to describe locations.
4. The following coding schemes are to be used:
 - a. Species are to be described using the FAO 3 letter species codes or, if species do not have a FAO code, using scientific names.
 - b. Fishing methods are to be described using the International Standard Classification of Fishing Gear (ISSCFG - 29 July 1980) codes.
 - c. Types of fishing vessel are to be described using the International Standard Classification of Fishery Vessels (ISSCFV) codes.
5. Metric units of measure are to be used, specifically:
 - a. Kilograms are to be used to describe catch weight.
 - b. Metres are to be used to describe height, width, depth, beam or length.
 - c. Cubic metres are to be used to describe volume.
 - d. Kilowatts are to be used to describe engine power.

Annex R**Revised Terms of Reference of the SSC BF-ME**

**Terms of Reference for the Small Scientific Committee on Bottom Fish and Marine
Ecosystems (SSC BF-ME)**
(revised in December 2023)

The SSC BF-ME shall work to ensure the long-term sustainable use of the bottom fisheries resources in the Convention Area while conserving the associated marine ecosystems (including vulnerable marine ecosystems (VME)) of the North Pacific Ocean in which these resources occur. The SSC BF-ME shall also help the Scientific Committee fulfill its functions as specified in the Convention by providing scientific advice and by proposing revision of Conservation and Management Measures as required.

1. Review fishery and research data
 - a. Annually compile and share target catch and bycatch data (including VME indicator taxa) as required by Conservation and Management Measures for Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northwestern and Northeastern Pacific Ocean
 - i. Define list and spatial resolution of catch data to be shared
 - ii. Define list and spatial resolution of multibeam bathymetry to be shared
 - iii. Define list and spatial resolution of visual observations or other relevant data to be shared
 - iv. Map the combined fishing footprint and annual effort for bottom fisheries
 - v. Define data sharing protocols and develop a shared data repository
 - b. Annually review members research activities regarding benthic ecosystems (including VME)
2. Develop shared ID guides for bottom fish and for VME indicator species in the western Pacific Ocean
 - a. Review and update NPFC VME indicator taxa and bycatch lists on a routine basis
3. Review approaches applicable for stock assessment of target bottom species and investigate various management strategies
 - a. Identification of data needs and establishment of activities to fill data gaps

- b. Further development of the Adaptive Management approach for North Pacific armorhead and splendid alfonsino and mechanism for its implementation
 - i. Assess and monitor the status of the priority species stocks
 - ii. Develop harvest control rules to conserve priority species abundance
- 4. Assess significant and adverse impacts (SAI) on VMEs
 - a. Explore a data or model-based approach for defining VME's
 - b. Undertake research to determine the gear-specific effects of bottom fishing on benthic ecosystems
 - c. Define post-encounter measures for VME for both routine fishing activities (within the current fishery footprint) and exploratory fishing (outside the current fishery footprint)
 - d. Explore a data or model-based approach for assessing SAI on VMEs
 - i. Explore the design of model and data based approaches to spatial management strategies to maximize bottom fish harvest while minimizing impacts to VMEs (e.g. analyses of trade-off between potentially competing objectives)
 - ii. If appropriate define management objectives for recovering VME sites
- 5. Assess the ecology and ecosystem considerations of bottom fisheries resources and other benthic organisms including both hard-bottom and soft-bottom seafloor
 - a. Examine relationships between environmental conditions and recruitment for bottom fisheries resources
 - b. Conduct other research that may be useful to adaptive management or indicating future population status of bottom fisheries resources (e.g. alternative survey methodologies such as acoustic surveys)
 - c. Conduct relevant research on benthic ecology as it pertains to bottom fisheries resources

Revised Terms of Reference of the SSC PS

Terms of Reference for the Small Scientific Committee on Pacific Saury (SSC PS)

(revised in December 2023)

1. To review fishery data
 - Catch series
 - Age/size composition data
 - Others
2. To review fishery-dependent and fishery-independent indices
 - Review/update the existing CPUE Standardization Protocol
 - Review/update the indices
 - Evaluate the quality of the indices
 - Recommendation for future work
3. To review and update biological information/data
 - Stock structure
 - Growth
 - Reproduction and maturity schedule
 - Natural mortality
 - Migration pattern
 - Others
4. To explore the impact of climate change on Pacific saury stock assessment and fishery performance, including stock assessment data inputs with respect to shifting species and fisheries distribution, life history characteristics, phenology, biological reference points and relevant parameters
5. To update the stock assessment using “provisional base models” (i.e. Bayesian state-space production models)
 - Review the existing Stock Assessment Protocol
 - Simple update (including projection and evaluation of reference points as well as diagnosis)
 - Consideration of scenarios (for base and sensitivity)
 - Assessment of uncertainties and the implications for management
 - Evaluation/improvement (if necessary) of the models
 - Recommendation of the research for future work
6. To explore stock assessment models other than existing “provisional base models”
 - Data invention/availability (including the identification of potential covariates)
 - Initial (and continued) discussion on age-/size/stage-structure models
 - Identification of lack of information/data gaps and limitations

- Recommendation of the research for future work
- 7. To facilitate data- and code- sharing processes
- 8. To review/improve the presentation of stock assessment results (including stock status summary reports in a format to be determined by the Working Group)
- 9. To support the technical work related to the Management Strategy Evaluation.

Annex T

Revised Stock Assessment Protocol for Pacific Saury**Stock assessment protocol for Pacific Saury**

(revised in December 2023)

- (1) Identify the data that will be available to the stock assessment;
- (2) Evaluate data quality and quantity and potential error sources (e.g., sampling errors, measurement errors, and associated statistical property (e.g., biased or random errors, statistical distribution) to ensure that the best available information is used in the assessment;
- (3) Select population models describing the dynamics of PS stock and observational models linking population variables with the observed variables;
- (4) Develop base case scenarios and alternative scenarios for sensitivity analyses;
- (5) Compile input data and prior distributions for the model parameterization for the base case and alternative scenarios;
- (6) For each scenario, fit the model to the data, diagnostics of model convergence, plot and evaluate residual patterns, compare prior and posterior distributions for key model parameters, and evaluate biological implications of the estimated parameters;
- (7) Develop retrospective analysis to verify whether any possible systematic inconsistencies exist among model estimates of biomass and fishing mortality;
- (8) Identify final model configuration and model runs for each scenario;
- (9) For each scenario, estimate and plot exploitable stock biomass and fishing mortality (and their relevant credibility distributions) over time;
- (10) For each scenario, estimate biological reference points (e.g., MSY, Bmsy, Fmsy) and its associated uncertainty;
- (11) Identify target and limit reference points for stock biomass and fishing mortality;
- (12) Have the Kobe plot for each scenario;
- (13) Determine if the stock is “overfished” and “overfishing” occurs for the base and sensitivity scenarios;
- (14) Finalize the base-case scenario;
- (15) Develop alternative ABCs for the projection (e.g., 5-year projection);
- (16) Conduct risk analysis for each level of ABC defined in Step (15) for the base-case scenario;
- (17) Develop decision tables with alternative state of nature;

- (18) Determine optimal ABCs based on decision tables developed in Step (17);
- (19) Provide scientific advice on stock status and appropriate catch level to SC through SSC PS;
- (20) Include relevant ecosystem considerations regarding the stock in future assessment documents, including data and results from other scientific studies regarding potential impacts on the stock [assessment] due to climate change, non-stationary population and fisheries processes, predator-prey dynamics, or impacts of distribution and phenological changes on assessment data.

Stock assessment report for Pacific saury

EXECUTIVE SUMMARY

Data used in the assessment modeling

Data are included from the NPFC Convention Area and Members' Exclusive Economic Zones (EEZs). Pacific saury (*Cololabis saira*) is widely distributed from the subarctic to the subtropical regions of the North Pacific Ocean. The fishing grounds are west of 180° E but differ among Members (China, Japan, Korea, Russia, Chinese Taipei, and Vanuatu). Figure 1 shows the historical catches of Pacific saury by Member. Figure 2 shows CPUE and Japanese survey biomass indices used in the stock assessment. Appendix 1 shows data used for the updated stock assessment.

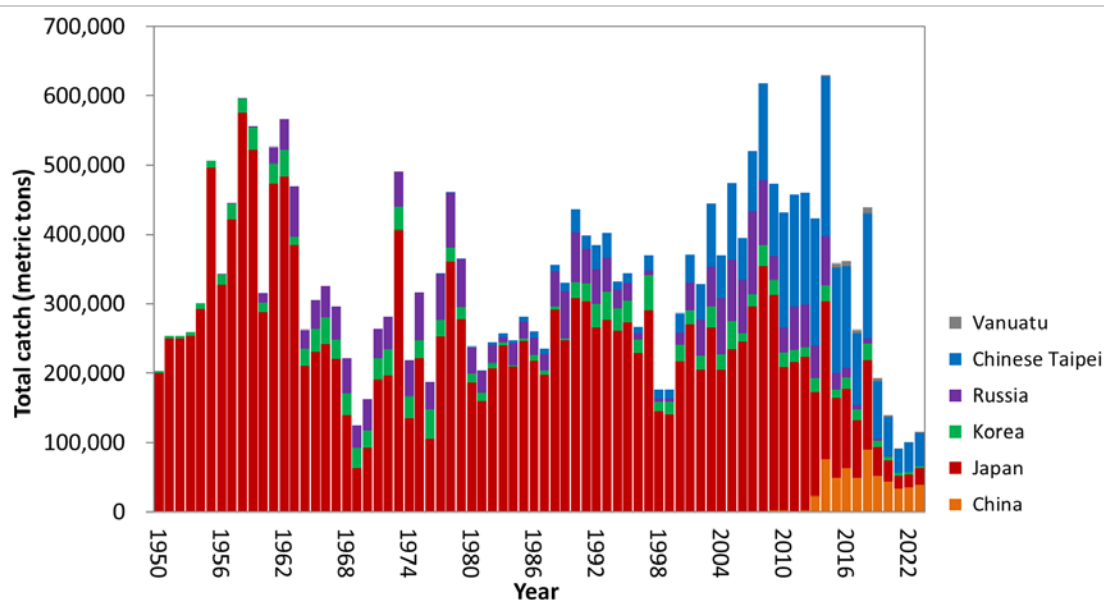


Figure 1. Time series of catch by Member during 1950-2023. The catch data for 1950-1979 are shown but not used in stock assessment modeling. Catch data in 2023 are preliminary (as of 2 December 2023) and not used in the assessment.

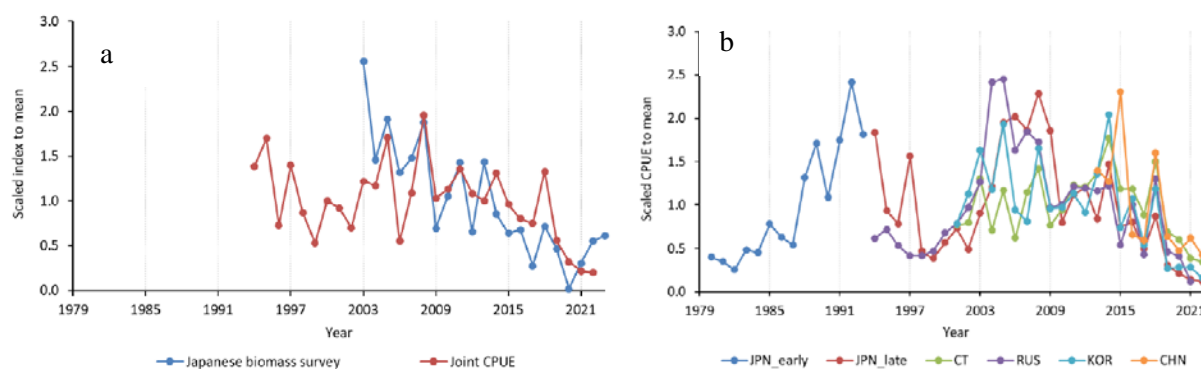


Figure 2. Time series of (a) Japanese survey biomass index and joint CPUE and (b) Member's standardized CPUE indices used in the assessment modeling.

Brief description of specification of analysis and models

A Bayesian state-space production model (BSSPM) used in previous stock assessments was employed as an agreed provisional stock assessment model for Pacific saury during 1980-2023. Scientists from three Members (China, Japan and Chinese Taipei) each conducted analyses following the agreed specification which called for two base case scenarios and two sensitivity scenarios (see Annex F, SSC PS09 report for more details). The two base case scenarios differ in using each Member's standardized CPUEs (base case B1) or standardized joint CPUEs (base case B2). For the two sensitivity cases with Japanese early CPUE (1980-1994), time-varying catchability was assumed to account for potential increases in catchability. A higher weight was given to the Japanese biomass survey estimates than to Members' CPUEs in B1 while comparable weights were given to the Japanese biomass survey estimates and the joint CPUEs in B2. The CPUE data were modeled as nonlinear indices of biomass. Members used similar approaches with some differences in the assumption of the time-varying catchability and prior distributions for the free parameters in the model.

Summary of stock assessment results

The SSC PS considered the BSSPM results and noted the agreement in trends among Members' results for each base case model. However, there was a marked difference in the biomass level between B1 and B2 due to the different CPUE trends used. The SSC PS discussed and recognized that the results covered a wide range of uncertainties in data, model and estimation, and it therefore concluded the outcomes of MCMC runs could be aggregated over the 6 models (2 base case models x 3 Members) as in the previous assessments. The aggregated results for assessing the overall median values and their associated 80% credible intervals are shown in Table 1. The graphical presentations for times series of a) biomass (B), b) B-ratio ($=B/B_{MSY}$), c) harvest rate (F), d) F-ratio (F/F_{MSY}) and e) B/K are shown in Figure 3. The Kobe plot with time trajectory using aggregated model outcomes is shown in Figure 4. Time series of median estimated values for biomass, harvest rate, B-ratio, F-ratio and depletion level relative to K are shown in Table 2.

Table 1. Summary of estimates of reference quantities. Median and credible intervals for the aggregated results are presented. In addition, median values of Member's combined results (over B1 and B2) are shown.

	Median	Lower10%	Upper10%	Median_CHN	Median_JPN	Median_CT
C_2022 (10000 t)	10.009	10.009	10.009	10.009	10.009	10.009
AveC_2020_2022	11.066	11.066	11.066	11.066	11.066	11.066
AveF_2020_2022	0.337	0.141	0.621	0.328	0.376	0.316
F_2022	0.245	0.113	0.426	0.231	0.270	0.237
FMSY	0.314	0.108	0.576	0.305	0.350	0.297
MSY (10000 t)	39.657	30.473	48.874	40.434	39.856	38.940
F_2022/FMSY	0.806	0.519	1.436	0.810	0.799	0.809
AveF_2020_2022/FMSY	1.111	0.770	1.748	1.159	1.106	1.079
K (10000 t)	264.054	147.520	702.181	285.000	251.768	260.100
B_2022 (10000 t)	40.820	23.503	88.382	43.290	37.073	42.300
B_2023 (10000 t)	54.940	33.227	108.300	57.340	52.284	55.320
AveB_2021_2023	42.410	25.270	90.015	44.623	39.042	43.883
BMSY (10000 t)	128.100	74.289	317.407	136.900	118.580	130.150
BMSY/K	0.481	0.389	0.604	0.469	0.469	0.506
B_2022/K	0.155	0.089	0.233	0.150	0.151	0.163
B_2023/K	0.209	0.105	0.341	0.200	0.210	0.214
AveB_2021_2023/K	0.163	0.092	0.244	0.156	0.160	0.170
B_2022/BMSY	0.316	0.195	0.474	0.306	0.316	0.323
B_2023/BMSY	0.426	0.227	0.698	0.412	0.441	0.424
AveB_2021_2023/BMSY	0.331	0.201	0.496	0.320	0.336	0.337

Table 2. Time series of median estimated values for biomass, harvest rate, B-ratio, F-ratio and depletion level relative to K. The unit of biomass is 10,000 tons.

Year	Biomass	HarvestRate	Bratio	Fratio	Depletion
1980	146.700	0.163	1.123	0.562	0.545
1981	153.700	0.133	1.209	0.447	0.588
1982	165.132	0.148	1.311	0.492	0.641
1983	169.033	0.153	1.348	0.501	0.662
1984	172.600	0.143	1.373	0.468	0.675
1985	177.200	0.159	1.402	0.522	0.689
1986	178.100	0.146	1.397	0.484	0.689
1987	181.400	0.130	1.418	0.431	0.699
1988	186.000	0.192	1.448	0.638	0.714
1989	176.079	0.188	1.363	0.628	0.673
1990	173.523	0.251	1.340	0.845	0.660
1991	159.300	0.250	1.228	0.849	0.604
1992	151.500	0.253	1.171	0.867	0.572
1993	145.000	0.277	1.118	0.961	0.544
1994	135.100	0.246	1.044	0.862	0.503
1995	130.900	0.263	0.993	0.947	0.476
1996	121.800	0.219	0.911	0.805	0.436
1997	126.300	0.293	0.915	1.121	0.437
1998	113.500	0.155	0.821	0.598	0.392
1999	124.400	0.142	0.886	0.551	0.423
2000	140.074	0.204	1.018	0.768	0.486
2001	145.600	0.255	1.091	0.912	0.526
2002	151.000	0.218	1.156	0.747	0.563
2003	182.400	0.244	1.392	0.814	0.690
2004	167.100	0.221	1.277	0.738	0.632
2005	179.300	0.264	1.353	0.888	0.672
2006	155.488	0.254	1.184	0.847	0.584
2007	163.168	0.319	1.236	1.067	0.614
2008	159.200	0.388	1.190	1.312	0.594
2009	116.400	0.406	0.894	1.355	0.438
2010	117.900	0.365	0.890	1.232	0.440
2011	122.470	0.373	0.912	1.269	0.453
2012	108.500	0.424	0.825	1.419	0.407
2013	113.500	0.374	0.847	1.259	0.424
2014	104.500	0.602	0.798	1.971	0.398
2015	74.330	0.483	0.561	1.612	0.281
2016	67.220	0.538	0.509	1.786	0.254
2017	53.971	0.487	0.415	1.610	0.205
2018	59.390	0.734	0.450	2.397	0.226
2019	37.252	0.524	0.282	1.754	0.141
2020	30.510	0.458	0.233	1.530	0.115
2021	31.037	0.297	0.238	0.989	0.117
2022	40.820	0.245	0.316	0.806	0.155
2023	54.940		0.426		0.209

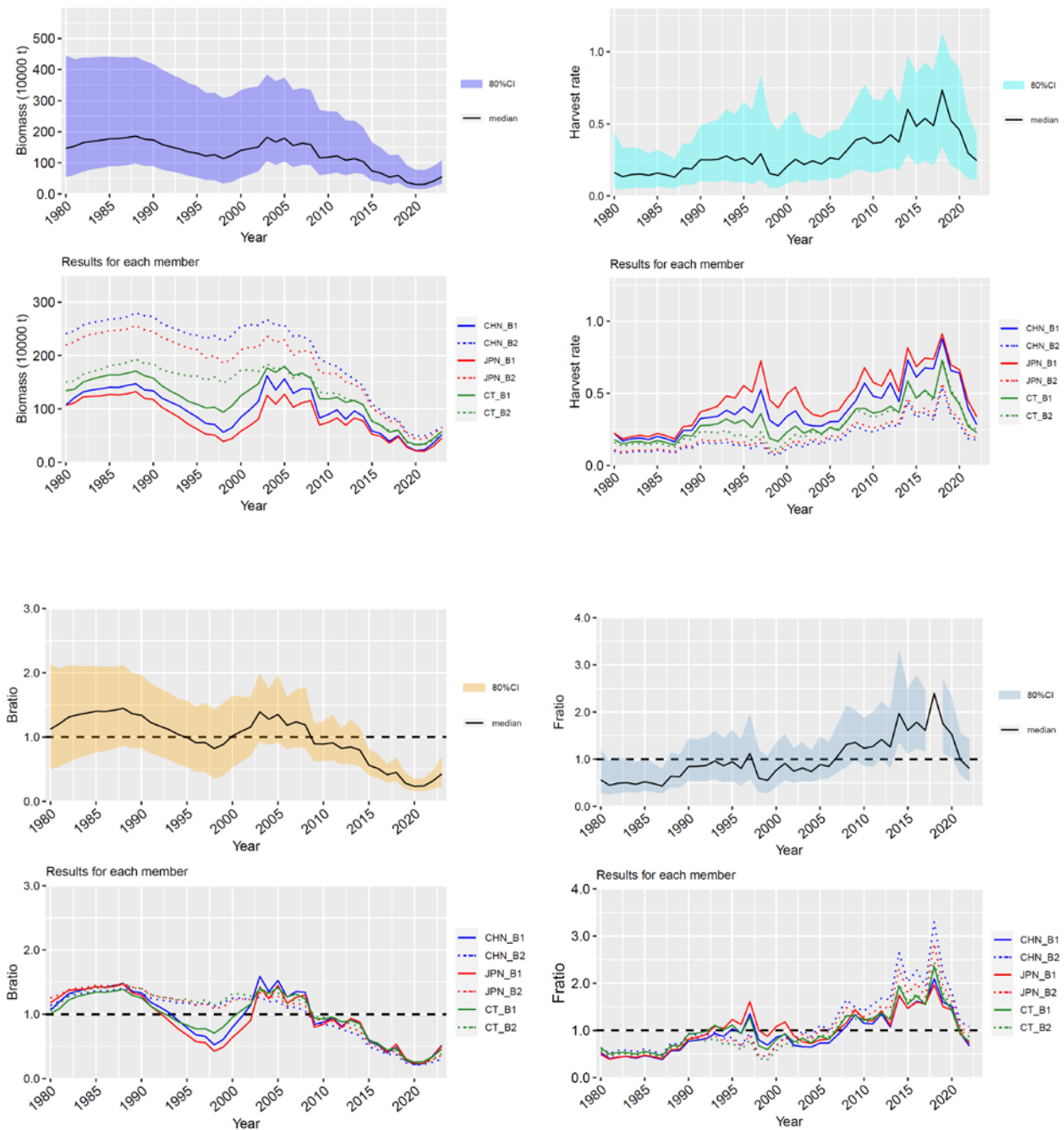


Figure 3. Time series of median estimated values of six runs for biomass, harvest rate, B-ratio, F-ratio and depletion level relative to K. The solid and shaded lines correspond to B1 and B2, respectively.

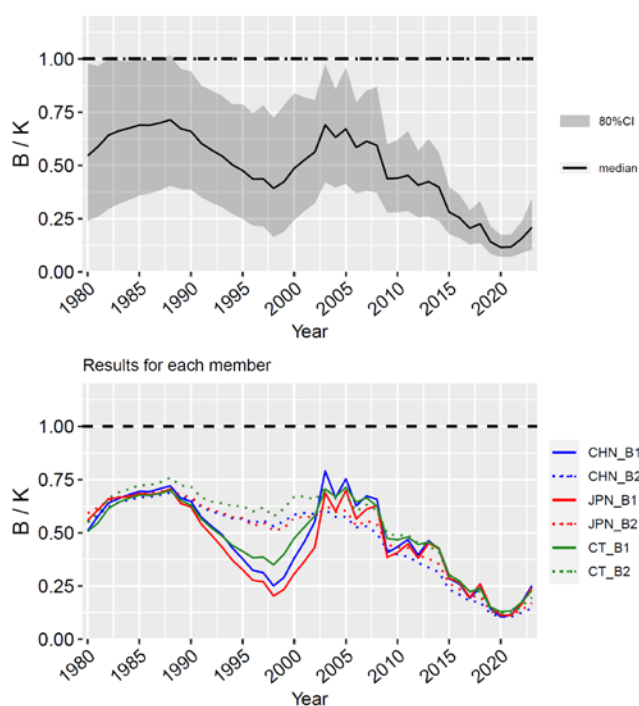


Figure 3 (Continued).

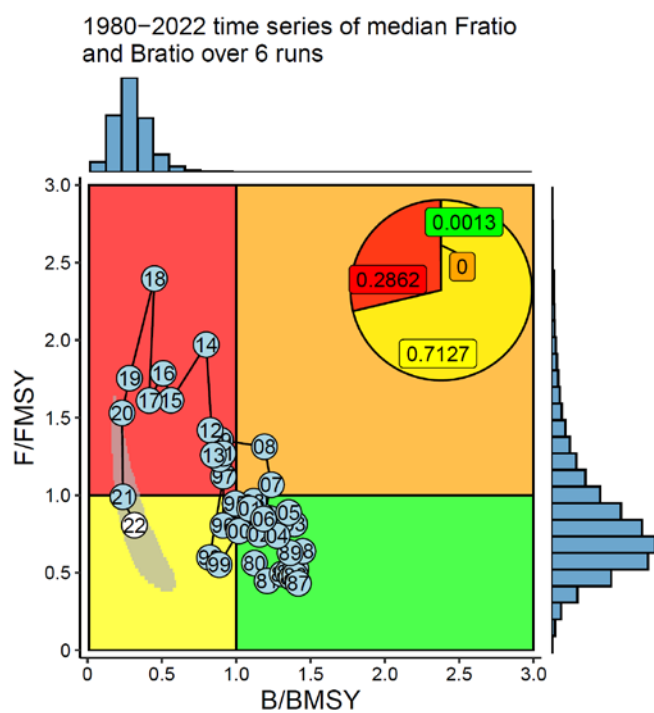


Figure 4. Kobe plot with time trajectory. The data are aggregated across 6 model results (2 base-case models by 3 Members).

Current stock condition and management advice

Summary of stock status

Results of all Members' and combined model estimates indicate that the stock declined with an interannual variability from near carrying capacity in the mid-2000's after a period of high productivity to current low levels. Combined results show that average B was below B_{MSY} during 2021-2023 (median average B/B_{MSY} during 2021-2023 = 0.331, 80%CI=0.201-0.496) and average F was above F_{MSY} (average F/F_{MSY} during 2020-2022 = 1.111, 80%CI= 0.770-1.748). Thus, stock biomass remained at low levels in recent years. The evidence is mixed but biomass may have increased modestly during 2022-2023 based on unstandardized CPUE for 2023 and higher recruitment that may be evident in the Japanese fishery size composition data. There was an increase in the Japanese biomass survey between 2021 and 2023. Ignoring the 2020 survey result (as the 2020 survey was incomplete), the Japanese survey varied without trend at historically low levels during 2015-2023. Standardized CPUE declined to low levels in 2022 but nominal data for 2023 show higher catch rates in 2023 for most Members (Figure 5). Effective fishing effort in the entire fishery remains high with decreases by most Members offset by increases in fishing effort for other Members. Harvest rates declined from a peak in 2018 and were lower but near F_{MSY} during 2021-2022. Reductions in harvest rate and increases in nominal CPUE during 2022-2023 are positive signs but data and recent estimates are variable, CPUE, survey data and biomass are still low, and fishing effort remains high. As described below, management approaches that reduce exploitation at current low biomass levels are more likely to take advantage of any recent increases in stock productivity and help rebuild the fishery and Pacific saury population.

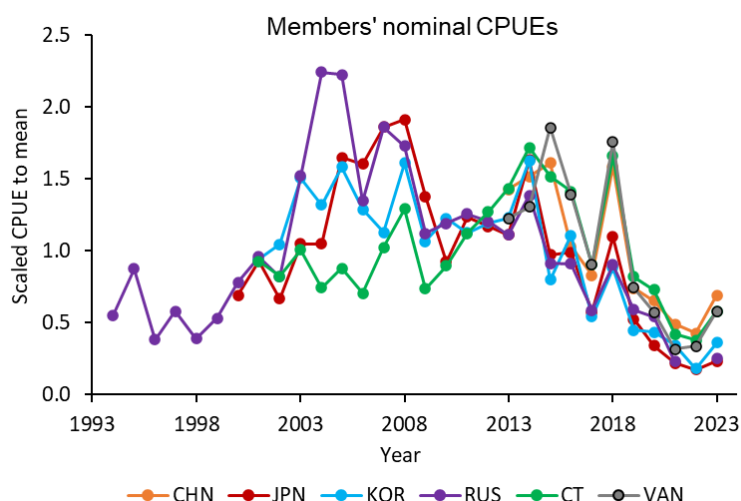


Figure 5. Time series of Member's nominal CPUE indices. Data in 2023 are preliminary (as of November 2023).

The retrospective patterns were modest or not identified and reduced from the previous assessment. There was some scale uncertainty that was examined by Members and determined to be the result of differing prior assumptions. Fortunately, the trends in relative exploitation and relative biomass were robust and consistent.

Management advice

The Commission has responsibility for choosing the TAC and the TAC approach for the Pacific saury fishery. The method used by the Commission in 2019 to set the 2020 TAC for saury was $F_{MSY} * B$, which is a standard approach used previously in many fisheries. However, it was noted in the previous stock assessment that the original method is seldom used in modern fishery management because it maintains a high (F_{MSY}) fishing mortality level as stock biomass becomes low, as is currently the case for Pacific saury. Simulation studies for many fisheries show better performance (higher average catch and less frequent low biomass conditions) using harvest control rules such as a new standard approach now used in many fisheries. The newer standard reduces fishing mortality in a simple linear fashion when stock size falls below B_{MSY} to help rebuild stocks at low biomass

and increase catches (Figure 6). It gives the same F and same TAC for stocks at biomass levels B_{MSY} and higher (the original and new approaches are identical when stock biomass is at least B_{MSY}). The new approach is generally regarded as better on technical grounds at maintaining productive stock levels, avoiding low biomass conditions and obtaining relatively high long-term catch. Both approaches are based on the same underlying reference points (F_{MSY} and B_{MSY}) that are estimable for Pacific saury in the BSSPM and likely future models. Both approaches use robust trend-based stock status measures and reference points.

TAC calculations were carried out in this assessment for illustrative purposes using the original and newer standard approaches (Figure 7). Such calculations may serve as a means for communication between scientists and managers, provide another approach to calculate TAC on an interim manner, or as a basis for further work. Results show that the newer approach results in TAC for 2024 ($B_{2023} * F_{MSY} * (B_{2023}/B_{MSY}) = 73,490$ tons) that is smaller to the 2023 catch (102,003 tons, preliminary as of 2 December 2023). Results for the original approach yield TAC for 2024 ($B_{2023} * F_{MSY} = 172,512$ tons), which is substantially higher than recent catches.

The current annual catch limit for 2023-2024 specified in CMM 2023-08 for Pacific saury (250,000 tons) based on historical catch is much larger than a TAC that would be based on the F_{MSY} catch approach 172,512 tons. The current biomass is much lower than B_{MSY} and the TAC for 2023-2024 may not reduce fishing mortality in those years. A harvest control rule that reduces F when biomass is low may increase the probability of achieving long-term sustainable use of Pacific saury (i.e. higher long-term catch closer to MSY of around 396,570 tons). A reduction to the TAC for 2023-2024 would increase the probability of higher biomass and catch levels in the Pacific saury stock.

The HCR used in the second calculation above is a relatively simple approach widely used in many fisheries, but only one example from the range of potential harvest control rules of the same or other types. Note the performance of the above HCRs is in the process of being evaluated.

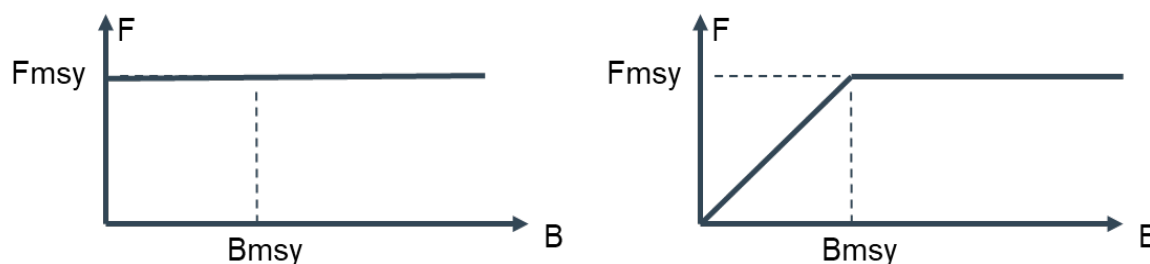


Figure 6. Shapes of harvest rates used in the 2019 Commission meeting for setting the TAC for 2020 (left) and a standard HCR (right).



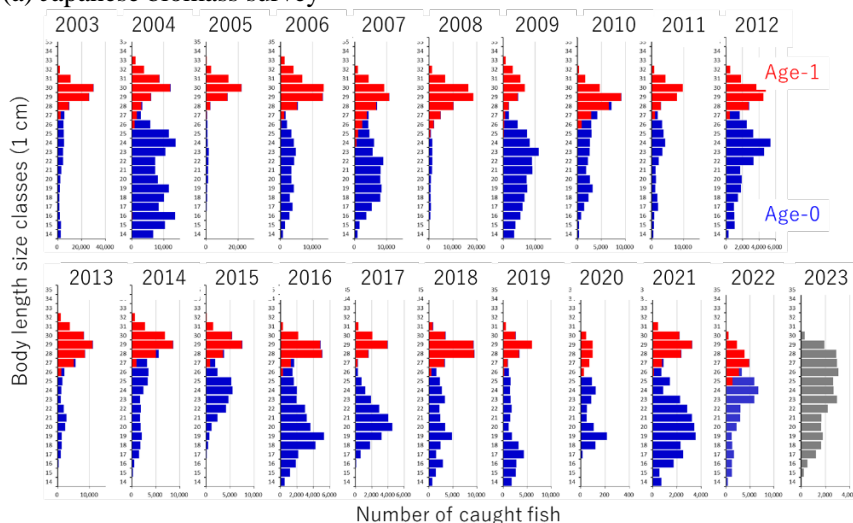
Figure 7. Median time series of $F_{MSY} * B$, $\min(1, B/B_{MSY}) * F_{MSY} * B$, and the actual catch. The first calculation was used by the Commission in 2019 and the second calculation is a common HCR used elsewhere that reduces F when biomass falls below B_{MSY} . Note that the catch in 2023 is a preliminary number as of 2 December 2023. Note that these two calculations are the same when $B > B_{MSY}$. Also, the second calculation is shown as an example application of an HCR.

Special comments regarding the procedures and stock assessment results

The SSC PS worked collaboratively to produce this consensus stock assessment, which includes significant technical improvements.

- 1) Standardized CPUE data were assumed to change more slowly than biomass and were down-weighted relative to the Japanese survey in the first base case (B1), which used CPUE from individual Members. In B1, a single non-linear parameter was used for the CPUEs for each Member. Model results support this decision.
- 2) Potential Covid-19 effects on CPUE and catches were not considered in this assessment but may be important. Members should consult fishermen regarding possible impacts of COVID-19 on the fishery.
- 3) Retrospective analyses have shown that BSSPM model projections are not suitable for use by managers and they have therefore been omitted by most Members (see discussion in the 2019 assessment (NPFC-2019-SSC PS04-Final Report)). Projections are problematic because recruits and older Pacific saury are not distinguished in the model, environmental effects are important but not predictable and because the species is short-lived.
- 4) The 2020 biomass index from the Japanese survey has large uncertainties due to incomplete survey coverage and complicates interpretation of recent trends. It may be better to disregard the 2020 observation when evaluating recent trends visually.
- 5) The relative importance of fishing and environmental factors on the population dynamics of Pacific saury is unknown and an important area for research. However, changing environmental conditions may have contributed to the decline and current low stock size of Pacific saury. Oceanographic or biological factors responsible for changes in productivity have not yet been determined. Development of modeling procedures to incorporate environmental change is an important area for future research. The work should include refinements to stock assessment models to better reflect and estimate environmental effects on recruitment and biology. This work should be coordinated among Members and folded into the development of age-structured and improved BSSPM models.
- 6) The Commission should consider defining overfishing and overfished status and identify actions taken when such conditions occur in the future.
- 7) Time series of size and age composition data from the Japanese survey and fishery (Figures 8 and 9) showed the occurrence of weak year classes (i.e. 2005, 2008) consistently. Such consistency will facilitate application of new age and/or size structured model.

(a) Japanese biomass survey



(b) Japanese commercial fishery between August and November

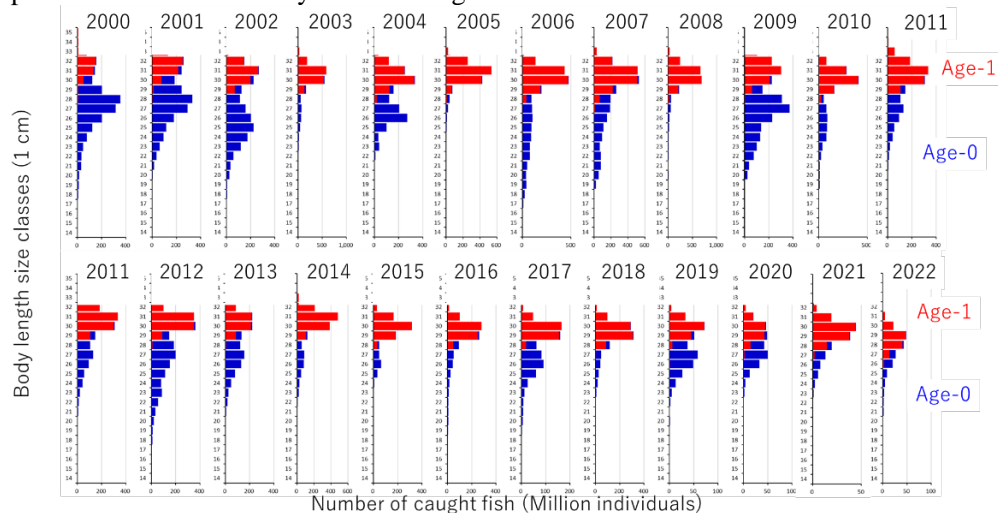


Figure 8. Time series of age and length composition of samples taken from the Japanese survey and commercial fishery (August-November) in Japan.

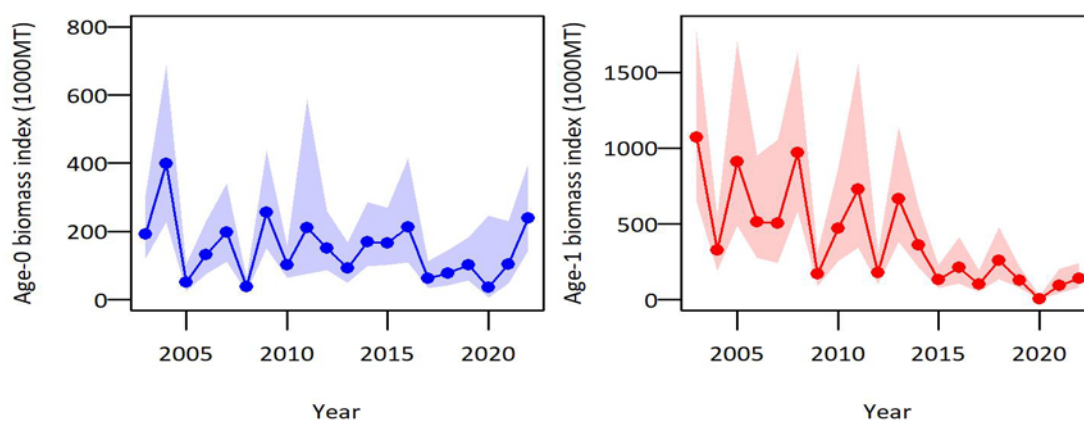


Figure 9. Time series of Japanese survey biomass index by age.

STOCK ASSESSMENT REPORT FOR PACIFIC SAURY

1. INTRODUCTION

1.1 Distribution

Pacific saury (*Cololabis saira* Brevoort, 1856) has a wide distribution extending in the subarctic and subtropical North Pacific Ocean from inshore waters of Japan and the Kuril Islands to eastward to the Gulf of Alaska and southward to Mexico. Pacific saury is a commercially important fish in the western North Pacific Ocean (Parin 1968; Hubbs and Wisner 1980).

1.2 Migration

Pacific saury migrates extensively between the northern feeding grounds in the Oyashio waters around Hokkaido and the Kuril Islands in summer and the spawning areas in the Kuroshio waters off southern Japan in winter (Fukushima 1979; Kosaka 2000). Pacific saury in offshore regions (east of 160°E) also migrate westward toward the coast of Japan after October every year (Suyama et al. 2012).

1.3 Population structure

Genetic evidence suggests there are no distinct stocks in the Pacific saury population based on 141 individuals collected from five distant locales (East China Sea, Sea of Okhotsk, northwest Pacific, central North Pacific, and northeast Pacific) (Chow et al. 2009).

1.4 Spawning season and grounds

The spawning season of Pacific saury is relatively long, beginning in September and ending in June of the following year (Watanabe and Lo 1989). Pacific saury spawns over a vast area from the Japanese coastal waters to eastern offshore waters (Baitaliuk et al. 2013). The main spawning grounds are considered to be located in the Kuroshio-Oyashio transition region in fall and spring and in the Kuroshio waters and the Kuroshio Extension waters in winter (Watanabe and Lo 1989).

1.5 Food and feeding

The Pacific saury larvae prey on the nauplii of copepods and other small-sized zooplankton. As they grow, they begin to prey on larger zooplankton such as krill (Odate 1977). The Pacific saury is preyed on by large fish ranked higher in the food chain, such as *Thunnus alalunga* (Nihira 1988) and coho salmon, *Oncorhynchus kisutch* (Sato and Hirakawa 1976) as well as by animals such as minke whales *Balaenoptera acutorostrata* (Konishi et al. 2009) and sea birds (Ogi 1984).

1.6 Age and growth

Based on analysis of daily otolith increments, Pacific saury reaches approximately 20 cm in knob length (distance from the tip of lower jaw to the posterior end of the muscular knob at the base of a caudal peduncle; hereafter as body length) in 6 or 7 months after hatching (Watanabe et al. 1988; Suyama et al. 1992). There is some variation in growth rate depending on the hatching month during this long spawning season (Kurita et al. 2004) and geographical differences (Suyama et al. 2012b). The maximum lifespan is 2 years (Suyama et al. 2006). The age 1 fish grow to over 27 cm in body length in June and July when Japanese research surveys are conducted and reach over 29 cm in the fishing season between August and December (Suyama et al. 2006).

1.7 Reproduction

The minimum size of maturity of Pacific saury has been estimated at about 25 cm in the field (Hatanaka 1956) or rearing experiments (Nakaya et al. 2010). In rare cases, saury have been found to mature at 22 cm (Sugama 1957; Hotta 1960). Under rearing experiments, Pacific saury begins spawning 8 months after hatching, and spawning activity continues for about 3 months (Suyama et al. 2016). Batch fecundity is about 1,000 to 3,000 eggs per saury (Kosaka 2000).

2. FISHERY

2.1 Overview of fisheries

Western North Pacific

In Japan, the stick-held dip net fishery for Pacific saury was developed in the 1940s. Since then, the stick-held dip net gears have become the dominant fishing technique to catch Pacific saury in the northwest Pacific Ocean. Since 1995, more than 97% of Japan's total catch is caught by the stick-held dip net. The annual catch of Pacific saury for stick-held dip net fishery has fluctuated. Maximum and minimum catches of 355 thousand tons and 18 thousand tons were recorded in 2008 and 2022, respectively.

Pacific saury fisheries in Korea have been operated with gillnet since the late 1950s in Tsushima Warm Current region. Korean stick-held dip net fishery started from 1985 in the Northwest Pacific Ocean. The largest catch of 50 thousand tons was recorded in 1997 (Gong and Suh 2013).

Russian fishery for Pacific saury has been conducted using stick-held dip nets in the northwest Pacific Ocean in the area that includes national waters (mainly within the Russian EEZ) and adjacent NPFC Convention Areas. Russian catch statistics for saury fishery exists, beginning from 1956, and standardized CPUE indices from that fishery were calculated since 1994. Saury fishery traditionally occurred from August to November; however, in recent years, the onset of fishing for saury shifted to the early summer period. Peak catch of saury of over 100 thousand tons was in 2007. Since then, the annual catch has been decreasing, and was about 610 tons in 2021.

China commenced its exploratory saury fishing using stick-held dip nets in the high seas in 2003, but only started to develop this fishery in 2012. The fishing seasons mainly cover the period from June-November.

Chinese Taipei's Pacific saury fishery can date back to 1975 and had its first commercial catch in 1977. Over the past decade, the number of active Pacific saury fishing vessels has been increasing from 68 to 91 and the catch has fluctuated between 39,750 tons and 229,937 tons since 2001. Aside from Pacific saury fishery, most of the Pacific saury fishing vessels also conduct flying squid jigging operations in the Northwest Pacific Ocean.

Vanuatu commenced its development of Pacific saury fishery by using stick-held dip net in the high seas in 2004. Currently there are four vessels operating in the Northwest Pacific targeting saury, but the total accumulative number of its authorized Pacific saury fishing vessels from 2004 to 2020 is 16. The fishing season mainly covers the period from July to November each year.

Eastern North Pacific

Although Pacific saury occur in the Canada EEZ, there is no targeted fishery for the species. There is no historical record of Canadian participation in international fisheries for saury. Domestic fisheries sometimes capture saury as bycatch in pelagic and bottom trawls and there are a handful of records from other gear types including commercial longlines. The most recently compiled estimates indicate around 300 kg of saury were captured by Canadian commercial fisheries over 17 years from 1997-2013 (Wade and Curtis 2015; NPFC-2022-SSC PS09-IP01). There are also records of saury catches from research trawls (surface, pelagic and bottom trawls) in Canadian waters, but the catches have been minimal.

Management plans developed by the United States' National Marine Fisheries Service currently prohibit targeted fishing on marine forage species including the Pacific saury. In the 1950's to mid-1970's there were sporadic attempts to commercially fish for Pacific saury off of California with limited success using purse seines and light attraction (Kato 1992). Catches from 1969-1972 averaged 450 tons. Currently landings are only "occasionally" reported as bycatch in fisheries on the US west coast. Landings of Pacific saury as bycatch on the US west coast averaged 5.5 kg per year from 2011-2015 (NOAA Fisheries National Bycatch Report Database System, <https://www.st.nmfs.noaa.gov/>, accessed March 8, 2019)

Historically, Japanese and Russian vessels operated mainly within their own EEZs, but they have shifted into the Convention Area in recent years. Chinese, Korean and Chinese Taipei vessels operate mainly in the high seas of the North Pacific (Figure 1).

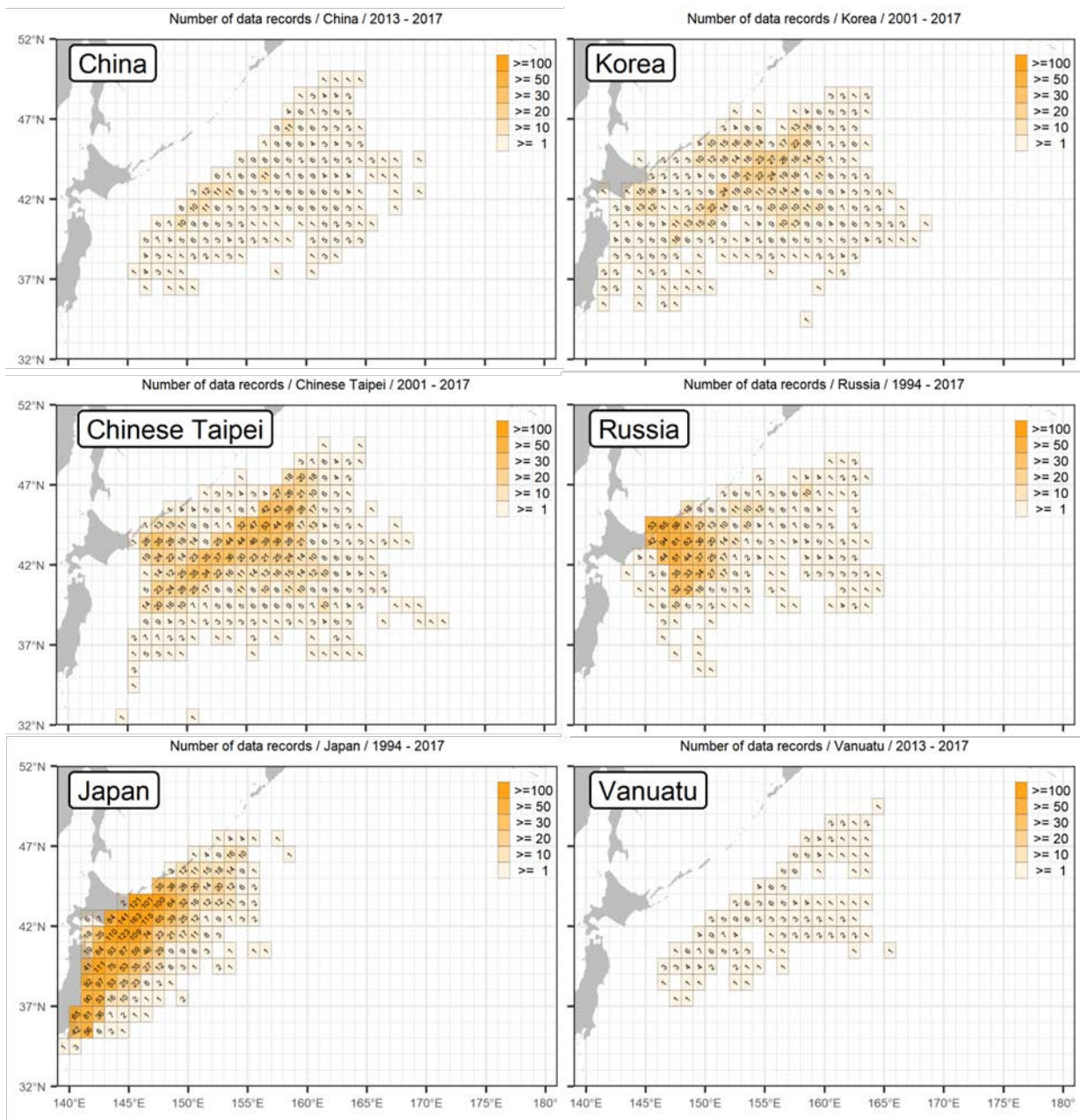


Figure 1 (a). Main fishing grounds for Pacific saury by fishing members in the western North Pacific Ocean during 1994-2017. The legend shows the number of data records. This figure is based on the data shared by the Members for the development of a joint CPUE index

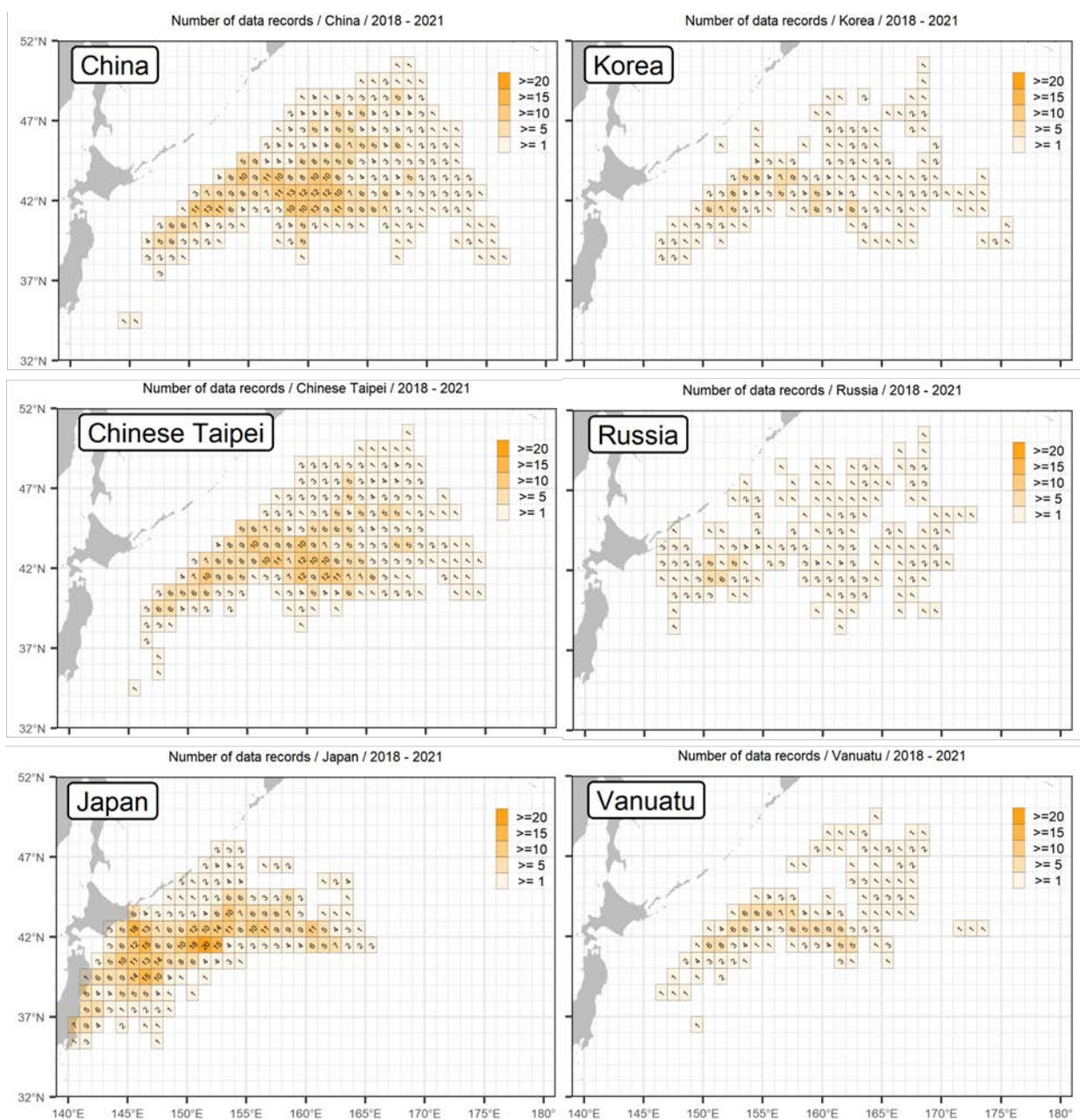


Figure 1 (b). Main fishing grounds for Pacific saury by fishing members in the western North Pacific Ocean during 2018-2021. The legend shows the number of data records. This figure is based on the data shared by the Members for the development of a joint CPUE index

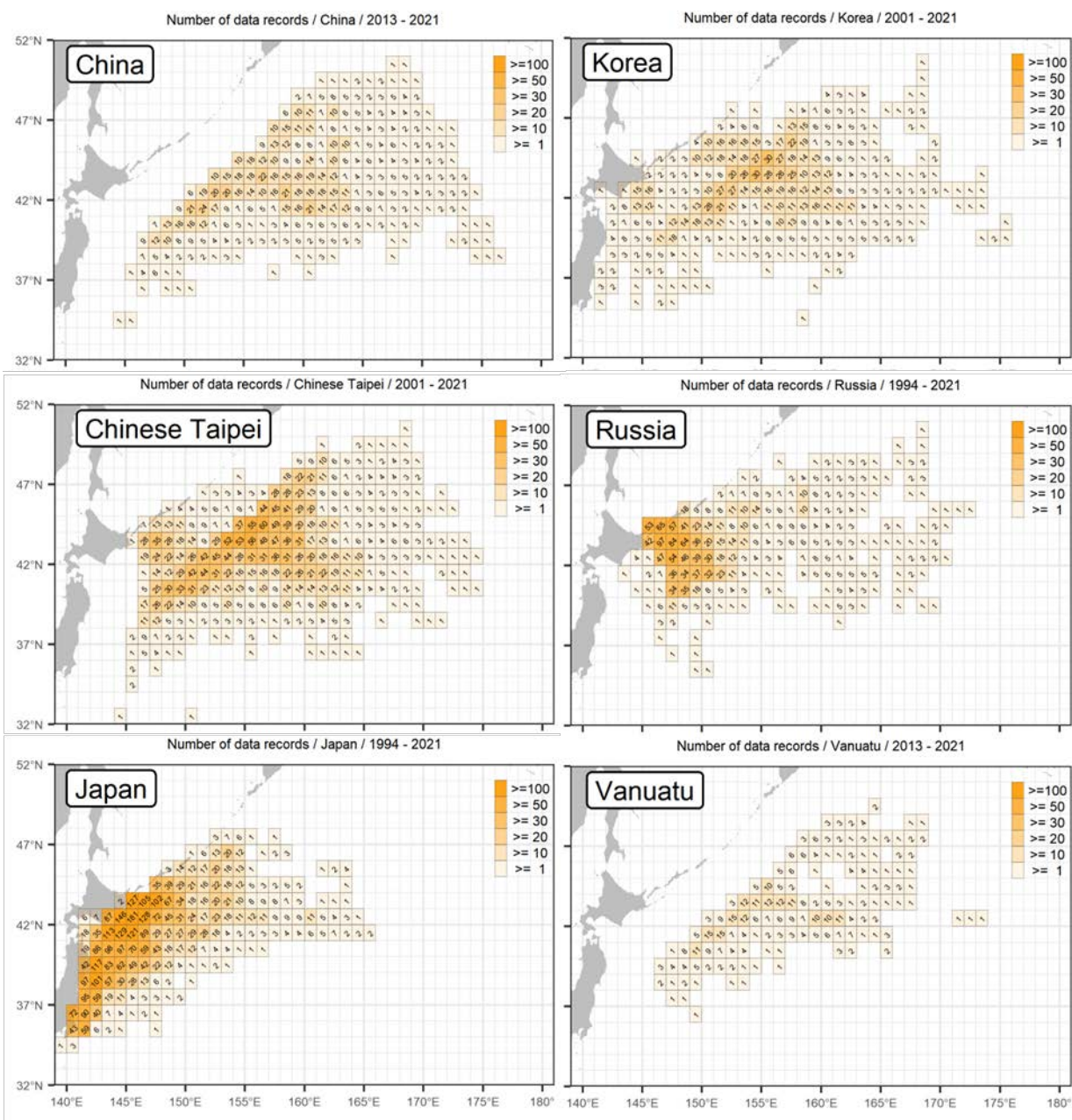


Figure 1 (c). Main fishing grounds for Pacific saury by fishing members in the western North Pacific Ocean during 1994-2021. The legend shows the number of data records. This figure is based on the data shared by the Members for the development of a joint CPUE index

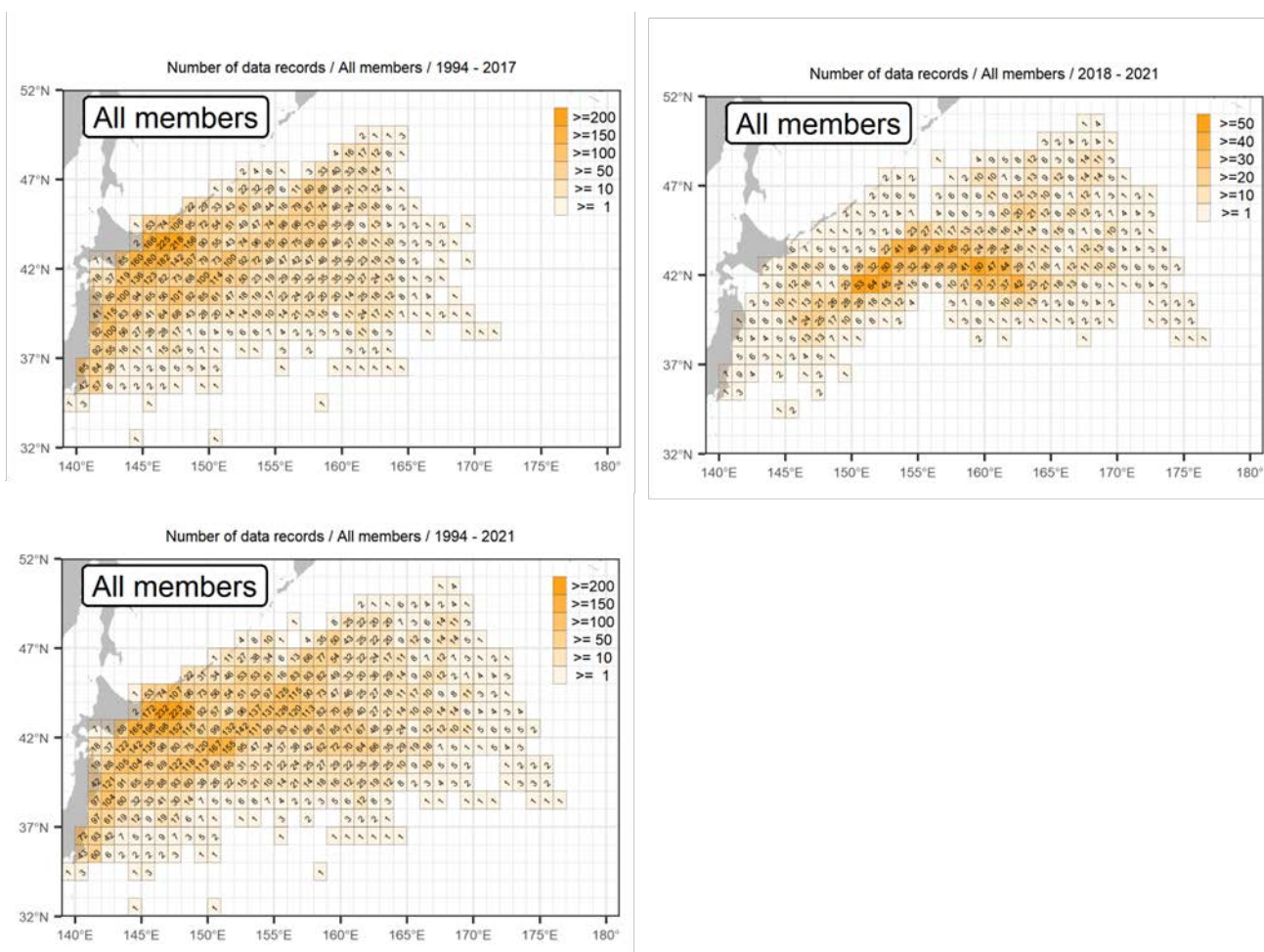


Figure 1 (d). Main fishing grounds for Pacific saury in the western North Pacific Ocean. The legend shows the number of data records. This figure is based on the data shared by the Members for the development of a joint CPUE index

2.2 Catch records

Figure 2 shows the historical catches of Pacific saury in the northwest Pacific Ocean by Member.

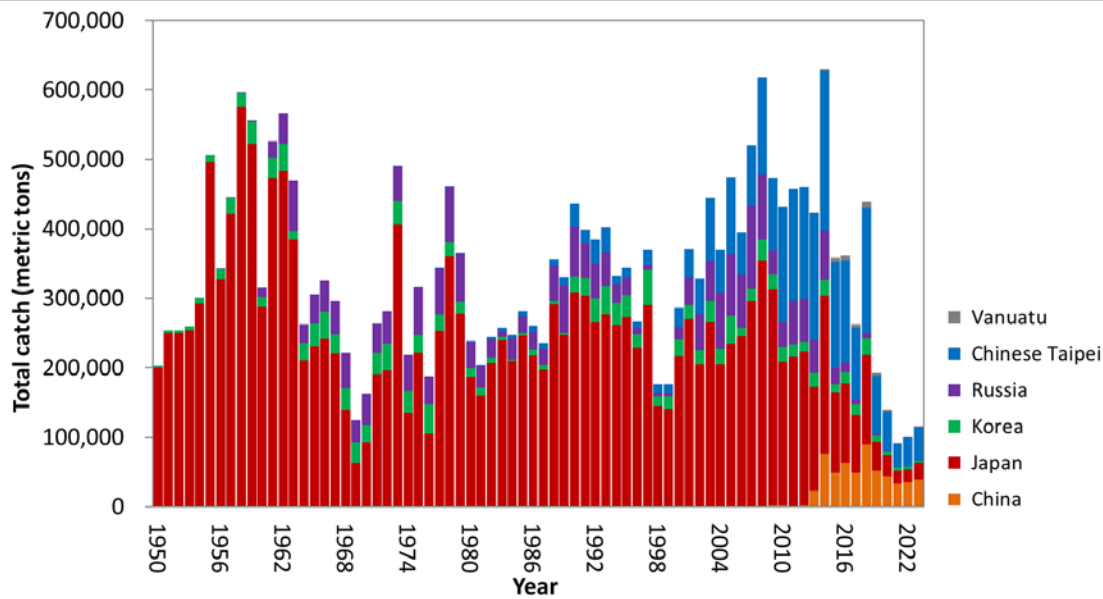


Figure 2. Time series of catch by Member during 1950-2023. The catch data for 1950-1979 are shown but not used in stock assessment modeling. Catch data in 2023 are preliminary (as of 2 December 2023) and not used in the assessment.

3. SPECIFICATION OF STOCK ASSESSMENT

A Bayesian state-space production model (BSSPM) used in previous stock assessments was employed as an agreed provisional stock assessment model for Pacific saury during 1980-2023. Scientists from three Members (China, Japan and Chinese Taipei) each conducted analyses following the agreed specification which called for two base case scenarios and two sensitivity scenarios (see Annex F, SSC PS09 report for more details). The two base case scenarios differ in using each Member's standardized CPUEs (base case B1) or standardized joint CPUEs (base case B2). For the two sensitivity cases with Japanese early CPUE (1980-1994), time-varying catchability was assumed to account for potential increases in catchability. A higher weight was given to the Japanese biomass survey estimates than to Members' CPUEs in B1 while comparable weights were given to the Japanese biomass survey estimates and the joint CPUEs in B2. The CPUE data were modeled as nonlinear indices of biomass. Members used similar approaches with some differences in the assumption of the time-varying catchability and prior distributions for the free parameters in the model.

3.1 Bayesian state-space production model

The population dynamics is modelled by the following equations:

$$B_t = \{B_{t-1} + B_{t-1}f(B_{t-1}) - C_{t-1}\}e^{u_t}, \quad u_t \sim N(0, \tau^2)$$

$$f(B_t) = r \left[1 - \left(\frac{B_t}{K} \right)^z \right]$$

where

B_t : the biomass at the beginning of year t

C_t : the total catch of year t

u_t : the process error in year t

$f(B)$: the production function (Pella-Tomlinson)

r : the intrinsic rate of natural increase

K : the carrying capacity

z : the degree of compensation (shape parameter; different symbols were used by the 3 members)

The multiple biomass indices are modelled as follows:

Survey biomass estimate

$$I_{t,biomass} = q_{biomass} B_t \exp(v_{t,biomass}), \quad \text{where } v_{t,biomass} \sim N(0, \sigma_{biomass}^2)$$

where

$q_{biomass}$: the relative bias in biomass estimate

$v_{t,biomass}$: the observation error term in year t for survey biomass estimate

$\sigma_{biomass}^2$: the observation error variance for survey biomass estimate

CPUE series

$$I_{t,f} = q_f B_t^b \exp(v_{t,f}), \quad \text{where } v_{t,f} \sim N(0, \sigma_f^2)$$

where

$I_{t,f}$: the biomass index in year t for biomass index f

q_f : the catchability coefficient for biomass index f

b : the hyper-stability/depletion parameter

$v_{t,f}$: the observation error term in year t for biomass index f

σ_f^2 : the observation error in year t for biomass index f

For the estimation of parameters, Bayesian methods were used with Member-specific differences in preferred assumptions for the prior distributions for the free parameters. MCMC methods were employed for simulating the posterior distributions. For the assumptions of uniform priors used in China and Japan, see documents NPFC-2023-SSC PS12-WP05 and NPFC-2023-SSC PS12-WP09; for the non-uniform priors used in Chinese Taipei, see document NPFC-2023-SSC PS12-WP06.

3.2 Agreed scenarios

Table 1. Definition of scenarios

	Base case (NB1)	Base case (NB2)	Sensitivity case (NS1)	Sensitivity case (NS2)
Initial year	1980	1980	1980	1980
Biomass survey	$I_{t,bio} = q_{bio} B_t e^{v_{t,bio}}$ $v_{t,bio} \sim N(0, cv_{t,bio}^2 + \sigma^2)$ $q_{bio} \sim U(0,1)$ (2003-2023)	Same as left	Same as left	Same as left
CPUE	CHN(2013-2022) JPN_late(1994-2022) KOR(2001-2022) RUS(1994-2022) CT(2001-2022) $I_{t,f} = q_f B_t^b e^{v_{t,f}}$ $v_{t,f} \sim N(0, \sigma_f^2)$ $\sigma_f^2 = c \cdot (ave(cv_{t,bio}^2) + \sigma^2)$, where $ave(cv_{t,bio}^2)$ is computed except for 2020 survey ($c = 5$)	Joint CPUE (1994-2022) $I_{t,joint} = q_{joint} B_t^b e^{v_{t,joint}}$ $v_{t,joint} \sim N(0, cv_{t,joint}^2 + \sigma^2)$	CHN(2013-2022) JPN_early(1980-1993, time-varying q) JPN_late(1994-2022) KOR(2001-2022) RUS(1994-2022) CT(2001-2022) $I_{t,f} = q_f B_t^b e^{v_{t,f}}$ $v_{t,f} \sim N(0, \sigma_f^2)$ $\sigma_f^2 = c \cdot (ave(cv_{t,bio}^2) + \sigma^2)$, where $ave(cv_{t,bio}^2)$ is computed except for 2020 survey ($c = 6$)	JPN_early(1980-1993, time- varying q) $I_{t,JE} = q_{t,JE} B_t^b e^{v_{t,JE}}$ $v_{t,JE} \sim N(0, \sigma_{JE}^2)$ $\sigma_{JE}^2 = c \cdot ave(cv_{t,joint}^2 + \sigma^2)$ Joint CPUE (1994-2022) $I_{t,joint} = q_{joint} B_t^b e^{v_{t,joint}}$ $v_{t,joint} \sim N(0, cv_{t,joint}^2 + \sigma^2)$
Hyper-depletion / stability	A common parameter for all fisheries with a prior distribution, $b \sim U(0, 1)$	$b \sim U(0, 1)$	A common parameter for all fisheries but JPN_early, with a prior distribution, $b \sim U(0, 1)$ [b for JPN_early is fixed at 1]	$b \sim U(0, 1)$ for joint CPUE. [b for JPN_early is fixed at 1]
Prior for other than q_{bio}	Own preferred options	Own preferred options	Own preferred options	Own preferred options

Table 2. Description of symbols used in the stock assessment

Symbol	Description
C_{2022}	Catch in 2022
$AveC_{2020-2022}$	Average catch for a recent period (2020–2022)
$AveF_{2020-2022}$	Average harvest rate for a recent period (2020–2022)
F_{2022}	Harvest rate in 2022
F_{MSY}	Annual harvest rate producing the maximum sustainable yield (MSY)
MSY	Equilibrium yield at F_{MSY}
F_{2022}/F_{MSY}	Average harvest rate in 2022 relative to F_{MSY}
$AveF_{2020-2022}/F_{MSY}$	Average harvest rate for a recent period (2020–2022) relative to F_{MSY}
K	Equilibrium unexploited biomass (carrying capacity)
B_{2022}	Stock biomass in 2022 estimated in the model
B_{2023}	Stock biomass in 2023 estimated in the model
$AveB_{2021-2023}$	Stock biomass for a recent period (2021–2023) estimated in the model
B_{MSY}	Stock biomass that will produce the maximum sustainable yield (MSY)
B_{MSY}/K	Stock biomass that produces the maximum sustainable yield (MSY) relative to the equilibrium unexploited biomass ^a
B_{2022}/K	Stock biomass in 2022 relative to K^a
B_{2023}/K	Stock biomass in 2023 relative to K^a
$B_{2021-2023}/K$	Stock biomass in the latest time period (2021–2023) relative to the equilibrium unexploited stock biomass ^a
B_{2022}/B_{MSY}	Stock biomass in 2022 relative to B_{MSY}^a
B_{2023}/B_{MSY}	Stock biomass in 2023 relative to B_{MSY}^a
$B_{2021-2023}/B_{MSY}$	Stock biomass for a recent period (2021–2023) relative to the stock biomass that produces maximum sustainable yield (MSY) ^a

^acalculated as the average of the ratios.

4 SOME AGGREGATED RESULTS FOR VISUALIZATION PURPOSE

4.1 Visual presentation of results

The graphical presentations for times series of biomass (B), B-ratio (B/B_{MSY}), exploitation rate (F), F-ratio (F/F_{MSY}) and B/K are shown in Figure 3.

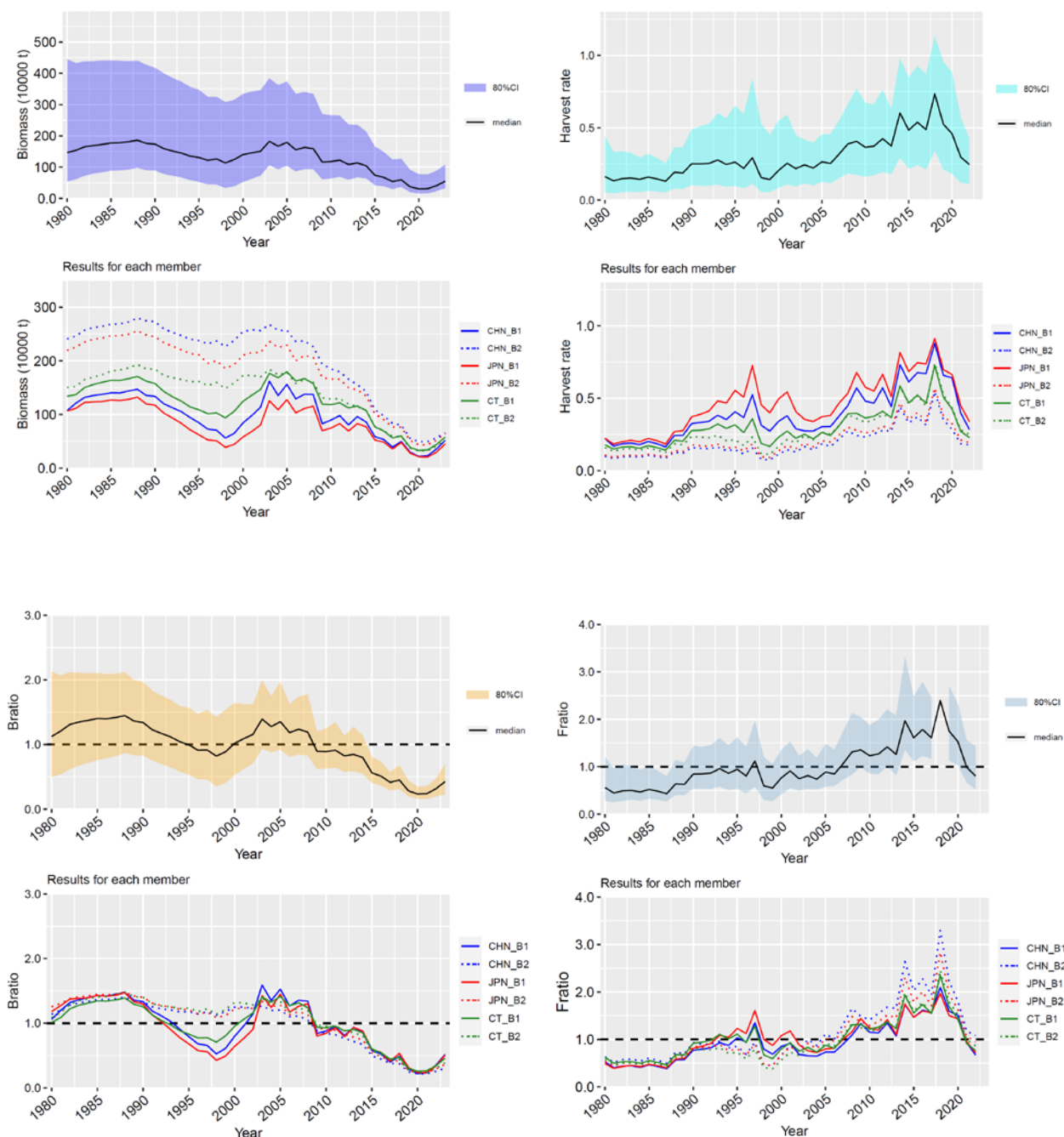


Figure 3. Time series of median estimated values of six runs for biomass, harvest rate, B-ratio, F-ratio and depletion level relative to K. The solid and shaded lines correspond to B1 and B2, respectively.

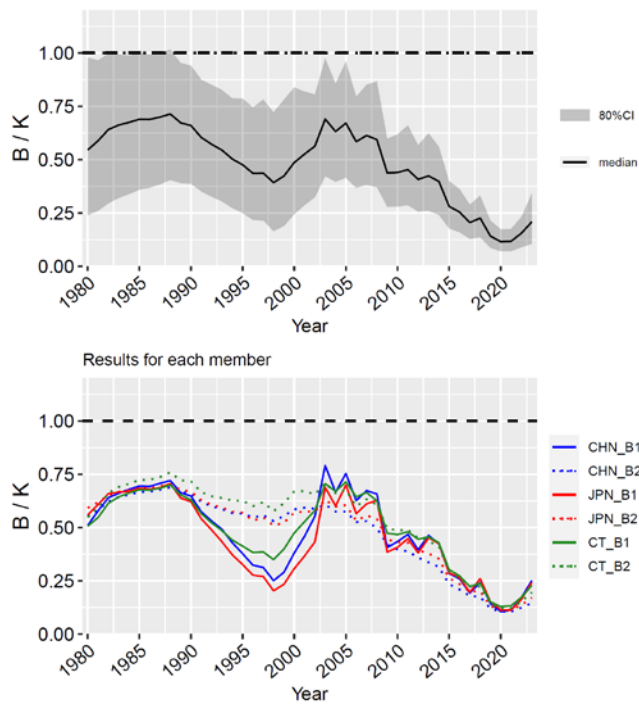


Figure 3 (Continued).

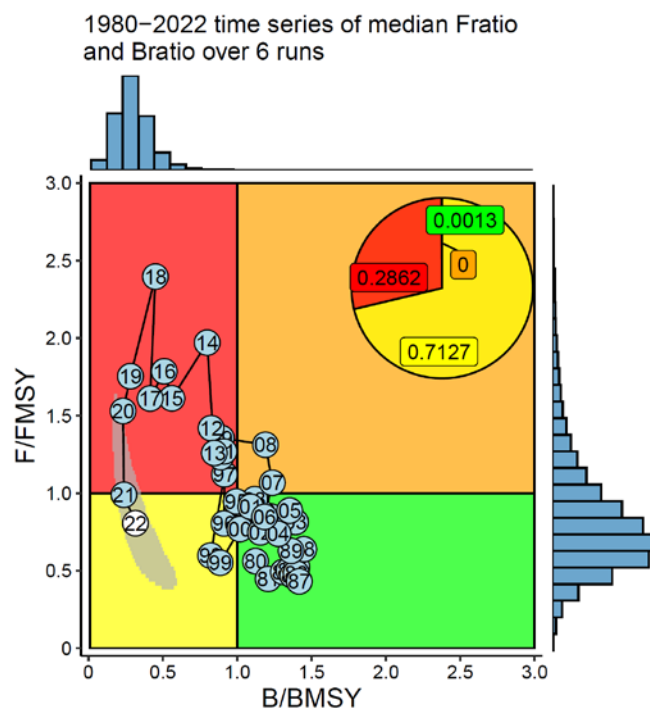


Figure 4. Kobe plot with time trajectory. The data are aggregated across 6 model results (2 base-case models by 3 Members).

4.2 Summary table

Table 3. Summary of estimates of reference quantities. Median and credible interval for the aggregated results are presented. In addition, median values of Member's combined results (over B1 and B2) are shown.

	Median	Lower10%	Upper10%	Median_CHN	Median_JPN	Median_CT
C_2022 (10000 t)	10.009	10.009	10.009	10.009	10.009	10.009
AveC_2020_2022	11.066	11.066	11.066	11.066	11.066	11.066
AveF_2020_2022	0.337	0.141	0.621	0.328	0.376	0.316
F_2022	0.245	0.113	0.426	0.231	0.270	0.237
FMSY	0.314	0.108	0.576	0.305	0.350	0.297
MSY (10000 t)	39.657	30.473	48.874	40.434	39.856	38.940
F_2022/FMSY	0.806	0.519	1.436	0.810	0.799	0.809
AveF_2020_2022/FMSY	1.111	0.770	1.748	1.159	1.106	1.079
K (10000 t)	264.054	147.520	702.181	285.000	251.768	260.100
B_2022 (10000 t)	40.820	23.503	88.382	43.290	37.073	42.300
B_2023 (10000 t)	54.940	33.227	108.300	57.340	52.284	55.320
AveB_2021_2023	42.410	25.270	90.015	44.623	39.042	43.883
BMSY (10000 t)	128.100	74.289	317.407	136.900	118.580	130.150
BMSY/K	0.481	0.389	0.604	0.469	0.469	0.506
B_2022/K	0.155	0.089	0.233	0.150	0.151	0.163
B_2023/K	0.209	0.105	0.341	0.200	0.210	0.214
AveB_2021_2023/K	0.163	0.092	0.244	0.156	0.160	0.170
B_2022/BMSY	0.316	0.195	0.474	0.306	0.316	0.323
B_2023/BMSY	0.426	0.227	0.698	0.412	0.441	0.424
AveB_2021_2023/BMSY	0.331	0.201	0.496	0.320	0.336	0.337

5 CONCLUDING REMARKS

See the Executive Summary.

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Appendix 1

Updated total catch, CPUE standardizations and biomass estimates for the stock assessment of Pacific saury

Year	Total catch (metric tons)	Biomass JPN (VAST, 1000 metric tons)	CV (%)	CPUE CHN (metric tons/vessel/day)	CPUE JPN_ea (metric tons/net haul)	CPUE JPN_lat (metric tons/net haul)	CPUE KOR (metric tons/vessel/day)	CPUE RUS (metric tons/vessel/day)	CPUE CT (metric tons/net haul)	Joint CPU E (VAST)	CV (%)
1980	238510				0.72						
1981	204263				0.63						
1982	244700				0.46						
1983	257861				0.87						
1984	247044				0.81						
1985	281860				1.4						
1986	260455				1.13						
1987	235510				0.97						
1988	356989				2.36						
1989	330592				3.06						
1990	435869				1.95						
1991	399017				3.13						
1992	383999				4.32						
1993	402185				3.25						
1994	332509					4.13		0.747		1.39	0.29
1995	343743					2.11		0.869		1.70	0.30
1996	266424					1.77		0.646		0.73	0.29
1997	370017					3.52		0.501		1.40	0.30
1998	176364					1.05		0.501		0.87	0.32
1999	176498					0.87		0.568		0.53	0.35
2000	286186					1.28		0.822		1.00	0.32
2001	370823					1.65	7.84	0.947	1.57	0.92	0.19
2002	328362					1.11	11.28	1.172	1.63	0.70	0.18
2003	444642	1348.7	23.9			2.04	16.32	1.526	2.67	1.22	0.18
2004	369400	769.8	20.5			2.72	11.78	2.914	1.45	1.17	0.18
2005	473907	1012.2	30.7			4.40	19.33	2.963	2.39	1.71	0.16
2006	394093	696.6	30.0			4.55	9.45	1.975	1.27	0.55	0.15

2007	520207	782.0	36.9		4.19	8.12	2.231	2.35	1.09	0.17
2008	617509	989.6	26.5		5.15	16.56	2.083	2.90	1.96	0.19
2009	472177	367.4	20.0		4.18	9.60	1.175	1.57	1.03	0.17
2010	429808	554.9	26.4		1.80	9.75	1.224	1.94	1.13	0.17
2011	456263	756.4	35.3		2.52	11.32	1.467	2.51	1.36	0.20
2012	460544	346.4	21.1		2.72	9.19	1.442	2.47	1.08	0.17
2013	423790	758.8	26.6	14.02	1.89	13.61	1.407	2.80	1.00	0.16
2014	629576	448.7	21.7	12.77	3.31	20.42	1.479	3.62	1.31	0.14
2015	358883	337.2	21.4	23.10	1.69	7.41	0.652	2.42	0.96	0.18
2016	361688	358.1	24.4	6.57	1.81	10.76	1.208	2.43	0.80	0.15
2017	262640	145.7	27.3	5.97	1.12	5.40	0.525	1.82	0.75	0.16
2018	435881	378.9	28.7	16.05	1.96	11.89	1.577	3.07	1.33	0.17
2019	195251	247.5	23.4	6.40	0.70	2.75	0.558	1.41	0.56	0.16
2020	139779	12.1	115.7	4.80	0.48	2.85	0.497	1.23	0.32	0.18
2021	92117	161.2	27.0	6.21	0.33	2.83	0.141	0.79	0.22	0.18
2022	100085	290.6	20.4	4.24	0.27	1.62		0.71	0.20	0.16
2023		323.7	26.3							

Summary of the current assessment status for NPFC priority species and sablefish, skilfish, and roughey and blackspotted rockfishes

	Activity or milestone	Pacific saury	Chub mackerel	Japanese sardine	Japanese flying squid (winter)	Neon flying squid	Blue mackerel	North Pacific Armorhead	Splendid alfonsino		Sablefish	REBS rockfish	Skilfish
	Species summary completed (catch, effort, distribution, life history)	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	SC09
Catch data	Fishery catch and effort data shared (spatially explicit)	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	N
	Standardized fishery CPUE indices computed	Y	Y	N	N	N	N	N	N		--	N	N
Abundance data	Fishery independent survey data available	Y	--	--	--	--	Y	--	--		Y	--	--
Biology data	Biological information shared (NPFC CA)	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	N
Modeling	Model (or models) chosen for implementation	Y	Y	N	N	N	N	N	N		Y	N	N
	Basic population dynamics model in place (surplus production, YPR, other)	Y	--	--	Y	Y	--	SC09?	SC09		--		
	Age structured model in place	SC09	SC09	Y	--	--	Y	--			Y		
	Simulation testing of population dynamics model	Y	Y	N	N	N					Y		
	MSE	SWG MSE 05		N	N	N	N				Y		
Rules and advice	HCR	SWG MSE 05		Could link HCR to Japanese assessment?	Could link HCR to Japanese assessment?	Could link HCR to Chinese assessment?	Could link HCR to Japanese assessment?				SC09 - linked to Canadian assessment		
	Advice integrated into Commission Decision-making	COM08											
Comment				Japanese domestic assessment includes NPFC data	Japanese domestic assessment includes NPFC data	Chinese domestic assessment includes only NPFC data	Japanese domestic assessment includes NPFC data				Domestic assessments in place		

Generic process for management advice in the NPFC

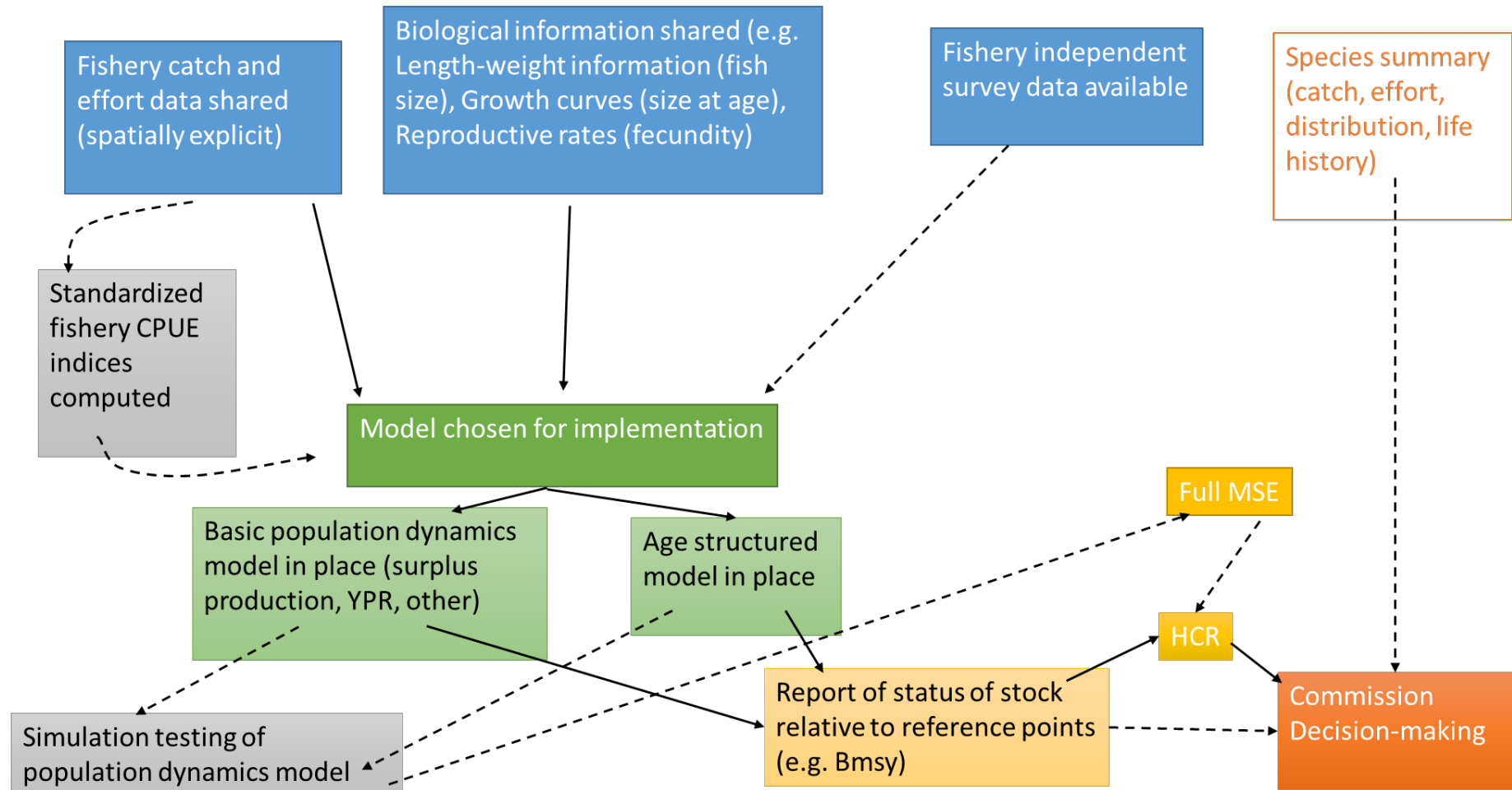


Table of tasks for the SWG JFS, the SWG JS, the SWG BM, and the SSC NFS in 2024

Tasks	SSC NFS	SWG JFS	SWG JS	SWG BM
Update species summary	X	X	X	X
(a) Share data, including unpublished data if possible	X	X	X	X
Update catch and effort data	X	X	X	X
(a) Discuss potential data sharing needs	X	X	X	X
(b) Data standardization - CPUE and abundance data	X			
Distinguish between CM and BM				
(a) Continue to collect data and undertake analyses on catch composition of BM and chub mackerel				X
(b) Review historical catch and estimate the proportion of BM and chub mackerel, if possible				X
(c) Continue to explore options for distinguishing BM and chub mackerel catch				X
(d) Review the feasibility of calculating the proportion of BM and chub mackerel catch by gear				X
(e) Explore similarity and dissimilarity in populations and fishery dynamics				X
(f) Collect data on size and/or age composition of BM and chub mackerel, if possible				X
Footprint and effort data				
(a) Discuss the possibility of linking footprint and effort data on NFS using GIS tools				
(b) Evaluate the influence of environmental variables on the life history, biology, and population dynamics	X	X	X	X
Stock Assessment				
(a) Calculate nominal CPUE	X			
(b) Explore the application of existing stock assessment models or develop new stock assessment models for NFS	X			
(c) Conduct other research that may contribute to the provision of management advice	X			
(d) Share code for developing a stock assessment model for NFS	X			

(e) Observe domestic stock assessments by Members	X	X	X	X
Other				
(a) Write terms of reference (TOR)	X			
(b) Draft a rolling 5 year work plan	X			

Revised Regulations for Management of Scientific Data and Information

Regulations for Management of Scientific Data and Information

(revised in December 2023)

These Regulations are intended to govern the security of, exchange of, access to and dissemination of scientific data and computer code (referred to as code hereafter) held by, or accessed by Members of the Commission, its subsidiary bodies, the Secretariat, and by service providers, contractors, or consultants acting on their behalf or others so authorized for access by the Secretariat. These Regulations supplement the NPFC Data Sharing and Data Security Protocol which is an overall Commission's policy for data management and security.

I. Guidance for Management of Scientific Data and Code

1. Objectives

The objectives of this Guidance are (1) to support stock assessments, ecosystem assessments and accumulation of scientific knowledge of fisheries resources under the Commission's jurisdiction, (2) to encourage cooperation on scientific analyses among Members, and (3) to establish a guidance on handling scientific data and code.

2. Scientific Data included in Members' Annual Reports

Scientific data (e.g., catch amount, number of vessels, number of fishing days and so on) included in Members' Annual Reports should be uploaded to the public section of the NPFC website for public access and use. In order not to reveal the individual activities of any vessel, catch and effort data in the public domain shall be made up of observations from a minimum of three vessels, unless the owner of the data decides otherwise.

3. Other scientific data and code, not included in Members' Annual Reports, submitted for use in stock assessments and ecosystem assessments

The Secretariat should not disclose Members' scientific data or code submitted by means other than Members' Annual Reports or meeting documents open for the public in accordance with paragraph 4.

Members may cite and/or use such data or code when working on matters under consideration by the Scientific Committee and its subsidiary bodies, including informal working groups.

If a Member or cooperating non-contracting Party (CNCP) wishes to cite and/or use these data or code for work that is intended to be conducted or shared outside of the NPFC, such Member or CNCP should consult with the provider(s) of the data or code through the Secretariat, stating 1) the data or code subject to the request, and 2) the purpose for which the data or code is intended

to be used. The Secretariat should immediately notify the provider(s) of the request. The provider(s) should inform the Secretariat within 30 calendar days whether to accept or reject the request. If the provider(s) reject the request, the provider(s) should state the reason(s) for the rejection. If the provider(s) accept the request, the provider(s) may request an agreed-upon credit line in any subsequently-created product. Those who cited/used data or code should not distribute the data or code further nor use it for the purpose not declared.

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

4. 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. All meeting papers submitted to any NPFC scientific meetings through the Secretariat should indicate how they should be cited in accordance with the NPFC Document Rules. 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.

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

5.1. The SC recommends that the above named documents be released to the public after acceptance by the Commission Members within 45 days in accordance with the procedures stated in Paragraph 8.2 of Rules of Procedure.

5.2. 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 #5.1 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.

6. 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 (TCC, SC, SWG MSE PS, 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.

7. 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, but other members or meeting participants must be notified of the specifics of the changes as soon as possible.

Annex Y

Scientific projects

#	Project	Time	Status	Next step: activities, required funds
1	Pacific saury stock assessment meeting (meeting costs)	Every year	<i>TWG PSSA meetings: Feb 2017, Dec 2017, Nov 2018, Mar 2019.</i> <i>SSC PS meetings: Nov 2019, Aug 2023.</i>	SSC PS13 meeting. Aug 2024. <i>2024 FY: virtual, no funds required.</i>
2	Chub mackerel stock assessment meeting (meeting costs)	Every year	<i>TWG CMSA meetings: Dec 2017, Mar 2019, Sep 2023.</i>	TWG CMSA09 meeting. Jul 2024. <i>2024 FY: 1.5mil JPY (10,000USD)</i> <i>Source: SC fund.</i> TWG CMSA10. Early 2025. <i>2024 FY: virtual or hosted by members, no funds required.</i>
3	Invited expert to support TWG CMSA (consultancy fee and travel costs)	2020-	An external expert has been contracted for TWG CMSA08 and 09 meetings using the voluntary contribution from the USA. The proposed project covers TWG CMSA10 and 11.	<i>2024 FY: 2,25mil JPY (15,000USD)</i> <i>Source: SC fund.</i>
4	Invited expert to support SSC PS (consultancy fee and travel costs)	2019-	An external expert has been contracted to support SSC PS and its subsidiary WG NSAM.	<i>2024 FY: 3mil JPY (20,000USD)</i> <i>Source: SC fund.</i>
5	Invited expert to support SSC NFS (consultancy fee and travel costs)	2024-	An external expert will be contracted to support SSC NFS.	<i>2024 FY: 2.25mil JPY (15,000USD)</i> <i>Source: SC fund.</i>

6	PICES Annual meeting	Every year	Travel support to a participant of the SC or its subsidiary bodies to attend PICES Annual meeting.	<i>2024 FY: 1mil JPY (7,000USD)</i> <i>Source: SC fund.</i>
7	Other science meetings / capacity development	2024	Training for capacity building or travel support to attend other relevant science meetings.	<i>2024 FY: 1.5mil JPY (10,000USD)</i> <i>Source: SC fund.</i>
	Total			<i>2024 FY: 11.5mil JPY</i> <i>Source: SC fund.</i>

** The recurrent projects should be funded annually from the SC Fund allocated by the Commission. If total costs exceed the SC Fund, the SC may propose to use the Special Project Fund subject to the decision by the Commission.*

Past projects

#	Project	Time	Status
P1	NPFC/FAO VME workshop	2018-2019	<i>Concluded.</i>
P2	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>Concluded.</i>
P3	Workshop on biological reference points (BRP), harvest control rule (HCR) and management strategy evaluation (MSE)	2019	<i>Concluded.</i>
P4	Literature review of target and limit reference points used in pelagic species fisheries by other general RFMOs and other fishery management bodies	2018	<i>Done.</i> <i>Available on the NPFC website.</i>

P5	Joint PICES-NPFC workshop (W11) on <i>The influence of environmental changes on the potential for species distributional shifts and subsequent consequences for estimating abundance of Pacific saury</i>	2019	<i>Concluded.</i>
P6	VME taxa identification guide	2017-2022	<i>Concluded.</i> VME taxa ID guide has been printed out and distributed to Members.
P7	International Course for NPFC observers for VME indicator taxa identification (consultant fees and travel costs for two lecturers, meeting costs)	2022	<i>Postponed until further notice.</i>
P8	PICES-ICES-FAO Small Pelagic Fish Symposium, 7-11 November 2022, Lisbon, Portugal.	2022	<i>Concluded.</i> NPFC contributed 15,000USD to the organizers for the symposium logistics.
P9	GIS database/module as a part of NPFC database management system for spatial management of bottom fisheries and VMEs	2018-	<i>Regular update.</i> <i>Fund source: Database management.</i>
P10	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.	2018-	<i>Regular update.</i> <i>Fund source: Database management.</i>
P11	Expert to review Pacific saury stock assessment (consultant fee and travel costs)	TBD	<i>Removed. May be revisited in future.</i>
P12	Observer Program	2018-	<i>Removed. May be revisited in future.</i>
P13	Promotion of cooperation with NPAFC including macro-scale multinational survey in the North Pacific in 2022	2021-	<i>Completed.</i> The NPAFC reported on the 2022 IYS Winter High Seas Research Expedition which was co-sponsored by NPFC.

P14	Standardization of bycatch species list and fish species identification guides (translation of the existing fish ID guide from Japanese to additional languages)	2019-2023	<i>Completed.</i>
P15	PICES 2023 session on Seamount Ecology and VME Identification	2023	<i>Completed.</i>
P16	Understanding the basis by which other RFMOs' VME encounter thresholds were determined by taxa and gear-type	2023	<i>Completed.</i>

Five-Year Research Plan and Work Plan of the Scientific Committee

North Pacific Fisheries Commission Scientific Committee 2023-2027 Research Plan

1.0 BACKGROUND

Article 10, Section 4(a) of the *Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean* states that the Scientific Committee (SC) will “recommend to the Commission a research plan including specific issues and items to be addressed by the scientific experts or by other organizations or individuals, as appropriate, and identify data needs and coordinate activities that meet those needs.”

An initial draft of this research and accompanying work plan was presented for review during the 4th Preparatory Conference and a subsequent discussion was held by a small working group to establish science priorities for the NPFC. This plan draws on those discussions and was updated by the SC Chair based on the progress made by the NPFC since that Conference.

The development of multi-year science research or work plans is common across regional fisheries management organizations as well as domestic fisheries science agencies. This draft plan draws on such examples, and has been developed for consideration by the SC before it may be adopted by the Commission.

2.0 OBJECTIVES

The research plan is intended to guide the work of the Scientific Committee by identifying key research priorities and associated areas of work to be undertaken or maintained. The plan should also serve to: ensure efficient utilization of scarce resources within the Commission; inform Parties’ domestic research planning as a means of complementing the Commission’s science activities; and help the Commission identify potential sources of external funding.

It is not intended as an exhaustive plan describing all research activities that may be carried out by Parties, nor is it intended to preclude work already taking place. The plan should support the Commission’s primary objective (*Article 2* in the Convention), which is to “ensure the long-term conservation and sustainable use of the fisheries resources in the Convention Area while protecting the marine ecosystems of the North Pacific Ocean in which these resources occur”. The plan should also help the Scientific Committee fulfill its functions as specified in the Convention.

3.0 PRIORITY RESEARCH AREAS

In addition to discussions held during the Preparatory Conference (referenced above) followed by the Commission and Scientific Committee after their establishment, the identification of priority research areas draws largely from the Commission's Convention, which outlines specific functions for the Scientific Committee in *Article 10, Section 4*. These priority research areas are subject to the approval of the Commission, and may be revisited and/or revised as deemed appropriate by the Commission. Proposed rolling five-year work plans for each priority area are available in the attached (Annex 1).

The proposed priority research areas are:

1. Stock assessments for target fisheries and bycatch species
2. Ecosystem approach to fisheries management
3. Data collection, management and security

At its 7th meeting, the Commission adopted a resolution on climate change and tasked the SC to identify relevant data availability and needs and integrate analyses of climate change relevant to NPFC fisheries into its work plan. The resolution also requires SC to include climate change as a standing agenda item of its meetings.

3.1 Stock Assessments

Rationale

Accurate stock assessments are critical in helping to ensure the long-term conservation and sustainable use of fisheries resources in the Convention Area. One of the primary functions of the Commission is setting total allowable catch or total allowable level of fishing effort, and as per *Article 7-1(b)*, this is to be in “accordance with the advice and recommendations of the Scientific Committee”.

Consistent with this, *Article 10-4(b)* states that one of the functions of the Scientific Committee is to “regularly plan, conduct and review the scientific assessments of the status of fisheries resources in the Convention Area, identify actions required for their conservation and management, and provide advice and recommendations to the Commission”.

Finally, *Article 10-4(i)* states that the Scientific Committee shall also “develop rules and standards,

for adoption by the Commission, for the collection, verification, reporting, and the security of, exchange of, access to and dissemination of data on fisheries resources, species belonging to the same ecosystem, or dependent upon or associated with the target stocks and fishing activities in the Convention Area”.

The Scientific Committee should endeavor to understand the current status and trends in production of populations of priority species as agreed by the 2nd Commission meeting in 2016, as well as factors that may affect future trends.

Areas of work

- Development of baseline assessment of the status of priority stocks
- Review of existing data standards in relation to stock assessments (e.g. Annual Report template, NPFC’s vessel monitoring system)
- Stock delineation of important commercial species for the purpose of providing advice for the determination of management units
- For each commercial species, determination of data requirement, including data availability and data gaps; identification, where possible, of strategies to fill the data gaps, including for bycatch
- Development of a standardized method to provide advice to the Commission
- Development of assessment models by species and research as required to determine various assessment parameters

3.1.1. Pelagic fish stock assessment

Rationale

Pelagic fish and squids are primary fisheries resources for NPFC Members. They comprised more than 99% of total catch of species covered by the Convention. Many of them are migratory species with wide geographical distributions which include both EEZs of the North Pacific Rim countries and High Seas. Management of such stocks requires close cooperation among Members concerned to ensure sustainable use and conservation of fisheries resources.

Four fish species and two squid species were recognized by the Scientific Committee as priority species: Pacific saury *Cololabis saira*, Chub mackerel *Scomber japonicus*, Blue mackerel *Scomber australasicus*, Japanese sardine *Sardinops melanostictus*, Neon flying squid *Ommastrephes bartramii*, Japanese flying squid *Todarodes pacificus*.

Areas of work

- Completion of stock assessment for Pacific saury and development of the framework and timeline for its regular improvement and update
- Conducting stock assessment for Chub mackerel and other priority species considering their top-down prioritization (Spotted mackerel - Japanese sardine - Neon flying squid – Japanese flying squid) and available funds and capacity
- Identification of data gaps, determination of activities to address those gaps and development of standards and mechanisms for data collection and verification
- Develop a management strategy evaluation (MSE) for Pacific saury in collaboration with NPFC's Commission, Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS), Technical and Compliance Committee (TCC), fishery managers, fishers, stakeholders, and observers.

3.1.2. Bottom fish stock assessment

Rationale

Data used for traditional stock assessment are sparse for bottom fish, and it is unlikely that traditional methods will be applicable for most deepwater species in the Convention Area. In addition, some bottom species have unique life cycles, sporadic recruitment patterns and irregular spawning-recruitment relationships that also makes difficult accurate stock assessment. All these require specific approaches for management and sustainable use of bottom fisheries resources. More than ten bottom species have been exploited by fisheries in the Convention Area during the last two decades. Two fish are recognized as priority species: North Pacific armorhead (NPA) *Pentaceros wheeleri* and splendid alfonsino (SA) *Beryx splendens*.

Areas of work

- Review of approaches applicable for stock assessment of target bottom species and investigate various management strategies
- Further development of the Adaptive Management approach for NPA and mechanism for its implementation
- Identification of data needs and establishment of activities to fill data gaps

3.2 Ecosystem Approach to Fisheries Management

Rationale

Article 3 (c) in the Convention states that: “In giving effect to the objective of this Convention, the following actions shall be taken individually or collectively as appropriate: (c) adopting and implementing measures in accordance with the precautionary approach and an ecosystem approach to fisheries, and in accordance with the relevant rules of international law, in particular as reflected in the 1982 Convention, the 1995 Agreement and other relevant international instruments”.

Article 7-1 (c,d) in the Convention states that the Commission shall: “adopt, where necessary, conservation and management measures for species belonging to the same ecosystem or dependent upon or associated with the target stocks”; and, “adopt, where necessary, management strategies for any fisheries resources and for species belonging to the same ecosystem or dependent upon or associated with the target stocks, as may be necessary to achieve the objective of this Convention.”

Article 10-4 (d) states that the Scientific Committee shall “assess the impacts of fishing activities on fisheries resources and species belonging to the same ecosystem or dependent upon or associated with the target stocks.”

Areas of work

- Formulation of a work plan on how to implement the ecosystem approach to fisheries management in the Convention Area
- Vulnerable Marine Ecosystems
- Understand ecological interactions among species
- Ecosystem modelling
- Evaluate impacts of fishing on fisheries resources and their ecosystem components, including bycatch species
- Other issues related to marine ecosystems including marine debris and pollution

3.2.1 Vulnerable Marine Ecosystems

Rationale

The identification of vulnerable marine ecosystems is a necessary precursor to implementing measures to protect these ecosystems, and such measures that are explicitly called for in the

Convention (e.g. *Article 7-1(e)*).

Article 10-4 (e) states that the Scientific Committee shall “develop a process to identify vulnerable marine ecosystems, including relevant criteria for doing so, and identify, based on the best scientific information available, areas or features where these ecosystems are known to occur, or are likely to occur, and the location of bottom fisheries in relation to these areas or features, taking due account of the need to protect confidential information.”

Article 7-1 (e) states that the Commission shall “adopt conservation and management measures to prevent significant adverse impacts on vulnerable marine ecosystems in the Convention Area, including but not limited to: measures for conducting and reviewing impact assessments to determine if fishing activities would produce such impacts on such ecosystems in a given area; measures to address unexpected encounters with vulnerable marine ecosystems in the course of normal bottom fishing activities; and as appropriate, measures that specify locations in which fishing activities shall not occur.”

To date, Japan, Russia, Korea, the US and Canada have completed a report on identification of VMEs and an assessment of impacts caused by bottom fishing activities on VMEs and marine species. The Scientific Committee may build on these reports, which will be kept up to date by respective Parties.

Areas of work

- Review existing NPFC standards on VME data collection, including guidelines set forth in the CMMs for bottom fisheries and protection of vulnerable marine ecosystems in the northwestern and northeastern Pacific Ocean (CMM 2023-05 and CMM 2023-06), and determine if any modifications to these standards are needed in the short-term and/or longer term
- Review of Encounter Protocol for bottom fisheries on Vulnerable Marine Ecosystems
- Determination of data requirements and identification of what data may be collected through commercial fishing operations
- Develop consensus on criteria used to identify VMEs and how this might be applied in the NPFC (note that guidelines from the FAO are already referenced in Annex 2 of the CMM 2023-05 and CMM 2023-06)
- Analysis of known or suspected VMEs in the Convention Area
- Visual surveys of VMEs for data collection
- Development of a framework to conduct assessments of Impacts of Bottom Fishing Activities on

Vulnerable Marine Ecosystems

3.2.1.1 Review of Encounter Protocol for bottom fisheries on Vulnerable Marine Ecosystems

Rationale

The purposes of VME encounter protocols in NPFC Convention Area include:

- Ensuring early detection and protection of potential VMEs within an existing fishing area;
- Ensuring early detection and protection of potential VME within an unfished area;
- Documenting information on known occurrences of VME indicators within the Convention Area.

Development of the Encounter Protocol progressed through Scientific Committee meetings as well as intersessional activities. VME encounter protocols are incorporated in the CMMs for bottom fisheries and protection of vulnerable marine ecosystems in the northwestern and northeastern Pacific Ocean, specifically in Para 4(g) and 3(j), respectively.

Areas of Work

Consideration of the following subjects of research and analyses are recommended to further refine encounter protocols in the Convention Area (as notified in Appendix C, NPFC01-2016-SSCVME01- Final Report):

- Other taxa, topographical, geographical and geological features that may indicate the presence of VMEs;
- Taxon-specific encounter thresholds and reporting;
- Framework for evaluating the effectiveness of encounter protocols;
- Tiered approach with different encounter protocols associated with different thresholds;
- Gear-specific thresholds to reflect differences in catchability;
- Gear-specific move-on distances to reflect type of gear;
- Different reporting requirements for different catches;
- Tiered approach to reporting bycatch of VME indicator taxa;
- Different encounter protocols for existing and new fishing areas

3.3 Data collection, management and security

Rationale

Article 10, paragraph 4 (i) in the Convention states that the functions of the Scientific Committee shall be to: “develop rules and standards, for adoption by the Commission, for the collection, verification, reporting, and the security of, exchange of, access to and dissemination of data on fisheries resources, species belonging to the same ecosystem, or dependent upon or associated with the target stocks and fishing activities in the Convention Area”.

Areas of work

- Review of data standards related to stock assessments and other relevant data, including VME data collection and vessel monitoring systems
- Identify data sources to meet data needs for priority areas of work above and develop programs for data collection
- Develop data security policy including data handling and sharing protocol, information confidentiality classification and access control security guideline

4.0 IMPLEMENTATION AND REVIEW

The SC will review the Research Plan and update it as necessary on an annual basis. The Research Plan will form the foundation of SC’s rolling five-year Work Plan. Monitoring the implementation of this Research Plan will be the responsibility of the Chair of the Scientific Committee in collaboration with the Chairs of the Scientific Committees’ subsidiary groups and the Executive Secretary. Members of the Commission and the Secretariat will share responsibility for implementation of the Research Plan.

Full implementation of the Research Plan will likely be beyond the means of the Commission’s core budget. Extra-budgetary funds from voluntary contributions of Members and other sources will be required and actively sought by the Commission. Nevertheless, adoption of the Plan by the Scientific Committee and subsequent strong support from the Commission is a prerequisite to securing the necessary extra-budgetary funds.

An independent external review of the Plan may periodically be requested by the SC. The Scientific Committee will be responsible for preparing the terms of reference for the review. The Scientific Committee will present the report of the review to the next regular session of the Commission.

5.0 SCIENTIFIC COLLABORATION WITH OTHER ORGANIZATIONS

While not included as a priority, *Article 21* of the Convention addresses cooperation with other organizations or arrangements. It calls on the Commission to cooperate, as appropriate, on matters

of mutual interest with the Food and Agriculture Organization (FAO), other specialized agencies of the FAO and relevant Regional Fisheries Management Organizations (RFMOs). Further, the Commission is called on to develop cooperative working relationships, including potential agreements, with intergovernmental organizations that can contribute to its work.

Article 10 also speaks to this issue in clauses five and six, stating that the Scientific Committee may exchange information on matters of mutual interest with other relevant scientific organizations or arrangements, and that the Committee shall not duplicate the activities of other scientific organizations and arrangements that cover the Convention Area.

The impetus to collaborate is made stronger by the prospect of limited research funding in the Commission, at least in the short-term, but it is also in the best interests of the Commission to seek synergies with other organizations with mutual interests and similar membership (e.g. North Pacific Marine Science Organization (PICES) and North Pacific Anadromous Fish Commission (NPAFC)).

Activities could include:

- Evaluate reports of International Organizations that may be relevant to the functioning of the Scientific Committee
- Identify other organizations with relevant mandates and activities
- Formalize relationships with these organizations (e.g. MOUs, standing invitations to meetings)
- Identify potential funding opportunities

Five-Year Work Plan of the Scientific Committee and its subsidiary bodies

Small Scientific Committee on Pacific Saury (SSC PS)

Priority list:

1. Conduct a stock assessment update based on BSSPM analyses
2. Further investigate improvements to the BSSPM
3. Develop an age/size-structured model
4. Develop a list of plausible ranges for biological parameters
5. Develop databases to support age/size-structured models
6. Continue joint CPUE work to incorporate broader spatial and temporal coverage
7. Update the biomass estimate using the existing method (swept area method)
8. Develop spatio-temporal model for the biomass estimate
9. Further refine the catchability coefficient of the Japanese survey and characterize its variance
10. Continue exploring climate indices to explain impacts on Pacific saury stock productivity
11. Support any technical work on MSE under SWG MSE PS
12. Further evaluate the reason and the basis for the perception that total bycatch in all NPFC fisheries is low

[H] and [M] indicate high and medium priorities. Cells with “TBD” depend on the progress of data preparation and analytical works.

ITEM	2023	2024	2025	2026	2027
Regular update of inputs					
Update & improvement of biomass survey index	Continue regular review [H] of 1) survey plan 2) analytical work 3) any related issues including experiments to produce absolute biomass index and additional surveys by other Members to increase coverage	Same as on the left [H]	Same as on the left [H]	Same as on the left [H]	Same as on the left [H]
Update & improvement of CPUE indices	Continue review of outcomes of regular update and analytical works [H]	Same as on the left [H]	Same as on the left [H]	Same as on the left [H]	Same as on the left [H]
Development of joint CPUE index	Continue review of outcomes of regular update and analytical works [H]	Same as on the left [H]	Same as on the left [H]	Same as on the left [H]	Same as on the left [H]
Regular update of the existing SA					
Routine update BSSPM as a benchmark	Continue review of outcomes of regular BSSPM update [H] ¹⁾	Same as on the left [H] ¹⁾	Same as on the left [H] ¹⁾	Same as on the left [H] ¹⁾	Same as on the left [H] ¹⁾
Improvement and further investigation of BSSPM	Review any outcomes of improvements, inter alia in light of possible incorporation of environmental information [H]	Same as on the left [H]	Same as on the left [H]	Same as on the left [H]	Same as on the left [H]
Toward age/size-structured models (ASSMs)					

ITEM	2023	2024	2025	2026	2027
Data inventory (CPUE and size/age in space and time)		Explore age-specific abundance indices or recruitment indices. Conditional age at length information. Spatio-temporal variation of size composition.	TBD ²⁾	TBD ²⁾	TBD ²⁾
Summarizing available information on PS biology		Update regularly, specifically maturity ogive and growth function	Continue	Continue	Continue
Development of models		Review preliminary models to be evaluated	Finalize development of a new stock assessment model	Test the age-structured model capabilities for Bayesian estimation, simulation testing and MSE work	External review
Uncertainty in models (possible link with OM grid under MSE)		Refine the plausible range of values of key biological parameters. Refine assumptions about prior distributions and the ranges for model parameters.	Continue	Continue	Continue

¹⁾ As a backup method as well as an underlying assessment method used in a management procedure, it seems sensible to keep this as one of reference assessment models.

²⁾ These items might be re-structured depending on the progress of preparation of data and biological information as well as the development of models.

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

Priority list:

1. Data preparation and review of biological information
2. Conduct stock assessment of chub mackerel
3. Set biological reference points
4. Provide scientific advice on the management of chub mackerel stock to the Commission
5. Explore the influence of climate changes on chub mackerel stock
6. Regularly update and refine inputs

ITEM	2023 Sep	2024 Jan	2024 summer	2025	2026	2027
Regular update of inputs						
Research survey indices	Finalize data used for the stock assessment	Finalize data used for the stock assessment		Update	Update	Update
CPUE indices	Finalized CPUE standardization	Finalized CPUE standardization		Update	Update	Update
Catch data/catch composition	<ul style="list-style-type: none"> • Finalize data used for the stock assessment • Submit historical annual CAA data 	<ul style="list-style-type: none"> • Finalize data used for the stock assessment • Submit historical annual CAA data 		Update	Update	Update
Biological parameters (maturity, M, weight)	Finalize assumptions for the stock assessment	Finalize assumptions for the stock assessment		Review biological parameters	Review biological parameters	Review biological parameters
Quarterly fishery data (CAA, WAA, Maturity-at-age)	<ul style="list-style-type: none"> • Submit quarterly fishery data • Share and standardize age-counting rule 	<ul style="list-style-type: none"> • Submit quarterly fishery data • Share and standardize age-counting rule 				
Stock assessment						

ITEM	2023 Sep	2024 Jan	2024 summer	2025	2026	2027
Benchmark stock assessment	<ul style="list-style-type: none"> • Determine the method for future projection • Conduct preliminary stock assessment with the selected model (intersessionally after TWG CMSA07) 	<ul style="list-style-type: none"> • Determine the method for future projection • Conduct preliminary stock assessment with the selected model with determined specification and setting (intersessionally after TWG CMSA08) 	Complete stock assessment with the selected SA model	Update SA model	Update SA model	Update SA model
Improvement and further investigation of the selected model			Review and improve, if needed, the SA model	Review and improve, if needed, the SA model	Review and improve, if needed, the SA model	Review and improve, if needed, the SA model
New stock assessment models				Explore new stock assessment models, if available	Explore new stock assessment models, if available	Explore new stock assessment models, if available
Reference points, HCR and future projections						
Set biological reference points (limit and target)	<ul style="list-style-type: none"> • Review RPs report • Develop a short list of reference points 	Review reference points	Review reference points	Review reference points	Review reference points	Review reference points
Develop future projections		Discuss provisional scenarios of future projection	Provide preliminary results of future projection, if possible	TBD	TBD	TBD

Small Scientific Committee on Bottom Fish and Marine Ecosystems (SSC BF-ME)

Priority list:

1. NPA: Review monitoring survey
2. NPA: Conduct stock assessment and provide management advice
3. SA: Conduct stock assessment and provide management advice
4. NPA, SA and Sablefish: Develop and implement harvest control rule
5. Sablefish: Evaluate historical harvest relative to trip limits and update trip limits if necessary
6. Sablefish and VME: Conduct trade-off analysis between commercial fishing and VME protection
7. VME: Assess the relative risk of SAI for VME as a step towards standardize approach to SAI

ITEM	SSC BFME05 (2023)	SSC BFME06 (2024)	SSC BFME07 (2025)	SSC BFME08 (2026)	SSC BFME09 (2027)
North Pacific Armorhead					
Assess and monitor status of stock	Update catch data and CPUE index for NPA	Update catch data for NPA	Update catch data for NPA	Update catch data for NPA	Update catch data for NPA
	Review results of NPA monitoring surveys	Review results of NPA monitoring surveys	Review results of NPA monitoring surveys	Review results of NPA monitoring surveys	Review results of NPA monitoring surveys
	Implement alternative methods for stock status	Implement alternative methods for stock status	Implement alternative methods for stock status	Implement alternative methods for stock status	Update status of stock
	Compare CPUE and acoustic estimates	Evaluate trend in directed effort relative to NPA catch		Compare CPUE and acoustic estimates	

ITEM	SSC BFME05 (2023)	SSC BFME06 (2024)	SSC BFME07 (2025)	SSC BFME08 (2026)	SSC BFME09 (2027)
	Identify and conduct additional research on NPA	Identify and conduct additional research on NPA	Identify and conduct additional research on NPA	Identify and conduct additional research on NPA	Identify and conduct additional research on NPA
	Review fisheries observer program data collection for adequacy to produce data streams to support management advice	Review fisheries observer program data collection for adequacy to produce data streams to support management advice	Review fisheries observer program data collection for adequacy to produce data streams to support management advice	Review fisheries observer program data collection for adequacy to produce data streams to support management advice	Review fisheries observer program data collection for adequacy to produce data streams to support management advice
Conserve stock	Develop conservation objective(s)	Develop conservation objective(s)			
	Implement adaptive management	Implement adaptive management			
	Develop HCR and implement	Develop HCR and implement	Update data and implement HCR	Update data and implement HCR	
Splendid alfonsino					
Assess and monitor status of stock	Update catch data and CPUE index for SA	Update catch data and CPUE index for SA	Update catch data and CPUE index for SA	Update catch data and CPUE index for SA	Update catch data and CPUE index for SA
	Update comprehensive stock assessment or data limited approach,	Implement life history based approach, and provide management advice	Update life history based approach, and provide management advice	Update life history based approach, and provide management advice	Update life history based approach, and provide management advice

ITEM	SSC BFME05 (2023)	SSC BFME06 (2024)	SSC BFME07 (2025)	SSC BFME08 (2026)	SSC BFME09 (2027)
	and provide management advice				
	Review fisheries observer program data collection for adequacy to produce data streams to support management advice	Review fisheries observer program data collection for adequacy to produce data streams to support management advice	Review fisheries observer program data collection for adequacy to produce data streams to support management advice	Review fisheries observer program data collection for adequacy to produce data streams to support management advice	Review fisheries observer program data collection for adequacy to produce data streams to support management advice
Conserve stock	Develop conservation objective(s); Define and implement harvest control rule	Develop conservation objective(s); Define and implement harvest control rule	Update data and implement HCR	Update data and implement HCR	Update data and implement HCR
Sablefish					
Assess and monitor status of stock	Update catch data and CPUE index	Update catch data and CPUE index	Update catch data and CPUE index	Update catch data and CPUE index	Update catch data and CPUE index
	Provide an update on USA-Canada stock assessment models for Sablefish and joint research on Sablefish	Provide an update on USA-Canada stock assessment models for Sablefish and joint research on Sablefish	Provide an update on USA-Canada stock assessment models for Sablefish and joint research on Sablefish	Provide an update on USA-Canada stock assessment models for Sablefish and joint research on Sablefish	Provide an update on USA-Canada stock assessment models for Sablefish and joint research on Sablefish

ITEM	SSC BFME05 (2023)	SSC BFME06 (2024)	SSC BFME07 (2025)	SSC BFME08 (2026)	SSC BFME09 (2027)
	Review fisheries observer program data collection for adequacy to produce data streams to support management advice	Review fisheries observer program data collection for adequacy to produce data streams to support management advice	Review fisheries observer program data collection for adequacy to produce data streams to support management advice	Review fisheries observer program data collection for adequacy to produce data streams to support management advice	Review fisheries observer program data collection for adequacy to produce data streams to support management advice
Conserve stock	Update data and implement HCR	Design HCR specific to NPFC Sablefish (joint intersessional work with Canada and USA assessment authors)	Update data and implement HCR	Update data and implement HCR	Update data and implement HCR
Other research	Update trade-off analysis for Sablefish fishing and VME protection (as new data is available)	Update trade-off analysis for Sablefish fishing and VME protection (as new data is available)			
Vulnerable marine ecosystems					
Defining and Identifying VMEs	Bring together VME indicator taxa observation data from various sources and map for NPFC area	Summarize VME indicator taxa observation data from various sources and map for NPFC area	Consolidate other potential data sources and clarify gaps and deficiencies in VME data		

ITEM	SSC BFME05 (2023)	SSC BFME06 (2024)	SSC BFME07 (2025)	SSC BFME08 (2026)	SSC BFME09 (2027)
	Review and update quantitative definition of VMEs	Review and update quantitative definition of VMEs as needed	Review and update quantitative definition of VMEs as needed	Review and update quantitative definition of VMEs as needed	Review and update quantitative definition of VMEs as needed
	Review updated taxonomy for corals relative to VME indicator taxa	Review updated taxonomy for corals and VME indicator taxa as needed (Hydrocorals)	Review updated taxonomy for corals and VME indicator taxa as needed	Review updated taxonomy for corals and VME indicator taxa as needed	Review updated taxonomy for corals and VME indicator taxa as needed
Identifying and defining SAI's	Apply the standardized approach for SAI assessments and conduct integrated SAI assessment	Determine data requirements and spatial/temporal resolution for SAI assessment and continue developing risk assessment for SAI	Assess risk of SAI for bottom fisheries	Conduct integrated SAI assessment	Conduct integrated SAI assessment
			Develop standardized and measurable metrics to assess cumulative impacts of fisheries on VME	Assess other threats to VME, such as climate change and lost fishing gear	
Quantifying interactions between fisheries and VMEs	Update spatially explicit fishing effort data	Update spatially explicit fishing effort data	Update spatially explicit fishing effort data	Update spatially explicit fishing effort data	Update spatially explicit fishing effort data

ITEM	SSC BFME05 (2023)	SSC BFME06 (2024)	SSC BFME07 (2025)	SSC BFME08 (2026)	SSC BFME09 (2027)
		Use data-based methods applied to Japan and Korea's indicator taxa bycatch to further refine encounter thresholds			
	Review fisheries observer program data collection for adequacy to produce data streams to support management advice	Review fisheries observer program data collection for adequacy to produce data streams to support management advice	Review fisheries observer program data collection for adequacy to produce data streams to support management advice	Review fisheries observer program data collection for adequacy to produce data streams to support management advice	Review fisheries observer program data collection for adequacy to produce data streams to support management advice
Conserving VMEs	Develop management objectives for recovering VME sites (lower priority)	Refine framework for future monitoring of recovering VMEs	Periodic review of VME management	Periodic review of VME management	Periodic review of VME management
Other ecosystem components					
Assess the impact of fisheries on other ecosystem components		Examine discards over time (species composition, weight of discards) for bottom fisheries in CA		Work towards assessment of fishing impacts on other (non-target) ecosystem components	

Scientific Committee (SC)

Priority list

As stipulated in the Convention, Article 10, the Scientific Committee shall provide scientific advice and recommendations to the Commission which is considered the highest priority task of the SC. The following priority areas have been identified for SC:

1. Priority species summaries and stock assessments for management advice
2. Management Strategy Evaluation (MSE) for priority species
3. Ecosystem approach to fisheries management: understand ecological interactions among species and impacts of fishing on fisheries resources and their ecosystem components
4. Collaboration with other organizations
5. Regular review of the research plan and work plan
6. Data collection, management, and security

ITEM	2023	2024	2025	2026	2027	Progress
Priority Species						
Summaries of priority species	Draft summary sheets	Update summary sheets as needed	Update summary sheets as needed	Update summary sheets as needed	Update summary sheets as needed	Summary sheets are complete for all 8 priority species
Assessment of Blue (Spotted) Mackerel and associated bycatch	Collate data on Blue Mackerel Compile data on the catch composition of Chub Mackerel and	Update data on Blue Mackerel Compile data on the catch composition of Chub Mackerel and	Update data on Blue Mackerel Compile data on the catch composition of Chub Mackerel and	Update data on Blue Mackerel Compile data on the catch composition of Chub Mackerel and	Update data on Blue Mackerel Compile data on the catch composition of Chub Mackerel and	Data on Blue Mackerel have been collated Data on catch composition are

ITEM	2023	2024	2025	2026	2027	Progress
	Blue Mackerel and provide information to TWG CMSA	Blue Mackerel and provide information to TWG CMSA	Blue Mackerel and provide information to TWG CMSA	Blue Mackerel and provide information to TWG CMSA	Blue Mackerel and provide information to TWG CMSA	compiled] [and were provided to TWG CMSA
	Observe Japan's domestic stock assessment of Blue Mackerel	Observe Japan's domestic stock assessment of Blue Mackerel	Observe Japan's domestic stock assessment of Blue Mackerel	Observe Japan's domestic stock assessment of Blue Mackerel	Observe Japan's domestic stock assessment of Blue Mackerel	The SC observed Japan's domestic stock assessment of Blue Mackerel
	Provide management advice to the Commission as needed.	Provide management advice to the Commission as needed.	Provide management advice to the Commission as needed.	Provide management advice to the Commission as needed.	Provide management advice to the Commission as needed.	Stock assessment results were communicated to the Commission
		Develop data collection templates		Collate data on associated bycatch species	Assess impacts of fishery on dependent or associated species	
Assessment of Japanese Sardine and associated bycatch	Collate data on Japanese Sardine	Update data on Japanese Sardine	Update data on Japanese Sardine	Update data on Japanese Sardine	Update data on Japanese Sardine	Data on Japanese Sardine have been collated
	Observe Japan's domestic stock assessment of Japanese sardine	Observe Japan's domestic stock assessment of Japanese sardine	Observe Japan's domestic stock assessment of Japanese sardine.	Observe Japan's domestic stock assessment of Japanese sardine.	Observe Japan's domestic stock assessment of Japanese sardine.	The SC observed Japan's domestic stock assessment

ITEM	2023	2024	2025	2026	2027	Progress
	Provide management advice to the Commission as needed.	Provide management advice to the Commission as needed.	Provide management advice to the Commission as needed.	Provide management advice to the Commission as needed. Collate data on associated bycatch species	Provide management advice to the Commission as needed. Assess impacts of fishery on dependent or associated species	of Japanese Sardine Stock assessment results were communicated to the Commission
Assessment of Neon Flying Squid and associated bycatch	Collate data on Neon Flying Squid Develop data collection templates Determine spatial structure of stocks Observe Members' domestic stock assessment of Neon Flying Squid	N/A: SSC NFS	N/A: SSC NFS	N/A: SSC NFS	N/A: SSC NFS	Data on Neon Flying Squid have been collated A new formal subsidiary body of SC was formed to undertake stock assessment of neon flying squid – The Small

ITEM	2023	2024	2025	2026	2027	Progress
	Provide management advice to the Commission as needed.					<p>Scientific Committee on neon flying squid (SSC NFS)</p> <p>The SC observed China's domestic stock assessment of Neon Flying Squid</p> <p>Stock assessment results were communicated to the Commission</p>
Assessment of Japanese Flying Squid and associated bycatch	<p>Collate data on Japanese Flying Squid</p> <p>Observe Japan's domestic stock assessment of Japanese Flying Squid</p>	<p>Update data on Japanese Flying Squid</p> <p>Observe Japan's domestic stock assessment of Japanese Flying Squid</p>	<p>Update data on Japanese Flying Squid</p> <p>Observe Japan's domestic stock assessment of Japanese Flying Squid</p>	<p>Update data on Japanese Flying Squid</p> <p>Observe Japan's domestic stock assessment of Japanese Flying Squid</p>	<p>Update data on Japanese Flying Squid</p> <p>Observe Japan's domestic stock assessment of Japanese Flying Squid</p>	<p>Data on Japanese Flying Squid have been collated</p> <p>The SC observed Japan's domestic stock assessment</p>

ITEM	2023	2024	2025	2026	2027	Progress
	<p>Provide management advice to the Commission as needed.</p> <p>Develop data collection templates</p>	Provide management advice to the Commission as needed.	<p>Provide management advice to the Commission as needed.</p> <p>Collate data on associated bycatch species</p>	<p>Provide management advice to the Commission as needed.</p> <p>Collate data on associated bycatch species</p>	<p>Provide management advice to the Commission as needed.</p> <p>Assess impacts of fishery on dependent or associated species</p>	<p>of Japanese Flying Squid</p> <p>Stock assessment results were communicated to the Commission</p>
Management Strategy Evaluation (MSE)						
Pacific Saury	Support NPFC's SWG MSE PS in achieving its goals	Support NPFC's SWG MSE PS in achieving its goals	Support NPFC's SWG MSE PS in achieving its goals	Support NPFC's SWG MSE PS in achieving its goals	Support NPFC's SWG MSE PS in achieving its goals	The SC/SSC PS supported NPFC's SWG MSE PS by providing options for management objectives and reference points, made progress on developing

ITEM	2023	2024	2025	2026	2027	Progress
						operating models and conducting simulation for candidate harvest control rules
Ecosystem approach to fisheries management						
Ecological Interactions	Understand ecological interactions among species in the North Pacific Ocean	Understand ecological interactions among species in the North Pacific Ocean	Understand ecological interactions among species in the North Pacific Ocean	Understand ecological interactions among species in the North Pacific Ocean	Understand ecological interactions among species in the North Pacific Ocean	Canada reported a positive relationship between the density of NPFC's VME indicator taxa and the species richness of benthic taxa.
Impacts of fishing on ecosystem components	Evaluate impacts of fishing on fisheries resources and their ecosystem components, including bycatch	Evaluate impacts of fishing on fisheries resources and their ecosystem components, including bycatch	Evaluate impacts of fishing on fisheries resources and their ecosystem components, including bycatch	Evaluate impacts of fishing on fisheries resources and their ecosystem components, including bycatch	Evaluate impacts of fishing on fisheries resources and their ecosystem components, including bycatch	SSC BFME endorsed a flow chart for assessing the risk of SAI in the eastern and

ITEM	2023	2024	2025	2026	2027	Progress
	species and discards	species and discards	species and discards	species and discards	species and discards	western parts of the NPFC Convention Area
Climate change	<p>Consider possible key vulnerabilities and management implications of changing oceanographic conditions resulting from climate change on NPFC fisheries resources and species belonging to the same ecosystem or dependent upon or associated with target stocks.</p> <p>Make recommendations to help adapt to climate change and promote resilience in NPFC</p>	<p>Consider possible key vulnerabilities and management implications of changing oceanographic conditions resulting from climate change on NPFC fisheries resources and species belonging to the same ecosystem or dependent upon or associated with target stocks.</p> <p>Make recommendations to help adapt to climate change and promote resilience in NPFC</p>	<p>Consider possible key vulnerabilities and management implications of changing oceanographic conditions resulting from climate change on NPFC fisheries resources and species belonging to the same ecosystem or dependent upon or associated with target stocks.</p> <p>Make recommendations to help adapt to climate change and promote resilience in NPFC</p>	<p>Consider possible key vulnerabilities and management implications of changing oceanographic conditions resulting from climate change on NPFC fisheries resources and species belonging to the same ecosystem or dependent upon or associated with target stocks.</p> <p>Make recommendations to help adapt to climate change and promote resilience in NPFC</p>	<p>Consider possible key vulnerabilities and management implications of changing oceanographic conditions resulting from climate change on NPFC fisheries resources and species belonging to the same ecosystem or dependent upon or associated with target stocks.</p> <p>Make recommendations to help adapt to climate change and promote resilience in NPFC</p>	SC discussed climate change.

ITEM	2023	2024	2025	2026	2027	Progress
	fisheries	fisheries	fisheries	fisheries	fisheries	
Collaboration with other Organizations						
PICES	<p>Review implementation of NPFC-PICES Framework for Collaboration</p> <p>Review ICES-PICES WGSPF activities (PICES WG43)</p>	<p>Review implementation of NPFC-PICES Framework for Collaboration</p> <p>Review ICES-PICES WGSPF activities (PICES WG43)</p> <p>Identify other opportunities for collaboration with PICES.</p> <p>Consider renewing the NPFC-PICES Framework for Enhanced Scientific Collaboration in the North Pacific</p>	<p>Review implementation of NPFC-PICES Framework for Collaboration</p> <p>Identify other opportunities for collaboration with PICES</p>	<p>Review implementation of NPFC-PICES Framework for Collaboration</p> <p>Identify other opportunities for collaboration with PICES</p>	<p>Review implementation of NPFC-PICES Framework for Collaboration</p> <p>Identify other opportunities for collaboration with PICES</p>	<p>SC reviewed implementation of NPFC-PICES Framework for Collaboration</p> <p>SC reviewed ICES-PICES WGSPF activities (PICES WG43)</p>

ITEM	2023	2024	2025	2026	2027	Progress
FAO		<p>Review NPFC's involvement with the ABNJ Deep-sea fisheries project</p> <p>Review NPFC's partnership with the Fisheries and Resources Monitoring System of FAO (FIRMS)</p>	<p>Review NPFC's involvement with the ABNJ Deep-sea fisheries project</p> <p>Review NPFC's partnership with the Fisheries and Resources Monitoring System of FAO (FIRMS)</p>	<p>Review NPFC's involvement with the ABNJ Deep-sea fisheries project</p> <p>Review NPFC's partnership with the Fisheries and Resources Monitoring System of FAO (FIRMS)</p>	<p>Review NPFC's involvement with the ABNJ Deep-sea fisheries project</p> <p>Review NPFC's partnership with the Fisheries and Resources Monitoring System of FAO (FIRMS)</p>	<p>SC reviewed its collaboration with the ABNJ Deep-sea fisheries project</p> <p>SC reviewed its partnership with the Fisheries and Resources Monitoring System of FAO (FIRMS)</p>
NPAFC	Undertake scientific activities to achieve relevant deliverables of the NPFC/NPAFC work plan	Undertake scientific activities to achieve relevant deliverables of the NPFC/NPAFC work plan	Undertake scientific activities to achieve relevant deliverables of the NPFC/NPAFC work plan	Undertake scientific activities to achieve relevant deliverables of the NPFC/NPAFC work plan	Undertake scientific activities to achieve relevant deliverables of the NPFC/NPAFC work plan	SC reviewed NPFC/NPAFC activities
Other organizations	Review collaborations with other organizations	Review collaborations with other organizations	Review collaborations with other organizations	Review collaborations with other organizations	Review collaborations with other organizations	SC was informed about the MOU with SPRFMO and progress on collaboration

ITEM	2023	2024	2025	2026	2027	Progress
						with ISC and WCPFC
Research and Work Plans						
Terms of Reference	Review SC's Terms of Reference, as needed	Review SC's Terms of Reference, as needed	Review SC's Terms of Reference, as needed	Review SC's Terms of Reference, as needed	Review SC's Terms of Reference, as needed	SC reviewed its TOR and agreed it did not need to be revised
Research Plan	Update SC's rolling 5-year research plan	Update SC's rolling 5-year research plan	Update SC's rolling 5-year research plan	Update SC's rolling 5-year research plan	Update SC's rolling 5-year research plan	SC updated its rolling 5-year research plan
Work Plan	Update SC's rolling 5-year work plan	Update SC's rolling 5-year work plan	Update SC's rolling 5-year work plan	Update SC's rolling 5-year work plan	Update SC's rolling 5-year work plan	SC updated its rolling 5-year work plan
Projects	Review completed and ongoing projects Identify and prioritize new projects and recommend sources of funding	Review completed and ongoing projects Identify and prioritize new projects and recommend sources of funding	Review completed and ongoing projects Identify and prioritize new projects and recommend sources of funding	Review completed and ongoing projects Identify and prioritize new projects and recommend sources of funding	Review completed and ongoing projects Identify and prioritize new projects and recommend sources of funding	SC reviewed its completed and ongoing projects, and recommended new projects and sources of funding
Data Management						
	Review data	Review data	Review data	Review data	Review data	SC discussed

ITEM	2023	2024	2025	2026	2027	Progress
	inventories and the status of data gaps Review data standards in relation to stock assessment of priority species Discuss need for additional sources of data for scientific analyses and associated data management policy	inventories and the status of data gaps Review data standards in relation to stock assessment of priority species Discuss need for additional sources of data for scientific analyses and associated data management policy	inventories and the status of data gaps Review data standards in relation to stock assessment of priority species Discuss need for additional sources of data for scientific analyses and associated data management policy	inventories and the status of data gaps Review data standards in relation to stock assessment of priority species Discuss need for additional sources of data for scientific analyses and associated data management policy	inventories and the status of data gaps Review data standards in relation to stock assessment of priority species Discuss need for additional sources of data for scientific analyses and associated data management policy	data needs, data gaps, and strategies to fill gaps SC discussed data standards in relation to stock assessment of priority species. SC discussed the need for additional sources of data for scientific analyses and associated data management policy
Recommendations						
Advice	Develop recommendations for the Commission,	Develop recommendations for the Commission,	Develop recommendations for the Commission,	Develop recommendations for the Commission,	Develop recommendations for the Commission,	SC made recommendations for the



ITEM	2023	2024	2025	2026	2027	Progress
	TCC, and FAC	TCC, and FAC	TCC, and FAC	TCC, and FAC	TCC, and FAC	Commission, TCC, and FAC
Media Communication						
Press Release	Prepare and publish a press release about SC activities during its meeting	Prepare and publish a press release about SC activities during its meeting	Prepare and publish a press release about SC activities during its meeting	Prepare and publish a press release about SC activities during its meeting	Prepare and publish a press release about SC activities during its meeting	SC drafted and endorsed a press release about SC activities during its SC08 meeting








North Pacific Fisheries Commission




NPFC IUU VESSEL LIST FOR 2024




Commission Members adopted the attached NPFC IUU List at the Eighth Commission Meeting concluded on 19 April 2024



No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
1	LIAO YUAN YU 071	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	
	j. Summary of activities				k. subsequent sightings/Other information			
	It was seen at 42°15.4'N, 153°22.8'E on 23 Aug 2016. When the Japanese patrol vessel approached, a vessel crew tried to hide the vessel name. Communication between the Japanese patrol vessel and LIAO YUAN YU 071 indicated that they hid the vessel name because they didn't want to be caught. (Port displayed on the vessel: Shidao; Vessel type; Lighted lift net vessel; Tonnage: 800t)							
	g. Photographs							
								

No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
2	LIAO YUAN YU 072	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	
	j. Summary of activities				k. subsequent sightings/Other information			
	It was seen at 42°18.7'N, 153°27.9'E on 23 Aug and at 42°9.2'N, 151°16.4'E on 11 Oct 2016. Vessel name was hidden by paint. (Port displayed on the vessel: Shidao; Vessel type; Lighted lift net vessel; Tonnage: 800t)							
	g. Photographs							
								



No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
3	LIAO YUAN YU 9	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	
	j. Summary of activities				k. subsequent sightings/Other information			
	It was seen at 42°3.0'N, 153°0.8'E on 23 Aug and at 42°10.0'N, 151°16.8'E on 11 Oct 2016. Vessel name was hidden by paint. (Port displayed on the vessel: Shidao; Vessel type; Lighted lift net vessel; Tonnage: 800t)							
	g. Photographs							
	<div></div>							

No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
4	ZHOU YU 651	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	
	j. Summary of activities				k. subsequent sightings/Other information			
	It was seen at 42°30'2N, 152°05'4E on 29 Sep 2016. (Port displayed on the vessel: Fungcheng; Vessel type; Lighted lift net vessel; Tonnage: 850t)							
	g. Photographs							
	<div></div>							




No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
5	ZHOU YU 652	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	
	j. Summary of activities				k. subsequent sightings/Other information			
	It was seen at 42°48.9'N, 152°48.2'E on 7 Sep 2016. Port of registry was hidden by paint. (Vessel type; Lighted lift net vessel; Tonnage: 820t). MMSI: 412569986							
	g. Photographs							
	<div></div>							

No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
6	ZHOU YU 653	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	
	j. Summary of activities				k. subsequent sightings/Other information			
	It was seen with LU RONG YU YUN 56219 and ZHOU YU 656 at 42°11.9'N, 151°14.6'E on 30 Sep 2016. (Port displayed on the vessel: Fungcheng; Vessel type; Lighted lift net vessel; Tonnage: 850t) Communication between Japanese patrol vessel and LU RONG YU YUN 56219 indicated ZHOU YU 653 were transshipping 1500t of mackerel together with ZHOU YU 656.							
	g. Photographs							
<div></div>								

No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
7	ZHOU YU 656	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	
	j. Summary of activities				k. subsequent sightings/Other information			
	It was seen with LU RONG YU YUN 56219 and ZHOU YU 656 at 42°11.9'N, 151°14.6'E on 30 Sep 2016. (Port displayed on the vessel: Fungcheng; Vessel type; Lighted lift net vessel; Tonnage: 850t) Note that the same vessel name with the different port of registry (Zhoushan) (600t) has been seen in the similar area. Communication between Japanese patrol vessel and LU RONG YU YUN 56219 indicated ZHOU YU 656 were transshipping 1500t of mackerel together with ZHOU YU 653. MMSI: 100900240 412440242							
	g. Photographs (No Photographs Available)							






No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
8	ZHOU YU 657	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	
	j. Summary of activities				k. subsequent sightings/Other information			
	It was seen at 42°35.5'N, 152°6.7'E on 12 Sep 2016. (Port displayed on the vessel: Zhoushan; Vessel type; Lighted lift net vessel; Tonnage: 600t)							
	g. Photographs							
								



No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
9	ZHOU YU 658	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	
	j. Summary of activities				k. subsequent sightings/Other information			
	It was seen at 40°12.3'N, 148°40.5'E on 29 May 2016 and at 42°46.7'N, 152°41.2'E on 7 Sep 2016. (Port displayed on the vessel: Zhoushan; Vesseltype; Lighted lift net vessel; Tonnage: 600t)							
	g. Photographs							
	<div></div>							


No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
10	ZHOU YU 659	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	
	j. Summary of activities				k. subsequent sightings/Other information			
	It was seen in the NPFC area on 2, 4, 13, 17 Jun and 7 Sep 2016. On 4 Jun the vessel name on the right side was hidden by paint. (Port displayed on the vessel: Zhoushan; Vessel type: Lighted lift net vessel; Tonnage: 600t)							
	g. Photographs							
	<div></div>							

No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
11	ZHOU YU 660	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	
	j. Summary of activities				k. subsequent sightings/Other information			
	It was seen in the Japanese EEZ on 10 May 2016 and in NPFC area multiple times from May to Sep 2016. On 10 May the vessel showed Korean flag but changed the Korean to Japanese flag when the Japanese patrol vessel approached. Vessel name changed between 15 May and 12 Sep 2016 (see the photos). The vessel is not permitted in Japan nor registered in NPFC. (Port displayed on the vessel: Basuo-not apparent; Vessel type: Lightedlift net vessel; Tonnage: 600t)							
	g. Photographs							
	<div></div>							

No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
12	ZHOU YU 661	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	
	j. Summary of activities				k. subsequent sightings/Other information			
	It was seen in the Japanese EEZ on 10 and 13 May 2016 and in NPFC area on 15, 29 May and 7 Sep 2016. The vessel names on the left and right side changed frequently (see the photos). The vessel showed Japanese flag in May. But the vessel is not permitted in Japan nor registered in NPFC. (Port displayed on the vessel: Shidao; Vessel type: Lighted lift net vessel; Tonnage: 600t)							
	g. Photographs							
	<div></div>							





No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
13	HAI DA 705	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	
	j. Summary of activities				k. subsequent sightings/Other information			
	Communications between Japanese Patrol vessel and HAI DA 705 at 43°10.4'N, 153°38.6'E on 11 Sep 2016 indicated they caught squid with drift net in the high sea. (Port displayed on the vessel: 沈家们; Vessel type: Drift net vessel; Tonnage: 290t)							
	g. Photographs							
	<div><div>Drift net</div></div>							





No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
14	LU RONG YU 1189	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	
	j. Summary of activities				k. subsequent sightings/Other information			
	It was seen at 41°24.9'N, 140°32.7'E (Japan EEZ) on 14 Jun 2016. (Port displayed on the vessel: Shidao; Vessel type: Carrier vessel; Tonnage: 100t) MMSI: 412321992							
	g. Photographs							
								

No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
15	ZHE LING YU LENG 90055	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	
	j. Summary of activities				k. subsequent sightings/Other information			
	It was seen at 40°25.3'N, 149°13.2'E on 29 May 2016. (Port displayed on the vessel: Wenling; Vessel type: Carrier vessel; Tonnage: 600t) MMSI: 412000000 413202046							
	g. Photographs							
								

No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
16	ZHE LING YU LENG 905	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	
	j. Summary of activities				k. subsequent sightings/Other information			
	It was seen at 42°45.6'N, 152°45.8'E on 24 Aug 2016. (Port displayed on the vessel: Wenling; Vessel type: Carrier vessel; Tonnage: 1000t) MMSI: 412000000 412000256							
	g. Photographs (No Photographs Available)							

No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
17	LU RONG YUAN YU 101	unknown	Not known	Not known	Not known	Not known	13 Nov. 2017	
	j. Summary of activities				k. subsequent sightings/Other information			
	While LU RONG YUAN YU 101 is registered as a light PS vessel in the NPFC list, the identical name with different vessel types were seen. LU RONG YUAN YU 101 with lift net type was seen at 49°9.2'N, 149°19.5'E on 17 May 2016. LU RONG YUAN YU 101 with stern-trawl type was seen at 38°0.2'N, 145°58.5'E on 20 May 2016. (Port displayed on the vessel: Shidao; Vessel type: Stern Trawl/Light lift net vessel; Tonnage: 800t/651t) MMSI: Lift Netter 656558842 Trawler 412328753							
	g. Photographs							
	<div></div>							


No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
18	LU RONG YUAN YU 102	unknown	Not known	Not known	Not known	Not known	13 Nov. 2017	
	j. Summary of activities				k. subsequent sightings/Other information			
	While LU RONG YUAN YU 102 is registered as one light PS vessel in the NPFC list, the identical name with different vessel types were seen. LU RONG YUAN YU 102 with lift net type was seen at 42°21.3'N, 151° 55.5'E on 11 Oct 2016. LU RONG YUAN YU 102 with stern-trawl type was seen at 42° 7.3'N, 151°13.8'E on the same day. LU RONG YUAN YU 102 was also seen with a carrier vessel “MIN FU DING YU LENG 08888” at 42°22.2'N, 151°19.6'E on 12 Oct 2016. (Port displayed on the vessel: Shidao; Vessel type: Stern Trawl/Light lift net vessel; Tonnage: 800t/651t) MMSI: Trawler 412328752; Lift Net 413228752							
	g. Photographs							
	<div></div>							





No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
19	LU RONG YUAN YU 103	unknown	Not known	Not known	Not known	Not known	13 Nov. 2017	
	j. Summary of activities				k. subsequent sightings/Other information			
	While LU RONG YUAN YU 103 is registered as one light PS vessel in the NPFC list, the identical name with different vessel types were seen. LU RONG YUAN YU 103 with lift net type was seen at 40°25.9'N, 150° 9.9'E on 1 June 2016. LU RONG YUAN YU 103 with stern-trawl type was seen at 37°59.9'N, 145°58.5'E on 20 May 2016. (Port displayed on the vessel: Shidao; Vessel type: Stern Trawl/Light lift net vessel; Tonnage: 651t/651t) MMSI: Lift Net & Trawler 412328751							
	g. Photographs							
<div></div>								




No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
20	LU RONG YUAN YU 105	unknown	Not known	Not known	Not known	Not known	13 Nov. 2017	
	j. Summary of activities				k. subsequent sightings/Other information			
	While LU RONG YUAN YU 105 is registered as one light PS vessel in the NPFC list, the identical name with different vessel types were seen. LU RONG YUAN YU 105 with lift net type was seen at 42°27'N, 152° 5.8'E on 11 Oct 2016.LU RONG YUAN YU 105 with stern-trawl type was seen at 41°54.8'N, 151°17.4'E on 5 Sep 2016. (Port displayed on the vessel: Shidao; Vessel type: Stern Trawl/Light lift net vessel; Tonnage: 651t/651t) MMSI: Lift Netter 926001560 412428757 Trawler 412328749							
	g. Photographs							
	<div></div>							


No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
	LU RONG YUAN YU 106	Unknown	Not known	Not known	Not known	Not known	13 Nov. 2017	
	j. Summary of activities				k. subsequent sightings/Other information			
	While LU RONG YUAN YU 106 is registered as one light PS vessel in the NPFC list, the identical name with different vessel types were seen. LU RONG YUAN YU 106 with lift net type was seen at 40°30.4'N, 149° 34'E on 29 May 2016. LU RONG YUAN YU 106 with stern-trawl type was seen at 40°17.6'N, 148°33'E on the same day. The two fishing vessels with duplicate names “LU RONG YUAN YU 106” were seen transshipping with a carrier vessel “MIN FU DING YU LENG 08888” at 42°16.4'N, 151°21.4'E on 8 Oct 2016 (see the last photo). (Port displayed on the vessel: Shidao; Vessel type: Stern Trawl/Light lift net vessel; Tonnage: 651t/651t) MMSI: Lift Netter 412328748 Trawler 412328748							
	g. Photographs							




No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
21								




No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
22	LU RONG YUAN YU 108	Unknown	Not known	Not known	Not known	Not known	13 Nov. 2017	
	j. Summary of activities				k. subsequent sightings/Other information			
	While LU RONG YUAN YU 108 is registered as one light PS vessel in the NPFC list, the identical name with different vessel types were seen. LU RONG YUAN YU 108 with lift net type was seen at 40°28.4'N, 149°28.1'E on 29 May 2016. LU RONG YUAN YU 108 with stern-trawl type was seen at 40°18.6'N, 148°30.7'E on the same day. (Port displayed on the vessel: Shidao; Vessel type: Stern Trawl/Light lift net vessel; Tonnage: 651t/651t) MMSI: Trawler 800024754 Lift Netter 412443265 412328746 800025754							
	g. Photographs							
<div></div>								





No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
23	LU RONG YUAN YU 109	Unknown	Not known	Not known	Not known	Not known	13 Nov. 2017	
	j. Summary of activities				k. subsequent sightings/Other information			
	While LU RONG YUAN YU 109 is registered as one light PS vessel in the NPFC list, the identical name with different vessel types were seen. LU RONG YUAN YU 109 with lift net type was seen at 40°25.1'N, 149° 25 'E on 29 May 2016. LU RONG YUAN YU 109 with stern-trawl type was seen at 40°16.4'N, 148°32.1'E on the same day. (Port displayed on the vessel: Shidao; Vessel type: Stern Trawl/Light lift net vessel; Tonnage: 651t/651t) MMSI: Trawler 412328745 800025747 Lift Netter 412328745							
	g. Photographs							
	<div></div>							



No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
24	LU RONG•YU 612	Unknown	Not known	Not known	Not known	Not known	19 Aug 2018	
	j. Summary of activities				k. subsequent sightings/Other information			
	A Japanese patrol vessel sighted this fishing vessel was drifting in the Convention area at 39°50.00'N, 147°1.8'E on July 21. The port of registry is Shidao and AIS information showed that the vessel name is “Lu Long Yuan Yu 108”, which is on the current IUU vessel list and is different from the name shown on the vessel side, and that MMSI is 412328746. The tonnage 651 t was derived from the information of “Lu Long Yuan Yu 108” in the current IUU vessel list. Ref: NPFC-2018-TCC03-WP04							
	g. Photographs							
<div></div>								


No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
25	LU RONG YUAN YU 787	Unknown	Not known	Not known	Not known	Not known	19 Aug 2018	
	j. Summary of activities				k. subsequent sightings/Other information			
	A Japanese patrol vessel sighted this fishing vessel was drifting in the Convention area at 39°49.7'N, 147°2.8'E on July 21 2017, and Japanese patrol aircraft sighted the same vessel anchored at 41°3.3'N, 150°22.1'E on August 2 2017. The China flag was raised and the sign of “CHINA” was painted on the vessel side (see the photos). MMSI is 413800814 and the port of registry is Shidao. Ref: NPFC-2018-TCC03-WP04							
	g. Photographs							
	<div></div>							

No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
26	LU RONG YUAN YU YUN 958	Unknown	Not known	Not known	Not known	Not known	19 Aug 2018	
	j. Summary of activities				k. subsequent sightings/Other information			
	A Japanese patrol fishing vessel sighted this fishing vessel was drifting in the Convention area at 39°50.9'N, 147°4.3'E on July 21. The vessel raised China flag and the port of registry was Shidao. AIS information showed that the vessel name is 958 and MMSI is 412452812. Ref: NPFC-2018-TCC03-WP04							
	g. Photographs							
	<div></div>							


No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
27	LU RONG YUAN YU 797	Unknown	Not known	Not known	Not known	Not known	19 Aug 2018	
	j. Summary of activities				k. subsequent sightings/Other information			
	A Japanese patrol aircraft sighted this fishing vessel in the Convention area was operating at 42°7.1'N, 151°40.9'E on July 7 2017. China flag was raised and “CHINA” was painted on the vessel side (see the photo). MMSI is 412327980. Ref: NPFC-2018-TCC03-WP04							
	g. Photographs							
	<div></div>							




No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
28	LU RONG SHUI 158 (鲁荣水158)	Unknown	Not known	Not known	Not known	Not known		CMM 2017-02 para 3. a
	j. Summary of activities				k. subsequent sightings/Other information			
	A Japanese patrol vessel sighted this fishing vessel in the Convention area at 39°59.2'N, 147°39.7'E on July 7, 2018. There is no vessel registration of this vessel on the NPFC vessel register. MMSI 412688540							
	g. Photographs							
	<div></div>							




No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
29	Unknown(*)	Unknown – raised flag of China	Not known	Not known	Not known	Not known		CMM 2017-02 para 3. a
	j. Summary of activities				k. subsequent sightings/Other information			
	A Japanese trawl vessel sighted this fishing vessel indicating its vessel name “ZHOU YU 808” MMSI 412671880, in the Koko seamount area of Convention area at 36°44'N, 171°27'E on August 29, 2018, allegedly conducted fishing for deep sea coral. There was a duly registered vessel with the same name “ZHOU YU 808” on the NPFC vessel registry, but it is confirmed that the sighted vessel is not the duly licensed one.							
	g. Photographs							
								
	Associated Documents							
	<div>Circular 030-2018 (https://www.npfc.int/system/files/2018-11/Circular%20030-2018%20Sighting%20Information%20of%20Fishing%20Vessels%20without%20Nationality.pdf) Japanese Document (https://www.npfc.int/system/files/2018-11/Sighting%20infomation%20from%20Japan.pdf)</div>							
	(*) This vessel indicated its name as “ Zhou Yu 808 (舟漁 808)” when sighted.							




No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
30	Unknown (*)	Unknown – raised flag of China	Not known	Not known	Not known	Not known		CMM 2017-02 para 3. a
	j. Summary of activities				k. subsequent sightings/Other information			
	A Japanese trawl vessel sighted this fishing vessel indicating its vessel name “ZHOU YU 809” MMSI 412401260, in the Koko seamount area of Convention area at 36°44'N, 171°27'E on August 29, 2018, allegedly conducted fishing for deep sea coral. There was a duly registered vessel with the same name “ZHOU YU 809” on the NPFC vessel registry, but it is confirmed that the sighted vessel is not the duly licensed one.							
	g. Photographs							
								
	Associated Documents							
	<div>Circular 030-2018 (https://www.npfc.int/system/files/2018-11/Circular%20030-2018%20Sighting%20Information%20of%20Fishing%20Vessels%20without%20Nationality.pdf) Japanese Document (https://www.npfc.int/system/files/2018-11/Sighting%20infomation%20from%20Japan.pdf)</div>							
	(*) This vessel indicated its name as “ZHOU YU 809 (舟漁809)” when sighted.							




No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
31	YUANDA 6 (Assumed from MMSI number)	Unknown – raised flag of China	Not known	Not known	Not known	Not known		CMM 2017-02 para 3. a
	j. Summary of activities				k. subsequent sightings/Other information			
	A Japanese patrol vessel sighted this vessel conducting fishing operation in the Convention area at 25°45'9N, 147°07'06E on April 15, 2019. This nameless vessel (assumed “YUANDA6” from the vessel’s NMSI) was operating and running away when the Japanese patrol vessel approached.							
	g. Photographs							
	<div></div>							





No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
32	YUANDA 8 (Assumed from MMSI number)	Unknown – raised flag of China	Not known	Not known	Not known	Not known		CMM 2017-02 para 3. a
	j. Summary of activities				k. subsequent sightings/Other information			
	A Japanese patrol vessel sighted this fishing vessel conducting fishing operation in the Convention area at 25°46'02N, 147°07'08E on April 15, 2019. This nameless vessel (assumed “YUANDA8” from the vessel’s NMSI) was operating and running away when the Japanese patrol vessel approached.							
	g. Photographs							
<div></div>								



No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
33	ZHEXIANG YU 23029	Unknown – raised flag of China	Not known	Not known	Not known	Not known		CMM 2017-02 para 3. a
	j. Summary of activities				k. subsequent sightings/Other information			
	A Japanese patrol vessel sighted this fishing vessel in the Convention area at 25°42'03N, 147°11'02E on April 15, 2019. This vessel apparently had just finished as the gear was wet. the vessel name, which was not registered on the NPFC vessel registry, was erased deliberately.							
	g. Photographs							
	<div></div>							



No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
34	Unknown	No Nationality						CMM 2019-01 (para5)
	j. Summary of activities				k. subsequent sightings/Other information			
	A Japanese patrol vessel sighted this fishing vessel displaying the name LU RONGYUAN YU 581 鲁荣远渔 581 in the Convention area at 41°11.6'N, 174°17.7'W on July 15, 2020. This vessel was fishing under the name of a legally authorized vessels which was not in the Convention Area, consequently this vessel was conducting IUU fishing and did not display an IRCS.							
	g. Photographs							
								



No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
35	Unknown	No Nationality						CMM 2019-01 (para5)
	j. Summary of activities				k. subsequent sightings/Other information			
	A Japanese patrol vessel sighted this fishing vessel displaying the name LU RONG YUAN YU 582 鲁荣远渔 582 in the Convention area at 41°11.4'N, 174°22.9'W on July 15, 2020. This vessel was fishing under the name of a legally authorized vessels which was not in the Convention Area, consequently this vessel was conducting IUU fishing and did not display an IRCS.							
	g. Photographs							
	<div></div>							

No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
36	Unknown	No Nationality						CMM 2019-01 (para5)
	j. Summary of activities				k. subsequent sightings/Other information			
	A Japanese patrol vessel sighted this fishing vessel displaying the name LU RONG YUAN YU 197 鲁荣远渔 197 in the Convention area at 41°11.3'N, 174°20.3'W on July 15, 2020. This vessel was fishing under the name of a legally authorized vessels which was not in the Convention Area, consequently this vessel was conducting IUU fishing and did not display an IRCS.							
	g. Photographs							
	<div></div>							

No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
37	WAN TONG (previously ZHONG FU HAO 111, HUMBOLDT BAY)	Cameroon (Panama) (Liberia)	New Millenium Ocean Shipping Company Ltd. (FUWANTONG OCEAN SHIPPING CO., LIMITED.)	Ke Benwen	TJM0159 (previously HO4706)	8907888	26-Jul-23	CMM2021-01 (para1,2,3,6,9,10) CMM 2019-02 (para3)
	j. Summary of activities				k. subsequent sightings/Other information			
	This vessel was observed conducting unauthorized transshipment activities in the NPFC Convention Area on September 6, 2021.							
	g. Photographs							
	<div>Photos taken at 7:43 (JST) on September 6, 2021</div> <div></div>							

No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
38	RIWA (previously GLORIWAVE)	Togo (Sierra Leone)	Salimar Limited		5VIR8 (previously T8A4017)	9017666	26-Jul-23	CMM 2021-01 (para1,2,3,6, 9,10), CMM 2019-02 (para3)
	j. Summary of activities				k. subsequent sightings/Other information			
	This vessel was observed conducting unauthorized bunkering activities in the NPFC Convention Area on June 26, 2022. NOTE: TCC06 was informed that the vessel is understood to have flagged to Palau, and later Togo, and may also be using the name RIWA.							
	g. Photographs							
	<div></div> <div></div>							

No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
39	QIAN YUAN	UNKNOWN (Panama)	GINSIL HOLDING GROUP LIMITED	PHAM HONG NAM	H3YK (5VEZ8)	8819691	26-Jul-23	JAPAN: CMM 2021-01 (para1,2,3,6,9,10), CMM 2019-02 (para3), CMM 2021-09 (para38) PANAMA: As per Annex A, items i and j
	j. Summary of activities				k. subsequent sightings/Other information			
	This vessel was observed conducting unauthorized transshipment activities in the NFPC Convention Area between June 23 and 26, 2022.							
	g. Photographs							
	<div></div>							

No.	a. Name of vessel (previous names)	b. Flag of vessel (previous flags)	c. Owner (previous owners)	d. Operator of vessel (previous operators)	e. Call sign of vessel (previous call signs)	f. Lloyds/IMO number	h. Date first included on NPFC IUU Vessel List	i. CMM and paragraph noting violation
40	HAN (previously SHUN HANG, VILA MOOSUN)	St Kitts & Nevis (Panama) (Tuvalu)	Trade Shipping Inc (SHUNHANG INTERNATIO NAL SHIPPING CO.,LIMITED)	Machtrans Ship Management (HOWLADER MD NAJIR)	V4BK5 (previously H3DE)	8214645	26-Jul-23	CMM 2021-12 (para7)
	j. Summary of activities				k. subsequent sightings/Other information			
	This vessel was observed actively engaged in transshipment activities in the Convention Area on September 17th and a review showed it had not transmitted required VMS positional data to the NPFC Secretariat between September 16th and September 21st, 2022.							
	g. Photographs							
<div></div>								



North Pacific Fisheries Commission

NPFC-2024-TCC07-Final Report

7th Technical and Compliance Committee Meeting REPORT

9-12 April 2024

April 2024

This paper may be cited in the following manner:

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North Pacific Fisheries Commission
7th Meeting of the Technical and Compliance Committee

9-12 April 2024
Osaka, Japan (hybrid)

FINAL REPORT

Agenda Item 1. Opening of Meeting

1a. Welcome to Participants

1. The 7th Meeting of the Technical and Compliance Committee (TCC) was held in a hybrid format, with participants attending in-person in Osaka, Japan, or online via WebEx, on 9-12 April 2024, and was attended by Members from Canada, China, the European Union (EU), Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, the United States of America (USA), and Vanuatu. Panama attended as a Cooperating Non-Contracting Party (CNCPP). The meeting was opened by Ms. Alisha Falberg (USA), who served as the TCC Chair.
2. Ms. Mana Kumagai, President of the Japan Konamon Association, welcomed the participants to Osaka and introduced Osaka's food culture, particularly *konamon*, which are flour-based foods such as *okonomiyaki* and *takoyaki*, and the importance of *dashi* or seafood-based soup stocks to *konamon* and other Japanese cuisine.

1b. Appointment of Rapporteur

3. Mr. Alexander Meyer was appointed as the Rapporteur.

1c. Introduction of Observers

4. The Chair introduced approved observers permitted to be present. The meeting was attended by the Australian National Centre for Ocean Resources and Security (ANCORS), the Deep Sea Conservation Coalition (DSCC), Global Fishing Watch, the IMCS Network, the Pew Charitable Trusts (Pew), and the Ocean Foundation. The observers were admitted without objection.

1d. Adoption of Agenda

5. The provisional agenda was adopted (Annex A). The List of Documents and List of Participants are attached (Annexes B, C).

1e. Meeting Arrangements

6. The Compliance Manager, Ms. Judy Dwyer, outlined the meeting arrangements.

Agenda Item 2. Report from Secretariat

2a. Fisheries Overview

7. The Compliance Manager presented the overview of NPFC fisheries from 2018 to 2023 (NPFC-2024-TCC07-IP03). The Secretariat intends to review the annual reporting format to enable easier reporting, clearer reporting requirements, and more accurate data reporting.
8. The TCC thanked the Secretariat for preparing the new fisheries overview format and noted that this was more informative than previous versions.
9. The TCC noted several uncertainties and inaccuracies in the figures presented in NPFC-2024-TCC07-IP03, particularly the numbers for authorized vessels and active vessels. The TCC noted that some figures require further verification and reconciliation and some Members insisted that they must not be cited in any way. The TCC requested that the Secretariat, after consultation with Members, add a disclaimer to that effect at the beginning of the paper before making it public. Some Members were of the view that this is a fundamental document and should be made publicly available, as is the practice at other regional fisheries management organizations (RFMOs). Other Members expressed concern about the risks of publishing a document that contains inaccurate and misleading information, but agreed that the fisheries overview could be made publicly available with the inclusion of an appropriate disclaimer.
10. The TCC also requested Members to work with the Secretariat to revise the document intersessionally and to improve the accuracy of the reported figures to the extent possible, by correcting faulty data in the Vessel registry, and updating the Annual Report template to align the reporting of authorized and active vessels within their respective fisheries.
11. The TCC agreed that there are underlying issues with the data reporting process and format, and the information in the NPFC Vessel Registry, that need to be corrected to enable the Secretariat to compile more accurate information. The TCC encouraged Members to work intersessionally with the Secretariat to identify these issues and potential solutions.
12. The EU noted that the information presented in the overview of fisheries raised some concerns about the effectiveness of some of the NPFC's Conservation and Management Measures (CMMs). For example, the TAC for Pacific saury seems to be much higher than the actual catch. In addition, CMM 2023-07 for Chub Mackerel requires Members to refrain from

increasing the number of fishing vessels authorized to fish for chub mackerel, but this number appears to have increased steeply.

13. Japan pointed out that there are significant discrepancies in Pacific saury CPUEs among Members. The TCC agreed to seek views from the SC on potential reasons for these discrepancies.
14. The TCC suggested that the presentation of effort information in the overview of fisheries could be further improved by breaking down effort by size/type of vessel and requested that the Secretariat include this information in next year's overview.

2b. Data Management System Update and Initiatives for 2024

15. The Data Coordinator, Mr. Sungkuk Kang, presented a summary of the status of all TCC-related data management systems update and new initiatives for further development in 2024 by the Secretariat (NPFC-2024-TC07-IP02). Updates have been made to the Transshipment, Annual Reports, Vessel Registry, HSBI Events, e-IUU, Pacific Saury Weekly Report, Collaboration, Members Home, and Significant dates/Events sections. In 2024, the Secretariat intends to advance the following key initiatives: transition from a PDF High Seas Boarding and Inspection (HSBI) boarding form to an electronic high seas boarding and inspection (HSBI) boarding form, make various improvements to the transshipment reporting system, and update e-Annual Report submission forms to align with the latest CMM revisions.
16. The TCC thanked the Secretariat for continuing to develop the NPFC data management system and improve its functionality and usability.
17. The TCC suggested potential further improvements to the data management system, including:
 - (a) The consideration of enabling batch uploading of information for transshipment and vessel registration;
 - (b) Enabling Member administrators to approve annual reports themselves, rather than requiring the Secretariat to do so;
 - (c) Enabling Members to update and revise annual reports after submission;
 - (d) Enabling users or Member administrators to create their own user ID names and passwords.
18. The TCC requested that the Secretariat also include a section with the Secretariat's recommendations for improvements to the NPFC website and data management system in next year's summary.

19. The TCC noted the convenience and value of the newly established NPFC Transshipment Reporting System. The TCC noted that its increased use would reduce the administrative burden of the Secretariat and encouraged Members to promote the use of the system by its vessels, while noting that such a transition to a new technology often takes time. The TCC noted that the transition could be facilitated by translating the relevant information about the new system into Members' respective languages and encouraged Members to accelerate such efforts, as was previously requested by the Secretariat. The TCC also noted that workshops and other educational opportunities would support the increased uptake of the new system, encouraged Members to conduct such efforts, and requested that the Secretariat provide support for those efforts.
20. The TCC requested the Secretariat to create a summary document that sets out which data need to be submitted by Members for each stock/species, with the corresponding purposes and submission deadlines.
21. China and Chinese Taipei explained that they each have internal systems for managing information related to transshipment activities. They suggested that it could reduce their administrative burden, as well as that of the Secretariat, if their systems could be integrated with the NPFC system, and requested the Secretariat to explore the feasibility of doing so.

Agenda Item 3. Review of MCS related Issues from SC

22. The Science Manager, Dr. Aleksandr Zavolokin, provided a summary of monitoring, control and surveillance (MCS) matters for coordination between the Scientific Committee (SC) and the TCC (NPFC-2024-TCC07-IP01). These included support and coordination for addressing the ambiguity around the referenced effort limits in CMM 2023-05 for Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northwestern Pacific Ocean, CMM 2023-06 for Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northeastern Pacific Ocean, and CMM 2023-11 for Japanese Sardine, Neon Flying Squid and Japanese Flying Squid; ongoing discussions about data needs and data gaps that could be filled by a regional observer program; plans to develop a key for shark identification with assistance from the United Nations Food and Agriculture Organization (FAO); and the proposed holding of periodic meetings between the SC Chair and the TCC Chair, including, as appropriate, the Science Manager, the Compliance Manager, and the Chairs and leads of the subsidiary bodies of the SC and the TCC.

23. The TCC noted the information provided by the Science Manager and welcomed the continued coordination and collaboration between the TCC and the SC.
24. Several Members emphasized the importance of clarifying the effort limits in CMM 2023-05, CMM 2023-06, CMM 2023-07, CMM 2023-08, and CMM 2023-11, and the TCC held further discussions of this issue under Agenda Item 5.
25. The TCC noted and supported the ongoing discussions by the SC of the scientific aspects of a regional observer program. The TCC agreed that it would be valuable to receive clear guidance on what level of observer coverage would be needed on fishing vessels and what kinds of data would need to be collected to achieve the scientific objectives of an observer program, and requested that the SC continue its discussions towards providing such guidance to the TCC.
26. The TCC expressed support for the SC's plans to develop a key for shark identification with assistance from the FAO.
27. The TCC expressed support for the holding of periodic meetings between the SC Chair and the TCC Chair, including, as appropriate, the Science Manager, the Compliance Manager, and the Chairs and leads of the subsidiary bodies of the SC and the TCC.
28. The EU reminded the TCC that it had presented templates for the collection of standardized biological data to the SC and that the SC has tasked working groups to review these templates and provide feedback. The EU hoped that, following the SC's review, the TCC would also review these templates with the aim of adopting them or encouraging broader use of them individually or under any future regional observer program.

Agenda Item 4. SWG Reports on Progress, Priorities and Recommendations

4a. SWG Planning and Development Report - Report and Recommendations

29. Ms. Amber Lindstedt (Canada), Co-Lead of the SWG on Planning and Development (SWG PD), presented a summary of the work conducted by the SWG PD in 2023-2024. This work focused mainly on developing a proposal to improve CMM 2023-13 For the Compliance Monitoring Scheme as tasked by COM07 and developing a proposal for the establishment of a regional observer program for transshipment. The SWG developed language to incorporate the observer program into the transshipment measure, but later decided it should be developed as a standalone measure. Preliminary costing estimates and design elements were considered. Several uncompleted tasks included reviewing the recommendations from the NPFC

Performance Review, reviewing the draft memorandums of understanding (MoUs) with South Pacific Regional Fisheries Management Organisation (SPRFMO) and Western and Central Pacific Fisheries Commission (WCPFC), and developing minimum standards for port State measures.

4b. SWG Operations Report - Report and Recommendations

30. Ms. Megan Willmann (USA), Co-Lead of the SWG on Operations (SWG Ops) presented a summary of the work conducted by the SWG Ops in 2023-2024. This work mainly focused on developing a proposal to clearly include aerial surveillance in CMM 2023-12 On the Vessel Monitoring System (VMS), developing a proposal to require the provision of safe boarding ladders and to reflect the adoption of an NPFC inspection flag in CMM 2023-09 For High Seas Boarding and Inspection Procedures for the NPFC, reviewing Annex II of CMM 2023-13 For the Compliance Monitoring Scheme and prioritizing the obligations to be assessed, and continued work on coordination of a comprehensive list of serious violations.

Agenda Item 5. Conservation and Management Measures – Amendments or new CMMs

31. Japan presented a proposed amendment to CMM 2023-12 On the Vessel Monitoring System (VMS) to remove the expiry provision for research vessels to report positional data through AIS instead of VMS (NPFC-2024-TCC07-WP01).
32. The TCC reviewed and updated the proposal, and endorsed a revised proposal to extend the expiry date of the provision to the end of the 9th Commission meeting.
Recommendation: That the Commission adopt the proposed amendments to CMM 2023-12 .
33. The Co-Lead of the SWG Ops, Ms. Willmann, presented proposed amendments to CMM 2023-12 On VMS to include aerial surveillance in the definition of inspection presence and amend paragraph 14(b) of Annex 2 (NPFC-2024-TCC07-WP15).
34. The TCC reviewed and endorsed the proposed amendments.
Recommendation: That the Commission adopt the proposed amendments to CMM 2023-12 .
35. The two proposals to amend the VMS CMM were merged into one paper, which also included the deletion of paragraph 14(c) of the VMS Data Sharing and Data Security Protocol described under Agenda Item 8b, paragraph 80.

36. Japan presented proposed amendments to CMM 2023-03 On Transshipment to add a clarifying footnote concerning the definition of “fishing vessel,” and clarification of the definition of transshipment records (NPFC-2024-TCC07-WP02).
37. Chinese Taipei presented proposed amendments to CMM 2023-03 On Transshipment to expand the timeframe and acceptable area for fishing vessels to engage in transshipment and other transfer activities related to advance notification requirements (NPFC-2024-TCC07-WP03).
38. Korea presented proposed amendments to CMM 2023-03 On Transshipment that are aimed at alleviating administrative burdens related to advance notification while upholding the integrity and effectiveness of the CMM (NPFC-2024-TCC07-WP07).
39. The TCC considered the three proposals that concern CMM 2023-03 On Transshipment together (NPFC-2024-TCC07-WP02, NPFC-2024-TCC07-WP03 and NPFC-2024-TCC07-WP07) and combined them into one proposal (NPFC-2024-TCC07-WP02 Rev.1). The TCC reviewed the combined proposal but was unable to resolve some sections that remain in square brackets concerning the timeframe within which, and the distance from the estimated start location within which, Members shall modify submitted advance notifications of transshipments and other transfer activities. Some Members preferred longer timeframes and larger distances in light of practical difficulties resulting from the Convention Area’s harsh and unpredictable weather and sea conditions. Other Members preferred shorter timeframes and shorter distances from an MCS standpoint.
Recommendation: That the Commission further consider the proposed amendments to CMM 2023-03 in NPFC-2024-TCC07-WP02 Rev.1, recognizing that some sections remain in square brackets.
40. The Co-Lead of the SWG PD, Ms. Lindstedt, presented a proposal for the establishment of a regional observer program for transshipment (NPFC-2024-TCC07-WP05).
41. The TCC discussed the proposal, noting that many sections remain in square brackets, and agreed that these would require further discussion in the intersessional period. The TCC further noted that paragraph 26 of CMM 2023-03 stipulates that the Commission shall establish a regional observer and/or electronic monitoring program no later than its 9th Commission meeting. China suggested a regional observer program should include national observer programs and may table an amendment proposal at the 9th Commission meeting.

Japan suggested that observers should be sourced from an independent observer provider to monitor transshipment activities.

Recommendation: That the Commission task the TCC to continue to work intersessionally to develop a proposal for the establishment of a regional observer program for transshipment and present it to the Commission for consideration at COM09.

42. The TCC agreed to prioritize the development of the regional observer program for transshipment and noted that work to develop the broader regional observer program could be conducted in parallel, through a step-wise approach, including developing the scientific aspects of the regional observer program based on the advice of the SC regarding types of data that should be collected and appropriate coverage rates.

Recommendation: That the Commission task the SC to provide data on what information scientific observers need to collect to help inform development of a regional observer program for NPFC.

43. The Co-Lead of the SWG PD, Ms. Lindstedt, presented proposed amendments to CMM 2023-13 For the Compliance Monitoring Scheme to lay out a more comprehensive CMS process to assess Member compliance with Commission obligations (NPFC- 2024-TCC07-WP04).

44. The TCC considered and updated the proposal, and endorsed the proposed amendments. The TCC noted that one section, concerning the Implementation Questionnaire, remained in square brackets, as some Members wished to review the actual Implementation Questionnaire before agreeing to this section, although they were generally supportive of the concept. The TCC noted that Members were working in the margins to prepare a draft Implementation Questionnaire and would present it at COM09, which would facilitate the Commission's consideration of the proposed amendments to the CMM.

Recommendation: That the Commission adopt the proposed amendments to CMM 2023-13 (Annex D).

45. The USA presented proposed amendments to CMM 2019-02 To Establish a List of Vessels Presumed to Have Carried Out IUU Activities in the NPFC Convention Area aimed primarily at clarifying the process for technical updates to the NPFC IUU Vessel List to be made intersessionally by the Executive Secretary when information is provided by Members and can be verified by the Secretariat (NPFC-2024-TCC07-WP06).

46. The TCC reviewed and endorsed the proposed amendments.

Recommendation: That the Commission adopt the proposed amendments to CMM 2019-02.

47. Korea presented proposed amendments to CMM 2023-15 on the Prevention, Reduction and Elimination of Marine Pollution to propose that vessels maintain a voluntary record of waste/garbage management and treatment and to include a force majeure clause concerning the implementation of paragraph 8 on the release of plastics (NPFC- 2024-TCC07-WP08 Rev5).
48. The TCC reviewed and updated the proposal, and endorsed the proposed amendments.
Recommendation: That the Commission adopt the proposed amendments to CMM 2023-15 (Annex E).
49. The EU presented proposed amendments to CMM 2023-07 For Chub Mackerel that are aimed at clarifying some key obligations, in particular those related to the effort management requirements established by the CMM, as well as their application to relevant NPFC Members (NPFC-2024-TCC07-WP10).
50. The TCC held a preliminary review of the proposal but was unable to make substantial progress during the meeting.
Recommendation: That the Commission further consider the proposed amendments to CMM 2023-07 in NPFC-2024-TCC07-WP10, recognizing that no consensus was reached at the TCC.
51. The EU presented proposed amendments to CMM 2023-11 For Japanese Sardine, Neon Flying Squid and Japanese Flying Squid that are aimed at clarifying some key obligations, in particular those related to the effort management requirements established by the CMM, as well as their application to relevant NPFC Members (NPFC-2024-TCC07-WP12).
52. The TCC held a preliminary review of the proposal but was unable to make substantial progress during the meeting.
Recommendation: That the Commission further consider the proposed amendments to CMM 2023-11 in NPFC-2024-TCC07-WP12, recognizing that no consensus was reached at the TCC.
53. The Co-Lead of the SWG Ops, Ms. Patricia DeMille (Canada), presented proposed amendments to CMM 2023-09 For High Seas Boarding and Inspection Procedures for the NPFC to require the provision of safe boarding ladders and to reflect the adoption of an NPFC inspection flag (NPFC-2024-TCC07-WP14).

54. The EU expressed its preference that certain minimum standards be established to ensure that boarding ladders are effectively safe, noting that in the absence of clear minimum requirements the safety of inspectors boarding fishing vessels would not be ensured, but indicated that it would not block consensus. Some Members expressed support for holding future discussions on the potential establishment of such minimum standards.
55. The TCC endorsed the proposed amendments.
Recommendation: That the Commission adopt the proposed amendments to CMM 2023-09.

Agenda Item 6. IUU Vessel List

6a. General Discussion

56. The Compliance Manager presented the draft IUU Vessel List (NPFC-2024-TCC07-WP17). The draft list contained one vessel, which was found to have misreported 1.4 MT of transshipped salmon.
57. The Compliance Manager read out the update provided by China regarding the four vessels that were not included in the Provisional IUU Vessel List at COM07 on the condition that China would report intersessionally as well as at TCC07 on the follow-up investigations (NPFC-2024-TCC07-IP07). This information was first provided to Members on 20 February 2024 via NPFC Circular #014 /2024.
58. China provided additional explanations in response to further requests for clarification from the TCC on the four vessels and the TCC considered China's follow-up actions to be satisfactory and the matter to be resolved.
59. The Compliance Manager presented the current IUU Vessel List (NPFC-2024-TCC07-WP18) and noted where Members and CNCP had proposed updating information regarding several vessels on the current IUU Vessel List (NPFC-2024-TCC07-IP08).

6b. Recommendation for Provisional IUU Vessel List to the Commission

60. Japan explained that it had inspected a Chinese-flagged vessel that failed to describe 1.4 MT of salmon in its transshipment declaration, which Japan considers to be a violation of paragraph 9 of CMM 2023-03 On Transshipment. It had therefore proposed the vessel for inclusion on the draft IUU Vessel List. However, Japan subsequently held bilateral meetings with relevant Members, including China. During these meetings, China explained that the vessel recorded 1.4 MT of salmon in its logbook and under the "Others" item in the

transshipment declaration and that in China's interpretation, the identification of non-NPFC species is not required in the transshipment declaration. Japan also found that some Members agreed that there was ambiguity in the language of the CMM. In light of this, Japan wished to withdraw its nomination of the vessel, while maintaining its original interpretation of paragraph 9 of CMM 2023-03.

61. China provided further explanation. The fishing vessel owner reported the 1.4 MT of salmon through China's internal transshipment application platform system, which, at that time, did not have a column or line to record the species as salmon. Following the flagging of this matter by Japan and subsequent discussions, China updated its internal transshipment application platform system to enable the recording of salmon and other non-NPFC species.
62. The TCC discussed this issue from a procedural standpoint and agreed that as the vessel had already been included on the draft IUU Vessel List, Japan could not remove it from the list by withdrawing its proposal. Rather, the correct procedure would be for the TCC to consider the draft IUU Vessel List and decide whether or not to include the vessel on the provisional IUU Vessel List. Furthermore, the TCC noted that although China has explained the background and details to Japan in bilateral discussions, China should have submitted suitably documented information to the Executive Secretary, in accordance with paragraph 11 of CMM 2019-02 To Establish a List of Vessels Presumed to Have Carried Out IUU Activities in the NPFC Convention Area. The TCC requested that China provide this explanation to the TCC in writing.
63. In response to the above request, China submitted a written explanation to the TCC (NPFC-2024-TCC07-IP09). The TCC thanked China for providing the explanation and reminded Members that if their vessels were included on the draft IUU Vessel List in future, they should provide any explanations they have in writing in advance of the TCC meeting.
64. Canada and the USA expressed their continued concern about the use of the term "other" to describe a known fish species in the transshipment declaration, pointing out that in the future, this could be considered misreporting of catch or catch-related data under paragraph 38(b) of CMM 2023-09 For High Seas Boarding and Inspection Procedures for the NPFC. They further noted that species caught and reported for transshipment require accurate reporting using the appropriate FAO code. Canada and the USA also expressed disagreement with China's interpretation that the obligation described in paragraph 9 of CMM 2023-03 On Transshipment only applies to Members and not also to fishing vessels. Nevertheless, they

expressed understanding for the explanation provided by China and appreciation for the subsequent steps it has taken to enhance its internal reporting system.

65. Noting that the reporting of salmon under “other” by the vessel was due to an issue of interpretation and limitations in China’s internal reporting system, and that China has taken steps to improve its reporting system and thereby demonstrated its commitment to improving future reporting by its flagged vessels, the TCC agreed not to include the vessel listed on the draft IUU vessel list on the Provisional NPFC IUU Vessel List.
66. Several Members noted that the above issue involving the transshipment of salmon highlighted the importance of the proposal submitted by Canada, Korea, and the USA to the Commission for the establishment of a measure to protect anadromous fish in the Convention Area.
67. The TCC agreed that the provisions in CMM 2023-03 On Transshipment could be improved to make it clearer that the transshipped catch should be reported by species.
Recommendation: That the Commission task the TCC to work intersessionally to propose amendments to CMM 2023-03 On Transshipment, including the Annex, to more clearly require the reporting of transshipped catch by species.
68. Based on its review of the draft NPFC IUU Vessel List, the TCC did not propose any vessels for inclusion on the Provisional NPFC IUU Vessel List.
Recommendation: That the Commission note that the TCC did not propose any vessels for inclusion on the Provisional NPFC IUU Vessel List.

6c. Recommendations for amendments to current NPFC IUU Vessel List to Commission

69. The TCC considered the updates proposed by two Members in NPFC-2024-TCC07-IP08. The USA addressed the IUU vessel information updates provided intersessionally to the Secretariat and Commission prior to TCC07. The USA noted the Secretariat’s analysis that information for vessels 5, 6, 7, 9, 10, 11, 12, and 14 on the IUU vessel list was based on AIS and MMSI data and will require further research to inform potential updates to the IUU vessel list. The USA noted that they met on the margins of TCC with China regarding vessels 17-23 on the IUU vessel list. The USA expressed the need for continued intersessional work with Members and the Secretariat to determine if any of the other updates provided by the USA should be included in future edits to the IUU vessel list, as well as to ensure all Members are effectively cooperating and implementing their obligations under CMM 2019-02. The TCC agreed to amend the details associated with WAN TONG (ZHONG FU HAO 111), RIWA

(GLORIWAVE), QIAN YUAN, and HAN (SHUN HANG (VILA MOOSUN)) on the current NPFC IUU Vessel List.

Recommendation: That the Commission note that the TCC did not propose removing any vessels from the current NPFC IUU Vessel List.

Recommendation: That the Commission adopt the proposed updates to the information in the current NPFC IUU Vessel List described in (NPFC-2024-TCC07-WP18 Rev.1).

70. The EU referred to the Circular 04/2024 through which it informed NPFC Members about the location of the vessel WAN TONG in a Member's port and inquired about how this was addressed under the requirements of paragraph 24 of CMM 2019-02. In reply to the EU's request, China informed the TCC that the vessel entered into Chinese port for investigation in relation to labor issues. In addition, the USA informed the TCC that it had identified suspected interactions between Chinese-flagged vessels and WAN TONG in the Indian Ocean and had shared this information with China. China thanked the USA for sharing this information and informed the TCC that it would conduct a follow-up investigation in the intersessional period and share the findings in writing with Members. The EU pointed out that Members should be duly informed of any relevant activities concerning vessels on the NPFC IUU Vessel List and encouraged the USA and China to share information about the suspected interactions between Chinese-flagged vessels and WAN TONG in the Indian Ocean at the upcoming Commission meeting.

Agenda Item 7. Transshipment

7a. Report on 2023 activity

71. The Compliance Manager presented a summary of transshipment activities in 2023, as reported by Members/CNCP through the submission of their annual reports for 2023, and data extracted from the online database to identify the amounts of NPFC species transshipped by Member in the Convention Area in 2023 (NPFC-2024-TCC07-IP05 Rev.1). With more than 70% of NPFC priority species harvest being transshipped annually, transshipment is an important issue for the Commission. The enhanced reporting requirements introduced through CMM 2023-03 have generated a large dataset with many details on NPFC transshipments. However, the Secretariat is challenged to find time to conduct analyses on the data as so much time is required to manage the manual input of data into the system. It is hoped that 2024 will see an increase in online reporting directly into the database to allow the Secretariat to focus on the analysis of this growing dataset.
72. The TCC noted several uncertainties and inaccuracies in the figures presented in NPFC-2024-TCC07-IP04 Rev.1. The TCC noted that some figures require further verification and

reconciliation and some Members insisted that they must not be cited in any way. The TCC requested that the Secretariat, after consultation with Members, add a disclaimer to that effect at the beginning of the paper before making it public. The TCC also requested Members to work with the Secretariat to revise the document and to improve the accuracy of the reported figures to the extent possible.

73. The TCC reaffirmed the value of the NPFC Transshipment Reporting System web application, agreed that its increased uptake would reduce the administrative burden on the Secretariat and its ability to provide meaningful and accurate data analysis, and encouraged the holding of workshops and other educational opportunities to promote the further use of the system.
74. The Ocean Foundation and Pew welcomed the establishment of the NPFC Transshipment Reporting System web application and urged the TCC to recommend a clear series of steps to enable a more seamless provision of transshipment data and support more in-depth analyses of these data by the Secretariat.

7b. Review on implementation

75. The TCC considered and proposed amendments to CMM 2023-03 On Transshipment under Agenda Item 5, under paragraph 39, some of which were based on Members' review of the implementation of the CMM, and agreed to forward the proposed amendments to the Commission for further consideration.

Agenda Item 8. Vessel Monitoring System

8a. Secretariat report on review of implementation (para 24 of CMM 2023-12)

76. The Fisheries and Data Science Consultant, Dr. Jihwan Kim, presented an overview of the VMS over the 2-year period for 2022 and 2023 (NPFC-2024-TCC07-IP04 Rev.1), including a summary, by Member/CNCP, of monthly activity and data gaps experienced in 2023, challenges associated with the lack of consistent zone entry and exit as well as duplicate reports, and a comparison of 2023 transshipment locations against the data reported through VMS. The dataset generated by the NPFC VMS has provided the Secretariat with a wealth of information on a near real time basis. It has taken the Secretariat some time to understand the full capability of the system and to address some of the challenges of developing a new dataset. The Secretariat is continuing to adapt analytical strategies as new information is understood, with support from the service providers, CLS and Cubic-I. The operation of the VMS and analysis of the data generated could be further improved by providing at least one position report from outside the Convention Area or AIS to assist with data gap analysis, and mandatory declarations of entry into and exit from the Convention Area. It would also help

the Secretariat if there were an agreed format that should be used for manual reporting in the event of an equipment failure.

77. The TCC discussed the data gaps and issue of duplicate reporting identified by the Secretariat. Members shared the findings from their follow-up investigations and identified various potential causes. For data gaps, these were mostly due to technical issues, such as slight delays in transmitting position data, data reporting interruptions, and issues with the program for relaying data from the Member's Fisheries Monitoring Center to the Secretariat, as well as fishing patterns whereby vessels frequently move between exclusive economic zones (where VMS reporting to the NPFC is not required) and the Convention Area. For duplicate reporting, these were due to vessels being equipped with two VMS units as a measure to ensure continuous reporting in case one fails and both units simultaneously generating position report, or errors resulting from domestic regulations requiring reporting at more frequent intervals than CMM 2023-12 On the VMS.

78. The TCC noted that entry/exit reporting would assist the Secretariat in more accurately identifying instances of entry or exit from the Convention Area. The TCC further noted that Article 13, paragraph 4b) of the Convention stipulates that Members shall require fishing vessels that are entitled to fly its flag and that are engaged in fishing activities in the Convention Area to notify the Commission of their intention to enter and exit the Convention Area in accordance with procedures developed by the Commission. There was a suggestion of creating those procedures at this time. One Member expressed the view that it was not yet the time to activate this requirement, pointing out that presence in the Convention Area can be detected with the VMS.

Recommendation: That the Commission consider establishing procedures for reporting of entry into and exit from the Convention Area, including alternative measures such as the possibility of establishing buffer zones similar to SPRFMO.

79. The TCC discussed the potential use of AIS data by the Secretariat. Some Members expressed support for the Secretariat accessing and using these data to assist with analyzing gaps in VMS data. Other Members expressed doubts about the quality and usefulness of AIS data but indicated that they would not be opposed to the Secretariat using them. One Member stated that it would not support the use of AIS data if the Secretariat's access to these data would incur financial costs.

Recommendation: That the Commission task the Secretariat with exploring options for accessing AIS data that would not incur financial costs, such as accessing AIS data held by

Members or collaborating with non-governmental organizations, for use in analyzing gaps in VMS data, and to explore paid options as necessary and appropriate in the future.

8b. VMS Data Security Protocol

80. The TCC noted that paragraph 14(c) of Annex 2 of CMM 2023-12 On the Vessel Monitoring System (VMS) will expire at the end of COM08. The TCC agreed that, in light of the other provisions of paragraph 14, the expiration of subparagraph (c) would not substantively change the CMM's Annex 2: VMS Data Sharing and Data Security Protocol.

Recommendation: That the Commission delete paragraph 14(c) from the CMM's Annex 2: VMS Data Sharing and Data Security Protocol.

81. The Secretariat combined the above proposed deletion of paragraph 14(c) of Annex 2 of CMM 2023-12 On the VMS with the other amendments to the CMM that were endorsed by the TCC under Agenda Item 5 into one document (NPFC-2024-TCC07-WP20) for easier consideration by the Commission.

Agenda Item 9. High Seas Boarding and Inspection

9a. Secretariat Report

82. The Compliance Analyst and Seconded to the NPFC, Ms. Natsuki Hosokawa, presented a summary of the high seas boarding activities in the NPFC Convention Area in 2023 (NPFC-2024-TCC07-IP06 Rev.1). In 2023, the number of inspection vessels increased by nine vessels from 2022, and five vessels conducted inspections in the Convention Area. 24 high seas inspections were reported by the three active Members and 19 out of 24 events were uploaded to the HSBI Events page. In 2023, HSBI operations noted 9 violations, but no serious violations were identified. Following bilateral communication, almost all violations were reconciled as "no violation" following explanations/clarifications provided. Of the 24 vessels inspected, 14 were either carrier vessels, jigger vessels or purse seiners. Since 2018, 109 inspection activities have been conducted in the NPFC Convention Area. 51 of those inspections did not identify any violations. The majority of violations identified were related to vessel markings. China pointed out most of its vessel marking issues were caused by technical reasons, rather than falsification or concealing. In the intersessional period, the need to update the HSBI implementation plan was identified, and the Secretariat has been working with SWG Ops to that end. The Secretariat also intends to consider ways to encourage greater use of the online transshipment reporting system, which was designed to assist HSBI by enabling access to near real-time data on planned transshipment activity. In addition, the Secretariat encouraged Members to submit inspection reports using the HSBI Events page.

83. The TCC requested that for future summaries of HSBI activities, the Secretariat include a column with total number of authorized/active vessels in the table showing the total number of inspected vessels 2023, to enable ease of comparison.
84. The TCC noted that paragraph 42 of CMM 2023-09 For High Seas Boarding and Inspection Procedures for the NPFC stipulates that Members shall include in their annual statement of compliance within their Annual Report action that they have taken in response to boarding and inspections of their fishing vessels that resulted in observation of alleged violations. The TCC requested that the Secretariat include such information in future summaries of HSBI activities.
85. The TCC requested that the Secretariat establish a mechanism for reporting aerial surveillance results on the HSBI Events page if the proposed amendment to CMM 2023-12 On the VMS to clearly include aerial surveillance is adopted by the Commission.
86. The TCC noted instances where activities were recorded as “violations” in the Secretariat’s summary, whereas these could be considered “serious violations” according to the definitions in the NPFC CMMs. The Secretariat explained that its summary had deferred to the violations classification used in the HSBI reports.
87. The TCC discussed whether the Secretariat should present the determination of “violations” or “serious violations” as it is recorded in the HSBI report or based on the Secretariat’s own judgment. The TCC agreed that the responsibility to determine “violations” or “serious violations” lies with Members, particularly Members’ at-sea inspectors, not the Secretariat. The TCC requested that the Secretariat include more detailed information in future summaries of HSBI activities to facilitate the TCC’s discussions and determination of whether each particular activity constitutes a “violation” or “serious violation.”
88. The TCC noted that there may also be instances where follow-up may be needed when HSBI reports identify “violations” that could be “serious violations.” The TCC requested that the Secretariat follow up with the inspecting authority if there appears to be a clear discrepancy between the determination in the HSBI report and the definition of “violations” or “serious violations” in the CMMs to ensure that a mis-recording has not occurred.

9b. Members Reports

89. Noting that more information on HSBI is provided in Member’s Annual Reports, Canada, China, Japan, and the USA presented brief reports of their HSBI activities for 2023.

Agenda Item 10. Review of Applications for CNCP Status

90. The TCC noted that no applications for CNCP status have been received.
91. The TCC noted that as Panama has not applied to renew its CNCP status, Panama's CNCP status will expire following the end of COM08 on April 18 and that subsequently, vessels flagged to Panama will no longer be authorized to be used for fishing and fishing-related activities in the Convention Area.
92. The TCC requested that the Secretariat identify any non-Contracting Parties that may have an interest in engaging in fishing activities in the Convention Area and potentially should become CNCPs, and invite them to consider applying for CNCP status.

Agenda Item 11. Compliance Monitoring Scheme

11a. Provisional Compliance Monitoring Reports for 2023

93. The Compliance Manager presented the NPFC Draft Compliance Monitoring Report (CMR) – 23 (NPFC-2024-TCC07-WP16). The Secretariat assessed ten Members/CNCP against forty-four obligations based on the data available. Of those combined 440 elements, 328 were identified as “Not Assessed,” largely due to the inability to collect data needed to assess the obligation to the Member/CNCP. Four non-compliant statuses were assigned: two identified during at-sea inspections relating to non-compliant vessel markings and boarding ladders, one identified by the Secretariat in checking whether vessels in the Vessel Registry had IMO numbers identified, and one identified by the Secretariat in checking that all vessels reporting on VMS had authorizations to operate in the Convention Area. The Secretariat noted that it faced challenges in assessing compliance for many obligations.
94. The TCC discussed issues with the draft CMR (NPFC-2024-TCC07-WP16) and the compliance monitoring scheme and ways in which these could be improved. Members raised the following points:
 - (a) The draft CMR process and format still did not allow the assessment of Members' compliance with key obligations adopted by the NPFC.
 - (b) The draft CMR format should not only contain statistics but should identify instances of potential non-compliance and provide further details about the nature of the potential non-compliance, and subsequent interactions and responses from the relevant Member. The role of the Secretariat should not be to assign compliance status but to facilitate the TCC's assessment of Members compliance with obligations by identifying potential compliance

issues and presenting all the relevant information to the TCC, which, based on this information, would determine the compliance status.

- (c) The practices of other RFMOs may serve as a useful reference.
- (d) The Secretariat should notify Members if any information is lacking for their vessels on the NPFC Vessel Registry and give Members the opportunity to provide the missing information before assigning a non-compliance status. Under the current vessel registration system, it is not possible to register a vessel without providing all the requisite information, but for vessels that were registered in the past, there has not been a mechanism to alert Members that required information is missing.
- (e) Most VMS-related issues that were identified in the draft CMR were data interruptions resulting from technical issues and should not be treated as instances of non-compliance.
- (f) “Not Assessed” and “Not Applicable” have distinct meanings and should not be conflated.

95. The TCC noted the draft CMR but did not adopt it as the Provisional Compliance Monitoring Report as the current process and format of the draft CMR did not enable adequate discussion and assessment of Members’ compliance with the obligations under the NPFC CMMs.

Recommendation: That the Commission develop and adopt amendments for improving CMM 2023-13 For the Compliance Monitoring Scheme as soon as possible based on the discussions of the TCC and its SWGs.

96. Some Members expressed their concern that once again the TCC has not been able to assess compliance of Members with obligations under the NPFC Convention and CMMs and that the adoption of a revised CMS CMM should be a priority issue for consideration at COM08.

11b. List of obligations for consideration for the Compliance Monitoring Scheme in 2024

97. The TCC reviewed the initial prioritization (NPFC-2024-TCC07-WP04) conducted by the SWG PD and the SWG Ops of the obligations for the CMR process in Annex II of CMM 2023-13 For the Compliance Monitoring Scheme. The TCC further updated and endorsed the proposed prioritization of obligations (Annex D).

Recommendation: That the Commission adopt the proposed list of obligations to be assessed as part of the CMR for 2024 (Annex D).

98. The TCC agreed that the list of obligations for the CMR process should be reviewed annually and updated as necessary. The TCC agreed that, to facilitate this review, the list should be reviewed as a standalone document separate from CMM 2023-13 going forward.

99. The TCC noted that the list of obligations may need to be further amended based on the outcomes of COM08, which could potentially include the adoption of amendments to multiple CMMs.
100. The TCC noted that the list contains a large number of obligations and that it could continue to grow with the adoption of new CMMs and amendments to existing CMMs. The TCC noted the need to hold further discussions in the future on how to manage the process of assessing these obligations, including consideration for the Secretariat's workload.

Agenda Item 12. Climate Change

101. The TCC noted that following the adoption of the Resolution on Climate Change at COM07, Climate Change is now a standing agenda item for the Commission and its subsidiary bodies, including the TCC. The TCC noted that this is the first year that this has been on the TCC agenda and that no specific topics of discussion have been tabled. The TCC reaffirmed the importance of considering climate change in the context of the NPFC and its readiness to play any relevant roles required of it, such as considering how climate changes affects the NPFC's CMMs or incorporating climate change-related advice from the SC into proposed measures for the consideration of the Commission.

Agenda Item 13. Cooperation with Other Organizations

13a. MoU with SPRFMO

102. The Secretariat informed the TCC that the NPFC and SPRFMO have concluded an MoU. The Compliance Managers of the two RFMOs have initiated correspondence but have yet to develop a concrete work plan. It is anticipated that the MoU will serve as a governance framework that enables the sharing of information regarding common issues and best practices.

13b. MoU with WCPFC

103. The Secretariat informed the TCC that the NPFC has submitted a draft MoU to the WCPFC, that the WCPFC has returned it with proposed revisions that are editorial in nature, and that COM08 will consider the draft MoU with the proposed revisions for adoption. The Secretariat further informed the TCC that the NPFC has similarly submitted a draft MoU to the International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean (ISC), which supports the scientific work of the WCPFC, that the ISC has returned the draft MoU with proposed revisions that are editorial in nature, and that COM08 will consider the draft MoU with the proposed revisions for adoption.

13c. Update on IMCS Network Activities

104. The IMCS Network provided an update on collaborative activities with the NPFC. These activities included verification of data and information related to the IUU Vessel List, and providing points of contact for information-gathering on IUU vessels and suspected IUU vessels. The IMCS Network also provided indirect support through the Joint Analytical Cell by creating an intelligence report on a vessel on an IUU Vessel. Furthermore, it has also provided indirect support through the Pan-Pacific Fisheries Compliance Network for VMS data information management and use, as well as the management of transshipment information. In addition, the IMCS Network is working to strengthen information-sharing between RFMOs on IUU vessels, including by compiling a consolidated list of vessels authorized by all RFMOs based only on publicly available information.

Agenda Item 14. NPFC Rules for Transparency Pertinent to TCC

105. The TCC noted discrepancy in the Interim NPFC Rules of Transparency for TCC regarding the expiration date of the interim rules, resulting in ambiguity over whether the interim rules expire at the end of COM08 or COM09. In any case, the TCC agreed that the interim rules should be maintained until the end of COM09 as the TCC continues its work to develop updated rules, including how to incorporate the CMS process endorsed in paragraph 44.
- Recommendation:** That the Commission maintain the Interim NPFC Rules of Transparency for TCC until the end of COM09 and task the TCC to continue to work intersessionally to develop updated NPFC Rules of Transparency for TCC that also include the CMS process.

Agenda Item 15. Performance Review- Recommendations relevant to TCC

106. The Secretariat presented a table with the NPFC Performance Review recommendations that concern the TCC and its subsidiary bodies and suggested TCC comments drafted by the Secretariat and the TCC Chair for each recommendation (NPFC-2024-COM08-WP11).
107. The TCC noted the table presented by the Secretariat and agreed to use it to inform its discussions on the TCC Work Plan. At the same time, the TCC agreed that it would need to conduct an in-depth review of the suggested comments, which would not be possible at TCC07 due to time constraints. Members indicated their intention to keep this as an information paper, to use it for tracking purposes and update as necessary, and to provide further comment on TCC-related recommendations through the discussions at the Commission and the intersessional meetings of the TCC SWGs.
- Recommendation:** That the Commission task the TCC with any work arising from the NPFC Performance Review recommendations as necessary.

Agenda Item 16. Other Matters

108. Korea presented a proposal for the NPFC to appoint an independent legal advisor (NPFC-2024-TCC07-WP09). Korea expressed its view that there are distinct advantages to the Commission having an independent legal advisor and that the Commission can receive better support from the Secretariat if the Secretariat is able to seek independent advice on legally sensitive matters, particularly since much of the Commission's work is initially processed by the Secretariat before being considered by the Members. Korea invited the TCC to consider and revise, as appropriate, the draft Terms of Reference for the NPFC legal advisory consultant presented in Annex 1 of the paper.
109. The Executive Secretary provided supplementary comments, explaining that independent legal advice supports the Secretariat in its efforts to represent Members' interests to the best of its ability, without making legal missteps, and that to date, it has been seeking such advice on an ad-hoc basis, particularly with respect to engagement regarding IUU listed vessels.
110. Some Members expressed doubt about the usefulness of appointing an independent legal advisor for NPFC, noting that Members have their own legal advisors and would naturally tend to place more weight on the advice of their own legal advisors in instances where they disagree with the independent legal advisor, but acknowledged that an independent legal advisor could be more useful for the Secretariat than for Members. Japan suggested that, in light of the size of the NPFC, the number of Members, and the number of CMMs, the Secretariat did not need to have a long-term arrangement with an independent legal advisor and could continue to seek legal advice on an ad-hoc basis. Another Member stated that in its experience, having an independent legal advisor can be useful in certain contexts. The TCC noted the divergent views among Members and noted that there is a need to hold further discussions on this matter.
- Recommendation:** That the Commission continue to discuss whether there is a need to appoint an independent legal advisor for NPFC and consider Korea's proposal (NPFC- 2024-TCC07-WP09) in its discussions.
111. Several Members expressed concern about the potential financial implications of hiring an independent legal advisor. The TCC noted these concerns and agreed that there is a need to hold further discussions on the financial implications and the prioritization of hiring an independent legal advisor against other budget items.
- Recommendation:** That the FAC consider the financial implications of hiring an independent legal advisor and its priority compared to other budget items.

112. The EU presented the latest version of its Fishing Operation Plan (FOP), which sets out in more detail the EU's proposed plan to fish for Chub mackerel in the NPFC Convention Area and the accompanying Impact Assessment (NPFC-2024-TCC07-WP11). The EU also explained the background to its submission of previous versions of the FOP and subsequent revisions. The EU explained that it submitted the current version of the FOP to the SC07, TCC06, and COM07, and in the absence of a successful outcome at COM7, despite its longstanding and continuous efforts to accommodate the concerns expressed by some NPFC Members, the EU has re-submitted this FOP to TCC07 and COM08. The EU invited the TCC to provide comment on the MCS aspects of its FOP.
113. The EU also reiterated its commitment to promoting the long-term and sustainable conservation of fisheries resources in the Convention Area, fully implementing the CMMs adopted by the NPFC, ensuring that its fishing vessel and nationals comply with the provisions of the Convention and CMMs, and accepting HSBIs. Furthermore, the EU highlighted its excellent record of compliance in other RFMOs, which demonstrates the effectiveness of the EU's MCS framework and its control over EU-flagged vessels.
114. The TCC reviewed the EU's proposed FOP. The TCC noted that there are no substantive changes from the version presented to TCC06 and did not identify any technical or compliance concerns for the consideration of COM08.
115. Some Members expressed concern about how to accommodate the EU's FOP given the recent condition of the chub mackerel stock and the significant decline in catch. They also noted that Japan will present a proposal to COM08 for amending CMM 2023-07 For Chub Mackerel to introduce a total allowable catch for chub mackerel and that the Commission would likely need to consider the EU's FOP in conjunction with Japan's proposal.
116. The USA presented a proposal for the establishment of a Resolution on Core Principles on Labor Standards in NPFC Fisheries (NPFC-2024-TCC07-WP13 Rev.1). The proposal was co-sponsored by Korea and Canada. The USA highlighted the importance of RFMOs in comprehensively addressing labor and safety-related concerns in the fishing sector, and that an increasing number of RFMOs are taking action. The USA explained that it is submitting this Resolution to underscore the importance of standards for safe, fair, and decent working conditions for crew onboard fishing vessels engaged in NPFC fisheries.
117. The TCC reviewed the proposal, noting there will be continued work to refine the Resolution in the margins between TCC07 and COM08.

Recommendation: That the Commission further consider the proposed Resolution on Core Principles on Labor Standards in NPFC Fisheries in NPFC-2024-TCC07-WP13 Rev.1.

Agenda Item 17. Review and Endorsement of TCC Work Plan for 2024/2025

118. The TCC reviewed the TCC/SWG Work Plan for 2024/2025 (NPFC-2024-TCC07-WP19) against the progress made to date and in consideration of new items of work arising from TCC07.

Recommendation: That the Commission task TCC with the activities contained in the Work Plan (Annex F).

119. The TCC noted the concerns expressed by some Members regarding the large number of SWG PD and SWG Ops meetings held in the previous year and the workload associated with this. The TCC suggested that it may be efficient to hold meetings of the SWG PD and SWG Ops on the same day where possible, which would help to reduce the number of meeting days. The TCC also encouraged Members to actively share information electronically, which could help to reduce the number of meetings needed.

Agenda Item 18. Recommendations to the Commission.

120. The TCC recommended the following to the Commission:

(Agenda Item 5)

- (a) That the Commission adopt the proposed amendments to CMM 2023-12.
- (b) That the Commission further consider the proposed amendments to CMM 2023-03 in NPFC-2024-TCC07-WP02 Rev.1, recognizing that some sections remain in square brackets.
- (c) That the Commission task the TCC to continue to work intersessionally to develop a proposal for the establishment of a regional observer program for transshipment and present it to the Commission for consideration at COM09.
- (d) That the Commission task the SC to provide data on what information scientific observers need to collect to help inform development of a regional observer program for NPFC.
- (e) That the Commission adopt the proposed amendments to CMM 2023-13 (Annex D).
- (f) That the Commission adopt the proposed amendments to CMM 2019-02.
- (g) That the Commission adopt the proposed amendments to CMM 2023-15 (Annex E).
- (h) That the Commission further consider the proposed amendments to CMM 2023-07 in NPFC-2024-TCC07-WP10, recognizing that no consensus was reached at the TCC.
- (i) That the Commission further consider the proposed amendments to CMM 2023-11 in NPFC-2024-TCC07-WP12, recognizing that no consensus was reached at the TCC.
- (j) That the Commission adopt the proposed amendments to CMM 2023-09.

(Agenda Item 6)

- (k) That the Commission task the TCC to work intersessionally to propose amendments to CMM 2023-03 On Transshipment, including the Annex, to more clearly require the reporting of transshipped catch by species.
- (l) That the Commission note that the TCC did not propose any vessels for inclusion on the Provisional NPFC IUU Vessel List.
- (m) That the Commission note that the TCC did not propose removing any vessels from the current NPFC IUU Vessel List.
- (n) That the Commission adopt the proposed updates to the information in the current NPFC IUU Vessel List described in (NPFC-2024-TCC07-WP18 Rev.1).

(Agenda Item 8)

- (o) That the Commission consider establishing procedures for reporting of entry into and exit from the Convention Area, including alternative measures such as the possibility of establishing buffer zones similar to SPRFMO.
- (p) That the Commission task the Secretariat with exploring options for accessing AIS data that would not incur financial costs, such as accessing AIS data held by Members or collaborating with non-governmental organizations, for use in analyzing gaps in VMS data, and to explore paid options as necessary and appropriate in the future.
- (q) That the Commission delete paragraph 14(c) from the CMM's Annex 2: VMS Data Sharing and Data Security Protocol.

(Agenda Item 11)

- (r) That the Commission develop and adopt amendments for improving CMM 2023-13 For the Compliance Monitoring Scheme as soon as possible based on the discussions of the TCC and its SWGs.
- (s) That the Commission adopt the proposed list of obligations to be assessed as part of the CMR for 2024 (Annex D).

(Agenda Item 14)

- (t) That the Commission maintain the Interim NPFC Rules of Transparency for TCC until the end of COM09 and task the TCC to continue to work intersessionally to develop updated NPFC Rules of Transparency for TCC that also include the CMS process.

(Agenda Item 15)

- (u) That the Commission task the TCC with any work arising from the NPFC Performance Review recommendations as necessary.

(Agenda Item 16)

- (v) That the Commission continue to discuss whether there is a need to appoint an independent legal advisor for NPFC and to consider Korea's proposal (NPFC-2024-TCC07-WP09) in its discussions.

- (w) That the FAC consider the financial implications of hiring an independent legal advisor and its priority compared to other budget items.
 - (x) That the Commission further consider the proposed Resolution on Core Principles on Labor Standards in NPFC Fisheries in NPFC-2024-TCC07-WP13 Rev.1.
- (Agenda Item 17)
- (y) That the Commission task TCC with the activities contained in the Work Plan (Annex F).

Agenda Item 19. Next Meeting

121. **Recommendation:** That the Commission hold the next TCC meeting in conjunction with the next Commission meeting.

Agenda Item 20. Adoption of the Report

122. The report was adopted by consensus.

Agenda Item 21. Close of the Meeting

123. The TCC meeting closed at 16:10, Osaka time, on 12 April 2024.

TCC 07 Annexes

Annex A – Agenda

Annex B – List of Documents

Annex C – List of Participants

Annex D – CMM 2024-13 For the Compliance Monitoring Scheme

Annex E – CMM 2024-15 On the Prevention, Reduction, and Elimination of Marine Pollution

Annex F – TCC 2024/25 Work Plan

North Pacific Fisheries Commission
7th Technical and Compliance Committee Meeting
9-12 April 2024 Osaka
Japan (hybrid)

Agenda

1. Opening of the Meeting
 - a. Welcome to Participants
 - b. Appointment of Rapporteur
 - c. Introduction of Observers
 - d. Adoption of Agenda
 - e. Meeting Arrangements
2. Report from Secretariat
 - a. Fisheries Overview
 - b. Data Management System Update and Initiatives for 2024
3. Review of MCS related issues from SC
4. SWG Reports on Progress, Priorities and Recommendations
 - a. SWG Planning and Development - Report and Recommendations
 - b. SWG Operations - Report and Recommendations
5. Conservation and Management Measures – Amendments or new CMMs
6. IUU Vessel List
 - a. General Discussion
 - b. Recommendation for Provisional IUU Vessel List to the Commission
 - c. Recommendations for amendments to current NPFC IUU Vessel List to Commission
7. Transshipment
 - a. Report on 2023 activity
 - b. Review on implementation
8. Vessel Monitoring System
 - a. Secretariat report on review of implementation (para 24 of CMM 2023-12)

- b. VMS Data Security Protocol
- 9. High Seas Boarding and Inspection
 - a. Secretariat Report
 - b. Members Reports
- 10. Review of Applications for CNCP Status
- 11. Compliance Monitoring Scheme
 - a. Provisional Compliance Monitoring Reports for 2023
 - b. List of obligations for consideration for the Compliance Monitoring Scheme in 2024
- 12. Climate Change
- 13. Cooperation with Other Organizations
 - a. MoU with SPRFMO
 - b. MoU with WCPFC
 - c. Update on IMCS Network Activities
- 14. NPFC Rules for Transparency Pertinent to TCC
- 15. Performance Review- Recommendations relevant to TCC
- 16. Other Matters
- 17. Review and Endorsement of TCC Work Plan for 2024/2025
- 18. Recommendations to the Commission
- 19. Next Meeting
- 20. Adoption of the Report
- 21. Close of the Meeting

LIST OF DOCUMENTS**MEETING INFORMATION PAPERS**

Number	Title
NPFC-2024-COM08/TCC07/FAC06-MIP01 Rev.1	Meeting Information
NPFC-2024-TCC07-MIP02	Provisional Agenda
NPFC-2024-TCC07-MIP03	Annotated Indicative Provisional Agenda

REFERENCE DOCUMENTS

NPFC-2024-COM08-WP11	The NPFC Performance Review – implementation considerations Review by subsidiary bodies and Chairs

WORKING PAPERS

Symbol	Title
NPFC-2024-TCC07-WP01 Rev.1	Proposal to amend the VMS CMM 2023-12
NPFC-2024-TCC07-WP02 Rev.2	Proposal to amend the Transshipment CMM 2023-03
NPFC-2024-TCC07-WP03	Proposal to amend CMM 2023-03 On Transshipments
NPFC-2024-TCC07-WP04 Rev.4	Proposal from Small Working Group, Planning and Development to revise CMM 2023-13 Compliance Monitoring Scheme
NPFC- 2024-TCC07-WP05	Proposal from Small Working Group Planning and Development Draft Regional Observer Program for Transshipment
NPFC-2024-TCC07-WP06	Proposal by the United States of America to Amend CMM 2019-02: Conservation and Management Measure to Establish a List of Vessels Presumed to Have Carried Out Illegal, Unreported and Unregulated Fishing Activities in the Convention Area of the NPFC

Annex B: List of Documents

NPFC-2024-TCC07-WP07	Proposal to Revise CMM 2023-03 on Transshipment
NPFC-2024-TCC07-WP08 Rev.5	Proposal to Revise CMM 2023-15 on the Prevention, Reduction and Elimination of Marine Pollution
NPFC-2024-TCC07-WP09	Proposal on Legal Advisory Consultant of NPFC
NPFC-2024-TCC07-WP10	EU PROPOSAL FOR AMENDING CONSERVATION AND MANAGEMENT MEASURE FOR CHUB MACKEREL (CMM 2023-07)
NPFC-2024-TCC07-WP11	FISHING OPERATION PLAN OF THE EUROPEAN UNION SUBMITTED TO NPFC
NPFC-2024-TCC07-WP12	EU PROPOSAL FOR AMENDING CONSERVATION AND MANAGEMENT MEASURE FOR JAPANESE SARDINE, NEON FLYING SQUID AND JAPANESE FLYING SQUID (CMM 2023-11)
NPFC-2024-TCC07-WP13 Rev.1	Resolution on Core Principles on Labor Standards in NPFC Fisheries Proposed by the United States of America, Canada, and Republic of Korea
NPFC-2024-TCC07-WP14	Small Working Group on Operations Presents Proposed Amendments to CMM 2023-09 on HSBI for TCC Consideration
NPFC-2024-TCC07-WP15	Small Working Group on Operations Presents Proposed Amendments to CMM 2023-12 on VMS for TCC Consideration:
NPFC-2024-TCC07-WP16	DRAFT COMPLIANCE MONITORING REPORT
NPFC-2024-TCC07-WP17	Draft NPFC IUU Vessel List
NPFC-2024-TCC07-WP18 Rev.1	Current NPFC IUU Vessel List
NPFC-2024-TCC07-WP19 Rev.1	TCC WORK PLAN 2024-2025 (including SWG Ops and PD)
NPFC-2024-TCC07-WP20	Combined Proposal to Amend the VMS CMM 2023-12
NPFC-2024-TCC07-WP21	Draft NPFC Implementation Questionnaire (CMS CMM)

INFORMATION PAPERS

Symbol	Title
NPFC-2024-TCC07-IP01	Matters for coordination between SC and TCC
NPFC-2024-TCC07-IP02	NPFC Data Management System Update and New Initiatives

Annex B: List of Documents

NPFC-2024-TCC07-IP03 Rev.1	2023 Fisheries Overview
NPFC-2024-TCC07-IP04 Rev.2	Vessel Monitoring System Overview
NPFC-2024-TCC07-IP05 Rev.1	2023 Transshipment Overview
NPFC-2024-TCC07-IP06 Rev.1	HSBI Summary 2023
NPFC-2024-TCC07-IP07	Update from China on Vessels
NPFC-2024-TCC07-IP08	NPFC IUU Vessel List Presentation
NPFC-2024-TCC07-IP09	China's response to the proposed draft IUU vessel XIN HAI 1258

OBSERVER PAPERS

Symbol	Title
NPFC-2024-TCC07-OP01	Statement to the 7th Meeting of the Technical and Compliance Committee and 8th Annual Session of the North Pacific Fisheries Commission

REPORTS

Symbol	Title
NPFC-2024-TCC07-Draft Report	TCC Draft Report

List of Participants

CHAIR

Zixia GAO
gzxgenius@hotmail.com

Alisha FALBERG
alisha.falberg@noaa.gov

Yue GUO
18612189267@163.com

CANADA

Yan LI
liyan@cofa.net.cn

Amber LINDSTEDT
Amber.Lindstedt@dfo-mpo.gc.ca

Pengfei XIONG
admin4@tuna.org.cn

Janelle CURTIS*
Janelle.Curtis@dfo-mpo.gc.ca

Heng ZHANG*
zhangh1@ecsf.ac.cn

Megan BOWERS
Megan.Bowers@dfo-mpo.gc.ca

Zijun ZHOU
zhouzijun@cofa.net.cn

Patricia DEMILLE
Patricia.DeMille@dfo-mpo.gc.ca

Qiuyun MA
qyma@shou.edu.cn

CHINA

Libin DAI
libin.dai@qq.com

Le LI
bofdwf@126.com

Yu LIN
13669124@qq.com

Ce LIU
liuce@cofa.net.cn

Dingjun GUO
fujianwantong@126.com

Xiaobing LIU
xiaobing.liu@hotmail.com

Cunen HE
hecunen@163.com

Annex C: List of Participants

Yu ZHANG
zy25031@163.com

Nobuaki SUZUKI*
suzuki_nobuaki99@fra.go.jp

Aliu WU
wualiu123@qq.com

Haruo TOMINAGA
haruo_tominaga170@maff.go.jp

Lianjie LI
2771173282@qq.com

Naohiko AKIMOTO*
naohiko@sol.dti.ne.jp

Zhuyi CHEN
zffjsc@126.com

Jumpei HINATA
jumpei_hinata320@maff.go.jp

Feng XU
shunhang321@163.com

Shiho MORIMOTO
morimoto@cubic-i.co.jp

EUROPEAN UNION

Yoshioki OOZEKI*
oozeki_yoshioki71@fra.go.jp

Stamatis VARSAMOS
Stamatios.VARSAMOS@ec.europa.eu

Kazuhiro OSHIMA*
oshima_kazuhiro28@fra.go.jp

Bernard BLAZKIEWICZ
Bernard.BLAZKIEWICZ@ec.europa.eu

Shingo OTA
shingo_ota810@maff.go.jp

Rob BANNING
rba@pp-group.eu

Rui SAITO*
saito_rui90@fra.go.jp

Juan Ignacio DE LEIVA MORENO
Ignacio.de-leiva@eeas.europa.eu

Wataru TANOUE
wataru_tanoue550@maff.go.jp

JAPAN

Yukiya UCHIDA
yukiya_uchida230@maff.go.jp

Takumi FUKUDA
takumi_fukuda720@maff.go.jp

Hidefumi YATOMI
yatomi@cubic-i.co.jp

Annex C: List of Participants

KOREA

Jung-re Riley KIM
riley1126@korea.kr

Tae-hoon WON
th1608@korea.kr

Jae-geol YANG*
jg718@kofci.org

Taerin KIM*
shararak@korea.kr

Sang Jin CHOI*
sjin@kosfa.org

Tae Hong MOON*
fmc2014@korea.kr

Seung Hwan LEE
tmdghks1024@kosfa.org

RUSSIA

Dmitry KREMENYUK
d.kremenyuk@fishcom.ru

Oleg KATUGIN
oleg.katugin@tinro.vniro.ru

Vladimir KULIK
vladimir.kulik@tinro.vniro.ru

Vadim KUNAEV
pr-japan@fish.gov.ru

Eduard GALICH
eduardgalic9@gmail.com

Vladimir RADCHENKO
vladimir.radchenko@tinro.vniro.ru

Ivan ZHUKOV*
ivan7340912@yandex.ru

CHINESE TAIPEI

Ding-Rong LIN
dingrong@msl.faa.gov.tw

Ming-Fen WU
mingfen@msl.faa.gov.tw

Wei Ming HSU
wmhsu@mofa.gov.tw

Yu Cheng LAI
yclai01@mofa.gov.tw

Wei Hsuan CHANG
whchang@mofa.gov.tw

Shih-Chi HUANG
shihchi1030@msl.faa.gov.tw

Nien Tsu HU
ntahu@mail.nsysu.edu.tw

Annex C: List of Participants

Chi Ting TSAI
chiting@ntu.edu.tw

Wen-Bin HUANG
bruce@gms.ndhu.edu.tw

Yu Ling LIN
lemma@mail.nsysu.edu.tw

Po-Hsiang LIAO
d12a21002@ntu.edu.tw

Wei-Yang LIU
weiyang@ofdc.org.tw

Yu-Ming YANG*
rain@ofdc.org.tw

UNITED STATES

Michael BRAKKE
michael.brakke@noaa.gov

Alisha FALBERG
alisha.falberg@noaa.gov

Jasmine PRAT
jasmine.prat@noaa.gov

Benjamin CHEESEMEN
benjamin.cheeseman@noaa.gov

Dan HULL
danhullak@gmail.com

Brian MCTAGUE
brian.mctague@noaa.gov

Dimitri VARMAZIS
VarmazisD@state.gov

Megan WILLMANN
Megan.L.Willmann@uscg.mil

Erin BOHABOY*
erin.bohaboy@noaa.gov

VANUATU

Tony TALEO
ttaleo@fisheries.gov.vu

Mei-Chin JUAN
meichin.mdfc@gmail.com

PANAMA

Alexis PENA*
alexisp@arap.gob.pa

Raul DELGADO*
rauldelgadoq@gmail.com

Vivian QUIROS*
vquiros@arap.gob.pa

Maria SIERRA*
msierra@arap.gob.pa

Annex C: List of Participants

Yarkelia VERGARA*
yvergara@arap.gob.pa

Mario AGUILAR*
meagUILAR@arap.gob.pa

Raiana MCKINNEY
rmckinney@pewtrusts.org

Claire VAN DER GEEST
claire.vandergeest@gmail.com

OBSERVERS

Deep Sea Conservation Coalition

Amy BACO-TAYLOR*
abacotaylor@fsu.edu

Matthew GIANNI
matthewgianni@gmail.com

International MCS Network

Sarah LENEL*
slenel@imcsnet.org

The Ocean Foundation

Dave GERSHMAN
dgershman@oceanfdn.org

The Pew Charitable Trusts

Gunther ERRHALT
errhalt.consulting@gmail.com

GUEST

Mana Kumagai
mana@konamon.com

RAPPORTEUR

Alex MEYER
meyer@urbanconnections.jp

NPFC SECRETARIAT

Robert DAY
rday@npfc.int

Judy DWYER
jdwyer@npfc.int

Alex ZAVOLOKIN
azavolokin@npfc.int

Yuko YOSHIMURA-TAKAMIYA
ytakamiya@npfc.int

Sungkuk KANG
skang@npfc.int

Natsuki HOSOKAWA

nhosokawa@npfc.int

Jihwan KIM

jkim@npfc.int

Kazuyo TSUDA

kazoodindon@yahoo.co.jp

* Online Participants

CMM 2024-13*(Entered into force dd mm 2024)***DRAFT REVISION TO CONSERVATION AND MANAGEMENT MEASURE FOR
THE COMPLIANCE MONITORING SCHEME**

The North Pacific Fisheries Commission (NPFC),

Acknowledging the importance of compliance by Members and Cooperating Non-Contracting Parties to achieve the objective of the Convention as defined in Article 2;

Recognizing that Article 7 of the Convention directs the Commission to establish procedures for reviewing compliance with the Convention and measures adopted pursuant to the Convention;

Recalling that the Commission has adopted a wide range of conservation and management measures to give effect to the objective of the Convention;

Noting that, in accordance with Article 17 of the Convention, Members of the Commission are required to enforce the provisions of the Convention and any conservation and management measures adopted by the Commission;

Noting also that, in accordance with international law, Members and Cooperating Non-Contracting Parties have responsibilities to effectively exercise jurisdiction and control over their flagged vessels and with respect to their nationals;

Acknowledging that Article 13 of the Convention obliges Members of the Commission to take the necessary measures to ensure that fishing vessels flying their flag comply with the provisions of the Convention and the conservation and management measures adopted pursuant thereto;

Recognizing the responsibility of Members and Cooperating Non-Contracting Parties to fully and effectively implement the provisions of the Convention and the conservation and management measures adopted by the Commission, and the need to improve such implementation and ensure compliance with these commitments;

Noting that, in a responsible, open, transparent and non-discriminatory manner, the Commission should be made aware of all available information that may be relevant to the work of the Commission in identifying and addressing instances of non-compliance with conservation measures;

Also recognizing the importance of having a shared understanding of what is required to comply with an obligation thereby ensuring clear and consistent assessment of the compliance of Members and Cooperating Non-Contracting Parties with all relevant obligations;

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Adopts the following conservation and management measure in accordance with Article 7 of the Convention:

I. Purpose

1. The purpose of the NPFC Compliance Monitoring Scheme (CMS) is to ensure that all Members and Cooperating Non-Contracting Parties (CNCs) implement and comply with obligations under the Convention and conservation and management measures (CMMs) adopted by the Commission. The purpose of the CMS is also to assess Members' and CNCs' actions in response to alleged violations by their flagged vessels or nationals, not to assess compliance by individual vessels or persons.
2. The CMS is designed to improve Members' and CNCs' implementation of and compliance with their obligations under the Convention and CMMs by:
 - (a) Establishing procedures for reviewing compliance with obligations deriving from the Convention and CMMs;
 - (b) Assessing compliance and identifying any trends in non-compliance;
 - (c) Identifying areas in which technical assistance or capacity building may be needed to assist Members or CNCs to attain compliance;
 - (d) Identifying obligations which may require amendment for effective implementation and assessment of compliance;
 - (e) Providing responses to non-compliance; and,
 - (f) Monitoring and verifying corrective actions taken by a Member or CNC to resolve outstanding instances of non-compliance.

II. Scope and Application

3. The Commission, with the assistance of the Technical and Compliance Committee (TCC), shall assess Members' and CNCs' implementation of and compliance with the obligations arising under the Convention and the CMMs adopted by the Commission and identify trends in and instances of non-compliance.
4. For obligations relating to fishing activities, unless otherwise specified in the relevant CMM, the compliance assessment shall apply to those activities occurring in the Convention Area.
5. The CMS shall not prejudice the rights, jurisdiction and duties of any Member or CNC to enforce its domestic laws or to take more stringent measures in accordance with its domestic laws, consistent with that Member's or CNC's international obligations.
6. For obligations on quantitative annual limits (e.g., catch limit, effort limit), the compliance assessment period shall be the previous calendar year. For other obligations, the compliance

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assessment period shall be from November 1st of year X-1 to October 31st of year X, where X is the calendar year preceding the TCC meeting.

7. The Commission, with the assistance of TCC, shall determine annually for each Member and CNCP compliance status and potential responses for each obligation subject to assessment, in accordance with Annexes I and II.
8. Each Member and CNCP shall provide annually to the Secretariat responses to an Implementation Questionnaire, to be developed based on the obligations in Annex II, indicating how it has implemented the conservation and management measures and ensured compliance with and enforcement of obligations adopted by the Commission. The Questionnaire will be made available by the Secretariat for Member use as soon as possible annually, but at the latest 135 days before the TCC meeting. Members and CNCPs shall submit responses to the Secretariat through their Implementation Questionnaire 90 days before the TCC meeting and submit their Annual Reports by February 15th each year. [The data submitted in these questionnaires shall be made publicly available to the extent possible and in accordance with the NPFC Data Sharing and Data Security protocol.]

III. Draft Compliance Report

9. Prior to TCC, the Secretariat shall compile relevant data and information received from Members and CNCPs, including through their Annual Reports, any data collection source held by the Commission (e.g., reports from observers, Vessel Monitoring Systems, High Seas Boarding and Inspections, and high seas transshipments), communications with Members and CNCPs and, where appropriate, any other relevant information relating to compliance with NPFC CMMs available to the Secretariat. The Secretariat shall then prepare a Draft Compliance Report.
10. The Draft Compliance Report shall:
 - (a) Present all available relevant data and information relating to each Member's or CNCP's implementation of and compliance with each obligation under the Convention or CMMs listed in Annex II and identify the data and information sources.
 - (b) Identify the areas of potential non-compliance for each Member and CNCP for the obligations listed in Annex II for the current assessment year, and any areas of potential repeated non-compliance with a particular obligation for two or more consecutively assessed years where Members do not fulfill their obligations including imposed sanctions to those vessels in violation of the CMMs adopted by the Commission, or as determined by the Commission.

As appropriate, the Secretariat may request any follow-up information relating to any issues of potential non-compliance identified for the current assessment year.
 - (c) Report on any outstanding compliance issues for each Member or CNCP that were identified from previous years, including unresolved non-compliance issues, flag state

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investigations, or any corrective actions reported by the Member or CNCP, and, as appropriate, requests from the Secretariat for any follow-up information relating to the previous compliance issues.

- (d) Identify provisions/obligations that lack clarity or have inadequate reporting mechanisms or have insufficient data that make it challenging for the Secretariat and TCC to conduct compliance assessments, including factors that contribute to the lack of clarity or data gaps, and suggest means to address these issues.

11. No later than 60 days before the TCC meeting, the Secretariat shall provide each Member and CNCP its section of the Draft Compliance Report.
12. No later than 30 days before the TCC meeting, each Member and CNCP shall provide any additional information needed/requested on its section of the Draft Compliance Report to the Secretariat. This information shall, as appropriate:
 - (a) Provide information, clarifications, amendments, or corrections that address the potential compliance issues identified or respond to any request for additional information and/or evidence demonstrating implementation of and compliance with the relevant obligations;
 - (b) Propose corrective actions to be taken, along with time frames, to come into compliance;
 - (c) Identify any causes of the potential compliance issues or mitigating circumstances;
 - (d) Identify any technical assistance or capacity building that could assist with achieving compliance; and,
 - (e) Indicate progress of on-going flag state investigations in response to alleged violations by its flagged vessels.
13. The Secretariat shall then revise the Draft Compliance Report to add all information provided pursuant to paragraph 10 above.
14. No later than 10 days before TCC, the Secretariat shall circulate the revised Draft Compliance Report to Members and CNCPs and make it available on the non-public section of the Commission website.

IV. Provisional Compliance Report

15. TCC shall consider the Draft Compliance Report and may take into account any additional, readily verifiable information provided by Members, CNCPs, and accredited observers, including from non-governmental organizations or other organizations concerned with matters relevant to the implementation of the Convention.
16. In considering and assessing the compliance of each Member or CNCP with relevant obligations or any areas of repeated non-compliance, TCC shall also focus on clarifying the

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intent and purpose of each obligation to be assessed and assessing whether Members and CNCPs have adopted and/or implemented effective mechanisms to ensure the compliance with the NPFC obligations.

17. TCC shall develop a Provisional Compliance Report, which shall include an assessment for each Member's or CNCP's compliance with obligations included in Annex II and any areas of repeated non-compliance, and which shall assign a compliance status for each individual obligation based on Annex I.
18. Each compliance assessment shall be decided by consensus. If consensus cannot be reached, the Provisional Compliance Report shall indicate majority and minority views.
19. Notwithstanding paragraph 18 above, a Member or CNCP cannot block agreement on its own compliance assessment if all other Members present have concurred with the assessment. If the assessed Member disagrees with the assessment, its views shall be reflected in the Provisional Compliance Report.
20. The Provisional Compliance Report shall also include an Executive Summary with recommendations or observations from TCC regarding, as appropriate:
 - (a) Non-compliance trends;
 - (b) Existing obligations that should be amended or improved;
 - (c) Revisions to the list of obligations to be assessed;
 - (d) Obstacles to implementation identified by Members and CNCPs; and
 - (e) Capacity building assistance needs.
21. TCC shall forward the Provisional Compliance Report to the Commission for consideration at the annual meeting.

V. Final Compliance Report

22. At each regular Commission meeting, the Commission shall consider the Provisional Compliance Report recommended by TCC and adopt by consensus a Final Compliance Report. If consensus cannot be reached, the Final Compliance Report shall indicate majority and minority views. A Member or CNCP cannot block consensus on its own compliance assessment.
23. The Final Compliance Report shall include:
 - (a) A final compliance status for each Member and CNCP against each assessed obligation;
 - (b) All identified areas of repeated non-compliance by a Member or CNCP.
 - (c) All responses taken and to be taken to address areas of non-compliance; and,

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(d) An Executive Summary addressing the issues listed in paragraph 20.

24. Within 30 days following the adoption of the Final Compliance Report, the Chair of the Commission shall send a Letter of Concern to each Member or CNCP assessed as Non-Compliant or Priority Non-Compliant. Such letters shall describe the relevant compliance issue(s) and the required response(s) identified in the Final Compliance Report.

VI. Data Protection

25. The Draft and Provisional Compliance Reports, and all associated documentation, shall constitute confidential data, but the Final Compliance Report and the executive summary shall be public domain data.

VII. Identification of obligations to be Assessed

26. Annex II includes the list of obligations to be assessed as part of the annual Compliance Monitoring Report (CMR). The TCC will review Annex II annually and recommend removing or adding obligations to be assessed in the following year's CMR. Each year, upon consideration of the TCC's recommendations, the Commission shall update what obligations shall be assessed in the following year's CMR, as appropriate, taking into account factors such as:
- (a) The needs and priorities of the Commission;
 - (b) The advice of TCC;
 - (c) Evidence of non-compliance or repeated non-compliance with a particular obligation;
 - (d) The risks posed by non-compliance to the achievement of the objectives of the Convention; and,
 - (e) Whether sufficient verifiable information is available to determine compliance.

VIII. Future Work and Review of this Conservation Measure

27. The Commission tasks the TCC to establish a multi-year workplan of tasks to enhance the Compliance Monitoring Scheme with the aim of making it more efficient and effective. This workplan shall include, the development of the following guidelines and operating procedures to support the implementation of the CMS, as necessary:
- (a) audit points to clarify the Commission's obligations assessed under the CMS
 - (b) automatic responses for non-compliance with certain administrative obligations listed in Annex II to streamline the process;
 - (c) corrective actions to encourage and incentivize Members' compliance with the Commission's obligations where non-compliance is identified; and,

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- (d) any other guidelines or procedures that it deems necessary to enhance the effectiveness and efficiency of the CMS.
28. As a matter of priority by the 9th Commission meeting, the TCC will develop and the Commission will consider revised Rules of Transparency for TCC to clarify any additional guidelines pertaining to the participation of observers in TCC meetings related to the Compliance Monitoring Scheme. Until the Commission adopts the revised Rules of Transparency for TCC, notwithstanding Paragraph 25, the consideration of the draft compliance report and the provisional compliance report, as detailed in paragraphs 15 and 22 respectively, shall be open to participation by accredited observers, in accordance with NPFC Rules of Procedure, in particular Rule 5.2.1 and Rule 9.
29. The obligations to be assessed in Annex II shall be reviewed annually by the Commission, and as necessary, the Implementation Questionnaire. The conservation and management measure as a whole shall be reviewed at Commission meetings as necessary.

ANNEXES

- Annex I – Compliance Status Table
- Annex II – Obligations to be Assessed

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Annex I

Compliance Status Table

Compliance Status	Criteria	Potential Responses
Compliant	<p>Member or CNCP fully compliant with obligation.</p> <p>Member or CNCP has taken required actions under the Convention to investigate or address potential violations of its vessels.</p>	None
Delayed Submission	Member or CNCP rectified its non-compliance for a missed report deadline in advance of TCC and it is not a repeated case of non-compliance.	Member or CNCP to include in its Annual Report all actions taken
Non-Compliant	<p>Member or CNCP not compliant with obligation identified in Annex II and which does not meet the criteria of Delayed Submission.</p> <p>Member or CNCP has failed to undertake required actions under the Convention to investigate or address potential violations of its vessels.</p>	<p>i Member or CNCP to rectify non-compliance and include in its next Annual Report all actions taken,</p> <p>ii Consideration of further responses.</p>
Priority non-compliant	<p>Member or CNCP has demonstrated non-compliance of a particular obligation listed in Annex II for two or more consecutively assessed years, non-compliance that significantly undermines the objectives of the Convention, or any other non-compliance identified as Priority non-compliance by the Commission.</p> <p>Member or CNCP has repeatedly failed to undertake required actions under the Convention to investigate</p>	<p>i Member or CNCP to rectify non-compliance and include in its next Annual Report all actions taken,</p> <p>ii Consideration of further responses.</p>

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	or address potential violations of its vessels.	
Unable to be Assessed at this time	Ambiguity of relevant obligation, or insufficient data.	<p>(for ambiguity)</p> <p>Review and potentially amend relevant provision(s)</p> <p>(for insufficient data)</p> <p>Identify how data gaps might be remedied and potentially amend relevant provision(s)</p>
Not Applicable	Relevant obligation is not applicable to Member or CNCP	None
Flag State Action Ongoing	Flag state action currently ongoing	<p>i. Member or CNCP to report progress in its Annual Report until resolved; and,</p> <p>ii. Review by TCC and Commission and deadline(s) placed on Member or CNCP to provide further information to the Secretariat and/or take action(s) until resolved</p>

Obligations to be Assessed

As per Article 13(1) of the Convention, a Member shall take such measures as may be necessary to ensure that fishing vessels entitled to fly its flag abide by the CMMs and therefore, for the obligations listed below, it is the Member's compliance that is being assessed regardless of the wording of a specific obligation.

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No.	Paragraph to be Assessed	OBLIGATION
<p style="text-align: center;">CMM 2023-01</p> <p style="text-align: center;">INFORMATION REQUIREMENTS FOR VESSEL REGISTRATION</p>		
		For the purpose of the effective implementation of the Convention, each Commission member or Cooperating non-Contracting Party shall:
1	3	<p>Promptly update the NPFC Vessel Registry with:</p> <ul style="list-style-type: none"> (a) any additions to the record; e.g., new vessel authorizations; (b) any modifications to this information with dates of such modifications; and (c) any deletions from the record, specifying which of the following reasons is applicable: <ul style="list-style-type: none"> (i) the voluntary relinquishment of the fishing by the fishing vessel owner or operator; (ii) the withdrawal or non-renewal of the fishing authorization issued in respect of the fishing vessel under Article 13, paragraph 2 of the Convention; (iii) the fact that the fishing vessel concerned is no longer entitled to fly its flag; (iv) the scrapping, decommissioning or loss of the fishing vessel concerned; or (v) any other grounds, with a specific explanation provided.
2	4	Provide to the Commission, as part of the annual report required pursuant to Article 16 of the Convention, the names of the fishing vessels entered in the record that conducted fishing activities during the previous calendar year.
3	5 – <u>Vessel Marking</u>	Each Commission Member and Cooperating non Contracting Party shall ensure that every fishing vessel authorized to fly its flag bear markings that are readily identified in accordance with the <i>FAO Standard Specifications for the Marking and Identification of Fishing Vessels</i> , and recognize that non-compliance with these standards shall be considered a serious violation according to Article 17, paragraph 5 of the NPFC Convention and Article 21 Paragraph 11(f) of the United Nations Fish Stocks Agreement.

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No.	Paragraph to be Assessed	OBLIGATION
4	7	<p>The Commission member or Cooperating non-Contracting Parties entering vessels identified in paragraph 2 on the NPFC Vessel Registry established under paragraph 1 shall attest that the vessel or vessels being added recommended are not vessels:</p> <p>(a) with a history of illegal, unreported or unregulated (IUU) fishing, unless the ownership of the vessel has subsequently changed and the new owner has provided sufficient evidence demonstrating that the previous owner or operator has no legal, beneficial or financial interest in, or control of the vessels, or Commission members or Cooperating non-Contracting Parties concerned is satisfied that, having taken into account all relevant facts, the vessel is no longer engaged in or associated with IUU fishing; or</p> <p>(b) that are currently listed on any of the IUU vessel lists adopted by regional fishery management organizations (RFMOs)</p>
<p style="text-align: center;">CMM 2019-02</p> <p style="text-align: center;">TO ESTABLISH A LIST OF VESSELS PRESUMED TO HAVE CARRIED OUT ILLEGAL, UNREPORTED AND UNREGULATED ACTIVITIES IN THE CONVENTION AREA</p>		
		<p>24. Members/CNCPs shall take all necessary non-discriminatory measures under their applicable legislation, international law and each Members/CNCPs' international obligations, and pursuant to paras 56 and 66 of the IPOA-IUU to:</p>
5	24(a)	Remove or withdraw vessels on the NPFC IUU Vessel List from the NPFC Vessel Registry;
6	24(b)	Ensure that fishing vessels, support vessels, mother ships or cargo vessels flying their flag do not participate in any transshipment or joint fishing operations with, support or re-supply vessels on the NPFC IUU Vessel List;
7	24(c)	Prohibit the entry into their ports of vessels included on the NPFC IUU Vessels List, except in the case of <i>force majeure</i> ;
8	24(d)	Prohibit the chartering of a vessel on the NPFC IUU Vessels List;

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No.	Paragraph to be Assessed	OBLIGATION
9	24(e)	Refuse to grant their flag to vessels on the NPFC IUU Vessel List, unless the ownership of the vessel has subsequently changed and the new owner has provided sufficient evidence demonstrating that the previous owner has no legal, beneficial or financial interest in, or control of the vessels, or the member concerned is satisfied that that, having taken into account all relevant facts, the vessel is no longer engaged in or associated with IUU fishing activities;
10	24(f)	Prohibit commercial transactions, imports, landings and/or transshipment of species covered by the Convention from vessels on the IUU Vessel List.
<p style="text-align: center;">CMM 2023-09</p> <p style="text-align: center;">HIGH SEAS BOARDING AND INSPECTION PROCEDURES</p>		
11	7	Each Member of the Commission shall ensure that vessels flying its flag accept boarding and inspection by authorized inspectors in accordance with these procedures.
12	7	Such authorized inspectors shall comply with these procedures in the conduct of any such activities.
		14. Each Contracting Party that intends to carry out boarding and inspection activities pursuant to these procedures shall so notify the Commission, through the Executive Secretary, and shall provide the following:
13	26	<p>During the conduct of a boarding and inspection, the master of the fishing vessel shall:</p> <ul style="list-style-type: none"> a) follow internationally accepted principles of good seamanship so as to avoid risks to the safety of authorized inspection vessels and inspectors; b) accept and facilitate prompt and safe boarding by the authorized inspectors; c) be encouraged to provide a boarding ladder in accordance with Annex A; d) cooperate with and assist in the inspection of the vessel pursuant to these procedures; e) not assault, resist, intimidate, interfere with, or unduly obstruct or delay the inspectors in the performance of their duties;

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No.	Paragraph to be Assessed	OBLIGATION
		<p>f) allow the inspectors to communicate with the crew of the inspection vessel, the authorities of the inspection vessel, any embarked observers, as well as with the authorities of the fishing vessel being inspected;</p> <p>g) provide the inspectors onboard with reasonable facilities, including, where appropriate, food and accommodation; and</p> <p>h) facilitate safe disembarkation by the inspectors</p>
14	28	<p>The authorities of the fishing vessel, unless generally accepted international regulations, procedures and practices relating to safety at sea make it necessary to delay the boarding and inspection, shall direct the master to accept the boarding and inspection. If the master does not comply with such direction, the Member shall suspend the vessel's authorization to fish and order the vessel to return immediately to port. The Member shall immediately notify the authorities of the inspection vessel and the Commission of the action it has taken in these circumstances.</p>
15	41	<p>Contracting Parties that authorize inspection vessels to operate under these procedures shall report annually to the Commission on the boarding and inspections carried out by its authorized inspection vessels, as well as upon possible violations observed.</p>
16	42	<p>Contracting Parties shall include in their annual statement of compliance within their Annual Report to the Commission under Article 16 of the Convention action that they have taken in response to boarding and inspections of their fishing vessels that resulted in observation of alleged violations, including any proceedings instituted and sanctions applied.</p>
<p style="text-align: center;">CMM-2023-05</p> <p style="text-align: center;">BOTTOM FISHERIES AND PROTECTION OF VULNERABLE MARINE ECOSYSTEMS IN THE NORTHWESTERN PACIFIC OCEAN</p>		
		<p>4. Members of the Commission shall take the following measures in order to achieve sustainable management of fish stocks and protection of VMEs in the western part of the Convention Area:</p>
17	4.A	<p>Limit fishing effort in bottom fisheries on the western part of the Convention Area to the level agreed in February 2007 in terms of the number of fishing vessels and other parameters which reflect the level of fishing effort, fishing capacity or potential impacts on marine ecosystems.</p>

Annex D: CMM 2024-13 For the Compliance Monitoring Scheme

No.	Paragraph to be Assessed	OBLIGATION
18	4.G	Further, considering accumulated information regarding fishing activities in the western part of the Convention Area, in areas where, in the course of fishing operations, cold water corals more than 50Kg or sponges more than 500Kg are encountered in one gear retrieval, Members of the Commission shall require vessels flying their flag to cease bottom fishing activities in that location. In such cases, the vessel shall not resume fishing activities until it has relocated a sufficient distance, which shall be no less than 1 nautical mile, so that additional encounters with VMEs are unlikely. All such encounters, including the location, gear type, date, time and name and weight of the VME indicator species, shall be reported to the Secretariat, through the Member, within one business day. The Executive Secretary shall, within one business day, notify the other Members of the Commission and at the same time implement a temporary closure in the area to prohibit bottom fishing vessels from contacting the sea floor with their trawl nets. Members shall inform their fleets and enforcement operations within one business day of the receipt of the notification from the Executive Secretary. It is agreed that the VME indicator taxa include cold water <i>corals</i> <i>Alcyonacea</i> , <i>Antipatharia</i> , <i>Gorgonacea</i> , and <i>Scleractinia</i> , and the classes of <i>Hexactinellida</i> and <i>Demospongiae</i> in the phylum Porifera.
19	4.L	Limit annual catch of North Pacific armorhead to 15,000 tons for Japan. In years when strong recruitment of North Pacific armorhead is not detected by the monitoring survey (Annex 6), the Commission encourages Japan to limit their catch of North Pacific armorhead by vessels flying its flag to 500 tons, and encourages Korea to limit their catch of North Pacific armorhead by vessels flying its flag to 200 tons. When a strong recruitment of North Pacific armorhead is detected by the monitoring survey (Annex 6), the Commission encourages that Japan limit the annual catch of North Pacific armorhead by vessels flying its flag to 10,000 tons, and that Korea limit the annual catch of North Pacific armorhead by vessels flying its flag to 2,000 tons. The Commission encourages that catch overages for any given year be subtracted from the applicable annual catch limit in the following year, and that catch underages during any given year not be added to the applicable annual catch limit during the following year.
20	5	Members of the Commission shall submit to the SC their assessments of the impacts of fishing activity on marine species or any VMEs, including the proposed management measures to prevent such impact. Such submissions shall include all relevant data and information in support of any such assessment. Procedures for such reviews including procedures for the provision of advice and recommendations from the SC to the submitting Member are attached (Annex 3). Members will only authorize bottom fishing activity pursuant to paragraph 4 (C).
		6. To facilitate the scientific work associated with the implementation of these measures, each Member of the Commission shall undertake:

Annex D: CMM 2024-13 For the Compliance Monitoring Scheme

No.	Paragraph to be Assessed	OBLIGATION
21	6.A	<p>Reporting of information for purposes of defining the footprint</p> <p>In implementing paragraphs 4A and 4B, the Members of the Commission shall provide for each year, the number of vessels by gear type, size of vessels (tons), number of fishing days or days on the fishing grounds, total catch by species, and areas fished (names of seamounts) to the Secretariat. The Secretariat shall circulate the information received to the other Members consistent with the approved Regulations for Management of Scientific Data and Information. To support assessments of the fisheries and refinement of conservation and management measures, Members of the Commission are to provide updated information on an annual basis.</p>
22	6.B	<p>Collection of information</p> <p>(i) Collection of scientific information from each bottom fishing vessel operating in the western part of the Convention Area.</p> <p>(a) Catch and effort data</p> <p>(b) Related information such as time, location, depth, temperature, etc.</p> <p>(ii) As appropriate the collection of information from research vessels operating in the western part of the Convention Area.</p> <p>(a) Physical, chemical, biological, oceanographic, meteorological, etc.</p> <p>(b) Ecosystem surveys,</p> <p>(c) Seabed mapping (e.g. multibeam or other echosounder); seafloor images by drop camera, remotely operated underwater vehicle (ROV) and/or autonomous underwater vehicle (AUV).</p> <p>(iii) Collection of observer data</p> <p>Duly designated observers from the flag member shall collect information from bottom fishing vessels operating in the western part of the Convention Area. Observers shall collect data in accordance with Annex 5. Each Member of the Commission shall submit the reports to the Secretariat in accordance with Annex 4. The Secretariat shall compile this information on an annual basis and make it available to the Members of the Commission.</p>
23	8 <u>Observers</u>	All vessels authorized to bottom fishing in the western part of the Convention Area shall carry an observer on board.

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No.	Paragraph to be Assessed	OBLIGATION
CMM 2023-06 BOTTOM FISHERIES AND PROTECTION OF VULNERABLE MARINE ECOSYSTEMS IN THE NORTHEASTERN PACIFIC OCEAN		
24	8	The Members shall provide all available information as required by the Commission for any current or historical fishing activity by their flag vessels, including the number of vessels by gear type, size of vessels (tons), number of fishing days or days on the fishing grounds, total catch by species, areas fished (names or coordinates of seamounts), and information from scientific observer programmes (see Annexes 4 and 5) to the NPFC Secretariat as soon as possible and no later than one month prior to SC meeting. The Secretariat will make such information available to SC.
CMM 2023-07 CHUB MACKEREL		
25	1	Members of the Commission and Cooperating non-Contracting Parties (CNCs) with substantial harvest of chub mackerel in the Convention Area shall refrain from expansion, in the Convention Area, of the number of fishing vessels entitled to fly their flags and authorized to fish for chub mackerel from the historical existing level until the stock assessment by the SC has been completed.
26	7	Members of the Commission and CNCs shall provide their data on chub mackerel separated by the Convention Area and the areas under national jurisdiction adjacent to the Convention Area in accordance with the data requirements adopted by the Commission in the Annual Report by the end of February, every year. The Commission shall review such information at the annual meeting of every year.
CMM 2023-08 PACIFIC SAURY		
27	1	Members of the Commission, not described under Paragraph 2, and that are currently fishing for Pacific saury shall refrain from expansion, in the Convention Area, of the number of fishing vessels entitled to fly their flags and authorized to fish for

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No.	Paragraph to be Assessed	OBLIGATION
		Pacific saury from the historical existing level.
28	2	Members fishing for Pacific saury in areas of their jurisdiction that are adjacent to the Convention Area <i>shall refrain from rapid expansion</i> , in the Convention Area, of the number of fishing vessels entitled to fly their flags and authorized to fish for Pacific saury from the historical existing level.
29	7	As a provisional measure until the Commission decides allocation of the TAC, each Member of the Commission shall reduce the annual total catch of Pacific saury by the fishing vessels entitled to fly its flag in 2023 and 2024 by 55% from its reported catch in 2018 so that the total catch in the Convention Area will not exceed the TAC set out in paragraph 6.
30	8	To comply with the provisional measures above, Members of the Commission shall report to the Executive Secretary in the electronic format, weekly catches of Pacific saury in the Convention Area by fishing vessels flying their flags by Wednesday of the next week.
31	10	In the event that a Member reaches 70% of its catch limit set out in paragraph 7, the Executive Secretary shall inform that Member of that fact, with a copy to all other Members. That Member shall close the fishery for its flagged vessels when the total catch of its flagged vessels is equivalent to 100% of its catch limit. Such Member shall notify promptly the Executive Secretary of the date of the closure, except as described in paragraph 11.
CMM 2019-10 SABLEFISH		
32	8	All vessels authorized to fish sablefish in the eastern part of the Convention Area shall have 100% observer coverage.
CMM 2023-11 JAPANESE SARDINE, NEON FLYING SQUID AND JAPANESE FLYING SQUID		
33	1	Members of the Commission and Cooperating non-Contracting Parties (CNCs) with substantial harvest of any of Japanese

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No.	Paragraph to be Assessed	OBLIGATION
		sardine, neon flying squid and Japanese flying squid (hereinafter referred to as “the three Pelagic Species”) in the Convention Area shall refrain from expansion, in the Convention Area, of the number of fishing vessels entitled to fly their flags and authorized to fish for such species from the historical existing level until the stock assessment for such species by the SC has been completed.
34	<u>7</u>	Members of the Commission and CNCPs shall provide their data on the three Pelagic Species in accordance with the data requirements adopted by the Commission in the Annual Report by the end of February, every year. The Commission shall review such information at the annual meeting of every year.
<p style="text-align: center;">CMM 2023-12</p> <p style="text-align: center;">VESSEL MONITORING SYSTEM</p>		
35	8	All Members or CNCPs shall ensure that its flagged vessels that are authorized under NPFC and present in the Convention Area transmit VMS data every hour to their FMC.
36	10	Each Member or CNCP shall ensure that their FMC automatically transmits VMS data to the Secretariat, which shall be received no later than 60 minutes upon receipt of the data at their FMC.
37	11	Each Member or CNCP shall ensure that their FMC can automatically receive VMS data and transmit VMS data to the Secretariat.
38	12	Each Member or CNCP shall provide the Secretariat with VMS contact points in their FMCs including the name, position, email address and phone number of their VMS contact points. The Secretariat will make a list of VMS contact points available to all Members and Cooperating non-Contracting Parties.
39	22	If a failure to transmit occurs more than two times within a period of one year, the flag Member or CNCP of the fishing vessel shall investigate the matter, including having an authorized official examine the MTU on board the vessel. The outcome of this investigation shall be forwarded to the Secretariat within fifteen (15) days of its completion.

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No.	Paragraph to be Assessed	OBLIGATION
CMM 2023-13		
COMPLIANCE MONITORING SCHEME		
CMM 2023-03		
TRANSSHIPMENTS		
40	4	A fishing vessel shall only engage in a transshipment, or other transfer activity in the Convention Area, if both the offloading and receiving vessel are duly authorized by its Flag State and included in the NPFC Vessel Registry
41	6	If a fishing vessel intends to engage in a transshipment in an area under national jurisdiction, including a port, the fishing vessel shall receive an authorization from the relevant coastal or port State before engaging in the transshipment.
42	8	All reporting shall comply with the procedures to be adopted by the Commission.
43	9	All reporting related to a transshipment shall include all marine species, including bycatch and unregulated species, taken in the Convention Area.
44	10	A fishing vessel shall maintain an electronic or physical record on board the fishing vessel of each transshipment it has engaged in during the current trip. The record shall include each transshipment declaration.
45	12	A fishing vessel, or a Commission Member or Cooperating non-Contracting Party on behalf of the vessel, shall provide an advance notification to the authorities listed in paragraph 13 as soon as possible, and at least 24 hours in advance of the intended transshipment. The advance notification form is included in Annex I.
46	14	A receiving vessel, or a Commission Member or Cooperating non-Contracting Party on behalf of the receiving vessel, shall provide an advance notification to the authorities listed in paragraph 13 as soon as possible, and at least 24 hours in advance of

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No.	Paragraph to be Assessed	OBLIGATION
		the intended other transfer activity. The advance notification form is included in Annex I.
47	15	If the transshipment does not start after 24 hours of the estimated start time, or within 20 nautical miles of the estimated start location, as contained in the advance notification, the fishing vessels involved in the transshipment, or Commission Members or Cooperating non-Contracting Parties on their behalf shall modify the submitted advance notification.
48	16	If the other transfer activity does not start after 24 hours of the estimated start time, or within 20 nautical miles of the estimated start location, as contained in the advance notification, the receiving vessel, or Commission Member or Cooperating non-Contracting Party of the receiving vessel, shall modify the submitted advance notification.
49	18	If a transshipment is cancelled before it is undertaken, a fishing vessel intending to engage in the transshipment, or the Commission Member or Cooperating non-Contracting Party whose fishing vessel intended engage in the transshipment, shall notify the Secretariat of the cancellation as soon as possible.
50	20	If a Commission Member, or Cooperating non-Contracting Party, receives suitably documented information that its flagged fishing vessel is, or appears to be, non-compliant with the Convention, or a conservation and management measure, the Commission Member, or Cooperating non-Contracting Party, shall conduct an investigation.
51	21	<p>The investigating Commission Member, or Cooperating non-Contracting Party, shall provide a report on the progress of the investigation, including an attestation of the fishing vessel's status under paragraph 19, no later than 60 days after receiving the information, to:</p> <ul style="list-style-type: none"> (a) The Secretariat (b) The Commission Member, of Cooperating non-Contracting Party that provided this information. <p>Following the investigation process, information shall be provided about any appropriate enforcement action taken in line with its national laws.</p>

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No.	Paragraph to be Assessed	OBLIGATION
52	22	If a fishing vessel receives catch from more than one offloading vessel, the fishing vessel shall ensure that the catch from each offloading vessel is stored separately and readily identifiable. The receiving vessel shall have a stowage plan available on board at all times.
53	24	A fishing vessel having engaged in, or a Commission Member or Cooperating non-Contracting Party whose fishing vessel has engaged in, a transshipment shall provide a transshipment declaration to the authorities listed in paragraph 25 as soon as possible, and no later than 10 days after the transshipment. The transshipment declaration form is included in Annex II.
54	26	The Commission shall establish a regional observer and/or electronic monitoring program no later than its 9th Commission meeting. Until the Commission establishes an observer and/or electronic monitoring program, a Commission Member, or Cooperating non-Contracting Party, is responsible for the deployment of independent, impartial, and qualified observers to fulfill the requirements of this measure.
55	28	An observer shall be provisioned, accommodated, including access to independent communications, and provided safe working conditions by the receiving vessel in accordance with the Commission Member's, or Cooperating non-Contracting Party's, domestic laws and regulations.
56	29	A Commission Member, or Cooperating non-Contracting Party, shall ensure that its receiving vessels engaging in a transshipment have an observer on board.
57	30	A fishing vessel may only engage in one transshipment at a time for each observer that is available to monitor and report on the transshipment.
58	31	<p>An observer shall have:</p> <ul style="list-style-type: none"> (a) full, unobstructed, and safe access to each fishing vessel involved in the transshipment, including, inter alia, access to crew, gear, equipment, records, electronic means of communication, and fish holds; and

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No.	Paragraph to be Assessed	OBLIGATION
		(b) adequate and appropriate space to undertake their responsibilities pursuant to this measure.
59	33	<p>An observer shall record an observer report immediately after each transshipment and keep the report onboard, and provide an observer transshipment report, as specified in Annex III, as soon as possible, but no later than 10 days from the disembarkation of the observer, to:</p> <ul style="list-style-type: none"> (a) the Commission Member, or Cooperating non-Contracting Party, of the flags of the receiving vessel and the offloading vessel; and (b) the Secretariat
60	34	In the case where an observer observes an activity or condition that is not consistent with this conservation and management measure, the observer shall notify the finding, as well as documented evidence, to the extent possible, without delay to the Secretariat and the authorities of the Commission Member or Cooperating non-Contracting Party of the flags of the receiving and offloading vessels.
61	35	The Commission Member or Cooperating non-Contracting Party of the flag of the vessel whose violation has been observed and notified shall make the best effort to respond to this notification through the Secretariat without delay and undertake investigation on the observed violation. The Commission Member or Cooperating non-Contracting Party shall report any finding and/or relevant actions taken in their Annual Report.
62	46	<p>In the case of force majeure, the fishing vessel, or Commission Member or Cooperating non-Contracting Party, shall:</p> <ul style="list-style-type: none"> (a) notify the Secretariat prior to the completion of the transshipment, or other transfer activity, as well as the circumstances giving rise to the force majeure; and (b) provide a transshipment declaration on the transshipment as soon as possible, but within 10 days of the transshipment.
63	48	Each Commission Member, and Cooperating non-Contracting Party, shall provide an annual summary of the data and information collected from all authorized fishing vessels having undertaken a transshipment, including each year's

Annex D: CMM 2024-13 For the Compliance Monitoring Scheme

No.	Paragraph to be Assessed	OBLIGATION
		transshipment declarations, to the Commission at the Technical and Compliance Committee meeting. The summary shall be included in the Annual Report, as per Article 16(3) of the Convention. The template for this summary is included in Annex V.
64	49	A Commission Member, or Cooperating non-Contracting Party, shall take all reasonable steps to verify the information received from fishing vessels having engaged in a transshipment.
65	51	Commission Members and Cooperating non-Contracting Parties shall investigate instances of potential non-compliance with this measure, and report the results of those investigations to the Commission.
<p style="text-align: center;">CMM 2023-14</p> <p style="text-align: center;">SHARKS</p>		
66	6	No fishing vessel shall engage in shark finning.
67	7	<p>No fishing vessel shall:</p> <p>(a) retain on board, or otherwise possess or control, a shark fin that is not naturally attached to the corresponding shark; or</p> <p>(b) transship, or land, a shark fin that is not naturally attached to the corresponding shark unless the fishing vessel complies with paragraph 8.</p>
68	8	<p>A fishing vessel may only remove a shark fin from the corresponding shark if the shark is incidentally caught, taken, or harvested, and if:</p> <p>(a) the shark fin and the corresponding shark can be readily identified; and</p> <p>(b) one of the following methods is used:</p> <p style="padding-left: 40px;">i the shark fin is stored in the same bag, preferably a biodegradable one, as the corresponding shark;</p>

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No.	Paragraph to be Assessed	OBLIGATION
		<p>ii the shark fin is bound to the corresponding shark using rope or wire; or</p> <p>iii the shark fin and the corresponding shark are identically, uniquely, and numerically tagged in a manner that an authorized inspector can readily identify the matching of the shark fin to the corresponding shark.</p>
69	9	A fishing vessel shall record, and maintain a record of, any shark catch in the Convention Area, to the extent possible by species, in its logbook on board the fishing vessel.
70	10	A Commission Member, or Cooperating non-Contracting Party, shall annually report all shark catches, to the extent possible by species, from their fishing vessels to the Secretariat.
<p style="text-align: center;">CMM 2023-15</p> <p style="text-align: center;">POLLUTION</p>		
71	4	No fishing vessel shall discard or abandon fishing gear at sea.
72	8	No fishing vessel shall release any plastics, including synthetic ropes, synthetic fishing nets, plastic garbage bags, or incinerator ashes from plastics products, at sea.
73	10	<p>A fishing vessel shall take all reasonable precautions to prevent:</p> <p>(a) the abandonment, loss, or discard of fishing gear at sea; and</p> <p>(b) the release of garbage, and plastics, at sea.</p>
74	11	A fishing vessel shall make every reasonable effort to retrieve any abandoned, lost, or discarded gear, garbage, or plastics that it has released as soon as possible.

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No.	Paragraph to be Assessed	OBLIGATION
75	14	A fishing vessel shall, to the extent possible, safely store and retain on board all fishing gear, garbage, and plastics until they can be disposed of at an adequate port reception facility.

Annex E: CMM 2024-15 On the Prevention, Reduction,
and Elimination of Marine Pollution

CMM 2024-15

(Entered into force dd mm 2024)

**CONSERVATION AND MANAGEMENT MEASURE ON THE PREVENTION,
REDUCTION, AND ELIMINATION OF MARINE POLLUTION**

The North Pacific Fisheries Commission (NPFC),

Concerned with the prevalence of marine pollution in the world's oceans, and its detrimental effects on marine species, marine ecosystems, and the livelihoods of legitimate fishers;

Recognizing the significant ecological threat posed by abandoned, lost, or discarded fishing gear (ALDFG) to the sustainability of fisheries resources;

Aware of both the role fishing vessels have in producing marine pollution during fishing activities from waste, harmful liquid substances, and ALDFG fishing gear, and their equal potential to combat marine pollution;

Committed to the use of the precautionary approach in fisheries management in light of the lack of data and information on marine pollution in the North Pacific Ocean;

Recalling that Article 3(k) of the Convention requires Commission Members and Cooperating non-Contracting Parties to minimize pollution or waste originating from fishing vessels, catch by lost or abandoned gear, and impacts on other species and marine ecosystems through measures including, to the extent practicable, the development and use of selective, environmentally safe, and cost-effective fishing gear and techniques;

Noting that the International Convention for the Prevention of Pollution from Ships (MARPOL) seeks to eliminate and reduce the amount of garbage being discharged into the sea from ships and that Annex V of MARPOL applies to all vessels but that there is limited monitoring and implementation of MARPOL obligations on fishing vessels, and consequently little information exists about illegal pollution activities by fishing vessels at sea;

Noting further that the need to prevent and significantly reduce marine pollution of all kinds was affirmed at the United Nations Conference to Support the Implementation of Sustainable Development Goal 14 through the adoption of paragraph 13(g) of the "Our ocean, our future: call for action" declaration;

Desiring to establish rules, and encourage advancements, in the prevention, reduction, and elimination of marine pollution in the North Pacific Ocean;

Annex E: CMM 2024-15 On the Prevention, Reduction,
and Elimination of Marine Pollution

Adopts the following:

Definitions

1. This measure shall be interpreted, unless otherwise stated, in accordance with the Convention.
2. The following definitions apply:
 - a) “fishing gear” means any physical device or part thereof or combination of items that may be placed on or in the water or on the seabed with the intended purpose of catching, taking, or harvesting, or controlling for the subsequent catching, taking, or harvesting, of fisheries resources;
 - b) “garbage” means all kinds of food wastes, domestic wastes, and operational wastes as defined under Annex V of MARPOL, including incinerator ashes, cooking oil, floating dunnage, or lining and packing materials¹, but excluding plastics;
 - c) “plastics” means a solid material which contains as an essential ingredient one or more high molecular mass polymers and which is formed during either manufacture of the polymer or the fabrication into a finished product by heat or pressure;

Scope

3. This measure applies to all fishing vessels in the Convention Area.

Prohibitions on Marine Pollution*Prohibition on Discard or Abandonment of Fishing Gear*

4. A Commission Member, or Cooperating non-Contracting Party (Member or CNCP) shall take necessary measures to ensure that its fishing vessels do not discard or abandon fishing gear at sea.
5. A fishing vessel is deemed to have discarded fishing gear if it relinquishes control of the fishing gear, except in the event of distress.

¹ For greater clarity, a reference to garbage in paragraphs 11 – 15 does not include garbage that is permitted to be released under Annex V of MARPOL

Annex E: CMM 2024-15 On the Prevention, Reduction,
and Elimination of Marine Pollution

6. A fishing vessel is deemed to have abandoned fishing gear if it loses control of the fishing gear, or relinquishes control due to *force majeure*, and does not make every reasonable effort to retrieve the fishing gear.

Lost Fishing Gear

7. If a fishing vessel loses control of its fishing gear, or relinquishes control due to *force majeure*, and makes every reasonable effort to retrieve the fishing gear, but it is impossible to retrieve, the fishing gear is considered lost.

Prohibition on Release of Plastics

8. A Member or CNCP shall take necessary measures to ensure that its fishing vessels do not release any plastics, including synthetic ropes, synthetic fishing nets, plastic garbage bags, or incinerator ashes from plastics products, at sea
9. Paragraph 8 shall not apply when it is necessary to secure the safety of human life or of vessels at sea in cases of *force majeure* caused by stress of weather, or in any case which constitutes a danger to human life or a real threat to vessels. A Member or CNCP shall take necessary measures to ensure that such release be so conducted as to minimize the likelihood of damage to human or marine life and reported to the Commission through the Secretariat within 14 working days of the incident. The Member or CNCP shall report any such cases in the Annual Report.

Prohibition on the Release of Other Marine Pollutants

10. A Member or CNCP is encouraged to implement appropriate on-board storage for, and to prohibit the release of the following discharges at sea by its fishing vessels, except as permitted under applicable international instruments:
 - a) oil, fuel products, or oily residues;
 - b) sewage; and
 - c) garbage.

Other Requirements

Preventive Measures

11. A Member or CNCP shall take necessary measures to ensure that its fishing vessels take all reasonable precautions to prevent:

Annex E: CMM 2024-15 On the Prevention, Reduction,
and Elimination of Marine Pollution

- a) the abandonment, loss, or discard of fishing gear at sea; and
- b) the release of garbage, and plastics, at sea.

Retrieval of Fishing Gear and Other Marine Pollutants

- 12. A Member or CNCP shall take necessary measures to ensure that its fishing vessels make every reasonable effort to retrieve any abandoned, lost, or discarded gear, garbage, or plastics that it has released as soon as possible and if safe to do so.
- 13. A Member or CNCP shall take necessary measures to encourage its fishing vessels to retrieve any abandoned, lost, or discarded fishing gear, garbage, or plastics that it observes at sea.
- 14. A Member or CNCP shall take necessary measures to encourage its fishing vessels to carry equipment on board to retrieve any abandoned, lost, or discarded fishing gear, garbage, or plastics that it released or observes.
- 15. A Member or CNCP is encouraged to submit to SC and TCC any information derived from the implementation of paragraphs 12 and 13.

Storage, Retention, and Disposal of Marine Pollutants

- 16. A Member or CNCP shall take necessary measures to ensure that its fishing vessels, to the extent possible, safely store and retain on board all fishing gear, garbage, and plastics until they can be disposed of at an adequate port reception facility.
- 17. A Member or CNCP shall take necessary measures to encourage its fishing vessels that are 400 GT and above and fishing vessels which are certified to carry 15 or more persons and engaged in international voyages to keep a Garbage Record Book on board the vessel that records the disposal and/or treatment of garbage in accordance with MARPOL Regulation 10, Annex V.

Review

- 18. The Commission shall review this measure annually, taking into account, *inter alia*:
 - a) the effectiveness of this measure in preventing, reducing, and eliminating marine pollution, including the potential for reporting requirements; and

Annex E: CMM 2024-15 On the Prevention, Reduction,
and Elimination of Marine Pollution

- b) the development of international standards, guidelines, or best practices, or international instruments related to the prevention, reduction, and elimination of marine pollution.

TCC/SWG WORKPLAN FOR 2024-2025 (Priorities shaded)

No.	ISSUE	LEAD	ACTION / TIMELINE
1	2023-2024 Update		
	VMS Implementation		
	New contract required for August 2023	Secretariat	Existing Contract expires August 3, 2023; new contract prepared by June 1. Contract (2023-2026) signed 10 August 2023.
	Training in THEMIS for secretariat staff, and as required, FMC leads	Secretariat and SWG Ops, if appropriate	Training needs identified and scheduled by June 1 Training completed for Secretariat staff by CUBIC-I.
	Queries to be established for VMS data analysis	Secretariat, working with SWG Ops	Queries for 2024 VMS review to be finalized by June 30. Posted to Collaboration site 12 June 2023 SWG Operations 14 June 2023 NPFC Collaboration
	Consideration of revisions to CMM to improve data	Secretariat with SWGs Ops	Secretariat report on VMS (NPFC-2024-TCC07-IP04 contains some suggestion for improvement to VMS CMM
	Develop and include appropriate provisions in the VMS CMM and its data sharing protocol to ensure the provision of VMS data to Members with aerial inspection presence in alignment with the definition in Article 1 g)	SWGs Ops	TCC07 SWG, supported by secretariat, review the provisions of CMM and propose enhancements, if appropriate – December 2023. SWG Ops proposal to amend VMS CMM 7th Technical and Compliance Committee Meeting NPFC WP15
	2024- 2025 Workplan		
	Entry/Exit Reports	TCC/ Secretariat	Develop procedures for reporting of entry into and exit from the Convention Area as soon as possible, including the possibility of establishing buffer zones similar to SPRFMO. For review at TCC08
	AIS access	Secretariat	Investigate options for accessing AIS data that will not incur financial costs, and explore paid options as necessary and appropriate in future. Options to be reviewed at TCC08.
2	2023-2024 Update		
	Transshipment		
	Possible adoption of transshipment measure (if not adopted, interim measure requires amendment- remove reference to Interim Register	TCC/SWGs /Secretariat	Secretariat will work with SWGs to identify logistical requirements to support implementation of a transshipment measure, including an automated data entry system to capture

	in 2 c))		reports. September 2023. Online application launched in advance of 26 July implementation date.
	Consideration of mechanism to capture transshipment data in database to facilitate analysis	Secretariat	Secretariat to present costed options to SWG June 15. Online application launched in advance of 26 July implementation date.
	Consideration of complementary measures to support effective transshipment control (e.g. observers /EM, port inspections)	SWGs	SWG, with support from secretariat, will explore options for complementary measures to support transshipment. A prioritized list and timelines for draft measures could be developed by June 30. Transshipment observer program in development by SWG PD (NPFC-2024-TCC07WP05)
	Consideration of proposal to explore new monitoring technologies to help quantify extent of transshipments in CA	Secretariat/SWG Ops	Secretariat to work with SWG Ops to draft a proposal to partner with interested parties to explore potential project(s) (funded through Special Projects Fund) to utilize satellite technology (SAR/RF/Optical Sensors VIIRS). Proposal to be presented at TCC07. Given challenges in implementing online reporting, preference to wait until NPFC has some meaningful data to contribute to this exercise (maybe 1-2 years)
	2024- 2025 Workplan		
	Require clarity on reporting of transshipment catch by species	TCC/SWGs	Draft language to amend transshipment measure to clarify the reporting of transshipped catch by species, including non-NPFC species
	2023-2024 Update		
3	Observer program / EM		
	Options to be developed for a Transshipment observer programme and/or electronic monitoring scheme	SWGs/Secretariat	Secretariat to research options for implementation of observer program for presentation to SWGs.
			Cost estimates posted to Collaboration site 6 February 2024 Transshipment Observer Program- Preliminary Cost Estimate NPFC Collaboration Work ongoing in SWG PD for development of transshipment observer program (NPFC-2024-TCC07-WP05) 7th Technical and Compliance Committee Meeting NPFC NPFC-2024-TCC07-WP05 SWG PD Draft Transshipment Observer Program.

	2024- 2025 Workplan		
	Develop ROP for transshipment (priority)	TCC/SWG	Develop proposal for RoP to be presented at COM09
	Begin planning for broader NPFC observer program	TCC	Request advice from SC on what data should be collected
4	2023-2024 Update		
	Vessel Registry		
	Some information gaps identified in registry, as well as issue with "duplicate vessels"	Secretariat- SWG OPS	Secretariat to continue "cleanup "of VR, removing and identifying information "gaps" in Registry- September 30. Secretariat is currently attempting to address information gaps as new vessels are added to the Registry, as Members must get assistance of Secretariat for a vessel's first registration only.
			SWG OPS to review identified gaps and recommend cooperation from Members to update the Registry with current details- complete by TCC07. This project was overtaken by the urgency to operationalize the online application for transshipment
	2024- 2025 Workplan		
	Update Vessel registry to address errors in current and historic data	Secretariat/Members	Secretariat to work with Members to confirm data in Registry
5	2023-2024 Update		
	CMS		
	Consider options to refine and further develop and better implement a robust CMS consistent with discussions at TCC06, to allow the Secretariat undertaking reliable assessment and TCC adopting a robust CMR in 2024 and beyond	SWGs/Secretariat	Secretariat to refine list of obligations and identify where data gaps exist to prevent compliance assessment. Secretariat posted on 2 June 2023 all SHALL obligations by CMM with comments on data availability June 7 2023
			https://collaboration.npfc.int/node/137
			SWG PD worked throughout intersessional to develop proposal to TCC NPFC-2024-TCC07-WP04 Revisions to CMS CMM 2023-13
	Long term		
Multi year work plan in para. 27 of CMS CMM	SWG PD	Auto- responses, corrective actions	

	2024- 2025 Workplan		
	Develop Implementation Questionnaire	Secretariat	Draft questionnaire for member self - assessment for review at TCC08
6	2023-2024 Update		
	HSBI		
	Harmonized interpretation of inspection protocols is required for HSBI operations(depending on outcome of Covid-19 document)]	SWG Ops/Secretariat	SWG Ops to work toward articulation of a shared understanding of inspection protocols. This work is ongoing and being led by Co-Leads of SWG Ops, to update the HSBI plan.
	Boarding ladder issue remains under review	SWG Ops	SWG Ops to review information on boarding ladder/other safety related issues in context of at sea inspection program (ongoing). SWG Ops proposal on boarding ladders for TCC07 7th Technical and Compliance Committee Meeting NPFC-2024-TCC07- WP14
	Enhancements to the HSBI Events page are required to facilitate data analysis	Secretariat	Secretariat to work with service provider to seek options/costs of enhancing the data entry process for HSBI reports to enable direct entry of reports by Members and automated report generation by secretariat. Options presented by 1 May. This project was overtaken by the urgency to operationalize the online application for transshipment
	2024- 2025 Workplan		
	Update Implementation plan	SWG Ops	Continue to develop HSBI plan for review at TCC08
7	2023-2024 Update		
	Port Inspection program		
	Options to develop minimum standards for port inspection	SWG PD /OPS Secretariat	Secretariat work with SWG PD to develop considerations for the future implementation of port inspection measures complete by TCC07. This project was overtaken by the urgency to operationalize the online application for transshipment
	2024- 2025 Workplan		
8	2023-2024 Update		

	CMMs		
	Minor editorial and formatting issues within existing CMMs	Secretariat /SWG PD	Secretariat to compile list of proposed edits and present to SWG-PD for consideration – by 15 May. This project was overtaken by the urgency to operationalize the online application for transshipment
	2024- 2025 Workplan		
9	2023-2024 Update		
	RFMO and IGO Collaboration and Cooperation		
	MOUs with overlapping and adjacent RFMOs	Secretariat/SWGs	Secretariat to liaise with colleagues in WCPFC and SPRFMO to prepare for activities under eventual MoU. MoUs complete – but no workplans as yet
	Participation in IMCS Network workshops and seminars, PPFCN for informal compliance links and efforts;	Secretariat	Secretariat to attend TCC of WCPFC September 2023, and participate in GFETW, Halifax, Canada July- Aug. CM attended TCC of WCPFC; CM and CA attended GFETW. IMCS Network has assisted the Secretariat in conducting verification exercises for IUU listed vessels, as well as in conducting research and providing reports on specific vessels.
			Secretariat to offer to host face to face meeting of PPFCN on margins of monitoring workshop in Tokyo 2023/2024. Monitoring workshop was not followed up, but PPFCN continues to meet online.
	Workplan for NPAFC MoC	TCC	TCC to review proposed compliance related activities in workplan drafted under NPFC- NPAFC MoC. Completed at TCC06
	2024- 2025 Workplan		
10	2023-2024 Update		
	Outstanding Issues from COM		
	Share information with Global record	Secretariat	Secretariat will develop a plan for participation in Global record. Not followed up
	Standardization of "serious violations	SWGs/Secretariat	Secretariat to compile a list of references to serious violations in NPFC

			Convention and CMMs for review in SWGs. Secretariat posted list of serious violations from Convention and CMMs 9 June 2023 SWG Operations 14 June 2023 NPFC Collaboration SWG Ops posted a list of prioritized obligations 22 December 2023. 17 Jan SWG Ops Meeting (2024-01) NPFC Collaboration, further refined by a task team of both OPS/PD and posted 30 January 2024 17 Jan SWG Ops Meeting (2024-01) NPFC Collaboration Compliance Monitoring Report - Obligations NPFC Collaboration Secretariat to review previous meeting reports and identify any outstanding action items for TCC – to be presented at next SWG meeting .
	2024- 2025 Workplan		
	Serious Violations	SWG Ops	Continue work on serious violations for review at TCC08
	Performance Review		
	Consideration of TCC relevant recommendations consistent with direction from Commission	Secretariat/SWG	Secretariat to prepare list of TCC – relevant recommendations for review and prioritization by SWGs. Complete list of recommendations /considerations posted for discussion at TCC The NPFC Performance Review – implementation considerations Review by subsidiary bodies and Chairs NPFC
	2024- 2025 Workplan		
11			
	2024- 2025 Workplan		
12	Transparency		
	2024- 2025 Workplan		
	Update Interim Rules of Transparency for TCC	SWG PD	Review and update Rules of Transparency, including participation of Observers in CMR review. Finalize by COM 09
13	Effort Controls		
	Establish historic existing levels	Secretariat/SEC/SWG/ SC	Work with SC to establish historic existing fishing levels (vessel numbers

Annex F: TCC 2024/25 Workplan

			and amounts) for NPFC priority species. For review at TCC08
14	Annual Report Template		
	2024- 2025 Workplan		
	Update template	Secretariat/SWGs SC	Review existing reporting template and update to align authorizations/active vessels to their respective fisheries and propose other appropriate revisions at TCC08

Table 1: Adopted NPFC budgets for 2024/2025 and 2025/2026 pursuant to financial regulation 9

Items	Year 2024/25 Proposed Cost (JPY)	Year 2025/26 Proposed Cost (JPY)	Year 2026/27 Estimated Cost (JPY)	Year 2027/28 Estimated Cost (JPY)
1. PERSONNEL COSTS				
1.1 Executive Secretary	19,391,573	19,973,320	20,971,986	21,601,146
1.2 Professional Category CM	14,154,037	14,578,658	15,307,591	15,766,818
1.3 Professional Category SM	15,652,189	16,121,754	16,927,842	17,435,677
1.4 General Services Category EA	8,179,454	8,424,837	8,677,583	8,937,910
1.5 General Services Category DC	7,679,700	7,910,091	8,147,394	8,391,816
1.6 General Services Category 3	0	0	0	0
1.7 Temporary Services	0	0	0	0
1.8 (a) Social Security & Insurance	6,300,000	6,500,000	6,500,000	6,500,000
1.8 (b) Pension Costs	10,018,771	10,319,334	10,784,989	11,108,539
1.9 Overtime	2,000,000	1,200,000	1,200,000	1,200,000
1.10 (a) Staff Allowances - Home Leave	2,000,000	1,000,000	2,000,000	1,000,000
1.10 (b) Staff Allowances - Relocation	0	0	0	0
1.10 (c) Staff Allowances - Repatriation	3,000,000	2,000,000	2,000,000	2,000,000
1.10 (d) Staff Allowances - Accommodation Subsidy	9,100,000	9,100,000	9,100,000	9,100,000
1.11 Professional Development / Training	1,000,000	1,000,000	1,000,000	1,000,000
1.12 Education Fee	1,500,000	1,500,000	1,500,000	1,500,000
1.13 Separation Allowances	0	0	0	0
2. OTHER SERVICE COSTS				
2.1 Office Equipment & Furniture	1,200,000	1,200,000	1,200,000	1,200,000
2.2 Office Supplies	1,000,000	1,000,000	1,000,000	1,000,000
2.3 Rentals	0	0	0	0
2.4 Communications	1,300,000	1,300,000	1,300,000	1,300,000
2.5 Printing	350,000	350,000	350,000	350,000
2.6 Duty Travel	5,000,000	7,000,000	7,000,000	7,000,000
2.7 Auditing and Bank fees	1,200,000	1,200,000	1,200,000	1,200,000
2.8 Contractual Services	6,000,000	6,000,000	6,000,000	6,000,000
2.9 Database Management	19,000,000	16,000,000	15,000,000	15,000,000
2.10 MCS Costs	18,000,000	16,000,000	16,000,000	16,000,000
2.11b Meeting Costs COM08/FAC06/TCC07	See project funding budget			
2.11a Meeting Costs - SWG MSEP5			1,000,000	1,000,000
2.11c Meeting costs COM09/FAC06/TCC07	20,000,000	20,000,000	20,000,000	20,000,000
2.12 Science Support	15,172,500	15,000,000	15,000,000	15,000,000
2.13 Staff Recruitment & Hiring	0	0	0	0
2.14.a From Working Capital Fund COM09	-20,000,000	-20,000,000	-20,000,000	-20,000,000
2.14.a bis To / From Working Capital Fund	3,804,000	-3,804,000		
2.14.b To/From Special Project Fund	-2,172,500	0	0	0
2.15 Representation Expenses	250,000	250,000	250,000	250,000
2.16 Miscellaneous	500,000	500,000	500,000	500,000
TOTAL	170,579,723	161,623,995	169,917,384	171,341,906

Table 2: Assessed contributions for 2024/2025 based on budget in table 1 and pursuant to financial regulation 13.

Member\Rule	a)	b)	c)	Fixed Contribution	Total	%
Canada	5,218,313	0	2,471,087		7,689,399	4.5
China	5,218,313	59,023,208	568,835		64,810,356	38.0
EU	5,218,313	0	1,684,954		6,903,267	4.0
Korea	5,218,313	488,337	1,455,535		7,162,184	4.2
Russia	5,218,313	8,778	702,625		5,929,717	3.5
Chinese Taipei	5,218,313	5,949,763	1,467,657		12,635,732	7.4
USA	5,218,313	0	3,427,376		8,645,688	5.1
Vanuatu	5,218,313	131,562	149,504		5,499,379	3.2
Japan				51,304,000	51,304,000	30.1
Total	41,746,503	65,601,648	11,927,572	51,304,000	170,579,723	100.0

Table 3: Assessed contributions for 2025/2026 based on budget in table 1 and pursuant to financial regulation 13.

Member\Rule	a)	b)	c)	Fixed Contribution	Total	%
Canada	5,146,050	0	2,436,867		7,582,917	4.7
China	5,146,050	58,205,856	560,958		63,912,863	39.5
EU	5,146,050	0	1,661,621		6,807,671	4.2
Korea	5,146,050	481,574	1,435,378		7,063,003	4.4
Russia	5,146,050	8,657	692,896		5,847,602	3.6
Chinese Taipei	5,146,050	5,867,371	1,447,333		12,460,753	7.7
USA	5,146,050	0	3,379,913		8,525,963	5.3
Vanuatu	5,146,050	129,740	147,434		5,423,224	3.4
Japan				44,000,000	44,000,000	27.2
Total	41,168,398	64,693,197	11,762,400	44,000,000	161,623,995	100.0



North Pacific Fisheries Commission

Annex H to COM08 Report

NPFC-2024-FAC06-Final Report

6th Meeting of the NPFC Finance and Administration Committee REPORT

13 April 2024

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North Pacific Fisheries Commission
6th Meeting of the Finance and Administration Committee

Osaka, Japan (hybrid)

FINAL REPORT

Agenda Item 1. Opening of the Meeting

1. The 6th Meeting of the Finance and Administration Committee (FAC) was held in a hybrid format, with participants attending in-person in Osaka, Japan, or online via WebEx, on 13 April 2024, and was attended by Members from Canada, China, the European Union (EU), Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, the United States of America (USA), and Vanuatu. Panama attended as a Cooperating Non-Contracting Party (CNCPP). The Ocean Foundation attended as an observer. The meeting was opened by Mr. Dan Hull (USA), who served as the FAC Chair.

Agenda Item 2. Appointment of Rapporteur

2. Mr. Alexander Meyer was appointed as the Rapporteur.

Agenda Item 3. Adoption of Agenda

3. The FAC agreed to consider the proposal for a special project for hiring an expert to assist the SWG NPA-SA to conduct an assessment for splendid alfonso and North Pacific armorhead (NPFC-2024-FAC06-WP02) and the proposal for the NPFC to appoint an independent legal advisor (NPFC-2024-TCC07-WP09) under Agenda Item 6b, Budget for 2024/2025.
4. The agenda was adopted (Annex A). The List of Documents and List of Participants are attached (Annexes B, C).
5. The Executive Secretary, Dr. Robert Day, outlined the logistical arrangements for the meeting.

Agenda Item 4. Financial Statement

4a. Audit Report for the 2022/2023 fiscal year

6. The NPFC Auditor's Report for the 2022/2023 Financial Year (NPFC-2024-FAC06-IP01) was taken as read, with supplementary comments from the Executive Secretary regarding the

pension liability, the establishment of separate bank accounts for the separate funds, and the reduction in the stated surplus in the audit.

Recommendation: That the Commission adopt the NPFC Auditor's Report for the 2022/2023 Financial Year.

4b. Secretariat financial update for 2023/2024 fiscal year

7. The Executive Secretary presented the Statement of Income and Expenditure for the year ending 31 March 2023 (2022/2023 fiscal year) and unaudited values for 2023/2024 (NPFC-2024-FAC06-WP01 Rev.2).

Recommendation: That the Commission adopt the financial update for the 2023/2024 fiscal year.

4c. Status of Member Contributions

8. The Executive Secretary reported on the status of Member contributions for 2023/2024 (NPFC-2024-FAC06-WP01 Rev.2).
9. The Secretariat reported that Russian contributions had not been received and further noted that previous Russian attempts to pay its contribution were unsuccessful due to the intermediary banks refusing to process the transfers. Russia indicated it will make further attempts to complete the payment of its contribution.
10. The FAC noted that an overpayment of Panama's voluntary contribution as a CNCP has accumulated and held further discussions of how to handle this under the review of the status of the Voluntary Contribution under Agenda Item 4d.

4d. Status of Other Funds

- i. Working Capital Fund*
- ii. Voluntary Contribution*
- iii. Special Project Fund*
- iv. Repatriation Fund*
- v. Pension Fund*

11. The Executive Secretary reported on the status of the other funds, including the Working Capital Fund, the Voluntary Contributions, the Special Project Fund, the Repatriation Fund, and the Pension Fund (NPFC-2024-FAC06-WP01 Rev.2).
12. The FAC thanked Canada, China, the United States, and Panama for their voluntary contributions.

13. The FAC welcomed the suggestion from Panama that Panama's overpayment of its voluntary contributions, resulting from exchange rate fluctuations, could be held in reserve by the NPFC in anticipation of the possibility that Panama could apply for and successfully receive CNCP status again in the future.
14. The FAC requested that the Secretariat specify by fiscal year when individual expenses were incurred when presenting future reports on the status of other funds.
15. The FAC noted the status of other funds.

Agenda Item 5. Administration Matters

5a. Contracted staffing level report

16. The Executive Secretary presented a report assessing the NPFC's staffing, capabilities and needs (NPFC-2024-FAC06-WP04). He reminded the FAC that FAC05 recommended that COM07 task the Secretariat to review its staffing levels, including the Data Coordinator position, in line with recommendations in the NPFC Performance Review, for review at FAC06. An independent review was therefore commissioned from Dr. Penelope Ridings and Dr. Joji Morishita. The Executive Secretary suggested that the Secretariat could present a paper to FAC07 or the FAC SWG with potential options for staffing levels and investment of resources aimed at enhancing the efficiency and functionality of the Secretariat so that it can better meet the needs of Members.
17. Some Members stated that the commissioning of an independent assessment and report was beyond what they had expected when making the original recommendation at FAC05, but welcomed the report nevertheless, appreciating its independent and comprehensive nature. As a matter of process, they requested that in the future, the Secretariat should indicate to the FAC when it is considering seeking outside assistance and expertise on FAC-related matters, so that the FAC can understand whether the advice it will receive will come from the Secretariat or independent experts, and also that the FAC can discuss the budgetary implications. They also pointed out that it would be useful to receive the views of the Secretariat, especially the Executive Secretary, on matters such as areas where additional resources may be required or where Member guidance is needed on prioritizing tasks in light of budgetary constraints, and welcomed the Secretariat's proposal to present a paper related to this at FAC07.

18. The FAC noted the report assessing the NPFC's staffing, capabilities and needs, and requested that the Secretariat present a follow-up paper with potential options for staffing levels and investment of resources at FAC07.

Recommendation: That the Commission task the Secretariat with presenting a follow-up paper with potential options for staffing levels and investment of resources at FAC07.

5b. Contracted administrative report

19. Discussions under Agenda Item 5b were conducted in closed session due to the confidential nature of personnel matters.
20. The Executive Secretary provided a progress report on issues related to GS staff pay, and insurance coverage for international staff in response to the tasking from FAC05 and COM07.
21. The FAC thanked the Executive Secretary for providing the progress report. The FAC acknowledged the challenges of addressing these issues, as outlined in the Executive Secretary's report. The FAC recognized the importance of the Secretariat having competitive and equitable pay scales and remuneration to support the work of the Commission. The FAC recognized that further work is needed on this issue, including further discussions at FAC07, and noted that the goals presented by the Executive Secretary would facilitate such discussions.

Recommendation: That the Commission task the Secretariat to continue to work on issues related to GS staff pay, and insurance coverage for international staff using the goals presented by the Executive Secretary at FAC06 as a basis and to provide a working paper at FAC07, in order to enable the FAC to discuss this issue further and make potential recommendations to the Commission at COM09.

5c. 2024 Internship and Secondment programs

22. The Executive Secretary reported on the outcomes of the 2023/2024 Intern and Secondment Program and presented applications for the 2024/2025 fiscal year for the consideration of the FAC (NPFC-2024-FAC06-WP03). The FAC recognized the contributions of the 2023/2024 intern and secondees noted the benefits of the NPFC Intern and Secondment Program for interns and secondees and for the Secretariat. The FAC reviewed the proposed candidates for the 2024/2025 Intern and Secondment Program.

Recommendation: That the Commission accept the secondment application from Mr. Jumpei Hinata (Japan) for a 12-month period commencing in June 2024.

Recommendation: That the Commission accept the applications from Mr. Jiyu Wang (China) and Mr. Shinnosuke Kato (Japan) for six-month internships, and to stagger their start times.

23. The FAC noted the concerns expressed by some Members over the lack of flexibility in the procedural aspects of the NPFC's Intern and Secondment Program and their preference that greater decision-making discretion be given to the Executive Secretary over matters such as which candidates to hire, and the duration and timing.

Recommendation: That the Commission task the Secretariat to present a proposal to FAC07 on potential updates to the procedural aspects of the NPFC's Intern and Secondment Program.

5d. Performance Review and items of relevance to FAC

24. The FAC reviewed the NPFC Performance Review recommendations that concern the FAC and suggested FAC comments drafted by the Secretariat and the FAC Chair for each recommendation (NPFC-2024-COM08-WP11).

Recommendation: That the Commission task the FAC and the Secretariat with continuing to work to address the recommendations from the Performance Review Panel as a standing agenda item, with a focus on reviewing projects from the Special Project Fund through the FAC SWG, reviewing staffing levels, and developing a corporate plan.

Agenda Item 6. Secretariat's Work Plan: Budget Estimates for 2024/2025 to 2026/2027

6a. Secretariat Work Plan 2024/2025 to 2026/2027

25. The Executive Secretary presented the Secretariat's Work Plan for 2024/2025 to 2026/2027 (NPFC-2024-FAC06-WP05). The FAC endorsed the work plan.

Recommendation: That the Commission adopt the Secretariat's Work Plan for 2024/2025 (Annex D).

6b. Budget for 2024/2025

26. The Executive Secretary presented the proposed budget for 2024/2025 (NPFC-2024-FAC06-WP01 Rev.2) for the review of the FAC. He highlighted the financial pressures of the devaluation of the yen, inflation, and growing database management costs.
27. Japan agreed that Japan's annual contribution for 2024/2025 is 51,304,000 (JPY) although Japan's fixed annual contribution will remain at 44,000,000 (JPY) from 2025/2026 onward. Japan's annual contribution for 2024/2025 was absorbed into the budget table in Annex E.
28. The Science Manager, Dr. Aleksandr Zavolokin, introduced the proposal for a special project for hiring an expert to assist the SWG NPA-SA to conduct an assessment for splendid alfonso and North Pacific armorhead (NPFC-2024-FAC06-WP02), which has already been reviewed by the FAC SWG. The FAC endorsed the proposal and included it in the proposed

budget for 2024/2025.

29. Korea introduced the proposal for the NPFC to appoint an independent legal advisor (NPFC-2024-TCC07-WP09) and the discussions at TCC. Korea explained that, based on the discussions at TCC, it intends to revise the scope of its proposal to appointing an independent legal advisor that would advise the Secretariat, not Members. Korea also explained that, based on its discussions with the Executive Secretary, the associated costs could be limited by keeping legal consultations electronic/virtual and that these could be included within the amount allotted to the budget item “Contractual Services” in the proposed budget for 2024/2025.
30. Members expressed support for limiting the scope to appointing an independent legal advisor that would advise the Secretariat, not Members. One Member insisted that the independent legal advisor must not be asked by Members for advice on the interpretation of the provisions of the Convention and NPFC CMMs at meetings of the Commission or its subsidiary bodies.
31. Several Members expressed their preference that the legal advisor should not be contracted on a full-time basis and should only be consulted on a case-by-case basis. The Executive Secretary explained that the intention would not be to hire a legal advisor on a full-time basis, but to have a retainer arrangement with them, and consult them as necessary.
32. The FAC requested that Korea and the Executive Secretary develop draft terms of reference (TOR) for the proposed services of an independent legal advisor(s) based on the discussions of the FAC and the legal advice the Secretariat has sought to date on an ad hoc basis and present the TOR at COM08 for further consideration. The Executive Secretary explained that so far, the Secretariat has not sought legal advice on interpretations of the Convention and NPFC CMMs, and that it has sought legal advice mainly in three areas: international law in relation to the Secretariat’s interactions with third-parties, general domestic Japanese law, Japanese social and labor law. The FAC agreed that the scope of the advice of the independent legal advisor(s) should be limited to that in the TOR.
Recommendation: That Korea and the Executive Secretary develop draft TOR for the proposed services of an independent legal advisor(s) based on the discussions of the FAC and the legal advice the Secretariat has sought to date on an ad hoc basis and present the TOR at COM08 for further consideration.
33. The FAC requested that in future meetings of the FAC, the Secretariat report on what kinds of contractual services it engaged in the previous year and what output it received from those

services.

34. The FAC endorsed the proposed budget for 2024/2025.

Recommendation: That the Commission adopt the proposed budget for 2024/2025 (Annex E).

Recommendation: That the Commission adopt the proposed Member contributions for 2024/2025 as shown in Annex E. This would include the additional 7.304 million (JPY) contribution of Japan, of which the FAC recommends 3.5 million (JPY) is used to offset Members' contributions in fiscal 2024/2025, while the other 3.804 million (JPY) is transferred into the Working Capital Fund.

6c. Budget estimates for 2025/2026 and indicative budget estimates for 2026/2027 and 2027/2028

35. The FAC noted the budget estimates for 2025/2026 and the indicative budget estimates for 2026/2027 and 2027/2028.

Agenda Item 7. Other matters

36. No other matters were discussed.

Agenda Item 8. Next Meeting

37. **Recommendation:** That the Commission consider holding the next FAC meeting in conjunction with the next Commission meeting.

Agenda Item 9. Recommendations to the Commission

38. The FAC recommended the following to the Commission:

(Agenda Item 4)

- (a) That the Commission adopt the NPFC Auditor's Report for the 2022/2023 Financial Year.
- (b) That the Commission adopt the financial update for the 2023/2024 fiscal year.

(Agenda Item 5)

- (c) That the Commission task the Secretariat with presenting a follow-up paper with potential options for staffing levels and investment of resources at FAC07.
- (d) That the Commission task the Secretariat to continue to work on issues related to GS staff pay, and insurance coverage for international staff using the goals presented by the Executive Secretary at FAC06 as a basis and to provide a working paper at FAC07, in order to enable the FAC to discuss this issue further and make potential recommendations to the Commission at COM09.
- (e) That the Commission accept the secondment application from Mr. Jumpei Hinata (Japan) for a 12-month period commencing in June 2024.
- (f) That the Commission accept the applications from Mr. Jiyu Wang (China) and Mr.

Shinnosuke Kato (Japan) for six-month internships, and to stagger their start times.

- (g) That the Commission task the Secretariat to present a proposal to FAC07 on potential updates to the procedural aspects of the NPFC's Intern and Secondment Program.
- (h) That the Commission task the FAC and the Secretariat with continuing to work to address the recommendations from the Performance Review Panel as a standing agenda item, with a focus on reviewing projects from the Special Project Fund through the FAC SWG, reviewing staffing levels, and developing a corporate plan.

(Agenda Item 6)

- (i) That the Commission adopt the Secretariat's Work Plan for 2024/2025 (Annex D).
- (j) That Korea and the Executive Secretary develop draft TOR for the proposed services of an independent legal advisor(s) based on the discussions of the FAC and the legal advice the Secretariat has sought to date on an ad hoc basis and present the TOR at COM08 for further consideration.
- (k) That the Commission adopt the proposed budget for 2024/2025 (Annex E).
- (l) That the Commission adopt the Member contributions for 2024/2025 as shown in Annex E. This would include the additional 7.304 million (JPY) contribution of Japan, of which the FAC recommends 3.5 million (JPY) is used to offset Members' contributions in fiscal 2024/2025, while the other 3.804 million (JPY) is transferred into the Working Capital Fund.

(Agenda Item 8)

- (m) That the Commission consider holding the next FAC meeting in conjunction with the next Commission meeting.

Agenda Item 10. Adoption of the Report

39. The report was adopted by consensus.

Agenda Item 11. Close of the Meeting

40. The FAC meeting closed at 19:25, Osaka time, on 13 April 2024.

Annexes to FAC06 Report

Annex A	Agenda
Annex B	List of Documents
Annex C	List of Participants
Annex D	Secretariat work plan
Annex E	Budgets and assessed contribution

North Pacific Fisheries Commission
6th Meeting of the Finance and Administration Committee

13 April 2024
Osaka, Japan (hybrid)

Agenda (as amended from the floor)

1. Opening of the Meeting
2. Appointment of Rapporteur
3. Adoption of Agenda
4. Financial Statement
 - a. Audit Report for the 2022/2023 fiscal year
 - b. Secretariat financial update for 2023/2024 fiscal year
 - c. Status of Member Contributions
 - d. Status of Other Funds as of January 31, 2024
 - i. Working Capital Fund
 - ii. Voluntary Contribution Funds
 - iii. Special Project Fund
 - iv. Repatriation Fund
 - v. Pension Fund
5. Administration Matters
 - a. Contracted staffing level report
 - b. Contracted administrative report
 - c. 2024 Internship and Secondment programs P
 - d. Performance Review and items of relevance to FAC
6. Secretariat's Work Plan: Budget Estimates for 2024/2025 to 2026/2027
 - a. Secretariat Work Plan 2024/2025 to 2026/2027
 - b. Budget for 2024/2025
 - i. Special project funding proposal
 - ii. Independent legal advisor proposal
 - c. Budget estimates for 2024/2025 and 2025/2026 and indicative budget estimates for 2026/2027 and 2027/2028
7. Other matters

Annex A

8. Next meeting
9. Recommendations to the Commission
10. Adoption of the Report
11. Close of the Meeting

LIST OF DOCUMENTS**MEETING INFORMATION PAPERS**

Number	Title
NPFC-2024-COM08/TCC07/FAC06-MIP01 Rev.1	Meeting Information
NPFC-2024-FAC06-MIP02	Provisional Agenda
NPFC-2024-FAC06-MIP03	Provisional Annotated and Indicative Schedule

REFERENCE DOCUMENTS

Number	Title
NPFC-2024-COM08-WP11	The NPFC Performance Review – implementation considerations Review by subsidiary bodies and Chairs

WORKING PAPERS

Number	Title
NPFC-2024-FAC06-WP01 Rev.2	DRAFT COMMISSION BUDGETS 2024/2025 to 2027/2028, and Addendum to FAC06-WP01
NPFC-2024-FAC06-WP02	Proposal for a special project for hiring an expert to assist the SWG NPA-SA to conduct an assessment for Splendid Alfonsino and North Pacific Armorhead
NPFC-2024-FAC06-WP03	NPFC INTERN and SECONDMENT PROGRAM Fiscal Year 2024/2025
NPFC-2024-FAC06-WP04	Working paper submitted by the Secretariat
NPFC-2024-FAC06-WP05	SECRETARIAT WORK PLAN 2024/2025

INFORMATION PAPERS

Number	Title
NPFC-2024-FAC06-IP01	NPFC Auditor's Report for 2022/2023 Financial Year

OBSERVER PAPERS

Number	Title

TCC WP forwarded to FAC

Number	Title
NPFC-2024-TCC07-WP09	Proposal on Legal Advisory Consultant of NPFC

REPORTS

Number	Title

List of Participants

CHAIR

Dan HULL
danhullak@gmail.com

CANADA

Amber LINDSTEDT
Amber.Lindstedt@dfo-mpo.gc.ca

Megan BOWERS
Megan.Bowers@dfo-mpo.gc.ca

CHINA

Le LI
bofdwf@126.com

Ce LIU
liuce@cofa.net.cn

Libin DAI
libin.dai@qq.com

Yan LI
liyan@cofa.net.cn

Ce LIU
liuce@cofa.net.cn

Zijun ZHOU
zhouzijun@cofa.net.cn

EUROPEAN UNION

Bernard BLAZKIEWICZ
Bernard.BLAZKIEWICZ@ec.europa.eu

Juan Ignacio DE LEIVA MORENO
Ignacio.de-leiva@eeas.europa.eu

JAPAN

Takumi FUKUDA
takumi_fukuda720@maff.go.jp

Haruo TOMINAGA
haruo_tominaga170@maff.go.jp

Jumpei HINATA
jumpei_hinata320@maff.go.jp

Shingo OTA
shingo_ota810@maff.go.jp

Wataru TANOUE
wataru_tanoue550@maff.go.jp

Yukiya UCHIDA
yukiya_uchida230@maff.go.jp

Annex C

KOREA

Jung-re KIM
riley1126@korea.kr

Tae-hoon WON
th1608@korea.kr

Jae-geol YANG*
jg718@kofci.org

RUSSIA

Dmitry KREMENYUK
d.kremenyuk@fishcom.ru

Oleg KATUGIN
oleg.katugin@tinro.vniro.ru

Vladimir KULIK
vladimir.kulik@tinro.vniro.ru

Vladimir RADCHENKO
vladimir.radchenko@tinro.vniro.ru

CHINESE TAIPEI

Ding-Rong LIN
dingrong@msl.f.a.gov.tw

Ming-Fen WU
mingfen@msl.f.a.gov.tw

Shih-Chi HUANG
shihchi1030@msl.f.a.gov.tw

Wen-Bin HUANG
bruce@gms.ndhu.edu.tw

Po-Hsiang LIAO
d12a21002@ntu.edu.tw

Wei-Yang LIU
weiyang@ofdc.org.tw

Yu-Ming YANG*
rain@ofdc.org.tw

UNITED STATES

Michael BRAKKE
michael.brakke@noaa.gov

Alisha FALBERG
alisha.falberg@noaa.gov

Jasmine PRAT
jasmine.prat@noaa.gov

Dimitri VARMAZIS
VarmazisD@state.gov

VANUATU

Tony TALEO
ttaleo@fisheries.gov.vu

Annex C

Mei-Chin JUAN
meichin.mdfc@gmail.com

PANAMA

Vivian QUIROS*
vquiros@arap.gob.pa

Maria SIERRA*
msierra@arap.gob.pa

Mario AGUILAR*
meagUILAR@arap.gob.pa

OBSERVERS

The Ocean Foundation

Dave GERSHMAN
dgershman@oceanfdn.org

RAPPORTEUR

Alex MEYER
meyer@urbanconnections.jp

NPFC SECRETARIAT

Robert DAY
rday@npfc.int

Judy DWYER
jdwyer@npfc.int

Alex ZAVOLOKIN
azavolokin@npfc.int

Yuko YOSHIMURA-TAKAMIYA
ytakamiya@npfc.int

Sungkuk KANG
skang@npfc.int

Natsuki HOSOKAWA
nhosokawa@npfc.int

Jihwan KIM
jkim@npfc.int

Kazuyo TSUDA
kazoodindon@yahoo.co.jp

* Online Participants

SECRETARIAT WORK PLAN 2024/2025

ABSTRACT

This paper provides the Secretariat's work plan for the 2024/2025 fiscal year for four key areas:

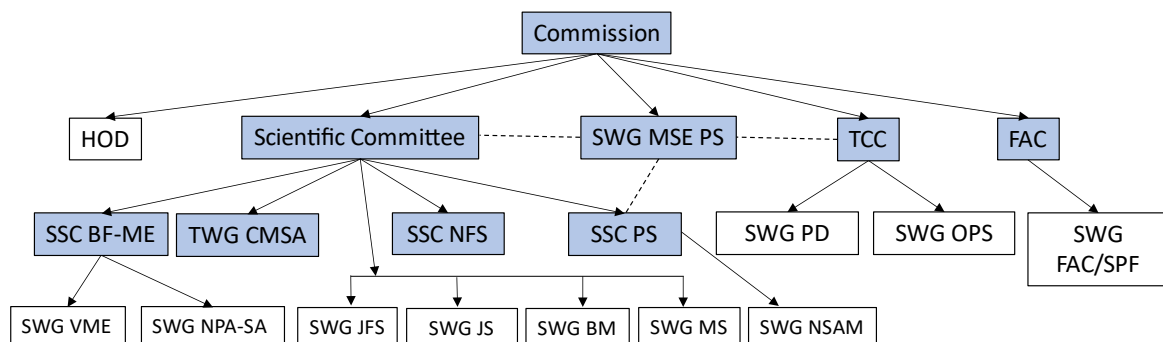
- Coordination of scientific activities of the Commission;
- Coordination of compliance activities and operational reporting to the Commission;
- Data management and security;
- Provision of finance and administration services to support the Commission in the execution of Secretariat's work plan

* The work plan will be informed by COM08 decisions.

DETAILS:

The function of the NPFC Secretariat is the provision of services to, and representation of, the Commission as determined by its Members in accordance with the Convention and relevant rules and regulations. As identified by the Secretariat and shared with Members, four key areas highlighted below provide the Secretariat and the Commission guidance with regard to the Commission's activities in 2024/2025 fiscal year. The structure of Commission related entities is provided in Figure 1.

Figure 1: Commission related entities supported by the Secretariat



Legend

ABC = virtual meeting

DEF = in person / hybrid meeting(s)

HOD: Head of Delegation

TCC: Technical and Compliance Committee

FAC: Finance and Administration Committee

SWG: Small Working Group

SSC: Small Scientific Committee

TWG: Technical working Group

MSE PS: Management Strategy Evaluation for Pacific Saury

BF-ME: Bottom Fishery-Marine Ecosystem

VME: Vulnerable Marine Ecosystem

CMSA: Chub Mackerel Stock Assessment

PS: Pacific Saury

MS: Milestones

NSAM: New Stock Assessment
Methods

NFS: Neon Flying Squid

JFS: Japanese Flying Squid

JS: Japanese Sardine

BM: Blue Mackerel

NPA: North Pacific Armorhead

SA: Splendid Alfonsino

PD: Planning and Development

OPS: Operations

SPF: Special Projects Fund Review

I. Coordination of scientific activities of the Commission

The Secretariat coordinates the scientific activities of the Commission including:

- a. Implementation of the Scientific Committee rolling Five-Year Research Plan and Work Plan for each Priority Area:
 - Stock assessments for target fisheries and bycatch species
 - Ecosystem approach to fisheries management
 - Data collection, management, and security
 - Climate change impact
- b. Implementation of the scientific projects to be conducted in 2024/2025 (see the table below for details).
- c. Organizing informal virtual meetings to facilitate intersessional work, including rapporteur services: 13 SC subsidiary bodies, 2-4 meetings per each.
- d. Organizing formal meetings of SC, SSCs and TWGs to finalize outputs, formalize recommendation and develop scientific advice: 1 SC, 3-4 SSCs and 2-3 TWG meetings per year.
- e. Providing infrastructure services for data collection, sharing and dissemination, including assistance in:
 - Developing data collection standards and data provision templates
 - Providing data storage and maintaining data inventories
 - Compiling annual catch and effort statistics
 - Developing/updating data sharing and security policies
 - Identifying data gaps which can be fulfilled by an observer program
- f. Conducting data analyses: NPA monitoring survey, PS weekly catch, annual catch and effort trends for NPFC priority species, scope study on VMS data for science etc.
- g. Assisting Members in selection and contracting invited experts: 5 contracts for PS, CM, NFS, bottom fish, and climate change.
- h. Making scientific data, meeting documents, policies and templates available to relevant SC members while ensuring data security.
- i. Promoting cooperation with other organizations
 - NPAFC: five-year Work Plan to implement the NPAFC/NPFC Memorandum of Cooperation
 - PICES: PICES annual meeting in 2024, PICES-ICES SPF Working Group, PICES Working Group on Seamount Ecology, update of the Framework for cooperation
 - BECI: following up with the developments of the Basin Scale Events to Coastal Impacts (BECI) project
 - FAO DSF project: collaborative activities on climate change impact, data-limited stock assessment and ecosystem approach to fisheries
 - FAO FIRMS: providing stock and fisheries information in accordance with the partnership agreement
 - SPRFMO, ISC/WCPFC: implementation of MOUs
- j. Liaising with TCC for issues of common interest
- k. Assisting Members with addressing science-related recommendations from the NPFC Performance Review report

#	Project	Time	Status	Next step: activities, required funds
1	Pacific saury stock assessment meeting (meeting costs)	Every year	Regular meetings occur	SSC PS13 meeting. Aug 2024. <i>2024 FY: virtual, no funds required.</i>
2	Chub mackerel stock assessment meeting (meeting costs)	Every year	Regular meetings occur	TWG CMSA09 meeting. Jul 2024. <i>2024 FY: 1.5mil JPY (10,000USD)</i> <i>Source: SC fund.</i> TWG CMSA10. Early 2025. <i>2024 FY: virtual or hosted by Member, no funds required.</i>
3	Invited expert to support TWG CMSA (consultancy fee and travel costs)	2020-	An external expert has been contracted for TWG CMSA08 and 09 meetings using the voluntary contribution from the USA. The proposed project covers TWG CMSA10 and 11.	<i>2024 FY: 1.7mil JPY (11,333USD) for TWG CMSA08&09.</i> <i>Source: United States voluntary contribution</i> <i>2024FY: 1.7mil JPY (11,333USD) for TWG CMSA10&11.</i> <i>Source: SC fund.</i>
4	Invited expert to support SSC PS (consultancy fee and travel costs)	2019-	An external expert has been contracted to support SSC PS and its subsidiary WG NSAM.	<i>2024 FY: 3mil JPY (20,000USD)</i> <i>Source: SC fund.</i>
5	Invited expert to support SSC NFS (consultancy fee and travel costs)	2024-	An external expert will be contracted to support SSC NFS.	<i>2024 FY: 2.25mil JPY (15,000USD)</i> <i>Source: SC fund.</i>
6	Invited expert to support SSC BFME (consultancy fee and travel costs)	2024	An external expert will be contracted to support SSC BFME related to bottom fish stock assessments.	<i>2024 FY: 2.17 mil JPY</i> <i>Source: Special Projects Fund</i>
7	PICES Annual meeting	Every year	Travel support to a participant of the SC or its subsidiary bodies to attend PICES Annual meeting.	<i>2024 FY: 1mil JPY (7,000USD)</i> <i>Source: SC fund.</i>
8	Other science meetings / capacity development	2024	Training for capacity building or travel support to attend other relevant science meetings.	<i>2024 FY: 1.5mil JPY (10,000USD)</i> <i>Source: SC fund.</i>

II. Coordination of the joint SC-TCC-COM

Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS)

- a. Organizing joint SC-TCC-COM SWG MSE PS meetings to develop an interim HCR and MSE for Pacific saury: 1-2 meetings per year
- b. Assisting Members in selection and contracting an invited expert
- c. Supporting SWG MSE PS's intersessional activities including informal virtual meetings and liaison with SSC PS

III. Coordination of compliance activities of the Commission

* Note that compliance specific activities in 2024-2025 have not yet been established by TCC consequently the list of Secretariat-intended activities in this sector is only tentative.

The Secretariat coordinates compliance activities of the Commission including:

- a. Implementation of compliance work plan and priorities through the two SWGs, Operations and Planning and Development, to address the following:
 - i. Continued implementation and refinement of the data input and analysis for transshipment reporting
 - ii. Implementation and analysis of NPFC regional VMS
 - iii. Implementation of the Compliance Monitoring Scheme and provision of the resultant Compliance Monitoring Report
 - iv. Data Sharing and Data Security Protocol for NPFC
 - v. Maintaining the Vessel Registry
 - vi. Implementation of the HSBI procedure
 - vii. Development of transparency policy pertinent to TCC
- b. Coordinating and assisting Members to hold TCC and SWG meetings in 2024
- c. Review of existing CMMs for revision and consideration of new CMMs, if any, from Members
- d. Maintain the vessel register and provide assistance to new CNCPs as they join the Commission
- e. Maintain and upgrade the e-IUU vessel system, e-annual report system, and development of the data warehouse to assist the Commission in the analysis of the data
- f. Coordinate the e- IUU vessel listing process from data submitted by Members
- g. Provide Draft Compliance report for TCC08 meeting
- h. Address VMS and other electronic monitoring systems to assess compliance as directed by the Commission
- i. Support reporting to COM09 regarding monitoring of capacity and possible approaches (from NPFC PR)
- j. Promoting cooperation with other organizations in compliance: IMCS, TCN, PPFCN, NPAFC, WCPFC, SPRFMO.

- k. Other tasking to be set at TCC07 and COM08

IV. Data management and security and Information Technology

The data management system is key for the storage of data and the analyses of scientific and compliance operations of the Commission. Significant effort continues to be placed on the refinement of this system. The intent of the NPFC database is to provide a secure, user-friendly, accessible, and reliable data compilation for scientific and compliance needs of the Commission. The database is designed to integrate all data modules of the Commission to support the Members' decision-making process. The efficiency with which the Secretariat provides service to the Members, and others, through electronic means is also important. The Secretariat has evaluated its current legacy email system, established for the interim secretariat prior to the establishment of the Commission, and will modernize it to reflect current practice (accessibility, collaboration, security, etc.).

- a. A key element of the workplan is an external review of our data management system, including a security audit. Our current system has evolved with time and Members will benefit from a review to assess if the current system is best suited for our emerging data needs (including analysis and visualization).
- b. With Members, the Secretariat has developed the online transshipment application. This made use of the initial voluntary contribution from Canada agreed to at COM07. The Secretariat will continue to support improvements to the system and the analysis of its data based on feedback from Members.
- c. The Secretariat has established the NPFC GIT Repository for the TWG CMSA and anticipates extending its use to other SC subsidiaries. Plans include upgrading to the GitHub Nonprofit Version (Free Team Plan) and supporting Members use as an administrator of the system (e.g., providing user guidelines, access and technical assistance if required).
- d. The Secretariat has transitioned the email system from a Japan-based local server to the MS Exchange server to improve work efficiency and foster effective collaboration. This change enhances shared calendar usage, reduces bounced emails, expands mailbox size, and integrates email accounts with MS Teams. This transition will conclude in 2024/2025.
- e. The Secretariat will update the NPFC website regularly to enhance public awareness and to provide Members with necessary system access for various Commission operations. This includes proposed projects to streamline Members account creation.
- f. The Secretariat will initiate the development of new systems as required by Members' needs.

V. Finance and Administration

1. Financial matters to support the Secretariat and Commission in the execution of its duties

Securing funds for the Commission's activities and implementation of approved activities through formal and internationally recognized financial mechanisms is one of the areas for the Secretariat to assist Members and the Commission to achieve objectives of the Convention.

Following are the major financial activities for 2024:

- a. Drafting a four-year budget plan 2024-2027 (proposed budgets for 2024 and 2025, indicative budgets for 2026 and 2027) for approval at the 8th Commission meeting;
- b. Submission of the external Auditor's Report for the Commission's 2023/2024 financial affairs
- c. Establishment of new bank accounts and financial procedures (Quick Books for Non-Profits) for separating, managing and reporting on the various funds managed by the Secretariat on behalf of Members

2. Provision of administrative services to the Commission and its subsidiary bodies

1) Hosting Commission meetings

The Secretariat facilitates all NPFC meetings to be held in 2024 by providing logistical support and preparing meeting documents and reports:

- a. Commission and Subsidiary-body Meetings
 - 6th Finance and Administration Committee (FAC), 13 April 2024
 - 7th Technical and Compliance Committee (TCC), 9-12 April 2024
 - 8th Session of the Commission, 15-18 April 2024
 - 9th Scientific Committee, 19-20 December
 - Potentially the 10th Session of the Commission if it is agreed to host in this fiscal year (i.e., March 2025)
- b. Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS) meetings
- c. Small Scientific Committees and Technical Working Groups meetings
- d. TCC SWG meetings to take place as decided by the TCC
- e. SC SWGs meetings to take place as decided by the SC

2) Cooperation with other organizations

The Secretariat currently liaises with other organizations including RFMOs by attending their meetings for information sharing and for developing other joint or reciprocal activities of mutual interest. In 2023, the meetings scheduled to be represented by Secretariat staff are as follows:

Meeting	Date and place	Purpose	Expected outcomes
FAO COFI and Regional Secretariats Network meeting	8-12 July 2024 Rome, Italy	Secretariat to attend to discuss on sustainable development of fisheries and aquaculture in the context of a changing climate, a better use of biodiversity, ensuring equitable growth for small scale operators and the elimination of IUU fishing.	Global recommendations and policy advice to governments, other regional fishery bodies, civil society organizations, and actors from the private sector and international community
UN DOALOS	15-17 May 2024 New York, USA	Secretariat Representative to be determined, if possible, noting internal meeting overlaps.	Contributions on the topic, “Sustainable fisheries management in the face of climate change”
NPAFC Annual Meeting	14-30 May 2024 Virtual	Secretariat to attend virtual annual meeting of NPAFC	Facilitation of cooperation with NPAFC based on the work plan to be agreed by both Commissions to implement MOC established in 2019
PICES Annual meeting	October, Honolulu, USA	Secretariat to attend annual meeting of PICES and intersessional meetings of its committees and working groups (virtually or in-person)	Enhancing scientific cooperation between NPFC and PICES as specified in the Framework for cooperation, including such key areas as Stock assessment support, VMEs and Ecosystem Approach to Fisheries.

SPRFMO SC meeting	September, Peru	Secretariat to attend SPRFMO SC12 meeting (virtually or in-person)	Discussion on the scientific aspects of cooperation with SPRFMO, sharing experience in assessment of pelagic and bottom fish, scientific data management and establishment of an observer program for pelagic fisheries.
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Further representation will be determined at TCC, FAC and the Commission Meetings.

Besides attendance at the meetings, there are areas for cooperation with other organizations, which require further consideration and input from the Commission:

- a. Implementation of MOU with SPRFMO.
- b. Consideration of adopting MOU with ISC and WCPFC where revised language has been proposed by these two organizations for consideration by COM08.
- c. Cooperation for compliance purposes in line with Commission objectives (e.g., with all members for VMS and HSBI, Pan Pacific Fisheries Compliance Network, Tuna Compliance Network (TCN)).
- d. Cooperation with FAO ABNJ Deep Sea Fisheries Project Phase 2 as one of the partner organizations with commitment of in-kind contribution to the project

3) Enhancing public awareness

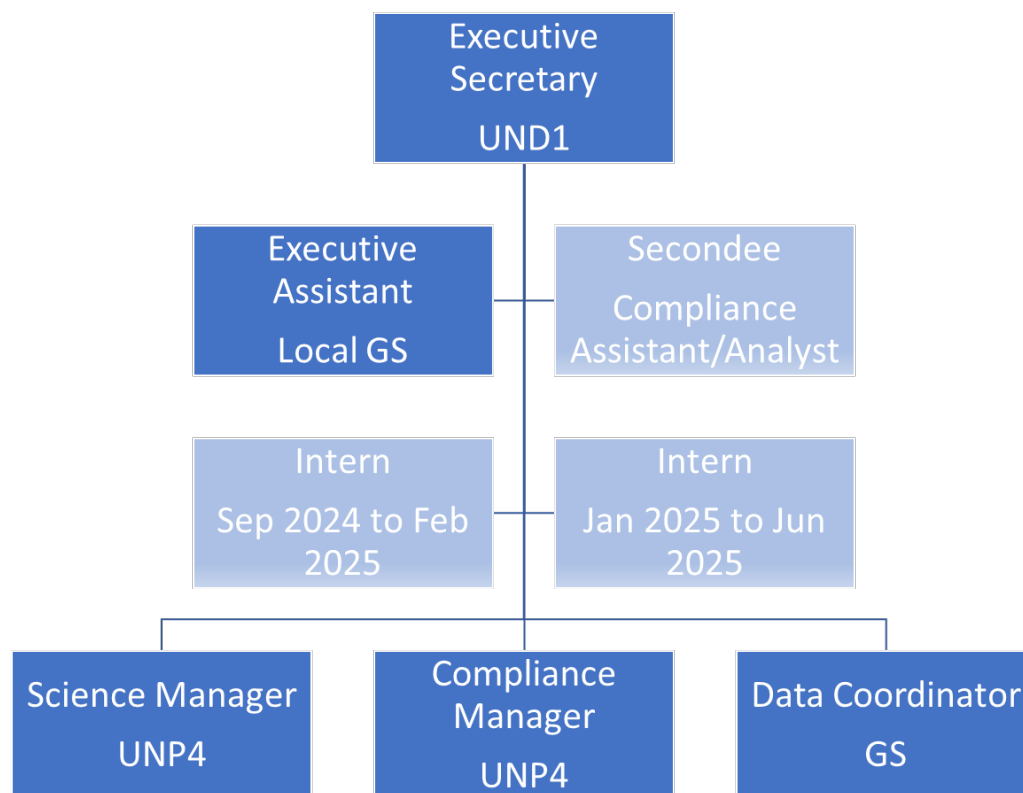
The Secretariat will enhance public awareness through various means:

- a. Develop a cooperative mechanism with the Tokyo University of Marine Science and Technology (the location of the NPFC Secretariat) to allow for increased engagement (e.g., lectures and outreach, education opportunities for TUMSAT students, supporter access to facilities such as electronic library or meeting space, and research cooperation)
- b. Maintain and update official website to provide the public information on Commission's activities
- c. Give lectures and seminars relevant to NPFC work upon request from local government or universities and international fora
- d. Submit articles to newsletters of RSN and RFMOs
- e. Publish the NPFC Yearbook to entail activities of the Commission for 2023
- f. Receive visitors from international organizations, local government, embassies, and universities

4) Management of human resources

Effective management of human resources intends to maximize employee performance while considering the best economic use of the resources of the Commission. According to the Secretariat's Work Plan and Commission's decision, the Secretariat will coordinate the following:

- a. Conduct annual performance reviews of the Secretariat staff for 2023/2024 fiscal year (April 2023-March 2024): staff performance review by Executive Secretary, and a performance review of the Executive Secretary by the Commission.
- b. Implement elements of the review of pay and benefits conducted by Olivia Associates regarding GS pay (as outlined in the staff regulations) as well as the insurance schemes for staff.
- c. A major focus for this fiscal is to document processes and procedures related to HR and linked to administrative, financial and data considerations.
- d. Continue to consider implications of the concern identified by the retired Compliance Manager related to the use of the fixed exchange rate (124.36) to calculate payment of salary in JPY from salaries established in USD.
- e. Continue to ensure that the Secretariat complies with Japanese labor law related to benefits for Japanese staff.
- f. Manage interns and secondees from Members after consideration and approval by the Commission.

Figure 2: Secretariat structure

Note to Figure 2: Contractors and consultants are not represented and that the decision on Seconded and Intern for 2024/2025 will be taken at COM08.

Table 1: Proposed NPFC budgets for 2024/2025 and 2025/2026 pursuant to financial regulation 9

Items	Year 2024/25 Proposed Cost (JPY)	Year 2025/26 Proposed Cost (JPY)	Year 2026/27 Estimated Cost (JPY)	Year 2027/28 Estimated Cost (JPY)
1. PERSONNEL COSTS				
1.1 Executive Secretary	19,391,573	19,973,320	20,971,986	21,601,146
1.2 Professional Category CM	14,154,037	14,578,658	15,307,591	15,766,818
1.3 Professional Category SM	15,652,189	16,121,754	16,927,842	17,435,677
1.4 General Services Category EA	8,179,454	8,424,837	8,677,583	8,937,910
1.5 General Services Category DC	7,679,700	7,910,091	8,147,394	8,391,816
1.6 General Services Category 3	0	0	0	0
1.7 Temporary Services	0	0	0	0
1.8 (a) Social Security & Insurance	6,300,000	6,500,000	6,500,000	6,500,000
1.8 (b) Pension Costs	10,018,771	10,319,334	10,784,989	11,108,539
1.9 Overtime	2,000,000	1,200,000	1,200,000	1,200,000
1.10 (a) Staff Allowances - Home Leave	2,000,000	1,000,000	2,000,000	1,000,000
1.10 (b) Staff Allowances - Relocation	0	0	0	0
1.10 (c) Staff Allowances - Repatriation	3,000,000	2,000,000	2,000,000	2,000,000
1.10 (d) Staff Allowances - Accommodation Subsidy	9,100,000	9,100,000	9,100,000	9,100,000
1.11 Professional Development / Training	1,000,000	1,000,000	1,000,000	1,000,000
1.12 Education Fee	1,500,000	1,500,000	1,500,000	1,500,000
1.13 Separation Allowances	0	0	0	0
2. OTHER SERVICE COSTS				
2.1 Office Equipment & Furniture	1,200,000	1,200,000	1,200,000	1,200,000
2.2 Office Supplies	1,000,000	1,000,000	1,000,000	1,000,000
2.3 Rentals	0	0	0	0
2.4 Communications	1,300,000	1,300,000	1,300,000	1,300,000
2.5 Printing	350,000	350,000	350,000	350,000
2.6 Duty Travel	5,000,000	7,000,000	7,000,000	7,000,000
2.7 Auditing and Bank fees	1,200,000	1,200,000	1,200,000	1,200,000
2.8 Contractual Services	6,000,000	6,000,000	6,000,000	6,000,000
2.9 Database Management	19,000,000	16,000,000	15,000,000	15,000,000
2.10 MCS Costs	18,000,000	16,000,000	16,000,000	16,000,000
2.11b Meeting Costs COM08/FAC06/TCC07	See project funding budget			
2.11a Meeting Costs - SWGMSEPS			1,000,000	1,000,000
2.11c Meeting costs COM09/FAC06/TCC07	20,000,000	20,000,000	20,000,000	20,000,000
2.12 Science Support	15,172,500	15,000,000	15,000,000	15,000,000
2.13 Staff Recruitment & Hiring	0	0	0	0
2.14.a From Working Capital Fund COM09	-20,000,000	-20,000,000	-20,000,000	-20,000,000
2.14.a bis To / From Working Capital Fund	3,804,000	-3,804,000		
2.14.b To/From Special Project Fund	-2,172,500	0	0	0
2.15 Representation Expenses	250,000	250,000	250,000	250,000
2.16 Miscellaneous	500,000	500,000	500,000	500,000
TOTAL	170,579,723	161,623,995	169,917,384	171,341,906

Table 2: Assessed contributions for 2024/2025 based on budget in table 1 and pursuant to financial regulation 13.

Member\Rule	a)	b)	c)	Fixed Contribution	Total	%
Canada	5,218,313	0	2,471,087		7,689,399	4.5
China	5,218,313	59,023,208	568,835		64,810,356	38.0
EU	5,218,313	0	1,684,954		6,903,267	4.0
Korea	5,218,313	488,337	1,455,535		7,162,184	4.2
Russia	5,218,313	8,778	702,625		5,929,717	3.5
Chinese Taipei	5,218,313	5,949,763	1,467,657		12,635,732	7.4
USA	5,218,313	0	3,427,376		8,645,688	5.1
Vanuatu	5,218,313	131,562	149,504		5,499,379	3.2
Japan				51,304,000	51,304,000	30.1
Total	41,746,503	65,601,648	11,927,572	51,304,000	170,579,723	100.0



**4th Meeting of the Joint SC-TCC-COM Small Working Group on
Management Strategy Evaluation for Pacific Saury (SWG MSE PS)
REPORT**

31 August – 2 September 2023

October 2023

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North Pacific Fisheries Commission
4th Meeting of the Joint SC-TCC-COM Small Working Group on Management
Strategy Evaluation for Pacific Saury (SWG MSE PS)

31 August – 2 September 2023

Port Vila, Vanuatu

REPORT

Agenda Item 1. Introductory items

1.1 Opening of the meeting

1. The 4th meeting of the joint SC-TCC-COM Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS) was held in a hybrid format, with participants attending in-person in Port Vila, Vanuatu, or online via WebEx. The meeting was attended by Members from Canada, China, the European Union, Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, the United States of America, and the Republic of Vanuatu. The Pew Charitable Trusts (Pew) attended as an observer. Dr. Larry Jacobson participated as an invited expert. The meeting was chaired by Dr. Toshihide Kitakado (Japan) and Mr. Derek Mahoney (Canada), the co-Chairs of the SWG MSE PS.
2. Mr. Mahoney opened the meeting and welcomed the participants.
3. Mr. Felix Toa Ngwango, Principal Compliance Officer of the Vanuatu Fisheries Department, welcomed the participants to Vanuatu and stated that their presence was an expression of their shared commitment to the advancement of collective goals. He also noted that SSC PS11 had concluded successfully with highly fruitful discussions, and hoped that this momentum and spirit of cooperation would be maintained during the SWG MSE PS. Lastly, Mr. Ngwango expressed his hope that the collective efforts of the SWG MSE PS would contribute to the wellbeing of the Pacific saury stock.

1.2 Adoption of agenda

4. The agenda was adopted without revision (Annex A). The List of Documents and List of Participants are attached (Annexes B, C).

1.3 Meeting logistics

5. The Science Manager, Dr. Aleksandr Zavolokin, outlined the meeting arrangements.
6. Mr. Alex Meyer was selected as rapporteur.

Agenda Item 2. Overview of the outcomes of previous NPFC meetings

2.1 SWG MSE PS03

7. Dr. Kitakado (hereafter “co-Chair”) presented the outcomes and recommendations from the SWG MSE PS03 meeting.

2.2 SSC PS11

8. The co-Chair presented the outcomes and recommendations from the 11th Meeting of the Small Scientific Committee on Pacific Saury (SSC PS11).

2.3 COM07

2.3.1 CMM 2023-08 for Pacific Saury

9. The Science Manager presented the outcomes from the 7th Commission meeting, including an overview of Conservation and Management Measure (CMM) 2023-08 for Pacific Saury.

2.3.2 NPFC Performance Review

10. The Science Manager presented an overview of the NPFC Performance Review and outlined some recommendations from the Performance Review report that concern Pacific saury.
11. The co-Chair informed the SWG MSE PS that, in consultation with Mr. Mahoney, he would draft the proposed response to these recommendations while liaising with the SC Chair and the Secretariat by the next SWG MSE PS meeting in January 2024.

2.3.3 Resolution on Climate Change

12. The Science Manager presented an overview of the Resolution on Climate Change.

Agenda Item 3. Overview of MSE

3.1 Roles of SWG MSE PS in the NPFC process

3.2 Basic principles of MSE

3.3 Roles of harvest control rules (HCRs) and management procedures (MPs)

13. The co-Chair presented an overview of an MSE process (NPFC-2023-SWG MSE PS04-IP01), including the role of the SWG MSE PS, the basic principles of an MSE, the roles of harvest control rules (HCR) and management procedures (MP), and the advantages of MPs under MSE over traditional approaches.

14. The SWG MSE PS noted that tuning is often a part of other regional fisheries management organizations' (RFMOs') MSE processes but that the SSC PS had agreed not to conduct tuning as there are still multiple candidate HCRs being considered and it is not possible to set the tuning criteria.
15. The SWG MSE PS noted the importance of using consistent terminology when discussing the MSE process and that sometimes, multiple terms are used to describe the same concept, for example "performance indicators," "performance measures," and "performance metrics," which can cause confusion. In this particular case, the SWG MSE PS indicated its preference for the term "performance indicators."

3.4 Examples in other RFMOs

16. Pew gave a presentation on examples of MSE processes from other RFMOs and publicly available resources for better understanding the MSE process (NPFC-2023-SWG MSE PS04-OP01).
17. The SWG MSE PS suggested that it may be worthwhile reviewing other RFMOs' MSE processes for other species that, like Pacific saury, are short-lived.

3.5 Quick demonstration of MSE

18. The co-Chair presented a quick demonstration of how an MSE works using a Shiny application.
19. The co-Chair explained that he would make the current version of the Shiny application available to Members as a demonstration tool, so that they could try testing various HCRs and parameters for better understanding the MSE process. He cautioned that the current version does not include the latest data and has not been adjusted to reflect the discussions of SSC PS11. He further explained that, to conduct the final simulations, he would use a tool that has a different user interface to the Shiny application but has the same underlying code, while using the most up-to-date data and updating the specifications to reflect the discussions of SSC PS11 and SWG MSE PS04.
20. The invited expert suggested that it would be useful to keep track of the various runs that Members conduct using the Shiny application and suggested that all output graphs should describe the following information:
 - (a) Parameters used
 - (b) Date run

- (c) Version number of the Shiny application
- (d) Name of user
- (e) Indication that this is a “draft” simulation

3.6 Discussion

21. The SWG MSE PS agreed that including economic factors, such as relative revenue, cost and profit, as performance indicators, would be useful for communicating the potential impact of different HCRs to managers and stakeholders. However, the SWG MSE PS acknowledged that it may be difficult to develop such performance indicators for the short-term HCR and perhaps they would be more appropriate for the longer-term MSE process.

Agenda Item 4. Review progress on development of an HCR as a short-term task

22. The SWG MSE PS reviewed and finalized the draft specification of simulation for testing HCRs prepared by SSC PS11 (Annex D).

4.1 Management objectives, reference points and tuning criteria

23. The SWG MSE PS reviewed and updated the three types of management objectives discussed at SWG MSE PS01, SWG MSE PS02, and SWG MSE PS03. The SWG MSE PS agreed to continue discussions around these three objectives below, putting higher priority on (a).
 - (a) Recovery of the stock (prioritized objective):
 - i. The stock status is recovered above B_{tar} within 5 years with 50% probability.
 - ii. The stock status is maintained above the B_{tar} level in each of years 6-10 with 50% probability.
 - (b) Avoiding unsustainable state of the stock (secondary objective):
 - i. The annual probability in each of years 6-10 that the stock drops below B_{lim} should not exceed 10%.
 - ii. The annual probability in each of years 6-10 that fishing mortality is above F_{lim} should not exceed 10%.
 - (c) Achieving high and stable catch (tertiary objective):
 - i. Average catch over years 6-10 is as high as possible.
 - ii. Catch in each of years 6-10 is as stable as possible.
24. The SWG MSE PS noted that numerical specifications such as probabilities and target years stated in the objectives above may require adjustment after the simulation is carried out if none of the evaluated HCRs can meet the management objectives.
25. The SWG MSE PS considered the three target reference points considered by the SSC PS and

agreed to use the target reference point based on B_{MSY} , noting that the Convention stipulates that measures shall ensure fisheries resources are maintained at or restored to levels capable of producing MSY, and that MSY-based reference points are commonly used in many other RFMOs.

4.2 Conditioning of operating models (OMs)

26. The SWG MSE PS noted the previous discussions on the conditioning of OMs by the SWG MSE PS and the SSC PS and updated the OM specifications.
27. The SWG MSE PS agreed to include additional process error assumptions as sensitivity analyses taking into account past periods of high and low productivity. The sensitivity analyses will help to evaluate the potential decadal variation of population dynamics identified in previous studies for the Pacific saury stock.
28. The SWG MSE PS noted that changes in the productivity of the system will violate assumptions of stationarity in models, thus changing MSY , B_{MSY} , F_{MSY} and the speed of stock response to environmental change and/or fishing. This should be explored in future simulations examining the process errors in the determination of stock status and management procedures when developing the future full MSE framework.
29. The SWG MSE PS agreed on a reference scenario and two sensitivity scenarios for simulating the process error as follows:

	Model	Value	Note	Scenario
M1	IID log-normal assumption	Process error $\sim N(0, \tau^2)$	Tau is a median process error CV in 2023 BSSPM.	Reference scenario
M2	IID log-normal assumption with a mean adjustment	Process error $\sim N(-0.15, \tau^2)$		(Sensitivity scenario) “Climate impacts cause negative productivity” scenario
M3	IID log-normal assumption with a mean adjustment	Process error $\sim N(0.1, \tau^2)$		(Sensitivity scenario) “Climate impacts cause positive productivity” scenario

30. The SWG MSE PS noted that asymmetrical assumptions of negative and positive process errors are appropriate because 0.15 is the approximate average of historical process errors during a less productive period and 0.1 is the approximate average of historical process errors during a productive period.

4.3 Candidate HCRs and constraints therein

31. The SWG MSE PS considered the candidate HCRs and the constraints therein. The SWG MSE PS indicated its preference for HCR1 as the short-term HCR. The SWG MSE PS agreed to also run simulations to test HCR0 as a contrast for evaluating HCR1. The SWG MSE PS reaffirmed the potential value of HCR2 and HCR3 in that they allow for the adjustment of the total allowable catch based on the stock assessment result one year ago during the fishing season, which is important in light of Pacific saury's short lifespan and interannual fluctuation in recruitment strength, but recognized that their development and analysis would require additional time and that they were therefore not appropriate for consideration for the short-term HCR. The required analyses will be deferred until after the development of age-structured models, which may alleviate some of the problems with lags in the management process.
32. Regarding additional elements for the specification of HCRs, the SWG MSE PS agreed to add consideration of a range of constraints, including no constraint, for the maximum allowable change (MAC) in TAC.

4.4 Performance indicators

33. The SWG MSE PS reviewed and updated the performance indicators discussed at SWG MSE PS01, SWG MSE PS02, and SWG MSE PS03 (Annex D).

4.5 Simulation platform

34. The co-Chair reiterated that he would update the simulation platform with the most up-to-date data and specifications that reflect the discussions of SSC PS11 and SWG MSE PS04.

4.6 Template for presentation of results

35. The SWG MSE PS agreed to continue to discuss how to present the results of the MSE, noting the importance of clear communication and ease of understanding.

4.7 Other matters

36. No other matters were discussed.

Agenda Item 5. Discussion toward development of management procedures (MPs) as a mid-term goal

5.1 Management objectives and some constraint conditions for the regulation of fishery

5.2 Technical matters on operating models, MPs, performance measures and simulation

37. The SWG MSE PS agreed to focus on its short-term goal until sufficient progress is made and

to defer discussions on its mid-term goal.

Agenda Item 6. Implementation schedule and safeguard for exceptional circumstances

6.1 Implementation schedule of an HCR

38. The SWG MSE PS reviewed and maintained the implementation schedule agreed to at the SWG MSE PS03 meeting (Annex D).

6.2 Mid-term plan of implementation and its review process

39. The SWG MSE PS agreed to focus on its short-term goal until sufficient progress is made and to defer discussions on its mid-term goal.

6.3 Definition of exceptional circumstances

40. The SWG MSE PS agreed not to define exceptional circumstances at this time. The SWG MSE PS noted that it would review the results of the MSE simulations at its next meeting and could consider whether or not the definition of exceptional circumstances is necessary at that time.

Agenda Item 7. Other matters

41. The SWG MSE PS noted the importance of capacity building efforts, such as multiple rounds of workshops, to facilitate deeper understanding of MSE and associated elements, such as HCRs by managers and stakeholders including the possible need for resources from NPFC.

Agenda Item 8. Timeline and future process

8.1 Timeline

42. The SWG MSE PS reviewed the timeframe agreed to at SWG MSE PS03 and updated it (Annex E).

8.2 Future process with assistance of SSC PS

43. The SWG MSE PS noted that the results of the MSE simulation would be presented at SSC PS12 for technical feedback and that the final results would be presented at SWG MSE PS05.

8.3 Workplan till SWG MSE PS05 meeting

44. The SWG MSE PS re-affirmed a workplan of intersessional activities until the 5th SWG MSE PS meeting and 8th Commission meeting (Annex E).

Agenda Item 9. Recommendations to the Commission

45. The SWG MSE PS recommends that the Commission consider capacity building efforts to facilitate deeper understanding of MSE and HCRs by managers and stakeholders, such as

holding multiple rounds of workshops.

46. The SWG MSE PS confirmed that the invited expert, Dr. Larry Jacobson, would be invited to the next SWG MSE PS meetings.
47. The SWG MSE PS reaffirmed that future meetings should include scientists, managers and stakeholders to facilitate communication and completion of this important work.

Agenda Item 10. Adoption of report

48. The SWG MSE PS04 Report was adopted by consensus.

Agenda Item 11. Close of the meeting

49. The co-Chair thanked the participants for their constructive engagement and productive discussions, the invited expert for his guidance, the Secretariat and the rapporteur for their support, and Vanuatu for its hospitality.
50. The meeting closed at 10:35 on 2 September 2023, Port Vila time.

Annexes:

Annex A – Agenda

Annex B – List of documents

Annex C – List of participants

Annex D – Specification of simulation for testing HCRs

Annex E – Timeline and tasks

Agenda

Agenda Item 1. Introductory items

- 1.1 Opening of the meeting
- 1.2 Adoption of agenda
- 1.3 Meeting logistics

Agenda Item 2. Overview of the outcomes of previous NPFC meetings

- 2.1 SWG MSE PS03
- 2.2 SSC PS11
- 2.3 COM07
 - 2.3.1 CMM 2023-08 for Pacific Saury
 - 2.3.2 NPFC Performance Review
 - 2.3.3 Resolution on Climate Change

Agenda Item 3. Overview of MSE

- 3.1 Roles of SWG MSE PS in the NPFC process
- 3.2 Basic principles of MSE
- 3.3 Roles of harvest control rules (HCRs) and management procedures (MPs)
- 3.4 Examples in other RFMOs
- 3.5 Quick demonstration of MSE
- 3.6 Discussion

Agenda Item 4. Review progress on development of an HCR as a short-term task

- 4.1 Management objectives, reference points and tuning criteria
- 4.2 Conditioning of operating models (OMs)
- 4.3 Candidate HCRs and constraints therein
- 4.4 Performance measures
- 4.5 Simulation platform
- 4.6 Template for presentation of results
- 4.7 Other matters

Agenda Item 5. Discussion toward development of management procedures (MPs) as a mid-term goal

- 5.1 Management objectives and some constraint conditions for the regulation of fishery
- 5.2 Technical matters on operating models, MPs, performance measures and simulation

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6.2 Mid-term plan of implementation and its review process

6.3 Definition of exceptional circumstances

Agenda Item 7. Other matters

Agenda Item 8. Timeline and future process

8.1 Timeline

8.2 Future process with assistance of SSC PS

8.3 Workplan till SWG MSE PS05 meeting

Agenda Item 9. Recommendations to the Commission

Agenda Item 10. Adoption of report

Agenda Item 11. Close of the meeting

List of documents**MEETING INFORMATION PAPERS**

Document Number	Title
NPFC-2023-SWG MSE PS04-MIP01	Meetings Information
NPFC-2023-SWG MSE PS04-MIP02	Provisional Agenda
NPFC-2023-SWG MSE PS04-MIP03 (Rev. 1)	Annotated Indicative Schedule

REFERENCE DOCUMENTS

Document Number	Title
NPFC-2023-SSC PS11-Draft Report	Draft SSC PS11 meeting report including specifications in Annex I
NPFC-2023-SSC PS11-RP02	2nd intersessional SSC PS meeting summary
NPFC-2023-SSC PS11-RP03	3rd intersessional SSC PS meeting summary
CMM 2023-08	CMM 2023-08 for Pacific Saury
	NPFC Performance Review
	Resolution on Climate Change
NPFC-2023-SWG MSE PS03-Final Report	SWG MSE PS03 report

INFORMATION PAPERS

Document Number	Title
NPFC-2023-SWG MSE PS04-IP01	What is “Management Strategy Evaluation”?

OBSERVER PAPERS

Document Number	Title
NPFC-2023-SWG MSE PS04-OP01	Management Procedure Education & Outreach Tools

List of participants**CO-CHAIRS**

Toshihide KITAKADO
kitakado@kaiyodai.ac.jp

Derek MAHONEY
derek.mahoney@dfo-mpo.gc.ca

CANADA

Chris ROOPER
chris.rooper@dfo-mpo.gc.ca

Janelle CURTIS
Janelle.Curtis@dfo-mpo.gc.ca

CHINA

Ce LIU
liuce@cofa.net.cn

Yong CHEN
yong.chen.2@stonybrook.edu

Libin DAI
644318716@qq.com

Chuanxiang HUA
cxhua@shou.edu.cn

Qiuyun MA
qyma@shou.edu.cn

EU

Karolina MOLLA GAZI
karolina.mollagazi@wur.nl

JAPAN

Takumi FUKUDA
takumi_fukuda720@maff.go.jp

Kazuhiro OSHIMA
oshima_kazuhiro28@fra.go.jp

Taiki FUJI
fuji_taiki65@fra.go.jp

Midori HASHIMOTO
hashimoto_midori91@fra.go.jp

Hiroshi KUBOTA
kubota_hiroshi89@fra.go.jp

Hiroomi MIYAMOTO
miyamoto_hiroomi47@fra.go.jp

Chiaki MIZUGAKI
chiaki_mizugaki010@maff.go.jp

Shin-Ichiro NAKAYAMA
nakayama_shinichiro16@fra.go.jp

Miyako NAYA
naya_miyako88@fra.go.jp

Shuya NAKATSUKA
nakatsuka_shuya49@fra.go.jp

Shingo OTA
shingo_ota810@maff.go.jp

Satoshi SUYAMA
suyama@affrc.go.jp

Wataru TANOUE
wataru_tanoue550@maff.go.jp

Haruo TOMINAGA
haruo_tominaga170@maff.go.jp

Yukiya UCHIDA
yukiya_uchida230@maff.go.jp

Kyutaro YASUMOTO
kyutaro_yasumoto890@maff.go.jp

KOREA

Jeongseok PARK
jeongseokpark@korea.kr

Hyejin SONG
hyejinsong@korea.kr

RUSSIA

Vladimir KULIK
vladimir.kulik@tinro.ru

Igor CHERNIENKO
chernienko.igor@gmail.com

CHINESE TAIPEI

Yi-Jay CHANG
yjchang@ntu.edu.tw

Jhen HSU
jhenhsu@ntu.edu.tw

Wen-Bin HUANG
bruce@gms.ndhu.edu.tw

USA

Erin BOHABOY
erin.bohaboy@noaa.gov

VANUATU

Lucy Andrea JOY
ljoy@fisheries.gov.vu

Falma AIVIJJ
falma.pala19@gmail.com

Kevin LIN
kevin.mdfc@msa.hinet.net

Ngwele JEYALDA
njeyalda@fisheries.gov.vu

Mei-Chin JUAN
meichin.mdfc@gmail.com

Ada SOKACH
akettnr@fisheries.gov.vu

OBSERVERS

THE PEW CHARITABLE TRUSTS

Dave GERSHMAN

dgershman@oceanfdn.org

Ashley WILSON

awilson@pewtrusts.org

INVITED EXPERT

Larry JACOBSON

larryjacobson6@gmail.com

RAPPORTEUR

Alex MEYER

meyer@urbanconnections.jp

SECRETARIAT

Robert DAY

rday@npfc.int

Alex ZAVOLOKIN

azavolokin@npfc.int

Sungkuk KANG

skang@npfc.int

Natsuki HOSOKAWA

nhosokawa@npfc.int

Specification of simulation for testing HCRs

1. Management Objectives

The SWG MSE PS **agreed** to continue to base discussions around the three objectives of (a) recovery of the stock, (b) avoiding unsustainable state of the stock, and (c) achieving high and stable catch, with putting a high priority on (a) given the current stock condition.

(a) Recovery of the stock (prioritized objective):

- i. The stock status is recovered above B_{tar} within 5 years with 50% probability;
- ii. The stock status is maintained above the B_{tar} level in each of years 6-10 with 50% probability.

(b) Avoiding unsustainable state of the stock (secondary objective):

- i. The annual probability in each of years 6-10 that the stock drops below B_{lim} should not exceed 10%;
- ii. The annual probability in each of years 6-10 that fishing mortality is above F_{lim} should not exceed 10%.

(c) Achieving high and stable catch (tertiary objective):

- i. Average catch over years 6-10 is as high as possible;
- ii. Catch in each of years 6-10 is as stable as possible.

Note: Any numerical specification such as probabilities and target years stated in the objectives above may require adjustment after the simulation is carried out if none of the evaluated HCRs can meet the management objectives.

Table 1. The current list of default value and potential ranges for biological reference points

Reference point	Default value	Potential range
$B_{tar} = c * B_{MSY}$	$c = 1$	$c = 0.8 - 1.2$
$B_{lim} = c * B_{MSY}$	$c = 0.35$	$c = 0.2 - 0.5$
$F_{tar} = c * F_{MSY}$	$c = 1$	$c = 0.8 - 1.2$
$F_{lim} = c * F_{MSY}$	$c = 1.35$	$c = 1.2 - 1.5$

2. Harvest Control Rules (HCRs)

HCR0: $TAC_y = F_{msy} * \hat{B}_{y-1}$ (as shown in Figure 1)

HCR1: $TAC_y = a_{y-1} * F_{msy} * \hat{B}_{y-1}$, where $a_{y-1} = \min(1, \hat{B}_{y-1} / \hat{B}_{msy})$ (as shown in Figure 1)

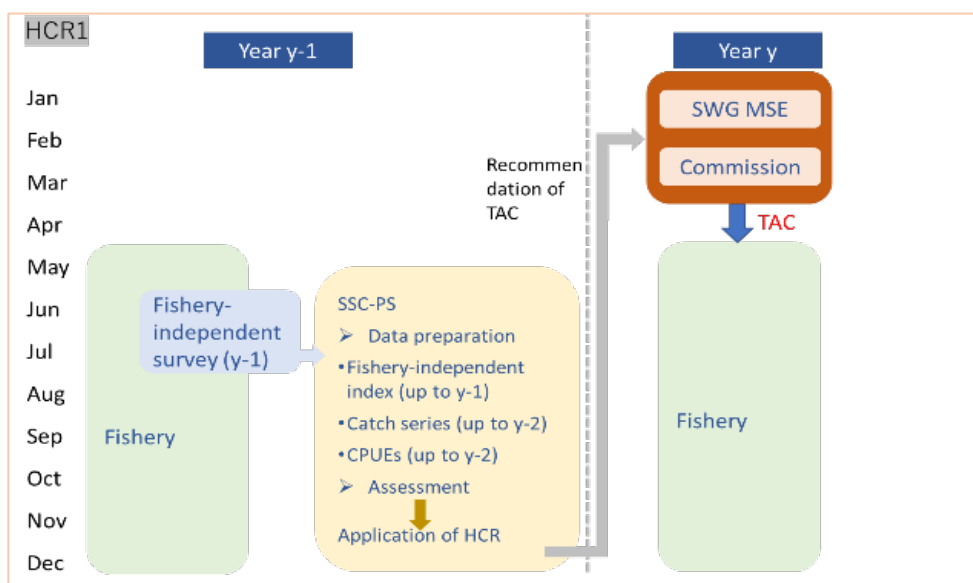


Figure 1. Illustration of the HCR options (HCR0-HCR1).

Table 2. Additional elements for specification of HCRs.

Item	Options
Input of B in HCR	1) previous single year 2) average of previous two years
Maximum allowable change (MAC) in TAC over two consecutive years	A) 20, 30, 40% + no constraint for option 1) above B) 20, 25% and + no constraint for option 2) above
Management cycle	1 year

HCR1 (2 options for inputs of B with different MAC options) [4+3]

HCR0 (single B*single max change for a representative option in HCR) [1]

3. Operating models (OMs)

Basic structure

The SWG MSE PS agreed that Option A (the use of the current interim stock assessment model, BSSPM, as a basis with consideration of uncertainties in estimated parameters and process errors) is to be used as the default option. OMs are to be conditioned based on the most recent BSSPM stock assessment results (aggregated over 3 runs = 3 Members for each base case).

For application of HCR0 in year y:

$$\text{Estimate of biomass in previous year (y-1) as } \log(\hat{B}_{y-1}\hat{F}_{msy}) = \log(B_{y-1}F_{msy}) - 0.5\sigma^2 + \varepsilon$$

For application of HCR1 in year y:

Estimate of B-ratio (B/B_{msy}) in previous year (y-1) as

$$\log\left(\frac{\hat{B}_{y-1}}{\hat{B}_{msy}}\hat{F}_{msy}\right) = \log\left(\frac{B_{y-1}}{B_{msy}}B_{y-1}F_{msy}\right) - 0.5\sigma^2 + \varepsilon$$

The error distribution will be assumed by referring the uncertainty in the actual computation.

Table 3. Specification of OM's for generating future data as input for HCR

Item	Value	Note
Catch in 2023 TAC in 2023	C2023 (actual)? TAC2023 = 150,000 (tons)	Preliminary number will be available in Dec meeting.
Terminal year in OM conditioned by the 2023 BSSPM using the actual data (B2023)	1) Use MCMC samples over 3 Members' runs in each base case 2) Use a median value over 3 Members' runs in each base case	
Intrinsic rate of increase (r)	Ditto	
Carrying capacity (K)	Ditto	
Shape parameter (z)	Ditto	
F _{msy} in future application of HCR	See the formula and figures above.	
B (one year time lag)	See the formula and figures above.	
B/B _{msy}	See the formula and figures above.	
Initial year of future simulation	2024	
Implementation error	None	

Process errors accounting for environmental effects

Table 4. Assumptions for process errors

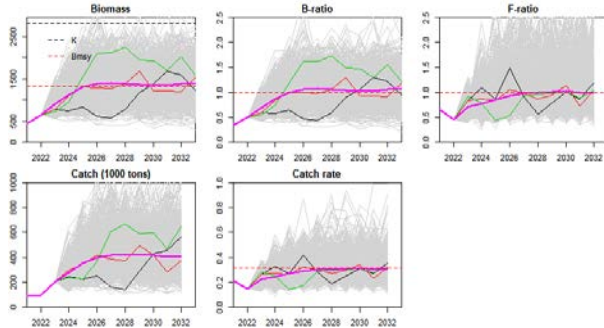
	Model	Value	Note	
M1	IID log-normal assumption	Process error ~ N(0, tau^2)	Tau is a median process error CV in 2023 BSSPM.	Reference scenario
M2	IID log-normal assumption with a mean adjustment	Process error ~ N(-0.15, tau^2)		(Sensitivity scenario) "Climate impacts cause negative productivity" scenario
M3	IID log-normal assumption with a mean adjustment	Process error ~ N(0.1, tau^2)		(Sensitivity scenario) "Climate impacts cause positive productivity" scenario

4. Performance indicators for evaluating HCRs (tables and figures are only illustrative purposes)

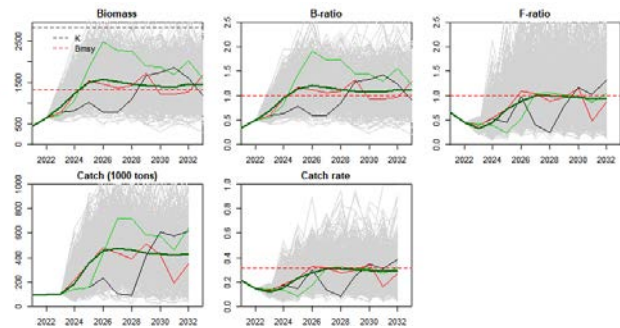
1) Time series plots for Biomass, Bratio, Fratio, catch and catch rate. Time trajectories of several

key performance indicators for HCR0, HCR1. The thick line is the median of 1000 simulations, and the three colored lines in each plot show example trajectories (add lines for 10% lower bound).

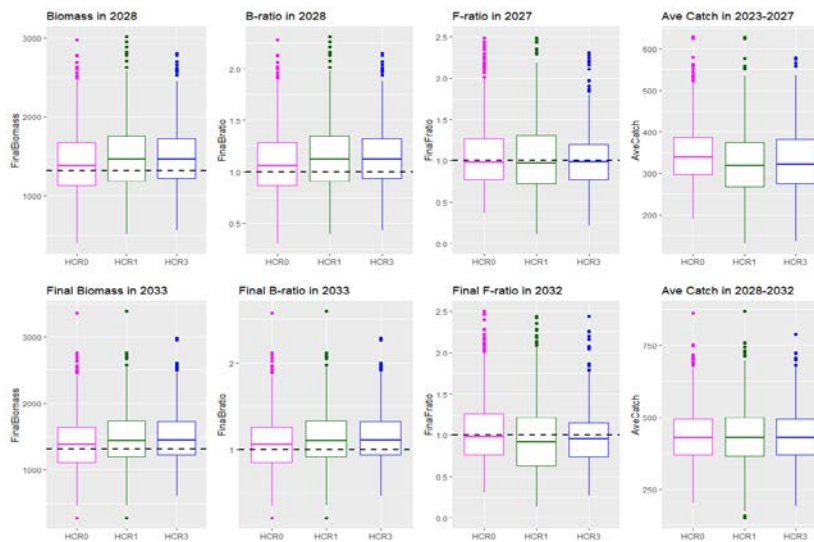
HCR0



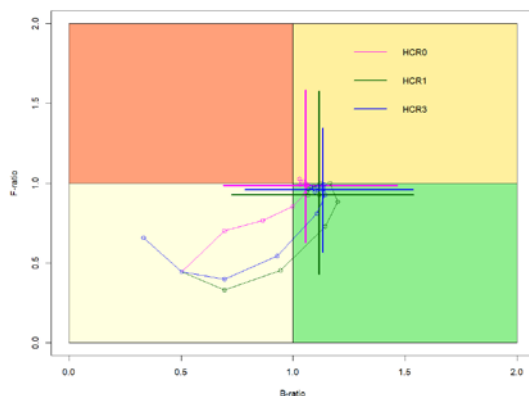
HCR1



2) Box plots of performance indicators for. Note that, in this simulation, no restriction was placed on the maximum value of change in consecutive years.



3) Trade-off plots 1: Time trajectories of B- and F-ratios for HCR0 and HCR1 from 2024 to 2033. Each cross refers to the 80% interval for both indices in 2033.



4) Trade-off plots 2: Bratio against the average catch (to come)

5) Tables for $\Pr(B > B_{tar})$, $\Pr(B < B_{lim})$ and $\Pr(F > F_{lim})$ relevant to the objectives (a) and (b) with the default reference points ($B_{tar}=B_{msy}$, $B_{lim}=0.35$, and $F_{lim}=1.35F_{msy}$). Note that all the probabilities related to the biomass are calculated for the biomass at the beginning of year.

(a) Recovery of the stock:

- i. Probabilities that the stock status is above B_{tar} at 1, 2,..., 10years after the HCR is implemented;
- ii. Probabilities that the stock status is in Kobe green quadrant at 1, 2,..., 10 years after the HCR is implemented.

(b) Avoiding unsustainable state of the stock:

- i. Probabilities that the stock status is below B_{lim} at 1, 2, ..., 10 years after the HCR is implemented;
- ii. Probabilities that the fishing mortality exceeds F_{lim} at 1, 2, ..., 10 years after the HCR is implemented.

(c) Achieving high and stable catch:

- i. Average catch by 1-5, 6-10 years after the HCR is implemented;
- ii. Annual catch variation by 5, 10 years after the HCR is implemented;
- iii. Probabilities that the TAC hits the predetermined maximum change by 5, 10 years after the HCR is implemented.

Pr($B > B_{tar}$)			P(Kobe green)			Pr($B < B_{lim}$)			Pr($F > F_{lim}$)			TAC		
Year	HCR0	HCR1	Year	HCR0	HCR1	Year	HCR0	HCR1	Year	HCR0	HCR1	Year	HCR0	HCR1
2021	0.000	0.000	2021	0.000	0.000	2021	1.000	1.000	2021	0.000	0.000	2021	92	92
2022	0.000	0.000	2022	0.000	0.000	2022	0.000	0.000	2022	0.000	0.000	2022	98	98
2023	0.024	0.024	2023	0.024	0.024	2023	0.000	0.000	2023	0.000	0.000	2023	205	103
2024	0.282	0.396	2024	0.267	0.380	2024	0.000	0.000	2024	0.023	0.008	2024	289	215
2025	0.487	0.665	2025	0.393	0.539	2025	0.000	0.000	2025	0.062	0.051	2025	368	364
2026	0.554	0.710	2026	0.374	0.467	2026	0.002	0.001	2026	0.109	0.119	2026	419	454
2027	0.573	0.706	2027	0.343	0.396	2027	0.001	0.000	2027	0.127	0.163	2027	446	481
2028	0.567	0.633	2028	0.351	0.365	2028	0.001	0.000	2028	0.138	0.168	2028	444	463
2029	0.539	0.588	2029	0.319	0.348	2029	0.000	0.002	2029	0.135	0.145	2029	439	438
2030	0.518	0.575	2030	0.295	0.334	2030	0.003	0.003	2030	0.140	0.142	2030	437	426
2031	0.521	0.578	2031	0.334	0.372	2031	0.002	0.001	2031	0.134	0.132	2031	428	413
2032	0.566	0.618	2032	0.370	0.415	2032	0.002	0.001	2032	0.127	0.123	2032	433	423
2033	0.563	0.620				2033	0.003	0.001						

5. Implementation schedule

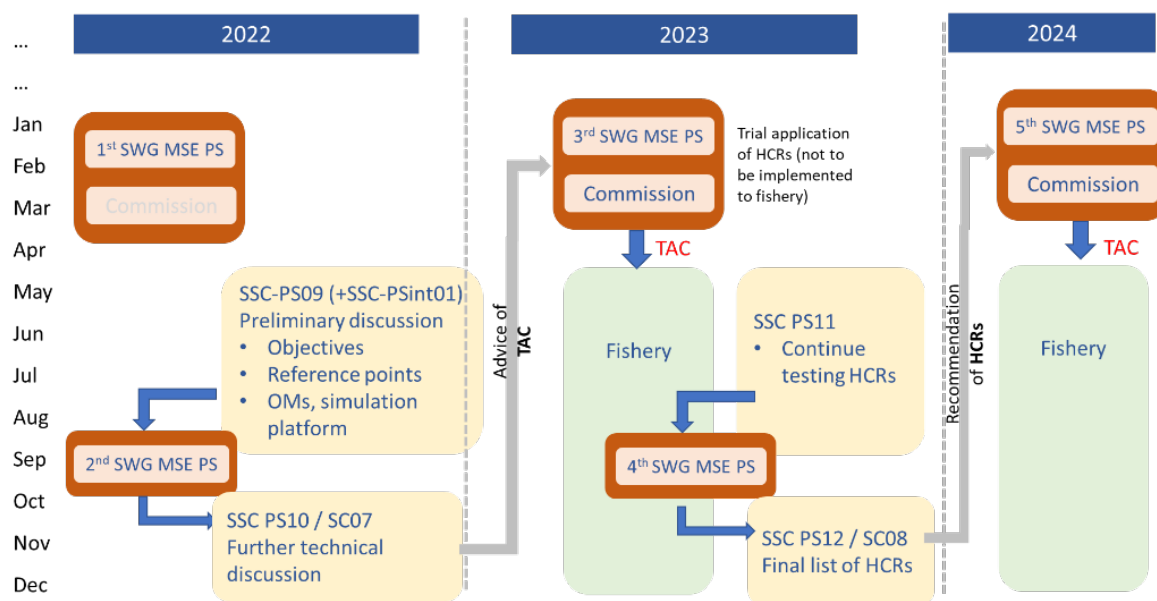


Figure 2. A planned implementation schedule.

Timeline and tasks

Meeting	Date	Task	Format
COM07	Mar 22-24, 2023	<ul style="list-style-type: none"> Review of management advice from SC Review and endorsement of SWG MSE PS 01-03 reports 	In-person (hybrid)
Intersessional technical work (under SSC PS)	May 30	<ul style="list-style-type: none"> Start discussion on CPUE Review other issues if ready 	Virtual
Ditto	June 30	<ul style="list-style-type: none"> Review progress on OMs including development of robustness scenarios Review progress on evaluation of HCRs 	Virtual
Ditto	July 27	<ul style="list-style-type: none"> Review further progress on OMs Review further progress on evaluation of HCRs 	Virtual
SSC PS11	Aug 28-31	<ul style="list-style-type: none"> Review standardized CPUE up to 2022 Review Japanese survey estimates including 2023 Review progress on new assessment models and finalize a set of models and specification Review progress on HCR works Conduct initial BSSPM analyses to see if there are any gaps between 2022 and 2023 assessments 	In-person (hybrid)
SWG MSE PS04	Aug 31-Sep 2	<ul style="list-style-type: none"> Review progress on HCR works Finalize a set of OMs, management objectives and template of performance metrics and candidate HCRs Capacity building 	In-person (hybrid)
Intersessional technical work (under SSC PS)	Oct-Nov	<ul style="list-style-type: none"> Review progress on tasks identified in SWG MSE PS 04 	Virtual
SSC PS12	Dec 11-14	<ul style="list-style-type: none"> Update BSSPM analyses and provide recommendations to SC/COM Review progress on new assessment models and finalize a set of models and specification (relevant to the mid-term MSE work as conditioning of operating models) Finalize technical works 	In-person (hybrid)
SWG MSE PS05	Jan 18-20, 2024	<ul style="list-style-type: none"> Select an HCR and make a recommendation to the Commission 	In-person (hybrid)
COM08	Apr 15-18, 2024	<ul style="list-style-type: none"> Adoption of CMM on HCR for PS? 	In-person (hybrid)



North Pacific Fisheries Commission

Annex J to COM08 report

NPFC-2024-SWG MSE PS05-Final Report

5th Meeting of the Joint SC-TCC-COM Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS) REPORT

18-20 January 2024

February 2024

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North Pacific Fisheries Commission
5th Meeting of the Joint SC-TCC-COM Small Working Group on Management
Strategy Evaluation for Pacific Saury (SWG MSE PS)

18-20 January 2024
Niigata, Japan (Hybrid)

REPORT

Agenda Item 1. Introductory items

1.1 Opening of the meeting

1. The 5th meeting of the joint SC-TCC-COM Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS) was held in a hybrid format, with participants attending in-person in Niigata, Japan or online via WebEx, on 18-20 January 2024. The meeting was attended by Members from Canada, China, Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, the United States of America, and the Republic of Vanuatu. The Pew Charitable Trusts (Pew) attended as an observer. Dr. Larry Jacobson participated as an invited expert. The meeting was chaired by Dr. Toshihide Kitakado (Japan) and Mr. Derek Mahoney (Canada), the co-Chairs of the SWG MSE PS.
2. Mr. Mahoney opened the meeting and welcomed the participants. He thanked Japan for hosting the meeting and the Fisheries Agency of Japan for its efforts in organizing the meeting.
3. Mr. Takumi Fukuda, Fisheries Agency of Japan, welcomed the participants to Niigata and thanked them for coming. He also expressed his thanks to the co-Chairs for their dedicated preparations, and to the Secretariat for its assistance. Mr. Fukuda reminded the participants that the Commission had tasked the SWG MSE PS with testing and recommending candidate harvest control rules (HCRs) for Pacific saury and presenting the outcomes at the eighth Commission meeting (COM08) in April. He further noted that, as this is the working group's last meeting before COM08, the SWG MSE PS is expected to narrow down the candidate HCRs that it will recommend to the Commission.
4. Mr. Alex Meyer was selected as rapporteur.

1.2 Adoption of agenda

5. The agenda was adopted without revision (Annex A). The List of Documents and List of

Participants are attached (Annexes B, C).

1.3 Meeting logistics

6. The Science Manager, Dr. Aleksandr Zavolokin, outlined the meeting arrangements. He also thanked China for providing a voluntary contribution for purchasing the Secretariat's hybrid meeting equipment and the United States for providing a voluntary contribution to facilitate scientific analyses on the NPFC priority species, in particular Pacific saury and chub mackerel.

Agenda Item 2. Overview of the outcomes of previous NPFC meetings

2.1 SWG MSE PS04

7. Dr. Kitakado (hereafter "co-Chair") presented the outcomes and recommendations from the SWG MSE PS04 meeting.

2.2 SSC PS12 and SC08

8. The co-Chair presented the outcomes and recommendations from the 12th Meeting of the Small Scientific Committee on Pacific Saury (SSC PS12).
9. The Science Manager presented the outcomes from the 8th Meeting of the Scientific Committee (SC08) that are relevant to the SWG MSE PS.

Agenda Item 3. Overview of MSE

3.1 Roles of SWG MSE PS in the NPFC process

3.2 Basic principles of MSE

3.3 Roles of harvest control rules (HCRs) and management procedures (MPs)

10. The co-Chair presented an overview of an MSE process (NPFC-2024-SWG MSE PS05-IP01), including the role of the SWG MSE PS, the basic principles of an MSE, the roles of HCRs and management procedures (MP), and the advantages of MPs (including HCRs) over non-MSE approaches.
11. Pew gave a presentation on restoring Pacific saury to a more predictable and productive fishery (NPFC-2024-SWG MSE PS05-OP01). Pew emphasized the benefits to the NPFC of adopting proactive, science-based management via an interim HCR, followed by the development of a full MP, for the Pacific saury fishery, pointing out that, where adopted elsewhere, these pre-agreed, carefully tested approaches have generated positive results.

3.4 Examples in other RFMOs

12. Pew presented examples of the application of hockey-stick HCRs and the outcomes of their implementation in other fisheries, specifically the Australian southern and eastern scalefish and

shark fishery, the British Columbia sablefish fishery, the US Atlantic herring fishery, and the Bay of Biscaye anchovy fishery.

3.5 Quick demonstration of MSE

13. The co-Chair presented a quick demonstration of HCR simulations using the Shiny application. The latest version of the Shiny application used for this analysis will be made available to Members for future HCR work.

Agenda Item 4. Review technical progress on development of an HCR as a short-term task

14. The co-Chair presented the results of the SWG MSE PS's simulation testing for HCRs in the Pacific saury fishery (NPFC-2024-SWG MSE PS05-WP01). The details are described in the relevant sections under agenda items 4.1-4.5 below.

4.1 Management objectives and reference points

15. The SWG MSE PS conducted its simulation analysis based on the following three types of management objectives agreed to at SWG MSE PS04, while putting higher priority on (a).
 - (a) Recovery of the stock (primary objective):
 - i. The stock status is recovered above B_{tar} within 5 years with 50% probability.
 - ii. The stock status is maintained above the B_{tar} level in each of years 6-10 with 50% probability.
 - (b) Avoiding unsustainable state of the stock (secondary objective):
 - i. The annual probability in each of years 6-10 that the stock drops below B_{lim} should not exceed 10%.
 - ii. The annual probability in each of years 6-10 that fishing mortality is above F_{lim} should not exceed 10%.
 - (c) Achieving high and stable catch (tertiary objective):
 - i. Average catch over years 6-10 is as high as possible.
 - ii. Catch in each of years 6-10 is as stable as possible.

4.2 Conditioning of operating models (OMs)

16. The SWG MSE PS applied the OM specifications for generating future data as input for HCRs that were agreed to at SWG MSE PS04.
17. The SWG MSE PS assumed the following scenarios for environmental variability modeled as process errors in HCR simulations (Table 1). R1 and R2 are reference case scenarios used directly to provide HCR advice. S1 and S2 are sensitivity analyses to try to understand the performance of the candidate HCRs under alternate productivity regimes that were indicated to have occurred in the early 2000s (positive or favorable) and the 2010s (negative or

unfavorable) evident in results from the most recent stock assessment.

Table 1: OM specifications

Name	Model	Scenario
R1	IID log-normal assumption	Reference scenario (1) “Random environmental effects”
R2	Auto-correlated log-normal assumption	Reference scenario (2) “Some short-term correlation in environmental effects”
S1	IID log-normal assumption with a mean adjustment	Sensitivity scenario (1) “Climate trends cause negative effects on productivity”
S2	IID log-normal assumption with a mean adjustment	Sensitivity scenario (2) “Climate trends cause positive effects on productivity”

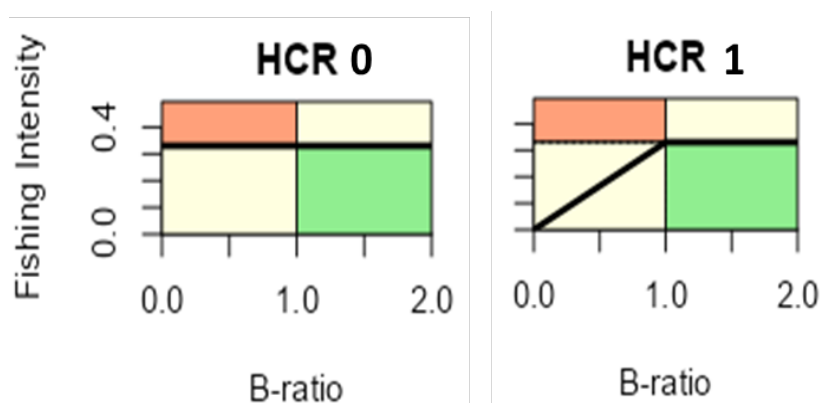
4.3 Candidate interim HCRs and constraints therein

18. The SWG MSE PS tested two candidate interim HCRs as follows:

- **HCR0:** $TAC_y = F_{MSY} * B_{y-1}$; and,
- **HCR1:** $TAC_y = \alpha_{y-1} * F_{MSY} * B_{y-1}$, where $\alpha_{y-1} = \min(1, B_{y-1}/B_{MSY})$.

HCR0 is a traditional approach that sets TAC to a constant fraction of stock biomass. It has been replaced by HCR1 in many fisheries because TAC tends to be too high for stock rebuilding when biomass is low. HCR1 reduces TAC at biomass levels below B_{MSY} . However, TAC from HCR0 and HCR1 are the same once biomass increases to B_{MSY} (Figure 1).

Figure 1: Illustration of HCR0 and HCR1



19. The SWG MSE PS evaluated two types of additional adjustments to HCR0 and HCR1 by simulation as described below (Table 2). Both are intended to help protect the stock and fishery from uncertainty in true biomass. The first approach uses the average of the two most recent biomass estimates $(B_{y-2} + B_{y-1})/2$ instead of B_{y-1} to calculate TAC for year y . It has the advantage of potentially protecting the fishery and stock by reducing errors and uncertainty in the biomass value used to calculate TAC. However, it has the disadvantage of biasing the

biomass value towards the previous level and delaying any increases or decreases in TAC. The second approach is a maximum allowable change (MAC) that limits the amount of change in TAC that can occur from one year to the next. For example, managers could decide to limit changes in TAC from one year to the next to $\pm 20\%$. This approach is also meant to protect the stock and the fishery from errors and uncertainty in biomass that might lead to wide swings in TAC. The disadvantage is a delay in decreasing or increasing TAC if stock size declines or increases.

Table 2: Additional adjustments to HCR0 and HCR1

Item	Options
Biomass B in HCR used to calculate TAC	1) previous single year (B_{y-1}) 2) average of previous two years [$(B_{y-2} + B_{y-1})/2$]
Maximum allowable change (MAC) in TAC over two consecutive years	A) 20, 30, 40% + no constraint for option 1) above B) 20, 25% and + no constraint for option 2) above

20. In initial runs prior to the meeting (NPFC-2024-SWG MSE PS05-WP01), the SWG MSE PS analyzed both types of adjustments in combination (e.g. B_{y-1} with MAC 20%). The performance of HCR0 was expected to be relatively poor, based on previous studies. To save time and simplify results, HCR0 was simulated only with single year biomass and MAC 40%. In total, there were 7 simulation scenarios with HCR1 (single year biomass with 4 MAC options plus average biomass with 3 MAC options), along with one scenario for HCR0, as shown below (Table 3).

Table 3: Candidate interim HCRs evaluated in initial simulations

Name	HCR type	B input	MAC
HCR0_01_40	0	Single year	40%
HCR1_01_20	1	Single year	20%
HCR1_01_30	1	Single year	30%
HCR1_01_40	1	Single year	40%
HCR1_01_No	1	Single year	None
HCR1_02_20	1	Two year average	20%
HCR1_02_25	1	Two year average	25%
HCR1_02_No	1	Two year average	None

4.4 Performance indicators

21. The SWG MSE PS used the following performance indicators agreed to at SWG MSE PS04 to measure and compare the performance of the candidate HCRs in the simulation testing:
- (a) Time series plots for Biomass, B-ratio, F-ratio, TAC, catch rate and probabilities of Kobe

quadrants.

- (b) Box and violin plots of Biomass (in 2029 and 2034), B-ratio (in 2029 and 2034), F-ratio (in 2028 and 2033), and average TAC (2024–2028 and 2029–2033).
- (c) Trade-off plots 1: Median time trajectories of B- and F-ratios for HCR0 and HCR1 from 2024 to 2033.
- (d) Trade-off plots 2: Median trajectories of the B-ratio and TAC for HCR0 and HCR1 from 2024 to 2033.
- (e) Tables for $\Pr(B > B_{\text{tar}})$, $\Pr(B < B_{\text{lim}})$ and $\Pr(F > F_{\text{lim}})$ relevant to the objectives (a) and (b) with the default reference points ($B_{\text{tar}}=B_{\text{MSY}}$, $B_{\text{lim}}=0.35B_{\text{MSY}}$, and $F_{\text{lim}}=1.35F_{\text{MSY}}$).

4.5 Simulation outcomes

22. The SWG MSE PS reviewed the initial simulation results in NPFC-2024-SWG MSE PS05-WP01 and noted the following:

- (a) Performance in the Reference Scenarios (based screened MCMC samples)
 - i. HCR0 performed poorly in the single simulation test (HCR0_01_40) relative to HCR1 options. Median stock biomass was below but near B_{MSY} in 2028 and remained there until at least 2034. Median TAC levels were always less than MSY.
 - ii. Biomass trend results for HCR1 were generally similar for reference cases R1 (no auto-correlation in the process errors) and R2 (with auto-correlation in the process errors) at all MAC levels. Median stock biomass reached B_{MSY} in HCR1 scenarios by about 2028. Based on this result, it is expected that the stock would rebuild if any of the reference HCR1 options is adopted.
 - iii. Median TAC never reached MSY in HCR1_01_20 (one year biomass with 20% MAC) and did not reach MSY in HCR1_01_30 or HCR1_01_40 (30 or 40% MAC) until about 2031. In contrast, TAC reached MSY in 2029 (two years after median biomass reached B_{MSY}) in HCR1_01_No with no constraint on year-to-year variation in TAC. Results were similar in scenarios where two biomass estimates were averaged for the TAC calculation. These results show the trade-offs between TAC, rebuilding speed and MAC constraints in HCRs for Pacific saury.
 - iv. HCR1_01_40, employing a single-year biomass estimate and a 40% MAC and HCR1_02_25, employing a two-year average biomass estimate and a 25% MAC had similar performance. This result indicates that the two-year average biomass and MAC have similar effects on stock trajectory and involve similar trade-offs.
- (b) Performance in the initial Sensitivity Scenarios (based screened MCMC samples)
 - i. The F_{MSY} , B_{MSY} , MSY and related quantities shown as straight lines provide useful information but are approximate in the figures from initial runs in the R1 and R2 scenarios. The incorporation of negative process error into the S1 scenario and positive process error into the S2 scenario would have shifted the reference points away from

the reference case scenarios. In particular, the true B_{MSY} and MSY under climate change are likely lower in the S1 scenario with reduced productivity and higher in the S2 scenario with higher productivity.

- ii. Under the S1 scenario with reduced productivity, HCR0_01_40 performs poorly and does not lead to substantial resource recovery. In contrast, simulation results indicate that the stock may recover higher and relatively stable levels under HCR1. All HCRs exhibit an immediate increase in biomass in less than 5 years under the S2 scenario with positive process errors. However, HCR1 approaches reach higher biomass and TAC levels compared to HCR0. These results indicate that HCR1 approaches perform relatively well under both positive and negative climate change effects.

23. After the SWG MSE PS reviewed the initial HCR simulation results, it reviewed HCR simulation analyses focusing on the HCR1 approach (NPFC-2024-SWG MSE PS05-WP01, Appendix 4) based on the median of the entire MCMC samples for the Reference Scenario 1. The following is a summary of the key characteristics of the settings for the updated simulation analyses:

- (a) HCR0 approaches with constant F at all biomass levels were rejected from further analysis. HCR0 performance was relatively poor in preliminary runs.
- (b) HCR1 is a hockey stick function for F and TAC based on biomass in the previous year.
- (c) HCR1 approaches based on the average biomass during the previous two years (originally designated HCR1_02_xx) were eliminated from consideration because the median BSSPM biomass estimates from the last stock assessment and a two-year average were very similar, indicating little or no effect or benefit in averaging. Preliminary simulations confirmed that the performance of HCR1_01 and HCR1_02 approaches was similar. Finally, the HCR1_02 approach appears biologically unreasonable given that Pacific saury is very short lived (i.e., lifespan of up to 2 years), meaning that use of data from year $y-2$ would relate to biomass no longer available to the fishery.
- (d) Updated reference simulations assumed random variability in process errors which are a proxy for environmental effects. Simulations with autocorrelated process errors were not updated because results for autocorrelated and random process errors were similar.
- (e) The updated simulations utilized the median of entire MCMC runs as well as F_{MSY} and B_{MSY} reference points from the last stock assessment. The screening process was meant to focus work on the most probable assumptions. However, it changed the distributions of model parameters and reference points such as median B_{MSY} and F_{MSY} complicating interpretation of results. Median F_{MSY} and B_{MSY} in the updated runs are the same as in the last assessment and the same in all of the updated simulation analyses.
- (f) Six HCR options, using year $y-1$ biomass estimates, were considered in updated simulations. The options are designated HCR1_01_xx% where xx% designates the MAC

in TAC from one year to the next. For example, HCR1_01_40 has MAC of 40%, meaning that TAC could increase or decrease by no more than 40% each year. Options with MAC values of 10%, 20%, 30% and 40% (four options) and with no MAC constraint were all considered.

- (g) The options with a MAC constraint were meant to promote varying levels of stability in TAC from year to year. These provide the additional benefit of diminishing socio-economic impacts in the short term. However, it is very important to note that interim HCRs applying MAC approaches are less responsive to biomass changes, potentially limiting catch while the stock grows and allowing catch above sustainable levels when biomass decreases.
- (h) A sixth option (HCR1_01_No_HCR0), that does not constrain interannual TAC changes but applies the HCR0 approach only in 2024 to diminish the socio-economic impacts from the initial projected TAC, was also included for consideration. Without the application of HCR0 in 2024 (i.e., applying HCR1_01_No), the 2024 TAC was projected to be 74,000 mt, which would be significantly less than historically low catch levels in 2023 of approximately 100,000 mt. With the application of HCR1_01_No_HCR0, the 2024 TAC is projected to be 172,500 mt. Some Members felt that this adjustment could be more acceptable to the Commission while still meeting management objectives. In all other aspects, the HCR1_01_No and HCR1_01_No_HCR0 are identical.

24. The SWG MSE PS reviewed the updated simulation results (NPFC-2024-SWG MSE PS05-WP02) and noted the following:

- (a) Updated simulation results for each of the six HCR1_01 reference options and one sensitivity case showed clear and consistent patterns.
- (b) In summary, the updated results for HCR_01 options showed contrast between runs with highly constrained changes in TAC (e.g. 10% MAC), higher median biomass ($> B_{MSY}$ in 2034), lower F ($< F_{MSY}$ in 2034), and lower cumulative TAC on one extreme. On the other extreme are options with reduced constraints on changes in catch (e.g. MAC 40% and HCR1_01_No) with B closer to or at B_{MSY} , higher F near F_{MSY} and higher cumulative TAC levels.
- (c) The management objectives agreed to at SWG MSE PS04 were generally met for all six reference cases with some tradeoffs between F and harvest goals. In particular:
 - i. Median simulated stock biomass reached B_{MSY} in all six reference cases by 2029 (after 5 years of application of an HCR, starting from 2024). The probability that stock biomass was maintained above B_{MSY} after 2029 was at least 50% in all cases. The probability that stock biomass declined to B_{lim} was less than 10% in all cases.
 - ii. F reached F_{lim} in some years of the simulation period for options with MAC 30%, 40% and no constraint. These options also provided the highest catch levels, illustrating

- trade-offs between the $F < F_{lim}$ and high harvest level goals. However, the SWG MSE PS noted this disadvantage is not a serious problem because the primary objective of rebuilding the stock was met relatively quickly (see footnote 2 under Table 5 below).
- iii. Options with relatively low MAC levels resulted in biomass well above B_{MSY} but with substantially reduced TAC levels for 2024-2033.
 - (d) Median biomass for the sensitivity case with negative environmental effects on productivity (under S1) increased over time but did not rebuild to B_{MSY} by 2034 for all HCR options. Results from the sensitivity analyses with negative environmental effects illustrate how stock rebuilding might be affected by a poor environment in the near term and how rebuilding might be delayed.

Agenda Item 5. Selection of an HCR and implementation schedule

5.1 Selection of an Interim HCR

25. The SWG MSE PS reaffirmed that simulations are a useful tool for choosing appropriate harvest control rules for a fishery with particular characteristics under a narrow range of environmental conditions. They are not meant to and should not be interpreted as explicit predictions about the time required to rebuild the stock. Such predictions are an important topic for analysis in connection with each stock assessment when progress towards rebuilding can be evaluated and relationships between environmental data and productivity can be considered.
26. The SWG MSE PS further noted that when reviewing the results, it is important to pay attention not only to the central tendency for median results from the simulation, but also the variance therein. For example, future TAC may not follow the thick line in the middle but will fluctuate within the confidence interval.
27. When discussing the selection of an interim HCR, the SWG MSE PS agreed that it would be more appropriate to refer to the scenarios that were described as the “reference case” and the “sensitivity cases” in the simulation analyses as the “base case” and the “robustness case”, respectively.
28. After extensive discussions, the SWG MSE PS recommends four interim HCR options for further consideration by the Commission. The following represents a summary of the key observations of the SWG. This is followed by a table of key outputs from the simulations for each option (Table 4) and a table summarizing the advantages and disadvantages of each option (Table 5). The simulation trajectories of biomass and TAC under the Base Case are shown in Figure 2 below. The simulation trajectories of biomass and TAC under the Robustness Case are shown in Figure 3 below.
 - (a) All of the options use a hockey stick shaped control function, which is a common approach

used in many other fisheries, with biomass target B_{MSY} , target $F=F_{MSY}$ at biomass $\geq B_{MSY}$ and a linear decline in target F between biomass zero and B_{MSY} . MAC is the maximum allowable change in TAC from one year to the next.

- (b) The differences between options are the MAC levels which range from 10% to 40% in addition to an option with no MAC constraint. The SWG MSE PS considered that the option with no MAC constraint could receive more support at the Commission if the TAC for 2024 was replaced with a higher value. One option (HCR1_No_HCR0) provides a transitional TAC for 2024 of 172,500 mt by HCR0_01 for 2024 before applying HCR1_01_No for the remainder of the simulation period.
- (c) All of the options are projected to achieve the primary management objective related to stock recovery under the base case scenario.
- (d) Any option with a MAC constraint will be less responsive and will not perform as well as the unconstrained option in a situation where biomass is declining and will limit the amount of catch that can be realized at higher biomass levels. Such a tendency becomes stronger as the MAC percentage becomes smaller.
- (e) The set of candidate interim HCRs that has been recommended was also tested under robustness scenarios, one of which assumed negative effects on productivity caused by climate trends. Under this robustness scenario, the primary management objective related to stock recovery was not achieved for any of the options.
- (f) The interim HCR is expected to be replaced by a management procedure that should consider a wider range of uncertainties in the population and fishery dynamics.

Table 4: Summary of key outputs from the simulations for each option in the set of candidate interim HCRs that has been recommended

Scenario	Year	HCR1_10%	HCR1_20%	HCR1_40%	HCR1_No_HCR0
Base case	Pr(B2029 > Btar)	0.767	0.824	0.845	0.630
	TAC 2023 (actual)	250.0	250.0	250.0	250.0
	TAC 2024 (fixed)	225.0	200.0	150.0	172.5
	TAC 2025*	202.5	160.0	139.7	139.7
	TAC 2026*	203.5	192.0	156.2	202.9
	TAC 2027*	200.5	208.8	196.5	314.5
	TAC 2028*	220.5	232.7	251.9	415.6
	Average TAC for 2024-2028*	210.4	198.7	178.8	249.0
	Average TAC for 2029-2033*	296.2	348.9	430.9	426.0
Robustness case	Average TAC for 2029-2033*	253.3	273.8	304.9	337.5
	Pr(B2029 > Btar)	0.118	0.188	0.279	0.173

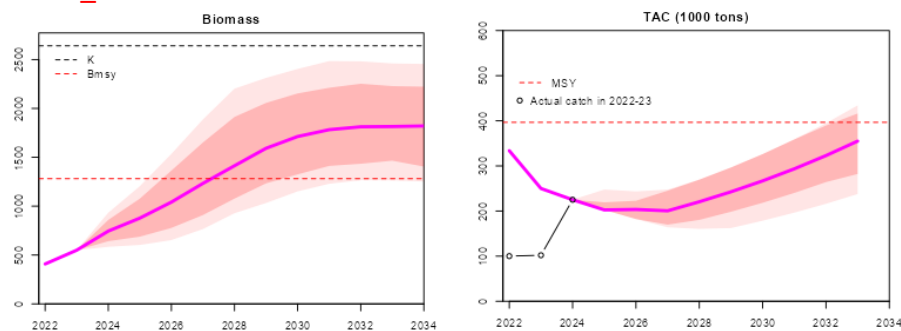
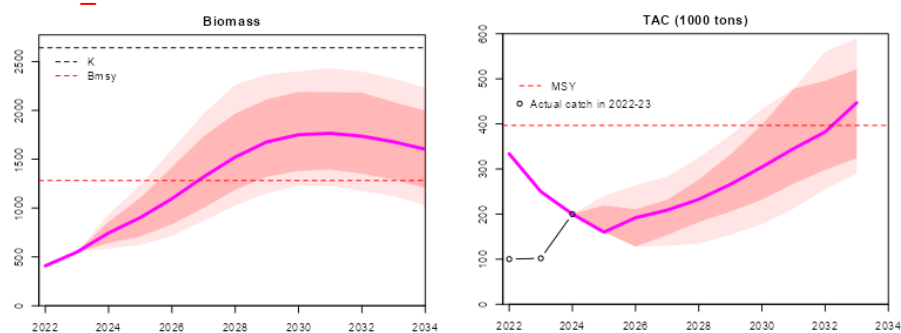
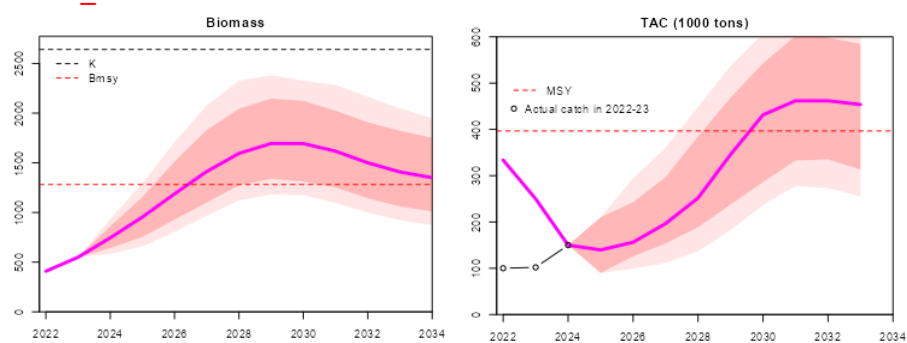
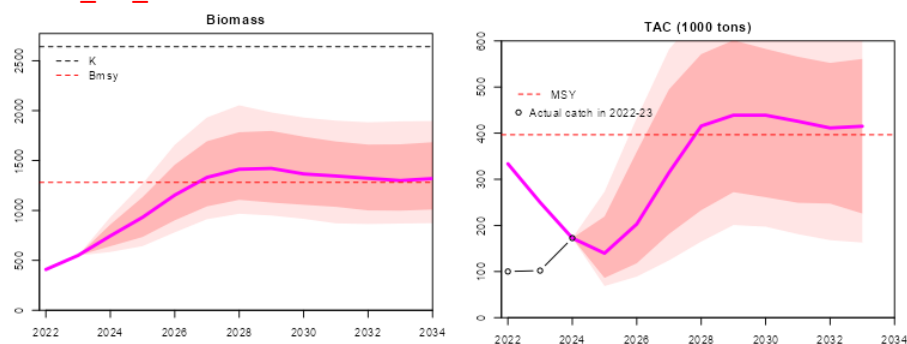
*Median results from simulations for relative comparisons among options only. Units for TAC figures: thousand mt.

Table 5: Advantages and disadvantages of each option in the set of candidate interim HCRs that has been recommended¹

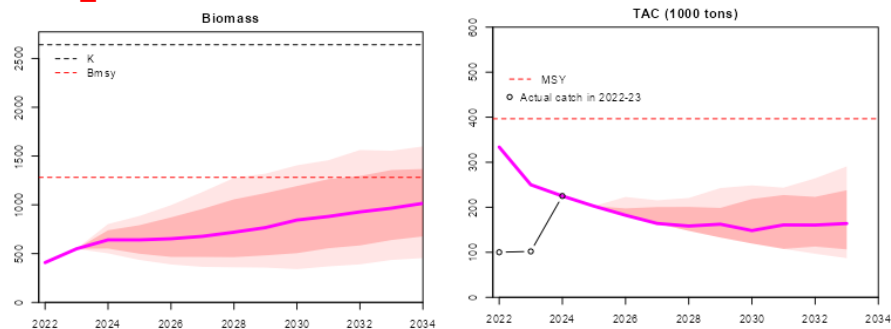
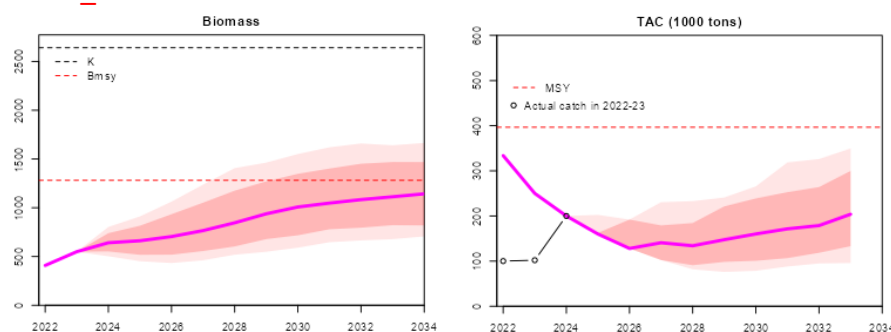
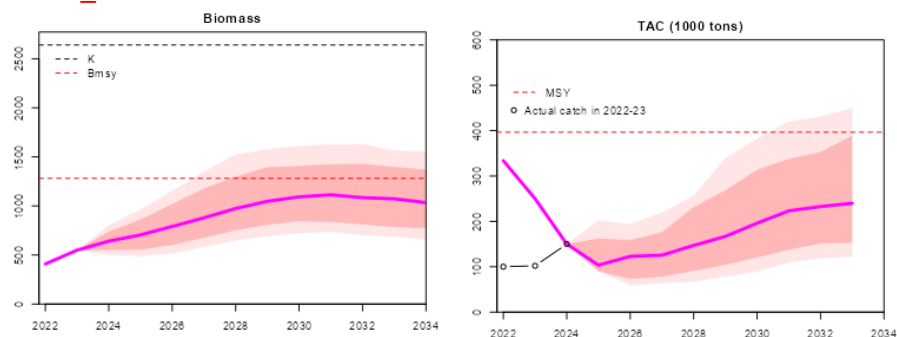
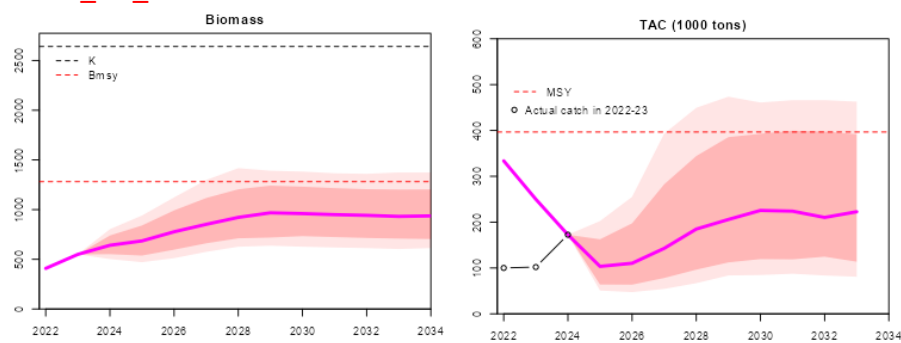
Option	Advantages	Disadvantages
HCR1_10%	<ul style="list-style-type: none"> • Most stable TAC during 2024-2033. • High stock biomass ($> B_{MSY}$) after stock rebuilds if environmental conditions are good. • $F < F_{lim}$ in the simulations. 	<ul style="list-style-type: none"> • Lowest ability to reduce/increase quota in response to lower/higher biomass or environmental change. • Slowest rate and lowest probability of recovery if the underlying stock productivity declines or stays low (robustness case). • Lowest average TAC levels (2024-2033). • One year delay in reaching B_{MSY} relative to other options.
HCR1_20%	<ul style="list-style-type: none"> • Stable TAC during 2024-2033. • High stock biomass ($> B_{MSY}$) after stock rebuilds if environmental conditions are good. • $F < F_{lim}$ in the simulations. 	<ul style="list-style-type: none"> • Low ability to reduce/increase quota in response to lower/higher biomass or environmental change. • Slow rate and low probability of recovery if the underlying stock productivity declines or stays low (robustness case). • Low average TAC levels (2024-2033).
HCR1_40%	<ul style="list-style-type: none"> • Improved ability to reduce/increase quota in response to lower/higher biomass or environmental change. • High average TAC levels (2024-2033). • Highest probability of achieving B_{tar} if the underlying stock productivity declines or stays low (robustness case). 	<ul style="list-style-type: none"> • Less stability in TAC. • High risk of F exceeding F_{lim}.²
HCR1_No_HCR0	<ul style="list-style-type: none"> • Greatest ability for reducing/increasing quota in response to lower/higher biomass or environmental change. • Highest average TAC levels (2024-2033). • Nearest F to F_{MSY}. 	<ul style="list-style-type: none"> • Least stability in TAC. • Lowest biomass (near B_{MSY}) after stock rebuilds. • Highest risk of F exceeding F_{lim}.²

¹ TAC and biomass in the table refer to median results from simulations.

² The secondary management objectives include “*The annual probability in each of years 6-10 that fishing mortality is above F_{lim} should not exceed 10%*” where $F_{lim} = 1.35 F_{MSY}$. In simulations, median F exceeds F_{lim} with a greater than 10% probability after 2028 in three years for option HCR1_40% and five years for option HCR1_No_HCR0. However, the SWG MSE PS noted this disadvantage is not a serious problem because the primary objective of rebuilding the stock was met relatively quickly. Such events are a natural consequence of random variation when managing for TAC levels near MSY by keeping biomass near B_{MSY} and F near F_{MSY} .

Figure 2. Simulation trajectories of biomass and TAC under the **Base Case****HCR1_10%****HCR1_20%****HCR1_40%****HCR1_No_HCR0**

The solid pink line illustrates the median trajectory. The dark and light shaded areas correspond to the 60% and 80% intervals, respectively.

Figure 3. Simulation trajectories of biomass and TAC under the **Robustness Case****HCR1_10%****HCR1_20%****HCR1_40%****HCR1_No_HCR0**

The solid pink line illustrates the median trajectory. The dark and light shaded areas correspond to the 60% and 80% intervals, respectively.

5.2 Implementation schedule

29. The SWG MSE PS anticipates the Commission will adopt an interim HCR at the eight Commission meeting and it will be implemented in 2024. It will be reviewed regularly in accordance with paragraph 37 below. The SWG MSE PS noted that the Commission has agreed to establish a management procedure under a full MSE as the next step. The interim HCR could be used until said management procedure is established.

Agenda Item 6. Discussion toward development of management procedures (MPs) as a mid-term goal

6.1 Management objectives and some constraint conditions for the regulation of fishery

6.2 Technical matters on operating models, MPs, performance indicators and simulation

30. The SWG MSE PS focused its efforts in its fifth meeting on the short-term goal, which is the development of an interim HCR. The work on its mid-term goal, which is the development of a full MSE, can be done after the Commission's discussion of the future schedule. Work on the mid-term goal will also be facilitated by the development of an age-structured model by the SSC PS.

Agenda Item 7. Other matters

31. Vanuatu proposed the inclusion of an exceptional condition in the HCR to balance sustainable resource management and its development aspirations as a small island developing State, in accordance with the principles outlined in paragraph 18 of CMM 2023-08. Specifically, Vanuatu proposed that it be allowed to be exempted from the TAC and to maintain its Pacific saury catch at its highest catch level, in 2018, of 8,231 mt. Some Members noted that Vanuatu's request related to issues of allocation outside the mandate of the SWG MSE PS and would need to be considered by the Commission. As the proposed request was not accepted for discussion at this SWG, Vanuatu recommended that the SWG further assess the impact of its proposal on the achievement of the management objectives in a future meeting and requested guidance from the Commission on the development aspirations of small island developing States.

Agenda Item 8. Timeline and future process

8.1 Timeline

8.2 Future process with assistance of SSC PS (e.g. conditioning of age-structured dynamics models)

32. The SWG MSE PS anticipates that the Commission will adopt an interim HCR, at which point the SWG can shift its focus to the mid-term goal of developing a full MSE. This work will also be facilitated by the development of an age-structured model by the SSC PS.
33. The SWG MSE PS agreed to focus on at least two topics implicitly related to improving scientific advice for harvest management. These topics are: 1) development of improved stock

assessment models, and 2) progress towards a one-year stock assessment and management cycle. Improved models would be used as operating models for MSE and HCR analysis. A one-year stock assessment and management cycle would be used to set a TAC for the current year based on assessment modeling and data from the fisheries and survey during the same year (as has been discussed as HCR3 in the previous meetings). Progress on the on-year management cycle, in particular, and assessment models will directly impact management effectiveness.

8.3 Workplan till SSC PS13 and SWG MSE PS06 meetings

34. See paragraph 36 below.

Agenda Item 9. Recommendations to the Commission

35. The SWG MSE PS recommends four candidate interim HCRs: HCR1_10%, HCR1_20%, HCR1_40%, HCR1_No_HCR0 (as explained in greater detail in paragraph 28) for further consideration by the Commission.
36. The SWG MSE PS recommends that the Commission endorse the holding of SWG MSE PS06 for one or two days between SC09 and COM09 in a virtual format for the primary purpose of conducting an operational review of events in the first fishing season following the anticipated adoption of an interim HCR.
37. The SWG MSE PS recommends that such a review be conducted annually and that the Commission consider the results of the SWG's annual review.
38. The SWG MSE PS noted that MSE procedures may include defined circumstances under which the default management procedures can be reconsidered on a short-term basis in response to unforeseen events, such as the catch exceeding the TAC or experiencing an unusually large decline. Given its interim nature, the SWG MSE PS noted that no such definitions for exceptional circumstances have been developed for Pacific saury in developing an interim HCR. However, such unforeseen circumstances may be identified through the annual review of the performance of the adopted HCR and the Commission may consider appropriate management response. The SWG MSE PS recommends that the Commission note that such a situation could arise when applying an HCR to the Pacific saury fishery and that further work in this area may be warranted.
39. The SWG MSE PS recommends that the invited expert, Dr. Larry Jacobson, be invited to the next SWG MSE PS meeting.
40. The SWG MSE PS recommends that the Commission reaffirm the importance of including

scientists, managers and stakeholders at future meetings to facilitate communication and completion of this important work.

Agenda Item 10. Adoption of report

41. The SWG MSE PS05 Report was adopted by consensus.

Agenda Item 11. Close of the meeting

42. Mr. Mahoney thanked the Secretariat and Japan for organizing the meeting and their ongoing support, the Rapporteur for his able work, the invited expert for his dedication and expertise, and Dr. Kitakado for his hard work and leadership. He also expressed his hope that the work done by the SWG MSE PS would put the Commission in a position to hold fruitful discussions.

43. The meeting closed at 16:45 on 20 January 2024, Niigata time.

Annexes:

Annex A – Agenda

Annex B – List of Documents

Annex C – List of Participants

Agenda

Agenda Item 1. Introductory items

- 1.1 Opening of the meeting
- 1.2 Adoption of agenda
- 1.3 Meeting logistics

Agenda Item 2. Overview of the outcomes of previous NPFC meetings

- 2.1 SWG MSE PS04
- 2.2 SSC PS12 and SC08

Agenda Item 3. Overview of MSE

- 3.1 Roles of SWG MSE PS in the NPFC process
- 3.2 Basic principles of MSE
- 3.3 Roles of harvest control rules (HCRs) and management procedures (MPs)
- 3.4 Quick demonstration of MSE

Agenda Item 4. Review technical progress on development of an HCR as a short-term task

- 4.1 Management objectives and reference points
- 4.2 Conditioning of operating models (OMs)
- 4.3 Candidate interim HCRs and constraints therein
- 4.4 Performance indicators
- 4.5 Simulation outcomes

Agenda Item 5. Selection of an HCR and implementation schedule

- 5.1 Selection of an Interim HCR
- 5.2 Implementation schedule

Agenda Item 6. Discussion toward development of management procedures (MPs) as a mid-term goal

- 6.1 Management objectives and some constraint conditions for the regulation of fishery
- 6.2 Technical matters on operating models, MPs, performance indicators and simulation

Agenda Item 7. Other matters

Agenda Item 8. Timeline and future process

8.1 Timeline

8.2 Future process with assistance of SSC PS (e.g. conditioning of age-structured dynamics models)

8.3 Workplan till SSC PS13 and SWG MSE PS06 meetings

Agenda Item 9. Recommendations to the Commission

Agenda Item 10. Adoption of report

Agenda Item 11. Close of the meeting

List of Documents**MEETING INFORMATION PAPERS**

Document Number	Title
NPFC-2024-SWG MSE PS05-MIP01 (Rev. 2)	Meeting Information
NPFC-2024-SWG MSE PS05-MIP02	Provisional Agenda
NPFC-2024-SWG MSE PS05-MIP03 (Rev. 1)	Annotated Indicative Schedule

WORKING PAPERS

Document Number	Title
NPFC-2024-SWG MSE PS05-WP01 (Rev. 1)	Results of simulation testing for Harvest Control Rules (HCRs) in the Pacific saury fishery
NPFC-2024-SWG MSE PS05-WP02	Results of additional runs on 18 Jan 2024 (R1, Median)
NPFC-2024-SWG MSE PS05-WP03 (Rev. 1)	Results of updated simulation analysis

INFORMATION PAPERS

Document Number	Title
NPFC-2024-SWG MSE PS05-IP01	What is “Management Strategy Evaluation”?

OBSERVER PAPERS

Document Number	Title
NPFC-2024-SWG MSE PS05-OP01	Restoring Pacific Saury to a Predictable and Productive Fishery

REFERENCE DOCUMENTS

Document Number	Title
NPFC-2023-SWG MSE PS04-Final Report	SWG MSE PS04 report
NPFC-2023-SSC PS12-Draft Report	SSC PS12 Draft Report
NPFC-2023-SC08-Draft Report	SC08 Draft Report

List of Participants

Co-CHAIRS

Toshihide KITAKADO
kitakado@kaiyodai.ac.jp

Derek MAHONEY
derek.mahoney@dfo-mpo.gc.ca

CANADA

Chris ROOPER *
chris.rooper@dfo-mpo.gc.ca

Janelle CURTIS *
Janelle.Curtis@dfo-mpo.gc.ca

CHINA

Libin DAI
644318716@qq.com

Qiuyun MA
qyma@shou.edu.cn

Zhiwei LIU
1401514772@qq.com

Yong CHEN
ychen@maine.edu

Jie CAO
jcao22@ncsu.edu

Yufei ZHOU *
787715502@qq.com

JAPAN

Takumi FUKUDA
takumi_fukuda720@maff.go.jp

Haruo TOMINAGA
haruo_tominaga170@maff.go.jp

Kazuhiro OSHIMA
oshima_kazuhiro28@fra.go.jp

Midori HASHIMOTO
hashimoto_midori91@fra.go.jp

Hiroshi KUBOTA
kubota_hiroshi89@fra.go.jp

Shin-Ichiro NAKAYAMA *
nakayama_shinichiro16@fra.go.jp

Miyako NAYA
naya_miyako88@fra.go.jp

Shuya NAKATSUKA
nakatsuka_shuya49@fra.go.jp

Shingo OTA (Commission Chair) *
shingo_ota810@maff.go.jp

Yukiya UCHIDA *
yukiya_uchida230@maff.go.jp

KOREA

Jeongseok PARK
jeongseokpark@korea.kr

Eunjung KIM
eunjungkim@korea.kr

Jung-re KIM *
riley1126@korea.kr

RUSSIA

Vladimir KULIK *
vladimir.kulik@tinro-center.ru

Dmitrii ANTONENKO *
dmantonenko@yandex.ru

Emiliya CHERNIENKO *
emilya.petrovna@gmail.com

Igor CHERNIENKO *
chernienko.igor@gmail.com

CHINESE TAIPEI

Yi-Jay CHANG
yjchang@ntu.edu.tw

Jhen HSU *
jhenhsu@ntu.edu.tw

Wen-Bin HUANG *
bruce@gms.ndhu.edu.tw

UNITED STATES

Michael BRAKKE
michael.brakke@noaa.gov

Erin BOHABOY *
erin.bohaboy@noaa.gov

Alisha FALBERG *
alisha.falberg@noaa.gov

Ray CLARKE *
ray.clarke@bumblebee.com

VANUATU

Rocky KAKU *
rky.kaku@gmail.com

Lucy Andrea JOY *
ljoy@fisheries.gov.vu

Mei-Chin JUAN *
meichin.mdfc@gmail.com

OBSERVERS

The Pew Charitable Trusts

Dave GERSHMAN
dgershman@oceanfdn.org

Tom CARRUTHERS *
tom@bluematterscience.com

Ashley WILSON *
awilson@pewtrusts.org

INVITED EXPERT

Larry JACOBSON

larryjacobson6@gmail.com

RAPPORTEUR

Alex MEYER

meyer@urbanconnections.jp

SECRETARIAT

Robert DAY

rday@npfc.int

Alex ZAVOLOKIN

azavolokin@npfc.int

Judy DWYER *

jdwyer@npfc.int

Yuko YOSHIMURA-TAKAMIYA *

ytakamiya@npfc.int

Sungkuk KANG *

skang@npfc.int

Natsuki HOSOKAWA *

nhosokawa@npfc.int

Jihwan KIM *

jkim@npfc.int

* Online participants

CMM 2024-08

(Entered into force 15 May 2024)

CONSERVATION AND MANAGEMENT MEASURE FOR PACIFIC SAURY

The North Pacific Fisheries Commission (NPFC),

Reaffirming the General Principles, Article 3 of the Convention, in particular, paragraph (b) stipulating that measures are adopted, based on the best scientific information available, to ensure that fisheries resources are maintained at or restored to levels capable of producing maximum sustainable yield, and paragraph (f) stipulating that preventing or eliminating overfishing and excess fishing capacity and ensuring that levels of fishing effort or harvest levels are based on the best scientific information available and do not exceed those commensurate with the sustainable use of the fisheries resources;

Gravely concerned that, according to the latest stock assessment provided by the 8th meeting of the Scientific Committee (SC8) in December 2023, stock biomass of Pacific saury remains at historically low levels in recent years,

Recognizing that SC8 recommended that the Commission consider the advice, in particular “a reduction to the TAC for 2023-24 would increase the probability of higher long-term biomass and catch levels in the Pacific saury stock”;

Recognizing further that the SC8 recommended adopting interim harvest control rule (HCR) from the list to be provided by the 5th meeting of the Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS05);

Further recognizing the urgent needs to take responsible actions to prevent further degradation and to ensure recovery of the Pacific saury stock;

Adopts the following conservation and management measure in accordance with Article 7 of the Convention:

EFFORT MANAGEMENT

1. Members of the Commission, not described under paragraph 2, and that are currently fishing for Pacific saury shall refrain from expansion, in the Convention Area, of the number of fishing vessels entitled to fly their flags and authorized to fish for Pacific saury from the historical existing level.
2. Members fishing for Pacific saury in areas of their jurisdiction that are adjacent to the Convention Area shall refrain from rapid expansion, in the Convention Area, of the number of fishing vessels entitled to fly their flags and authorized to fish for Pacific saury from the historical existing level.¹
3. Members of the Commission participating in Pacific saury fisheries in areas under national jurisdiction adjacent to the Convention Area are, in accordance with relevant provisions of Article 3 of the Convention, requested to take compatible measures in paragraph 2.
4. Each Member of the Commission participating in Pacific saury fisheries shall implement either of the following measures:
 - a) to reduce the number of fishing vessels flying its flag and fishing for Pacific saury in the Convention Area by 10% from the number of its fishing vessels that fished for Pacific saury in the Convention Area in 2018; or
 - b) to prohibit fishing vessels flying its flag from engaging in fishing for Pacific saury in the Convention Area outside its designated fishing period of no longer than 180 consecutive days each year.

Each Member shall notify the Secretariat of the measure it implements and its designated fishing period in case of b. above no later than May 15th each year. The Secretariat shall summarize the notifications from Members and make it available to all Members and CNCPs. This Paragraph does not apply to Members whose fishing vessels that fished for Pacific saury in the Convention Area in 2018 were less than five (5).

¹ Paragraph 2 applies to Russia and Japan

CATCH MANAGEMENT

5. The interim harvest control rule (HCR) for Pacific saury is as attached in Annex I.
6. The interim HCR is applied until the establishment of a management procedure to be recommended through an MSE process by the Joint SC-TCC-COM Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS), or unless otherwise decided by the Commission. The SWG MSE PS and the SC shall review the performance of the interim HCR every year based on the best scientific information available, particularly the latest stock assessment results, and provide a recommendation for the Commission, as necessary.
7. For 2024, Members of the Commission agreed that the annual catch of Pacific saury in the entire area (the Convention Area and the areas under their jurisdiction adjacent to the Convention Area) should not exceed 225,000 metric tons, as calculated using the interim HCR in Annex I.
8. In 2024, the annual total allowable catch (TAC) of Pacific saury in the Convention Area shall be limited to 135,000 metric tons.
9. As a provisional measure until the Commission decides allocation of the TAC, each Member of the Commission shall reduce the annual total catch of Pacific saury by the fishing vessels entitled to fly its flag in 2024 by 55% from its reported catch in 2018, and shall take necessary measures so that the total catch in the Convention Area will not exceed the TAC set out in paragraph 8.
10. To comply with the TAC, the following measures shall be in place in 2024:
 - a) Members of the Commission shall report to the Executive Secretary, in the electronic format, weekly catches of Pacific saury in the Convention Area by fishing vessels flying their flags by Wednesday of the next week. The Executive Secretary shall make publicly available the compiled catch of Pacific saury in the Convention Area on the Commission's website as well as share each Member's catch of Pacific saury in the Convention Area on the Member's page of Commission's website without delay; and
 - b) In the event that the total reported catch of all Members reaches 90% of the TAC set out

in paragraph 8, the Executive Secretary shall notify all Members without delay. Those Members with more than 10,000 mt of catch limits shall close the fishery within 72 hours from the receipt of the notification. Those Members with less than 10,000 mt of catch limits may continue operations, but their total catch shall not exceed 90% of their catch limits.

11. Members of the Commission and CNCPs shall ensure that fishing vessels flying their flag that fish Pacific saury record their catches and report them to the relevant flag state authorities in accordance with their national data recording and reporting requirements.
12. In the event that a Member reaches 70% of its catch limit set out in paragraph 9, the Executive Secretary shall inform that Member of that fact, with a copy to all other Members. That Member shall close the fishery for its flagged vessels when the total catch of its flagged vessels is equivalent to 100% of its catch limit. Such Member shall notify promptly the Executive Secretary of the date of the closure, except as described in paragraph 13.
13. Members fishing for Pacific saury in areas of their jurisdiction² that are adjacent to the Convention Area may divert part of their catch limit for areas under their jurisdiction to their own catch of Pacific saury in the Convention Area by vessels entitled to fly their flags and authorized to fish for Pacific saury.

² Paragraph 13 applies to Russia and Japan

OTHER MEASURES

14. Development of new fishing activity for the Pacific saury fishery in the Convention Area by Members without documented historical catch for Pacific saury in the Convention Area shall be determined in accordance with relevant provisions, as appropriate, including but not limited to Article 3, paragraph (h) and Article 7, subparagraphs 1(g) and (h) of the Convention.
15. Members of the Commission shall ensure that fishing vessels flying their flags operating in the Convention Area to fish Pacific saury be equipped with an operational vessel monitoring system that is activated at all times.
16. In order to prevent discards and contribute to the proper stock assessment, Members of the Commission shall take necessary measures to ensure that fishing vessels flying their flags in the Convention Area retain all the catch of Pacific saury on board.
17. In order to protect juvenile fish, Members of the Commission shall take measures for fishing vessels flying their flags to refrain from fishing for Pacific saury in the areas east of 170°E from June to July. The SC and its subsidiary Small Scientific Committee on Pacific Saury will submit to the Commission relevant scientific information on geographical distribution of juvenile fish in the Convention Area, and its migration patterns.
18. The SWG MSE PS shall endeavor to consider the establishment of a management procedure to be formulated through an MSE process by the 11th Commission Meeting in 2027. The Commission shall continue to fund an external expert to support the process.
19. This CMM shall in no case be a basis for any future CMM for Pacific saury.
20. For 2025 and thereafter, the Commission at its 9th Meeting in 2025 shall establish implementation rules of the interim HCR.
21. The Commission shall review and revise, as appropriate, this CMM based on the advice and recommendations from the SC and the SWG MSE PS, at its 9th Commission meeting.

22. Consideration should be given to development aspirations of small island developing States in accordance with international law in revising this CMM.
23. This CMM shall enter into force on May 15th, 2024, replacing CMM 2023-08 and will be reviewed on a regular basis.

Annex I

Interim Harvest Control Rules (HCR) for Pacific saury**1. Management Objectives for the Pacific saury fisheries**Interim Management Objectives

(a) *Recovery of the stock (prioritized objective):*

- i. The stock biomass is rebuilt to B_{tar} within 5 years with 50% probability;
- ii. The stock biomass is maintained above the B_{tar} level in each of years 6-10 with 50% probability.

2. *Avoiding unsustainable state of the stock (secondary objective):*

- i. The annual probability in each of years 6-10 that the stock drops below B_{lim} should not exceed 10%;
- ii. The annual probability in each of years 6-10 that fishing mortality is above F_{lim} should not exceed 10%.

3. *Achieving high and stable catch (tertiary objective):*

- i. Average catch over years 6-10 is as high as possible;
- ii. Catch in each of years 6-10 is as stable as possible.

Interim Biological reference points

Interim biological reference points used the interim HCR for Pacific saury are as follows:

Reference point
$B_{tar} = B_{MSY}$
$B_{lim} = 0.35B_{MSY}$
$F_{tar} = F_{MSY}$
$F_{lim} = 1.35F_{MSY}$

2. Interim Harvest Control Rules (HCRs)

Based on the latest base-case results of stock assessment of Pacific saury, annual catch level in the entire area $y = a_{y-1} * F_{MSY} * \hat{B}_{y-1}$, where $a_{y-1} = \min(1, \hat{B}_{y-1} / \hat{B}_{MSY})$

(as shown in Figure 1).

It reduces fishing intensity at biomass levels below B_{MSY} . Maximum allowable change of the annual catch level in the entire area is restricted to 10%.

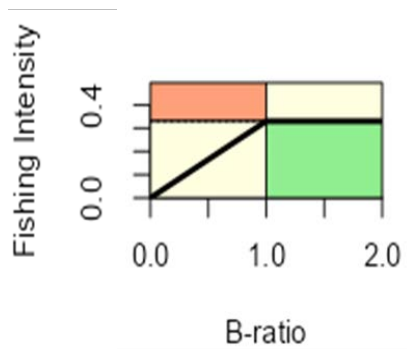


Figure 1. Illustration of the interim HCR.

3. Management cycle

The SC annually advises the Commission of the calculated annual catch level in the entire area of Pacific saury for the following year in accordance with the interim HCR as described in paragraph 2, based on the latest stock assessment results.

GOVERNMENT OF THE
REPUBLIC OF VANUATUFISHERIES DEPARTMENT
SERVICE DES PECHESPrivate Mail Bag 9045
Sac Postale Privé No. 9045
Port Vila,
VANUATUGOUVERNEMENT DE LA
REPUBLIQUE DE VANUATU

VANUATU FINAL STATEMENT FOR PACIFIC SAURY

Vanuatu reiterates its support for the conservation and sustainable management of the Pacific Saury fishery. However, while it is within the Commission's mandate to develop and implement conservation and management measures, it is also equally important that the conservation and management measures do not apply a disproportionate management burden on Members, particularly Small Island Development States that proactively participates in ensuring that the Pacific Saury fishery resources are harvested in a manner that contributes to sustainability of the resource.

Although Small Island Developing States like Vanuatu are not coastal states within the NPFC Convention area, their rights to aspire as fishing states are enshrined in the international law, particularly Article 119 of UNCLOS, and Article 24 of UNFSA. The stipulated special requirements of the Small Island Developing States act as the basis for development of Conservation and Management measures ensuring that no Member is worst off, left behind, or faces disproportionate burden as a result of implementation of the conservation and management measures.

Vanuatu hereby wishes to formally express its utter disappointment of the manner in which the Commission Members categorically sidelined Vanuatu's request on the basis that Vanuatu's special requirement as a Small Island Developing States **does not** apply within the NPFC Convention Area due to its geographic location. This is blatant provocation and discriminatory against Vanuatu's status as a Small Island Development States.

The international laws **does not** make the distinction for special requirements of the Small Island Developing States to be based on Small Island Developing States geographical location and disadvantage. The Commission Members however, opted to utilize Vanuatu geographical location as the basis of rejecting Vanuatu's SIDs request, and refused to request the Joint SC-TCC-COM Small

Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS) and Scientific Committee to provide a recommendation on development aspirations of Small Island Developing States.

Vanuatu, therefore is of the view that the Commission did not display fairness in accordance with the principles set out in Article 3, when considering Vanuatu's request in the discussions leading up to the adoption of the revised conservation and management measure. Article 3 (I) obligates the Commission to apply the Convention on the Conservation and Management of High seas fisheries resources in the North Pacific Ocean in a fair, transparent, and non-discriminatory manner, consistent with international law.

Vanuatu reiterates that its request is based on international laws and on the NPFC Pacific saury CMM.

I thank you.



Tony Taleo

Deputy Director Offshore

Vanuatu Fisheries Department

CMM 2024-07

(Entered into forced 1 June 2024)

CONSERVATION AND MANAGEMENT MEASURE FOR CHUB MACKEREL

The North Pacific Fisheries Commission (NPFC),

Recognizing that outcomes of the small ad hoc workshop for the scientific analysis of chub mackerel stock were presented to the Scientific Committee (SC) in April 2017 and the SC recommended to establish the Technical Working Group on Chub Mackerel Stock Assessment (TWG CMSA);

Noting that CMM 2016-07 states the SC will complete the stock assessment of chub mackerel as soon as practicable, even if such assessment is provisional, and provide advice and recommendations to the Commission in accordance with Article 10, paragraph 4(b) of the Convention;

Reaffirming the General Principles provided in Article 3 of the Convention, in particular, paragraph (h) stipulating that any expansion of fishing effort does not proceed without prior assessment of the impacts of those fishing activities on the long-term sustainability of fisheries resources;

Noting paragraph 1(a) of Article 7 of the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks of 4 December 1995 (hereinafter, “1995 Agreement”), stipulating that the relevant coastal States and the States whose nationals fish for straddling fish stocks in the adjacent high seas area shall seek to agree upon the measures necessary for the conservation of these stocks in the adjacent high seas area;

Recognizing paragraph 2(a) of Article 7 of the 1995 Agreement stipulating that the conservation and management measures adopted and applied in accordance with article 61 of the United Nations Convention on the Law of the Sea in respect of the same stocks by coastal States within areas under national jurisdiction and ensure that measures established in respect of such stocks for the high seas do not undermine the effectiveness of such measures;

Reaffirming paragraph (i) of Article 3 of the Convention, stipulating in accordance with Article 7 of the 1995 Agreement, that conservation and management measures established for straddling fish stocks on the high seas and those adopted for areas under national jurisdiction are compatible in order to ensure conservation and management of these fisheries resources in their entirety;

Recalling that concern was expressed on an adverse impact on the stock of chub mackerel given the rapid increase in vessels that appear to be fishing for chub mackerel in the Convention Area, as articulated in paragraphs 9 and 10 of Report of the 1st Meeting of the Technical and Compliance Committee;

Noting that the NPFC Catch/Effort statistics shows a significant fall in chub mackerel catch in 2022 and 2023 from those in previous years;

Adopts the following conservation and management measure in accordance with Article 7 of the Convention:

1. Members of the Commission and Cooperating non-Contracting Parties (CNCs) with substantial harvest of chub mackerel in the Convention Area shall refrain from expansion, in the Convention Area, of the number of fishing vessels entitled to fly their flags and authorized to fish for chub mackerel from the historical existing level until the stock assessment by the SC has been completed.
2. Members of the Commission and CNCs without substantial harvest of chub mackerel in the Convention Area are encouraged to refrain from expansion, in the Convention Area, of the number of fishing vessels entitled to fly their flags and authorized to fish for chub mackerel from the historical existing level until the stock assessment by the SC has been completed.
3. As a provisional measure until the Scientific Committee adopts NPFC stock assessment of chub mackerel and the Commission accordingly revises this Conservation and Management Measure, Members shall take necessary measures to ensure that the fishing activities for chub mackerel in the Convention Area shall be undertaken in accordance with the fishing season defined in paragraph 18 and the following provisions:

- (a) The annual total allowable catch of chub mackerel in the Convention Area, excluding the amount in paragraph 11, shall be set at 94,000 tonnes for each of the 2024 and 2025 fishing seasons.
 - (b) Of this annual total allowable catch, the catch for trawlers shall not exceed 14,000 tonnes for each of the 2024 and 2025 fishing seasons.
 - (c) Of this annual total allowable catch, the catch for purse seiners shall not exceed 80,000 tonnes for each of the 2024 and 2025 fishing seasons.
 - (d) China shall not authorize more than 3 trawlers to conduct fishing operations at the same time.
 - (e) The EU shall not authorize more than 1 trawler to conduct fishing operations at the same time.
4. Members of the Commission participating in chub mackerel fisheries in areas under national jurisdiction adjacent to the Convention Area are requested to take compatible measures in paragraph 1 and 3. Such Members¹ may divert part of their catch limit for areas under their jurisdiction to their own catch of chub mackerel in the Convention Area by vessels entitled to fly their flags and authorized to fish for chub mackerel, provided that: (i) the Member has established a catch limit for chub mackerel in its jurisdiction; (ii) the Member has notified the Commission of the catch limit; and (iii) the total catch of the Member in the Convention Area and the areas under their jurisdiction adjacent to the Convention Area will not exceed the Member's total catch limit for its jurisdiction.
5. Members of the Commission and CNCPs shall prohibit fishing vessels over 10,000 Gross Tonnage that are flying their flag and authorized to fish for chub mackerel, from fishing in the Convention Area.

¹ Paragraph 4 applies to Russia and Japan.

6. Members of the Commission and CNCPs shall ensure that fishing vessels flying their flag that fish for chub mackerel record their catches and report them to the relevant flag State authorities in accordance with their national data recording and reporting requirements.
7. To comply with the provisional measure stipulated in paragraph 3, Members of the Commission shall report to the Executive Secretary, in electronic format, monthly catches of chub mackerel in the Convention Area by fishing vessels flying their flags, by the 10th of the next month, until the total accumulated catch by Members in a fishing season reaches 60% of the catch limit set out in paragraph 3. After the total accumulated catch by Members in a fishing season reaches 60% of the annual catch limit set out in paragraph 3, Members of the Commission shall report to the Executive Secretary, in electronic format, weekly catches of chub mackerel in the Convention Area by fishing vessels flying their flags, by Wednesday of the next week.
8. The Executive Secretary shall make publicly available the compiled catch of chub mackerel in the Convention Area on the Commission's website, as well as each Member's catch of chub mackerel in the Convention Area, on the Member's page of Commission website without delay.
9. In the event that the total accumulated catch by Members in a fishing season reaches 95% of the annual catch limit set out in paragraph 3, the Executive Secretary shall notify Members of that fact without delay, and each Member participating in the chub mackerel fishery shall close the fishery for its flagged vessels within 2 days from the above notification by the Secretariat until the end of the fishing season.
10. Development of new fishing activity for the chub mackerel fishery in the Convention Area by Members of the Commission without documented historical catch for chub mackerel in the Convention Area shall be determined in accordance with relevant provisions, including but not limited to, as appropriate, Article 3, paragraph (h) and Article 7, subparagraphs 1(g) and (h) of the Convention.
11. In accordance with paragraph 10, and in addition to the fishing opportunities under paragraph 3, the EU shall be entitled to fish an additional 6,000 tonnes of chub mackerel for each of the 2024 and 2025 fishing seasons, without prejudice to future discussions on chub mackerel allocation in the Convention Area.

12. Members of the Commission and CNCPs shall ensure that fishing vessels flying their flag operating in the Convention Area to fish chub mackerel are to be equipped with an operational vessel monitoring system that is activated at all times.
13. Members of the Commission and CNCPs shall provide their data on chub mackerel separated by the Convention Area and the areas under national jurisdiction adjacent to the Convention Area in accordance with the data requirements adopted by the Commission in the Annual Report by the end of February, every year. The Commission shall review such information at the annual meeting every year.
14. Members of the Commission and CNCPs shall cooperate to take necessary measures including sharing information, in order to accurately understand the situation and eliminate IUU fishing for chub mackerel.
15. The SC and its subsidiary Technical Working Group on Chub Mackerel Stock Assessment (TWG CMSA) will complete the stock assessment of chub mackerel in 2024 in accordance with the terms of reference agreed at the TWG CMSA meeting in December 2017, even if such assessment is provisional, and provide advice and recommendations to the Commission in accordance with Article 10, paragraph 4(b) of the Convention.
16. After the chub mackerel stock assessment has been completed, the provisions in Paragraph 1, 3 and 11 shall be reviewed by the Commission and those provisions shall not be a precedent to hinder those Members who are not harvesting substantial amounts of chub mackerel in the Convention Area to develop their own chub mackerel fisheries in the Convention Area, noting the Commission shall regularly review chub mackerel harvests in the Convention Area by all Members.
17. This management measure enters into force on 1 June 2024 (aligned with the start of the fishing season for chub mackerel). The Commission shall review and revise, as appropriate, this CMM based on the advice and recommendations from the SC, but no later than at the 10th Commission meeting.

18. For the purpose of this measure the ‘fishing season’ starts on 1 June and ends on 31 May.

19. This CMM is an amendment of the NPFC CMM 2023-07.

CONSERVATION AND MANAGEMENT MEASURE ON ANADROMOUS FISH

The North Pacific Fisheries Commission (NPFC),

Noting that anadromous stocks belong to the same ecosystem and intermingle and associate with NPFC fisheries resources throughout their marine migration within the NPFC Convention Area;

Noting the NPFC convention article 3 paragraph (d) which says certain actions shall be taken including conservation and management measures for stocks associated with the target stocks of the NPFC;

Understanding the ecological, cultural, and economic importance of anadromous species to States who have prioritized and invested in the conservation and production of these stocks;

Mindful of the importance of continued scientific research to more fully understand the threat NPFC fisheries pose to anadromous stocks and our shared responsibility to take a pre-cautionary approach when managing NPFC fisheries that could impact anadromous stocks; and,

Desiring to ensure effective collaboration and cooperation between all Members of NPFC and NPAFC by ensuring that NPFC policies respecting anadromous fish protection complement and support the work and objectives of the NPAFC further to the Memorandum of Cooperation between the two organizations signed by the NPFC in 2019.

Adopts the following:

DEFINITIONS

1. This measure shall be interpreted in accordance with the Convention.
2. For the purpose of this measure, the following definitions apply:
 - a. “anadromous fish” means the fish of anadromous species listed in Annex 1, which migrate into the Convention Area, and “anadromous stocks” means the stocks thereof;
 - b. “directed fishing” means fishing activity targeted at a particular species or stock of fish;
 - c. “incidental taking or capture” means catching, taking, or harvesting a species or stock of fish while conducting directed fishing for another species or stock of fish; and,
 - d. “released” means a fish that has been caught and is returned to the water.

SCOPE

3. This measure applies to all fishing vessels on the NPFC Vessel Registry operating in the Convention Area.

ANADROMOUS FISH CONSERVATION

Prohibition on Directed Fishing for Anadromous Fish

4. Members and CNCPs shall take necessary measures to ensure their fishing vessels do not engage in directed fishing for anadromous fish in the Convention Area.

Prohibition on the Retention of Anadromous Fish and Minimization of Incidental Capture

5. Members and CNCPs shall take necessary measures to ensure their fishing vessels do not retain on board or otherwise possess anadromous fish.
6. For clarity, the prohibitions in paragraphs 4 and 5 do not apply to vessels authorized to conduct research activities under the competence of the NPAFC.

7. Members and CNCPs shall take necessary measures to ensure that if a fishing vessel incidentally captures anadromous fish, those fish shall be returned to the water without delay, in a manner that causes the least harm.
8. Members and CNCPs shall encourage their fishing vessels to conduct activities in a manner that avoids or minimizes to the maximum extent practicable the incidental capture of anadromous fish.

On-Board Record of Incidentally Caught and Released Anadromous Fish

9. Members and CNCPs shall take necessary measures to ensure their fishing vessels maintain a record on board the vessel of incidentally caught and released anadromous fish in the Convention Area, to the extent possible by species. This record shall be made available to authorized inspectors. A species identification aid is in Annex 2.
10. Subject to review in 2026, paragraph 9 does not apply to stick-held dipnetter vessels targeting Pacific saury and hook and line jigger vessels targeting squid.






Annual Reporting and Data Sharing



11. Notwithstanding paragraph 10, a Commission Member or CNCP shall annually report all incidentally caught and released anadromous fish in the Convention Area to the Secretariat, to the extent possible by species.
12. Where incidental catch and release data is reported to the Secretariat, the Secretariat shall share the data in aggregated form with the Scientific Committee and further to the Memorandum of Cooperation between NPFC and NPAFC signed on May 13, 2019, the North Pacific Anadromous Fish Commission in a manner consistent with NPFC's Data Sharing and Data Security Protocol.

Anadromous Stocks

Chum salmon	<i>Oncorhynchus keta</i>
Coho salmon	<i>Oncorhynchus kisutch</i>
Pink salmon	<i>Oncorhynchus gorbuscha</i>
Sockeye salmon	<i>Oncorhynchus nerka</i>
Chinook salmon	<i>Oncorhynchus tshawytscha</i>
Cherry salmon	<i>Oncorhynchus masou</i>
Steelhead trout	<i>Oncorhynchus mykiss</i>

Species Identification Aid for Anadromous Species found in the North Pacific

Common Name/ Latin Name	Identifying Features	
Chum salmon/ <i>Oncorhynchus keta</i>	<ul style="list-style-type: none"> -Mouth is white with a white gum line -Well developed teeth -no spots on tail or back -narrow caudal peduncle -white tip on anal fin 	
Coho salmon/ <i>Oncorhynchus kisutch</i>	<ul style="list-style-type: none"> -Mouth is light with a white gum line -Medium size, sharp teeth -Spots only on upper lobe of tail -Spots on back -Wide caudal peduncle 	
Pink salmon/ <i>Oncorhynchus gorbuscha</i>	<ul style="list-style-type: none"> -Mouth is white with a black gum line -Almost no teeth -Large oval spots on back -Pointed lower jaw -Very small scales 	
Sockeye salmon/ <i>Oncorhynchus nerka</i>	<ul style="list-style-type: none"> -Mouth is white with a white gum line -Almost toothless -No spots on tail or back -Large, bright gold, glassy eye 	
Chinook salmon/ <i>Oncorhynchus tshawytscha</i>	<ul style="list-style-type: none"> -Mouth is dark with a black gum line -Large, sharp teeth -Spots on both lobes of tail -Large spots on back 	

<p>Cherry salmon/ <i>Oncorhynchus masou</i></p>	<ul style="list-style-type: none"> -Small black spots on the back -Dark underlying hue under its silvery scales -Resembles coho salmon 	
<p>Steelhead trout/ <i>Oncorhynchus mykiss</i></p>	<ul style="list-style-type: none"> -Small black spots on back -Uniform spots on square Tail -No teeth in throat, at back of tongue -Slender lateral profile 	

CMM 2024-05

(Entered into force 1 January 2025)

**CONSERVATION AND MANAGEMENT MEASURE
FOR BOTTOM FISHERIES AND PROTECTION OF VULNERABLE MARINE
ECOSYSTEMS IN THE NORTHWESTERN PACIFIC OCEAN**

The North Pacific Fisheries Commission (NPFC),

Strongly supporting protection of vulnerable marine ecosystems (VMEs) and sustainable management of fish stocks based on the best scientific information available;

Recalling the United Nations General Assembly Resolutions (UNGA) on Sustainable Fisheries, particularly paragraphs 66 to 71 of the UNGA59/25 in 2004, paragraphs 69 to 74 of UNGA60/31 in 2005, and paragraphs 69 and 80 to 91 of UNGA61/105 in 2006; paragraphs 113, 117 and 119 to 124 of resolution 64/72 in 2009, paragraphs 121, 126, 129, 130 and 132 to 134 of resolution 66/68 in 2011, paragraphs 156, 171, 175, 177 to 188 and 219 of resolution 71/123 in 2016 and paragraphs 181 and 203-219 of resolution 77/118 in 2022;

Noting, in particular, paragraphs 66 and 69 of UNGA59/25 that call upon States to take action urgently to address the issue of bottom trawl fisheries on VMEs and to cooperate in the establishment of new regional fisheries management organizations or arrangements;

Recognizing UNGA's calls to identify and overcome barriers to the implementation of the relevant paragraphs of General Assembly resolutions such as data availability, especially with regard to baseline data and the spatial distribution and connectivity of vulnerable marine ecosystems, including their associated and dependent species; periodically review and revise impact assessments whenever a substantial change in the fishery has occurred or there is relevant new information; and ensure that the precautionary approach is applied, including in the utilization of impact assessments to inform management decisions and consideration of significant adverse impacts on vulnerable marine ecosystems, including their associated and dependent species;

Recognizing further that fishing activities, including bottom fisheries, are an important contributor to the global food supply and that this must be taken into account when seeking to achieve sustainable fisheries and to protect VMEs;

Recognizing the importance of collecting scientific data to assess the impacts of bottom fisheries on marine species and VMEs;

Recognizing that scientific literature indicates the likely occurrence of VMEs on most seamounts in the area and has documented significant adverse impacts to VMEs resulting from bottom fishing in the area, which reinforces the importance of regularly updating impact assessments

and considering the adequacy of the existing management framework through the SC and the Commission;

Concerned about potential significant adverse impacts of bottom fisheries on marine species and VMEs in the western part of the Convention Area.

Recognizing Article 2 of the Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean (the Convention), which provides that the objective of the Convention is to ensure the long-term conservation and sustainable use of the fisheries resources in the Convention Area while protecting the marine ecosystems of the North Pacific Ocean in which these resources occur;

Recognizing further Articles 3 (c) and (e) of the Convention, which call on the Commission to adopt and implement measures in accordance with the precautionary approach and ecosystem approach to fisheries and protect biodiversity in the marine environment, including by preventing significant adverse impacts on vulnerable marine ecosystems;

Re-affirming NPFC's commitment to the precautionary approach and to implementing an ecosystem approach to fisheries management;

Noting the ongoing work of the Scientific Committee to address the FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas, including the identification of VMEs;

Underscoring the ecological importance of the Emperor Seamounts to the fisheries resources and biodiversity of the NPFC convention area;

Adopts the following Conservation and Management Measure:

Scope

1. This CMM applies to all bottom fishing activities for fisheries resources throughout the high seas areas of the Northwestern Pacific Ocean, defined, for the purposes of this document, as those occurring in the Convention Area as set out in Article 4 of the Convention text to the west of the line of 175 degrees W longitude (hereinafter called “the western part of the Convention Area”).

General purpose

2. The objective of this CMM is to ensure the long-term conservation and sustainable use of the fisheries resources in the Convention Area while protecting the marine ecosystems of the North Pacific Ocean in which these resources occur. The measures in this CMM aim to prevent significant adverse impacts on VMEs in the Convention Area of the North Pacific Ocean, acknowledging the complex dependency of fishing resources and species belonging to the same ecosystem within VMEs. The Commission shall regularly review, and as appropriate, revise this CMM considering

the best available science and the recommendations of the NPFC Scientific Committee, and with reference to relevant guidance adopted by UNGA and FAO.

Principles

3. The implementation of this CMM shall:

- (a) be based on the best scientific information available,
- (b) be in accordance with existing international laws and agreements including UNCLOS and other relevant international instruments,
- (c) establish appropriate and effective conservation and management measures,
- (d) be in accordance with the precautionary approach, and
- (e) incorporate an ecosystem approach to fisheries management.

Measures

4. Members of the Commission shall implement the following measures in order to achieve sustainable management of fish stocks and protection of VMEs in the western part of the Convention Area:

- A. Limit fishing effort in bottom fisheries on the western part of the Convention Area to the level agreed in February 2007 in terms of the number of fishing vessels and other parameters which reflect the level of fishing effort, fishing capacity or potential impacts on marine ecosystems.
- B. Not allow bottom fisheries to expand into the western part of the Convention Area where no such fishing is currently occurring, in particular, by limiting such bottom fisheries to seamounts located south of 45 degrees North Latitude and not allow bottom fisheries in other areas of the western part of the Convention Area covered by these measures and also not allow bottom fisheries to conduct fishing operation in areas deeper than 1,500m.
- C. Notwithstanding subparagraphs A and B above, exceptions to these restrictions may be provided in cases where it can be shown that any fishing activity beyond such limits or in any new areas would not have significant adverse impacts (SAIs) on marine species or any VME. Such fishing activity is subject to an exploratory fishery protocol (Annex 1).
- D. Any determinations pursuant to subparagraph C that any proposed fishing activity will not have SAIs on marine species or any VME are to be in accordance with the Science-based Standards and Criteria (Annex 2), which are consistent with the FAO International Guidelines for the Management of Deepsea Fisheries in the High Seas.
- E. Any determinations, by any flag State or pursuant to any subsequent arrangement for the management of the bottom fisheries in the areas covered by these measures, that fishing

activity would not have SAIs on marine species or any VMEs, shall be made publicly available through agreed means.

- F. Prohibit its vessels from engaging in directed fishing on the following taxa: black coral (*Antipatharia*), gorgonians, pennatulaceans, stony corals (*Scleractinia*), soft corals, the classes of *Hexactinellida* and *Demospongiae* in the phylum *Porifera* as well as any other indicator species for VMEs as may be identified from time to time by the SC and approved by the Commission.
- G. Further, considering accumulated information regarding fishing activities in the western part of the Convention Area, in areas where, in the course of fishing operations, cold water corals more than 50Kg or sponges more than 350Kg are encountered in one gear retrieval, Members of the Commission shall require vessels flying their flag to cease bottom fishing activities in that location. In such cases, the vessel shall not resume fishing activities until it has relocated a sufficient distance, which shall be no less than 1 nautical mile, so that additional encounters with VMEs are unlikely. All such encounters, including the location, gear type, date, time and name and weight of the VME indicator species, shall be reported to the Secretariat, through the Member, within one business day. The Executive Secretary shall, within one business day, notify the other Members of the Commission and at the same time implement a temporary closure in the area to prohibit fishing vessels from contacting the sea floor with their fishing gear. Members shall inform their fleets and enforcement operations within one business day of the receipt of the notification from the Executive Secretary. It is agreed that the VME indicator taxa include five groups of cold water corals, specifically black corals (*Antipatharia*), gorgonians, pennatulaceans, stony coral (*Scleractinia*), and soft corals. The VME indicator taxa also include the classes of *Hexactinellida* and *Demospongiae* in the phylum *Porifera*.
- H. Based on all the available data, including data on the VME encounter and distribution received from the fishing vessel(s), research survey data, visual survey data, and/or model results, the Scientific Committee (SC) shall assess and conclude if the area has a VME. If so, the SC shall recommend to the Commission that the temporary closure be made permanent, although the boundary of the closure may be adjusted, or suggest other appropriate measures. Otherwise, the Executive Secretary shall inform the Members that they may reopen the area to their vessels.
- I. C-H seamount, the Southeastern part of Koko seamount (specifically, the area South of 34 degrees 57 minutes North, East of the 400m isobaths, East of 171 degrees 54 minutes East, North of 34 degrees 50 minutes North), are closed to prevent potential significant adverse impacts on VMEs consistent with the precautionary approach. Fishing in these areas requires exploratory fishery protocol (Annex 1).
- J. Ensure that the distance between the footrope of the gill net and sea floor is greater than 70 cm.

- K. Apply a bottom fisheries closure from November to January.
- L. Limit annual catch of North Pacific armorhead consistent with the precautionary approach. In years when strong recruitment of North Pacific armorhead is not detected by the monitoring survey (Annex 6), Japan shall limit the catch of North Pacific armorhead by vessels flying its flag to 500 tons, and Korea shall limit its catch of North Pacific armorhead by vessels flying its flag to 200 tons. When a strong recruitment of North Pacific armorhead is detected by the monitoring survey (Annex 6), Japan shall limit its annual catch of North Pacific armorhead by vessels flying its flag to 10,000 tons, and Korea shall limit its annual catch of North Pacific armorhead by vessels flying its flag to 2,000 tons. The catch overages for any given year shall be subtracted from the applicable annual catch limit in the following year, and catch underages during any given year shall not be added to the applicable annual catch limit during the following year.
- M. During a year when high recruitment is detected, bottom fishing with trawl gear shall be prohibited in specific areas in the Emperor seamounts where half of the catch occurred in 2010 and 2012 (Annex 6). Determination of a strong recruitment year and of the specific areas where bottom fishing with trawl gear is prohibited shall be communicated to all Members and Cooperating Non-Contracting Parties following the procedure specified in Annex 6.
- N. Catch in the monitoring surveys shall not be included in the catch limits specified in paragraphs L but shall be reported to the Secretariat.
- O. Development of new fishing activity for the North Pacific armorhead and splendid alfonsino in the Convention Area by Members without documented historical catch for North Pacific armorhead and splendid alfonsino in the Convention Area shall be determined in accordance with relevant provisions, including but not limited to Article 3, paragraph (h) and Article 7, subparagraphs 1(g) and (h) of the Convention.
- P. Fishing activity for the North Pacific armorhead and splendid alfonsino in the Convention Area by Members with documented historical catch for North Pacific armorhead and splendid alfonsino in the Convention Area is not precluded.
- Q. Members shall require vessels flying their flags to use trawl nets with mesh size greater than or equal to 130mm of stretched mesh with 5kg tension in the codend when conducting fishing activities for North Pacific armorhead or splendid alfonsino.
- R. Task the Scientific Committee with reviewing the appropriate methods for establishing catch limits, and the adequacy and practicability of the adaptive management plan described in subparagraphs K, L, M, N, O, P, Q and Annex 6 from time to time and recommending revisions and actions, if necessary.

- S. Prohibit its bottom fishing vessels from contacting the sea floor with their fishing gear in the following two sites with VME indicator species. A Member of the Commission whose fishing vessels entered these areas shall report to the TCC as to how it ensured the compliance of this measure.

Sites with VME indicator species (Areas surrounded by the straight lines linking the 4 geographical points below)

Northwestern part of Koko Seamount	35-44.75 N 171-07.60 E	35-44.75 N 171-07.80 E
	35-43.80 N 171-07.80 E	35-43.80 N 171-08.00 E
Northern Ridge of Colahan Seamount	31-03.85 N 175-53.40 E	31-03.85 N 175-53.65 E
	31-03.5 N 175-53.50 E	31-03.05 N 175-53.85 E

Contingent Action

5. Members of the Commission shall submit to the SC their assessments of the impacts of fishing activity on marine species or any VMEs, including the proposed management measures to prevent such impact. Such submissions shall include all relevant data and information in support of any such assessment. Procedures for such reviews including procedures for the provision of advice and recommendations from the SC to the submitting Member are attached (Annex 3). Members will only authorize bottom fishing activity pursuant to paragraph 4 (C).

Scientific Information

6. To facilitate the scientific work associated with the implementation of these measures, each Member of the Commission shall undertake:
- A. Reporting of information for purposes of defining the footprint
- Members of the Commission shall provide, for each year, the number of vessels by gear type, size of vessels (tons), number of fishing days or days on the fishing grounds, total catch by species, and areas fished (names of seamounts) to the Secretariat. The Secretariat shall circulate the information received to the other Members consistent with the approved Regulations for Management of Scientific Data and Information. To support assessments of the fisheries and refinement of conservation and management measures, Members of the Commission are to provide updated information on an annual basis.
- B. Collection of information
- (i) Members shall ensure each bottom fishing vessel operating in the western part of the Convention Area collects the following scientific information. Members shall provide the scientific information to the Secretariat.
- (a) Catch and effort data
- (b) Related information such as time, location, depth, temperature, etc.

- (ii) As appropriate, Members should encourage the collection of information from research vessels operating in the western part of the Convention Area and provide updates to the Commission to the extent possible.
 - (a) Physical, chemical, biological, oceanographic, meteorological, etc.
 - (b) Ecosystem surveys.
 - (c) Seabed mapping (e.g. multibeam or other echosounder); seafloor images by drop camera, remotely operated underwater vehicle (ROV) and/or autonomous underwater vehicle (AUV).
- (iii) Collection of observer data

Duly designated observers from the flag member shall collect information from bottom fishing vessels operating in the western part of the Convention Area. Observers shall collect data in accordance with Annex 5. Each Member of the Commission shall submit the reports to the Secretariat in accordance with Annex 4. The Secretariat shall compile this information on an annual basis and make it available to the Members of the Commission.

Vessel Monitoring System

- 7. To strengthen its control over bottom fishing vessels flying its flag, each Member of the Commission shall ensure that all such vessels operating in the western part of the Convention Area be equipped with an operational vessel monitoring system.

Observers

- 8. Members shall ensure that all vessels authorized to bottom fish in the western part of the Convention Area shall carry an observer on board. Members shall ensure that observers are independent, impartial, and qualified to fulfill the requirements of this measure and to enhance data collection. An observer is deemed to be independent, impartial, and qualified if the observer:
 - (a) is deployed from a Commission Member's, or Cooperating non-Contracting Party's, national observer program, and familiar with NPFC fisheries resources, fishing activities, and CMMs;
 - (b) is neither part of the crew, nor has any employment or family relationship to the ownership or operator of the fishing vessel; and
 - (c) does not have any shared business interests with the owner or operator of the fishing vessel.

An observer shall be provisioned, accommodated, and provided safe working conditions and access to independent communications in accordance with the Commission requirements and the Member's domestic laws and regulations.

Final Clauses

9. This CMM shall enter into force on January 1st, 2025, replacing CMM 2023-05.

Annex 1**EXPLORATORY FISHERY PROTOCOL IN THE NORTH PACIFIC OCEAN**

1. From 1 January 2009, all bottom fishing activities in new fishing areas and areas where fishing is prohibited in a precautionary manner or with bottom gear not previously used in the existing fishing areas, are to be considered as “exploratory fisheries” and to be conducted in accordance with this protocol.
2. Precautionary conservation and management measures, including catch and effort controls, are essential during the exploratory phase of deep sea fisheries. Implementation of a precautionary approach to sustainable exploitation of deep sea fisheries shall include the following measures:
 - (i) precautionary effort limits, particularly where reliable assessments of sustainable exploitation rates of target and main by-catch species are not available;
 - (ii) precautionary measures, including precautionary spatial catch limits where appropriate, to prevent serial depletion of low-productivity stocks;
 - (iii) regular review of appropriate indices of stock status and revision downwards of the limits listed above when significant declines are detected;
 - (iv) measures to prevent significant adverse impacts on vulnerable marine ecosystems; and
 - (v) comprehensive monitoring of all fishing effort, capture of all species and interactions with VMEs.
3. When a member of the Commission would like to conduct exploratory fisheries, it is to follow the following procedure:
 - (i) Prior to the commencement of fishing, the member of the Commission is to circulate the information and assessment in Appendix 1.1 to the members of the Scientific Committee (SC) for review and to all members of the Commission for information, together with the impact assessment. Such information is to be provided to the other members at least 30 days in advance of the meeting at which the information shall be reviewed.
 - (ii) The assessment in (i) above is to be conducted in accordance with the procedure set forth in “Science-based Standards and Criteria for Identification of VMEs and Assessment of Significant Adverse Impacts on VMEs and Marine Species (Annex 2)”, with the understanding that particular care shall be taken in the evaluation of risks of the significant adverse impact on vulnerable marine ecosystems (VMEs), in line with the precautionary approach.
 - (iii) The SC is to review the information and the assessment submitted in (i) above in accordance with “SC Assessment Review Procedures for Bottom Fishing Activities (Annex 3).”
 - (iv) The exploratory fisheries are to be permitted only where the assessment concludes that they would not have significant adverse impacts (SAIs) on marine species or any VMEs and on the basis of comments and recommendations of SC. Any determinations, by any Member of the Commission or the SC, that the exploratory fishing activities would not have SAIs on marine species or any VMEs, shall be made publicly available through the NPFC website.

4. The member of the Commission is to ensure that all vessels flying its flag conducting exploratory fisheries are equipped with a satellite monitoring device and have an observer on board at all times.
5. Within 3 months of the end of the exploratory fishing activities or within 12 months of the commencement of fishing, whichever occurs first, the member of the Commission is to provide a report of the results of such activities to the members of the SC and all members of the Commission. If the SC meets prior to the end of this 12-month period, the member of the Commission is to provide an interim report 30 days in advance of the SC meeting. The information to be included in the report is specified in Appendix 1.2.
6. The SC is to review the report in 5 above and decide whether the exploratory fishing activities had SAIs on marine species or any VME. The SC then is to send its recommendations to the Commission on whether the exploratory fisheries can continue and whether additional management measures shall be required if they are to continue. The Commission is to strive to adopt conservation and management measures to prevent SAIs on marine species or any VMEs. If the Commission is not able to reach consensus on any such measures, each fishing member of the Commission is to adopt measures to avoid any SAIs on VMEs.
7. Members of the Commission shall only authorize continuation of exploratory fishing activity, or commencement of commercial fishing activity, under this protocol on the basis of comments and recommendations of the SC.
8. The same encounter protocol should be applied in both fished and unfished areas specified in Annex 2, paragraph 4(1)(a).

Appendix 1.1

Information to be provided before exploratory fisheries start

1. A harvesting plan
 - Name of vessel
 - Flag member of vessel
 - Description of area to be fished (location and depth)
 - Fishing dates
 - Anticipated effort
 - Target species
 - Bottom fishing gear-type used
 - Area and effort restrictions to ensure that fisheries occur on a gradual basis in a limited geographical area.

2. A mitigation plan
 - Measures to prevent SAIs to VMEs that may be encountered during the fishery
3. A catch monitoring plan
 - Recording/reporting of all species brought onboard to the lowest possible taxonomic level
 - 100% satellite monitoring
 - 100% observer coverage
4. A data collection plan
 - Data is to be collected in accordance with “Type and Format of Scientific Observer Data to be Collected” (Annex 5)

Appendix 1.2

Information to be included in the report

- Name of vessel
- Flag member of vessel
- Description of area fished (location and depth)
- Fishing dates
- Total effort
- Bottom fishing gear-type used
- List of VME encountered (the amount of VME indicator species for each encounter specifying the location: longitude and latitude)
- Mitigation measures taken in response to the encounter of VME
- List of all organisms brought onboard
- List of VMEs indicator species brought onboard by location: longitude and latitude

Annex 2

SCIENCE-BASED STANDARDS AND CRITERIA FOR IDENTIFICATION OF VMES AND ASSESSMENT OF SIGNIFICANT ADVERSE IMPACTS ON VMES AND MARINE SPECIES

1. Introduction

Members of the Commission have hereby established science-based standards and criteria to guide their implementation of United Nations General Assembly (UNGA) Resolution 61/105 and the measures adopted by the Members in respect of bottom fishing activities in the North Pacific Ocean (NPO). In this regard, these science-based standards and criteria are to be applied to identify vulnerable marine ecosystems (VMEs) and assess significant adverse impacts (SAIs) of bottom fishing activities on such VMEs or marine species and to promote the long-term sustainability of deep sea fisheries in the Convention Area. The science-based standards and criteria are consistent with the FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas, taking into account the work of other RFMOs implementing management of deep-sea bottom fisheries in accordance with UNGA Resolution 61/105. The standards and criteria are to be modified from time to time as more data are collected through research activities and monitoring of fishing operations.

2. Purpose

- (1) The purpose of the standards and criteria is to provide guidelines for each member of the Commission in identifying VMEs and assessing SAIs of individual bottom fishing activities¹ on VMEs or marine species in the Convention Area. Each member of the Commission, using the best information available, is to decide which species or areas are to be categorized as VMEs, identify areas where VMEs are known or likely to occur, and assess whether individual bottom fishing activities would have SAIs on such VMEs or marine species. The results of these tasks are to be submitted to and reviewed by the Scientific Committee with a view to reaching a common understanding among the members of the Commission.
- (2) For the purpose of applying the standards and criteria, the bottom fisheries are defined as follows:
 - (a) The fisheries are conducted in the Convention Area;
 - (b) The total catch (everything brought up by the fishing gear) includes species that can only sustain low exploitation rates; and
 - (c) The fishing gear is likely to contact the seafloor during the normal course of fishing operations.

¹ “individual bottom fishing activities” means fishing activities by each fishing gear. For example, if ten fishing vessels operate bottom trawl fishing in a certain area, the impacts of the fishing activities of these vessels on the ecosystem are to be assessed as a whole rather than on a vessel-by-vessel basis. It should be noted that if the total number or capacity of the vessels using the same fishing gear has increased, the impacts of the fishing activities are to be assessed again.

3. Definition of VMEs

- (1) Although Paragraph 83 of UNGA Resolution 61/105 refers to seamounts, hydrothermal vents and cold-water corals as examples of VMEs, there is no definitive list of specific species or areas that are to be regarded as VMEs.
- (2) Vulnerability is related to the likelihood that a population, community or habitat will experience substantial alteration by fishing activities and how much time will be required for its recovery from such alteration. The most vulnerable ecosystems are those that are both easily disturbed and are very slow to recover or may never recover. The vulnerabilities of populations, communities and habitats are to be assessed relative to specific threats. Some features, particularly ones that are physically fragile or inherently rare may be vulnerable to most forms of disturbance, but the vulnerability of some populations, communities and habitats may vary greatly depending on the type of fishing gear used or the kind of disturbance experienced. The risks to a marine ecosystem are determined by its vulnerability, the probability of a threat occurring and the mitigation means applied to the threat. Accordingly, the FAO Guidelines only provide examples of potential vulnerable species groups, communities and habitats as well as features that potentially support them (Annex 2.1).
- (3) A marine ecosystem is to be classified as vulnerable based on its characteristics. The following list of characteristics is used as criteria in the identification of VMEs.
 - (a) Uniqueness or rarity - an area or ecosystem that is unique or that contains rare species whose loss could not be compensated for by other similar areas. These include:
 - (i) Habitats that contain endemic species;
 - (ii) Habitats of rare, threatened or endangered species that occur in discrete areas;
 - (iii) Nurseries or discrete feeding, breeding, or spawning areas.
 - (b) Functional significance of the habitat – discrete areas or habitats that are necessary for the survival, function, spawning/reproduction or recovery of fish stocks, particular life-history stages (e.g. nursery grounds or rearing areas), or of rare, threatened or endangered marine species.
 - (c) Fragility – an ecosystem that is highly susceptible to degradation by anthropogenic activities
 - (d) Life-history traits of component species that make recovery difficult – ecosystems that are characterized by populations or assemblages of species with one or more of the following characteristics:
 - (i) Slow growth rates
 - (ii) Late age of maturity
 - (iii) Low or unpredictable recruitment
 - (iv) Long-lived
 - (e) Structural complexity – an ecosystem that is characterized by complex physical structures created by significant concentrations of biotic and abiotic features. In these ecosystems, ecological processes are usually highly dependent on these structured systems. Further, such ecosystems often have high diversity, which is dependent on the structuring organisms.

- (4) Management response may vary, depending on the size of the ecological unit in the Convention Area. Therefore, the spatial extent of the ecological unit is to be decided first. That is, whether the ecological unit is the entire Area, or the current fishing ground, namely, the Emperor Seamount and Northern Hawaiian Ridge area (hereinafter called “the ES-NHR area”), or a group of the seamounts within the ESNHR area, or each seamount in the ES-NHR area, is to be decided using the above criteria.

4. Identification of potential VMEs

(1) Fished seamounts

(a) Identification of fished seamounts

It is reported that four types of fishing gear are currently used by the members of the Commission in the ES-NHR area, namely, bottom trawl, bottom gillnet, bottom longline and pot. A fifth type of fishing gear (coral drag) was used in the ES-NHR area from the mid-1960s to the late 1980s and is possibly still used by non-members of the Commission. These types of fishing gear are usually used on the top or slope of seamounts, which could be considered VMEs. It is therefore necessary to identify the footprint of the bottom fisheries (fished seamounts) based on the available fishing record. The following seamounts have been identified as fished seamounts: Suiko, Showa, Youmei, Nintoku, Jingu, Ojin, Northern Koko, Koko, Kinmei, Yuryaku, Kammu, Colahan, and CH. Since the use of most of these gears in the ES-NHR area dates back to the late 1960s and 1970s, it is important to establish, to the extent practicable, a time series of where and when these gears have been used in order to assess potential long-term effects on any existing VMEs.

Fishing effort may not be evenly distributed on each seamount since fish aggregation may occur only at certain points of the seamount and some parts of the seamount may be physically unsuitable for certain fishing gears. Thus, it is important to know actual fished areas within the same seamount so as to know the gravity of the impact of fishing activities on the entire seamount.

Due consideration is to be given to the protection of commercial confidentiality when identifying actual fishing grounds.

(b) Assessment on whether a specific seamount that has been fished is a VME

After identifying the fished seamounts or fished areas of seamounts, it is necessary to assess whether each fished seamount is a VME or contains VMEs in accordance with the criteria in 3 above, individually or in combination using the best available scientific and technical information as well as Annex 2.1. A variety of data would be required to conduct such assessment, including pictures of seamounts taken by an ROV camera or drop camera, biological samples collected through research activities and observer programs, and detailed bathymetry map. Where site-specific information is lacking, other information that is relevant to inferring the likely presence of VMEs is to be used. The flow chart to identify data that can be used to identify VMEs is attached in Annex 2.3.

(2) New fishing areas

Any place other than the fished seamounts above is to be regarded as a new fishing area. If a member of the Commission is considering fishing in a new fishing area, such a fishing area is to be subject to, in addition to these standards and criteria, an exploratory fishery protocol (Annex 1).

5. Assessment of SAIs on VMEs or marine species

- (1) Significant adverse impacts are those that compromise ecosystem integrity (i.e., ecosystem structure or function) in a manner that: (i) impairs the ability of affected populations to replace themselves; (ii) degrades the long-term natural productivity of habitats; or (iii) causes, on more than a temporary basis, significant loss of species richness, habitat or community types. Impacts are to be evaluated individually, in combination and cumulatively.
- (2) When determining the scale and significance of an impact, the following six factors are to be considered:
 - (a) The intensity or severity of the impact at the specific site being affected;
 - (b) The spatial extent of the impact relative to the availability of the habitat type affected;
 - (c) The sensitivity/vulnerability of the ecosystem to the impact;
 - (d) The ability of an ecosystem to recover from harm, and the rate of such recovery;
 - (e) The extent to which ecosystem functions may be altered by the impact; and
 - (f) The timing and duration of the impact relative to the period in which a species needs the habitat during one or more life-history stages.
- (3) Temporary impacts are those that are limited in duration and that allow the particular ecosystem to recover over an acceptable timeframe. Such timeframes are to be decided on a case-by-case basis and be on the order of 5-20 years, taking into account the specific features of the populations and ecosystems.
- (4) In determining whether an impact is temporary, both the duration and the frequency with which an impact is repeated is to be considered. If the interval between the expected disturbances of a habitat is shorter than the recovery time, the impact is to be considered more than temporary.
- (5) Each member of the Commission is to conduct assessments to establish if bottom fishing activities are likely to produce SAIs in a given seamount or other VMEs. Such an impact assessment is to address, *inter alia*:
 - (a) Type of fishing conducted or contemplated, including vessel and gear types, fishing areas, target and potential bycatch species, fishing effort levels and duration of fishing;
 - (b) Best available scientific and technical information on the current state of fishery resources, and baseline information on the ecosystems, habitats and communities in the fishing area, against which future changes are to be compared;
 - (c) Identification, description and mapping of VMEs known or likely to occur in the fishing area;
 - (d) The data and methods used to identify, describe and assess the impacts of the activity, identification of gaps in knowledge, and an evaluation of uncertainties in the information presented in the assessment;

- (e) Identification, description and evaluation of the occurrence, scale and duration of likely impacts, including cumulative impacts of activities covered by the assessment on VMEs and low-productivity fishery resources in the fishing area;
 - (f) Risk assessment of likely impacts by the fishing operations to determine which impacts are likely to be SAIs, particularly impacts on VMEs and low-productivity fishery resources (Risk assessments are to take into account, as appropriate, differing conditions prevailing in areas where fisheries are well established and in areas where fisheries have not taken place or only occur occasionally);
 - (g) The proposed mitigation and management measures to be used to prevent SAIs on VMEs and ensure long-term conservation and sustainable utilization of low-productivity fishery resources, and the measures to be used to monitor effects of the fishing operations.
- (6) Impact assessments are to consider, as appropriate, the information referred to in these Standards and Criteria, as well as relevant information from similar or related fisheries, species and ecosystems.
- (7) Where an assessment concludes that the area does not contain VMEs or that significant adverse impacts on VMEs or marine species are not likely, such assessments are to be repeated when there have been significant changes to the fishery or other activities in the area, or when natural processes are thought to have undergone significant changes.

6. Proposed conservation and management measures to prevent SAIs

As a result of the assessment in 5 above, if it is considered that individual fishing activities are causing or likely to cause SAIs on VMEs or marine species, the member of the Commission is to adopt appropriate conservation and management measures to prevent such SAIs. The member of the Commission is to clearly indicate how such impacts are expected to be prevented or mitigated by the measures.

7. Precautionary approach

If after assessing all available scientific and technical information, the presence of VMEs or the likelihood that individual bottom fishing activities would cause SAIs on VMEs or marine species cannot be adequately determined, members of the Commission are only to authorize individual bottom fishing activities to proceed in accordance with:

- (a) Precautionary, conservation and management measures to prevent SAIs;
- (b) Measures to address unexpected encounters with VMEs in the course of fishing operations;
- (c) Measures, including ongoing scientific research, monitoring and data collection, to reduce the uncertainty; and
- (d) Measures to ensure long-term sustainability of deep sea fisheries.

8. Template for assessment report

Annex 2.2 is a template for individual member of the Commission to formulate reports on identification of VMEs and impact assessment.

Annex 2.1

Examples of potential vulnerable species groups, communities and habitats as well as features that potentially support them

The following examples of species groups, communities, habitats and features often display characteristics consistent with possible VMEs. Merely detecting the presence of an element itself is not sufficient to identify a VME. That identification is to be made on a case-by-case basis through application of relevant provisions of the Standards and Criteria, particularly Sections 3, 4 and 5.

Examples of species groups, communities and habitat forming species that are documented or considered sensitive and potentially vulnerable to deep-sea fisheries in the high-seas, and which may contribute to forming VMEs:	
a.	certain cold-water corals, e.g., reef builders and coral forest including: stony corals (Scleractinia), gorgonians, black corals (Antipatharia), and hydrocorals (stylasteridae),
b.	Some types of sponge dominated communities,
c.	communities composed of dense emergent fauna where large sessile protozoans (xenophyophores) and invertebrates (e.g., hydroids and bryozoans) form an important structural component of habitat, and
d.	seep and vent communities comprised of invertebrate and microbial species found nowhere else (i.e., endemic).

Examples of topographical, hydrophysical or geological features, including fragile geological structures, that potentially support the species groups or communities referred to above:

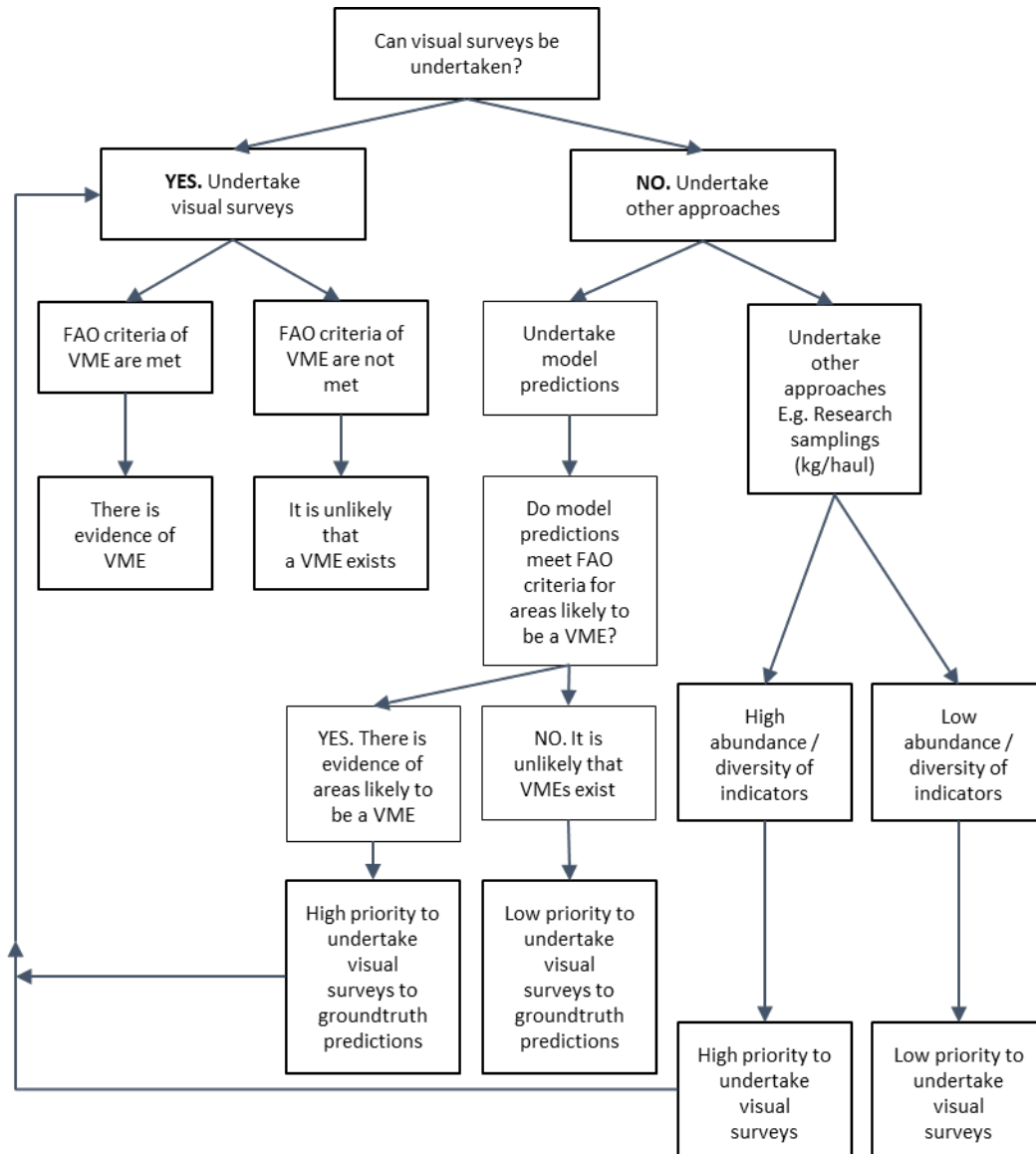
- submerged edges and slopes (e.g., corals and sponges)
- summits and flanks of seamounts, guyots, banks, knolls, and hills (e.g., corals, sponges and xenophyphores)
- canyons and trenches (e.g., burrowed clay outcrops, corals),
- hydrothermal vents (e.g., microbial communities and endemic invertebrates), and
- cold seeps (e.g., mud volcanoes, microbes, hard substrates for sessile invertebrates).

Annex 2.2

Template for reports on identification of VMEs and assessment of impacts caused by individual fishing activities on VMEs or marine species

1. Name of the member of the Commission
2. Name of the fishery (e.g., bottom trawl, bottom gillnet, bottom longline, pot)
3. Status of the fishery (existing fishery or exploratory fishery)
4. Target species
5. Bycatch species
6. Recent level of fishing effort (every year at least since 2002)
 - (1) Number of fishing vessels
 - (2) Tonnage of each fishing vessel
 - (3) Number of fishing days or days on the fishing ground
 - (4) Fishing effort (total operating hours for trawl, # of hooks per day for long-line, # of pots per day for pot, total length of net per day for gillnet)
 - (5) Total catch by species
 - (6) Names of seamounts fished or to be fished
7. Fishing period
8. Analysis of status of fishery resources
 - (1) Data and methods used for analysis
 - (2) Results of analysis
 - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties
9. Analysis of status of bycatch species resources
 - (1) Data and methods used for analysis
 - (2) Results of analysis
 - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties
10. Analysis of existence of VMEs in the fishing ground
 - (1) Data and methods used for analysis
 - (2) Results of analysis
 - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties
11. Impact assessment of fishing activities on VMEs or marine species including cumulative impacts, and identification of SAIs on VMEs or marine species, as detailed in Section 5 above, Assessment of SAIs on VMEs or marine species
12. Other points to be addressed
13. Conclusion (whether to continue or start fishing with what measures, or stop fishing).

Annex 2.3

Flow chart to identify data that can be used to identify VMEs in the NPFC Convention Area

Annex 3

SCIENTIFIC COMMITTEE ASSESSMENT REVIEW PROCEDURES FOR BOTTOM FISHING ACTIVITIES

1. The Scientific Committee (SC) is to review identifications of vulnerable marine ecosystems (VMEs) and assessments of significant adverse impact on VMEs, including proposed management measures intended to prevent such impacts submitted by individual Members.
2. Members of the Commission shall submit their identifications and assessments to members of the SC at least 21 days prior to the SC meeting at which the review is to take place. Such submissions shall include all relevant data and information in support of such determinations.
3. The SC will review the data and information in each assessment in accordance with the Science-based Standards and Criteria for Identification of VMEs and Assessment of Significant Adverse Impacts on VMEs and Marine Species (Annex 2), previous decisions of the Commission, and the FAO Technical Guidelines for the Management of Deep Sea Fisheries in the High Seas, paying special attention to the assessment process and criteria specified in paragraphs 47-49 of the Guidelines.
4. In conducting the review above, the SC will give particular attention to whether the deep-sea bottom fishing activity would have a significant adverse impact on VMEs and marine species and, if so, whether the proposed management measures would prevent such impacts.
5. Based on the above review, the SC will provide advice and recommendations to the submitting Members on the extent to which the assessments and related determinations are consistent with the procedures and criteria established in the documents identified above; and whether additional management measures will be required to prevent SAIs on VMEs.
6. Such recommendations will be reflected in the report of the SC meeting at which the assessments are considered.

Annex 4

FORMAT OF NATIONAL REPORT SECTIONS ON DEVELOPMENT AND IMPLEMENTATION OF SCIENTIFIC OBSERVER PROGRAMMES

Report Components

Annual Observer Programme implementation reports should form a component of annual National Reports submitted by members to the Scientific Committee. These reports should provide a brief overview of observer programmes conducted in the NPFC Convention Area. Observer programme reports should include the following sections:

A. Observer Training

An overview of observer training conducted, including:

- Overview of training programme provided to scientific observers.
- Number of observers trained.

B. Scientific Observer Programme Design and Coverage

Details of the design of the observer programme, including:

- Which fleets, fleet components or fishery components were covered by the programme.
- How vessels were selected to carry observers within the above fleets or components.
- How was observer coverage stratified: by fleets, fisheries components, vessel types, vessel sizes, vessel ages, fishing areas and seasons.

Details of observer coverage of the above fleets, including:

- Components, areas, seasons and proportion of total catches of target species, specifying units used to determine coverage.
- Total number of observer employment days, and number of actual days deployed on observation work.

C. Observer Data Collected

List of observer data collected against the agreed range of data set out in Annex 5, including:

- Effort Data: Amount of effort observed (vessel days, net panels, hooks, etc), by area and season and % observed out of total by area and seasons
- Catch Data: Amount of catch observed of target and by-catch species, by area and season, and % observed out of total estimated catch by species, area and seasons
- Length Frequency Data: Number of fish measured per species, by area and season.
- Biological Data: Type and quantity of other biological data or samples (otoliths, sex, maturity, etc.) collected per species.
- The size of length-frequency and biological sub-samples relative to unobserved quantities.

D. Detection of Fishing in Association with Vulnerable Marine Ecosystems

- Information about VME encounters (species and quantity in accordance with Annex 5, H, 2).

E. Tag Return Monitoring

- Number of tags returns observed, by fish size class and area.

F. Problems Experienced

- Summary of problems encountered by observers and observer managers that could affect the NPFC Observer Programme Standards and/or each member's national observer programme developed under the NPFC standards.

Annex 5

NPFC BOTTOM FISHERIES OBSERVER PROGRAMME STANDARDS: SCIENTIFIC COMPONENT

TYPE AND FORMAT OF SCIENTIFIC OBSERVER DATA TO BE COLLECTED

A. Vessel & Observer Data to be collected for Each Trip

1. Vessel and observer details are to be recorded only once for each observed trip.
2. The following observer data are to be collected for each observed trip:
 - (a) NPFC vessel ID.
 - (b) Observer's name.
 - (c) Observer's organisation.
 - (d) Date observer embarked (UTC date).
 - (e) Port of embarkation.
 - (f) Date observer disembarked (UTC date).
 - (g) Port of disembarkation.

B. Catch & Effort Data to be collected for Trawl Fishing Activity

1. Data are to be collected on an un-aggregated (tow by tow) basis for all observed trawls.
2. The following data are to be collected for each observed trawl tow:
 - (a) Tow start date (UTC).
 - (b) Tow start time (UTC).
 - (c) Tow end date (UTC).
 - (d) Tow end time (UTC).
 - (e) Tow start position (Lat/Lon, 1 minute resolution).
 - (f) Tow end position (Lat/Lon, 1 minute resolution).
 - (g) Type of trawl, bottom or mid-water.
 - (h) Type of trawl, single, double or triple.
 - (i) Height of net opening (m).
 - (j) Width of net opening (m).
 - (k) Mesh size of the cod-end net (stretched mesh, mm) and mesh type (diamond, square, etc).
 - (l) Gear depth (of footrope) at start of fishing (m).
 - (m) Bottom (seabed) depth at start of fishing (m).
 - (n) Gear depth (of footrope) at end of fishing (m).
 - (o) Bottom (seabed) depth at end of fishing (m).
 - (p) Status of the trawl operation (no damage, lightly damaged*, heavily damaged*, other (specify)).

*Degree may be evaluated by time for repairing (<=1hr or >1hr).
 - (q) Duration of estimated period of seabed contact (minute)

- (r) Intended target species.
- (s) Catch of all species retained on board, split by species, in weight (to the nearest kg).
- (t) Estimate of the amount (weight or volume) of all living marine resources discarded, split by species.
- (u) Record of the numbers by species of all marine mammals, seabirds or reptiles caught.

C. Catch & Effort Data to be collected for Bottom Gillnet Fishing Activity

1. Data are to be collected on an un-aggregated (set by set) basis for all observed bottom gillnet sets.
2. The following data are to be collected for each observed bottom gillnet set:
 - (a) Set start date (UTC).
 - (b) Set start time (UTC).
 - (c) Set end date (UTC).
 - (d) Set end time (UTC).
 - (e) Set start position (Lat/Lon, 1 minute resolution).
 - (f) Set end position (Lat/Lon, 1 minute resolution).
 - (g) Net panel ("tan") length (m).
 - (h) Net panel ("tan") height (m).
 - (i) Net mesh size (stretched mesh, mm) and mesh type (diamond, square, etc)
 - (j) Bottom depth at start of setting (m).
 - (k) Bottom depth at end of setting (m).
 - (l) Number of net panels for the set.
 - (m) Number of net panels retrieved.
 - (n) Number of net panels actually observed during the haul.
 - (o) Actually observed catch of all species retained on board, split by species, in weight (to the nearest kg).
 - (p) An estimation of the amount (numbers or weight) of marine resources discarded, split by species, during the actual observation.
 - (q) Record of the actually observed numbers by species of all marine mammals, seabirds or reptiles caught.
 - (r) Intended target species.
 - (s) Catch of all species retained on board, split by species, in weight (to the nearest kg).
 - (t) Estimate of the amount (weight or volume) of all marine resources discarded* and dropped off, split by species. * Including those retained for scientific samples.
 - (u) Record of the numbers by species of all marine mammals, seabirds or reptiles caught (including those discarded and dropped-off).

D. Catch & Effort Data to be collected for Bottom Long Line Fishing Activity

1. Data are to be collected on an un-aggregated (set by set) basis for all observed longline sets.
2. The following fields of data are to be collected for each set:
 - (a) Set start date (UTC).

- (b) Set start time (UTC).
- (c) Set end date (UTC).
- (d) Set end time (UTC).
- (e) Set start position (Lat/Lon, 1 minute resolution).
- (f) Set end position (Lat/Lon, 1 minute resolution).
- (g) Total length of longline set (m).
- (h) Number of hooks or traps for the set.
- (i) Bottom (seabed) depth at start of set.
- (j) Bottom (seabed) depth at end of set.
- (k) Number of hooks or traps actually observed during the haul.
- (l) Intended target species.
- (m) Actually observed catch of all species retained on board, split by species, in weight (to the nearest kg).
- (n) An estimation of the amount (numbers or weight) of marine resources discarded* or dropped-off, split by species, during the actual observation. * Including those retained for scientific samples.
- (o) Record of the actually observed numbers by species of all marine mammals, seabirds or reptiles caught (including those discarded and dropped-off).

E. Length-Frequency Data to Be Collected

1. Representative and randomly distributed length-frequency data (to the nearest mm, with record of the type of length measurement taken) are to be collected for representative samples of the target species and other main by-catch species. Total weight of length-frequency samples should be recorded, and observers may be required to also determine sex of measured fish to generate length-frequency data stratified by sex. The length-frequency data may be used as potential indicators of ecosystem changes (for example, see: Gislason, H. et al. (2000. ICES J Mar Sci 57: 468-475), Yamane et al. (2005. ICES J Mar Sci, 62: 374-379), and Shin, Y-J. et al. (2005. ICES J Mar Sci, 62: 384-396)).
2. The numbers of fish to be measured for each species and distribution of samples across area and month strata should be determined, to ensure that samples are properly representative of species distributions and size ranges.

F. Biological sampling to be conducted (optional for gillnet and long line fisheries)

1. The following biological data are to be collected for representative samples of the main target species and, time permitting, for other main by-catch species contributing to the catch:
 - (a) Species
 - (b) Length (to the nearest mm), with record of the type of length measurement used.
 - (c) Length and depth in case of North Pacific armorhead.
 - (d) Sex (male, female, indeterminate, not examined)
 - (e) Maturity stage (immature, mature, ripe, ripe-running, spent)

2. Representative stratified samples of otoliths are to be collected from the main target species and, time permitting, from other main by-catch species regularly occurring in catches. All otoliths to be collected are to be labelled with the information listed in 1 above, as well as the date, vessel name, observer name and catch position.
3. Where specific trophic relationship projects are being conducted, observers may be requested to also collect stomach samples from certain species. Any such samples collected are also to be labelled with the information listed in 1 above, as well as the date, vessel name, observer name and catch position.
4. Observers may also be required to collect tissue samples as part of specific genetic research programmes implemented by the SC.
5. Observers are to be briefed and provided with written length-frequency and biological sampling protocols and priorities for the above sampling specific to each observer trip.

G. Data to be collected on Incidental Captures of Protected Species

1. Flag members operating observer programs are to develop, in cooperation with the SC, lists and identification guides of protected species or species of concern (seabirds, marine mammals or marine reptiles) to be monitored by observers.
2. The following data are to be collected for all protected species caught in fishing operations:
 - (a) Species (identified as far as possible, or accompanied by photographs if identification is difficult).
 - (b) Count of the number caught per tow or set.
 - (c) Life status (vigorous, alive, lethargic, dead) upon release.
 - (d) Whole specimens (where possible) for onshore identification. Where this is not possible, observers may be required to collect sub-samples of identifying parts, as specified in biological sampling protocols.

H. Detection of Fishing in Association with Vulnerable Marine Ecosystems

1. The SC is to develop a guideline, species list and identification guide for benthic species (e.g. sponges, sea fans, corals) whose presence in a catch will indicate that fishing occurred in association with a vulnerable marine ecosystem (VME). All observers on vessels are to be provided with copies of this guideline, species list and ID guide.
2. For each observed fishing operation, the following data are to be collected for all species caught, which appear on the list of vulnerable benthic species:
 - (a) Species (identified as far as possible or accompanied by a photograph where identification is difficult).
 - (b) An estimate of the quantity (weight (kg) or volume (m³)) of each listed benthic species caught in the fishing operation.
 - (c) An overall estimate of the total quantity (weight (kg) or volume (m³)) of all invertebrate benthic species caught in the fishing operation.

- (d) Where possible, and particularly for new or scarce benthic species which do not appear in ID guides, whole samples should be collected and suitable preserved for identification on shore.

I. Data to be collected for all Tag Recoveries

1. The following data are to be collected for all recovered fish, seabird, mammal or reptile tags:
 - (a) Observer name.
 - (b) Vessel name.
 - (c) Vessel call sign.
 - (d) Vessel flag.
 - (e) Collect, label (with all details below) and store the actual tags for later return to the tagging agency.
 - (f) Species from which tag recovered.
 - (g) Tag colour and type (spaghetti, archival).
 - (h) Tag numbers (The tag number is to be provided for all tags when multiple tags were attached to one fish. If only one tag was recorded, a statement is required that specifies whether or not the other tag was missing)
 - (i) Date and time of capture (UTC).
 - (j) Location of capture (Lat/Lon, to the nearest 1 minute)
 - (k) Animal length / size (to the nearest cm) with description of what measurement was taken (such as total length, fork length, etc).
 - (l) Sex (F=female, M=male, I=indeterminate, D=not examined)
 - (m) Whether the tags were found during a period of fishing that was being observed (Y/N)
 - (n) Reward information (e.g. name and address where to send reward)

(It is recognised that some of the data recorded here duplicates data that already exists in the previous categories of information. This is necessary because tag recovery information may be sent separately to other observer data.)

J. Hierarchies for Observer Data Collection

1. Trip-specific or programme-specific observer task priorities may be developed in response to specific research programme requirements, in which case such priorities should be followed by observers.
2. In the absence of trip- or programme-specific priorities, the following generalised priorities should be followed by observers:
 - (a) Fishing Operation Information
 - All vessel and tow / set / effort information.
 - (b) Monitoring of Catches
 - Record time, proportion of catch (e.g. proportion of trawl landing) or effort (e.g. number of hooks), and total numbers of each species caught.
 - Record numbers or proportions of each species retained or discarded.

(c) Biological Sampling

- Length-frequency data for target species.
- Length-frequency data for main by-catch species.
- Identification and counts of protected species.
- Basic biological data (sex, maturity) for target species.
- Check for presence of tags.
- Otoliths (and stomach samples, if being collected) for target species.
- Basic biological data for by-catch species.
- Biological samples of by-catch species (if being collected)
- Photos

3. The monitoring of catches and biological sampling procedures should be prioritised among species groups as follows:

Species	Priority (1 highest)
Primary target species (such as North Pacific armorhead and splendid alfonso)	1
Other species typically within top 10 in the fishery (such as mirror dory, and oreos)	2
Protected species	3
All other species	4

The allocation of observer effort among these activities will depend on the type of operation and setting. The size of sub-samples relative to unobserved quantities (e.g. number of hooks/panels examined for species composition relative to the number of hooks/panels retrieved) should be explicitly recorded under the guidance of member country observer programmes.

K. Coding Specifications to be used for Recording Observer Data

1. Unless otherwise specified for specific data types, observer data are to be collected in accordance with the same coding specifications as specified in this Annex.
2. Coordinated Universal Time (UTC) is to be used to describe times.
3. Degrees and minutes are to be used to describe locations.
4. The following coding schemes are to be used:
 - (a) Species are to be described using the FAO 3 letter species codes or, if species do not have a FAO code, using scientific names.
 - (b) Fishing methods are to be described using the International Standard Classification of Fishing Gear (ISSCFG - 29 July 1980) codes.
 - (c) Types of fishing vessel are to be described using the International Standard Classification of Fishery Vessels (ISSCFV) codes.
5. Metric units of measure are to be used, specifically:
 - (a) Kilograms are to be used to describe catch weight.
 - (b) Metres are to be used to describe height, width, depth, beam or length.

- (c) Cubic metres are to be used to describe volume.
- (d) Kilowatts are to be used to describe engine power.

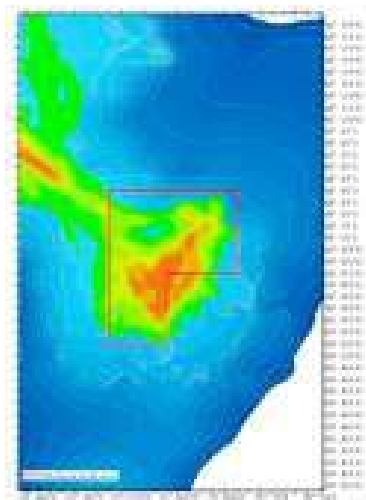
Annex 6

Implementation of the Adaptive Management for North Pacific armorhead**1. Monitoring survey for the detection of strong recruitment of North Pacific armorhead****(1) Location of monitoring surveys**

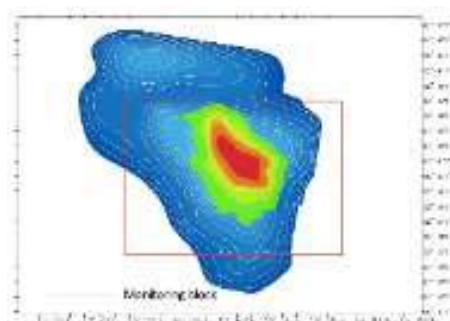
Monitoring surveys for the detection of strong recruitment of North Pacific armorhead will be conducted by trawl fishing vessels in the pre-determined four (24) monitoring blocks of Koko (South eastern), Yuryaku, Kammu (North western) and/or Colahan seamounts.

Monitoring blocks

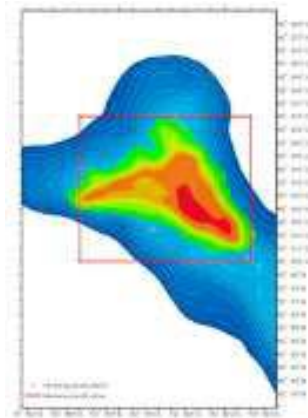
- (1) Koko seamount ($34^{\circ}51' - 35^{\circ}04'N$, $171^{\circ}49' - 172^{\circ}00' E$)



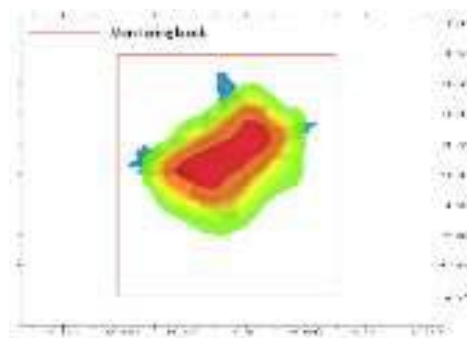
- (2) Yuryaku seamount ($32^{\circ}35' - 32^{\circ}45'N$, $172^{\circ}10' - 172^{\circ}24'E$)



(3) Kammu seamount (32°10'–32°21'N, 172°44'–172°57'E)



(4) Colahan seamount (30°57'–31°05'N, 175°50'–175°57'E)



(2) Schedule for monitoring surveys

Monitoring surveys will be conducted from March 1st to June 30th each year, with at least a one week interval between monitoring surveys. For each survey, a trawl fishing vessel will conduct a monitoring survey in one of the four monitoring blocks that is the nearest from the location of the trawl fishing vessel at the time of prior notification in (4) below. The base schedule for monitoring surveys will be notified to the Executive Secretary by the end of February of each year. The base schedule may be revised during the year subject to prior notification to the Executive Secretary.

(3) Data to be collected during monitoring surveys

For each monitoring survey, a trawl net will be towed for one hour. A scientific observer onboard the trawl fishing vessel will calculate nominal-CPUE (kg/hour) of North Pacific armorhead. The scientific observer will also calculate fat index* (FI) of randomly sampled 100 individuals of North Pacific armorhead by measuring fork length (FL) and body height (BH) of each individual.

(*fat index (FI) = body height (BH) / fork length (FL))

(4) Prior notifications and survey results

At least three (3) days before each survey, a prior notification with monitoring date/time, location and trawl fishing vessel name will be provided by the flag state of the trawl fishing vessel to the Executive Secretary.

No later than three (3) days after each survey, the survey result including date/time, location, catch, nominal-CPUE (kg/hour) and percentage of fish with fat index (FI)>0.3 will be provided by the flag state to the Executive Secretary.

The Executive Secretary will circulate these prior notifications and survey results to all Members of the Commission without delay.

2. Areas where bottom fishing with trawl gear is prohibited when high recruitment is detected

(1) Criteria for a high recruitment

It is considered that high recruitment has occurred if the following criteria are met in four (4) consecutive monitoring surveys.

- Nominal CPUE > 10t/h
- Individuals of fat index (FI)> 0.3 account for 80% or more

(2) Areas where bottom fishing with trawl gear is prohibited

Bottom fishing with trawl gear shall be prohibited in the following two (2) seamount areas (*) during the year when high recruitment is detected. In such a case, all monitoring surveys scheduled during the year will be cancelled.

- Northern part of Kammu seamount (north of 32°10.0' N)
- Yuryaku seamount

(*) The catch of North Pacific armorhead in the above two seamounts accounts for a half of the total catch in the entire Emperor Seamounts area based on the catch records in 2010 and 2012.

(3) Notification by the Secretariat

When the criteria for high recruitment are met as defined in 2(1) above, the Executive Secretary will notify all Members of the Commission of the fact with a defined date/time from which bottom fishing with trawl gear is prohibited in the areas as defined in 2(2) above until the end of the year.

CMM 2024-06

(Entered into force 24 July 2024)

**CONSERVATION AND MANAGEMENT MEASURE
FOR BOTTOM FISHERIES AND PROTECTION OF VULNERABLE MARINE
ECOSYSTEMS IN THE NORTHEASTERN PACIFIC OCEAN**

The North Pacific Fisheries Commission (NPFC):

Seeking to ensure the long term conservation and sustainable use of the fishery resources of the Northeastern Pacific Ocean and, in so doing, protect the vulnerable marine ecosystems that occur there, in accordance with the Sustainable Fisheries Resolutions adopted by the United Nations General Assembly (UNGA) including, in particular, paragraphs 66 to 71 of the UNGA59/25 in 2004, paragraphs 69 to 74 of UNGA60/31 in 2005, paragraphs 69 and 80 to 91 of UNGA61/105 in 2006, and paragraphs 113 to 124 of UNGA64/72 in 2009;

Recalling that paragraph 85 of UNGA 61/105 calls upon participants in negotiations to establish regional fisheries management organizations or arrangements with the competence to regulate bottom fisheries to adopt permanent measures in respect of the area of application of the instruments under negotiation;

Noting that North Pacific Fisheries Commission has previously adopted interim measures for the Northeastern Pacific Ocean;

Conscious of the need to adopt permanent measures for the Northeastern Pacific Ocean to ensure that this area is not left as the only major area of the Pacific Ocean where no such measures are in place;

Hereby adopt the following Conservation and Management Measure (CMM) for bottom fisheries of the Northeastern Pacific Ocean while working to develop and implement other permanent management arrangements to govern these and other fisheries in the North Pacific Ocean.

Scope

1. These Measures are to be applied to all bottom fishing activities throughout the high seas areas of the Northeastern Pacific Ocean, defined, for the purposes of this document, as those occurring in the Convention Area as set out in Article 4 of the Convention text to the east of the line of 175 degrees W longitude (here in after called “the eastern part of the Convention Area”) including all such areas and marine species other than those species already covered by existing international fisheries management instruments, including bilateral agreements and Regional Fisheries Management Organizations or Arrangements.

For the purpose of these Measures, the term vulnerable marine ecosystems is to be interpreted and applied in a manner consistent with the International Guidelines on the Management of Deep Sea Fisheries on the High Seas adopted by the FAO on 29 August 2008 (see Annex 2 for further details).

2. The implementation of these Measures shall:
 - a. be based on the best scientific information available in accordance with existing international laws and agreements including UNCLOS and other relevant international instruments,
 - b. establish appropriate and effective conservation and management measures,
 - c. be in accordance with the precautionary approach, and
 - d. incorporate an ecosystem approach to fisheries management.

3. Actions by Members of the Commission

Members of the Commission will take the following actions in respect of vessels operating under its Flag or authority in the area covered by these Measures:

- a. Conduct the assessments called for in paragraph 83(a) of UNGA Resolution 61/105, in a manner consistent with the FAO Guidelines and the Standards and Criteria included in Annex 2;
- b. Submit to the SC their assessments conducted pursuant to subparagraph (a) of this paragraph, including all relevant data and information in support of any such assessment, and receive advice and recommendations from the SC, in accordance with the procedures in Annex 3;

- c. Taking into account all advice and recommendations received from the SC, determine whether the fishing activity or operations of the vessel in question are likely to have a significant adverse impact on any vulnerable marine ecosystem;
- d. If it is determined that the fishing activity or operations of the vessel or vessels in question would have a significant adverse impact on vulnerable marine ecosystems, adopt conservation and management measures to prevent such impacts on the basis of advice and recommendations of the SC, which are subject to adoption by the Commission;
- e. Ensure that if any vessels are already engaged in bottom fishing, that such assessments have been carried out in accordance with paragraph 119(a)/UNGA RES 2009, the determination called for in subparagraph (c) of this paragraph has been rendered and, where appropriate, managements measures have been implemented in accordance with the advice and recommendations of the SC, which are subject to adoption by the Commission;
- f. Further ensure that they will only authorize fishing activities on the basis of such assessments and any comments and recommendations from the SC;
- g. Prohibit its vessels from engaging in directed fishing on the following taxa: black corals (Antipatharia), gorgonians, pennatulaceans, stony corals (Scleractinia), soft corals, the classes of Demospongiae and Hexactinellida in the phylum Porifera as well as any other indicator species for vulnerable marine ecosystems as may be identified from time to time by the SC and approved by the Commission;
- h. In respect of areas where vulnerable marine ecosystems are known to occur or are likely to occur, based on the best available scientific information, ensure that bottom fishing activities do not proceed unless conservation and management measures have been established to prevent significant adverse impacts on vulnerable marine ecosystems;
- i. Limit fishing effort in bottom fisheries on the Eastern part of the Convention Area to the level of a historical average (baseline to be determined through consensus in the SC based on information to be provided by Members) in terms of the number of fishing vessels and other parameters which reflect the level of fishing effort, fishing capacity or potential impacts on marine ecosystems dependent on new SC advice;
- j. Further, considering accumulated information regarding fishing activities in the Eastern part of the Convention Area, in areas where, in the course of fishing operations with pot gear, cold water corals that exceed 2Kg or sponges (Demospongiae and Hexactinellida) that exceed 5Kg are encountered in one gear retrieval, Members of the Commission shall require

vessels flying their flag to cease bottom fishing activities in that location. In the course of fishing operations with all other gears, cold water corals that exceed 50Kg or sponges (Demospongiae and Hexactinellida) that exceed 350Kg are encountered in one gear retrieval, Members of the Commission shall require vessels flying their flag to cease bottom fishing activities in that location. In such cases, the vessel shall not resume fishing activities until it has relocated a sufficient distance, which shall be no less than 1 nautical mile, so that additional encounters with VMEs are unlikely. All such encounters, including the location, gear type, date, time and name and weight of the VME indicator species, shall be reported to the Secretariat, through the Member, within one business day. The Executive Secretary shall notify the other Members of the Commission and at the same time implement a temporary closure in the area to prohibit its bottom fishing vessels from contacting the sea floor with their trawl nets. Members shall inform their fleets and enforcement operations within one business day of the receipt of the notification from the Executive Secretary. It is agreed that the VME indicator taxa include cold water corals black corals (Antipatharia), gorgonians, pennatulaceans, stony corals (Scleractinia), and soft corals. The VME indicator taxa also include the classes of Demospongiae and Hexactinellida in the phylum Porifera.

- k. Based on all the available data, including data on the VME encounter and distribution received from the fishing vessel(s), research survey data, visual survey data, and/or model results, the Scientific Committee (SC) shall assess and conclude if the area has a VME. If so, the SC shall recommend to the Commission that the temporary closure be made permanent, although the boundary of the closure may be adjusted, or suggest other appropriate measures. Otherwise, the Executive Secretary shall inform the Members that they may reopen the area to their vessels.
- l. Prohibit bottom fishing vessels from fishing in the following areas in order to achieve sustainable protection of VMEs in the eastern part of the Convention Area:

Area	Latitude	Longitude
Northwestern Cobb Seamount	46.8178 N	130.872 W
	46.7703 N	130.861 W
	46.8277 N	130.825 W
	46.7802 N	130.814W
Northeastern Cobb Seamount	46.7759 N	130.735 W
	46.7675 N	130.694 W
	46.7482 N	130.756 W
	46.7399 N	130.716 W

4. All assessments and determinations by any Member as to whether fishing activity would have significant adverse impacts on vulnerable marine ecosystems, as well as measures adopted in order to prevent such impacts, will be made publicly available through agreed means.

Control of Bottom Fishing Vessels

5. Members will exercise full and effective control over each of their bottom fishing vessels operating in the high seas of the Northeastern Pacific Ocean, including by means of fishing licenses, authorizations or permits, and maintenance of a record of these vessels as outlined in the Convention and applicable CMM.
6. New and exploratory fishing will be subject to the exploratory fishery protocol included as Annex 1.

Scientific Committee (SC)

7. Scientific Committee will provide scientific support for the implementation of these CMMs.

Scientific Information

8. The Members shall provide all available information as required by the Commission for any current or historical fishing activity by their flag vessels, including the number of vessels by gear type, size of vessels (tons), number of fishing days or days on the fishing grounds, total catch by species, areas fished (names or coordinates of seamounts), and information from scientific observer programmes (see Annexes 4 and 5) to the NPFC Secretariat as soon as possible and no

later than one month prior to SC meeting. The Secretariat will make such information available to SC.

Scientific research activities for stock assessment purposes are to be conducted in accordance with a research plan that has been provided to SC prior to the commencement of such activities.

Annex 1

EXPLORATORY FISHERY PROTOCOL IN THE NORTH PACIFIC OCEAN

1. From 1 January 2009, all bottom fishing activities in new fishing areas and areas where fishing is prohibited in a precautionary manner or with bottom gear not previously used in the existing fishing areas, are to be considered as “exploratory fisheries” and to be conducted in accordance with this protocol.

2. Precautionary conservation and management measures, including catch and effort controls, are essential during the exploratory phase of deep sea fisheries. Implementation of a precautionary approach to sustainable exploitation of deep sea fisheries shall include the following measures:

- i. precautionary effort limits, particularly where reliable assessments of sustainable exploitation rates of target and main by-catch species are not available;
- ii. precautionary measures, including precautionary spatial catch limits where appropriate, to prevent serial depletion of low-productivity stocks;
- iii. regular review of appropriate indices of stock status and revision downwards of the limits listed above when significant declines are detected;
- iv. measures to prevent significant adverse impacts on vulnerable marine ecosystems; and
- v. comprehensive monitoring of all fishing effort, capture of all species and interactions with VMEs.

3. When a member of the Commission would like to conduct exploratory fisheries, it is to follow the following procedure:

(1) Prior to the commencement of fishing, the member of the Commission is to circulate the information and assessment in Appendix 1.1 to the members of the Scientific Committee (SC) for review and to all members of the Commission for information, together with the impact assessment. Such information is to be provided to the other members at least 30 days in advance of the meeting at which the information shall be reviewed.

(2) The assessment in (1) above is to be conducted in accordance with the procedure set forth in “Science-based Standards and Criteria for Identification of VMEs and Assessment of Significant Adverse Impacts on VMEs and Marine Species (Annex 2)”, with the understanding that particular care shall be taken in the evaluation of risks of the significant adverse impact on vulnerable marine ecosystems (VMEs), in line with the precautionary approach.

(3) The SC is to review the information and the assessment submitted in (1) above in accordance with “SC Assessment Review Procedures for Bottom Fishing Activities (Annex 3).”

(4) The exploratory fisheries are to be permitted only where the assessment concludes that they would not have significant adverse impacts (SAIs) on marine species or any VMEs and on the basis of comments and recommendations of SC. Any determinations, by any Member of the Commission or the SC, that the exploratory fishing activities would not have SAIs on marine species or any VMEs, shall be made publicly available through the NPFC website.

4. The member of the Commission is to ensure that all vessels flying its flag conducting exploratory fisheries are equipped with a satellite monitoring device and have an observer on board at all times.

5. Within 3 months of the end of the exploratory fishing activities or within 12 months of the commencement of fishing, whichever occurs first, the member of the Commission is to provide a report of the results of such activities to the members of the SC and all members of the Commission. If the SC meets prior to the end of this 12-month period, the member of the Commission is to provide an interim report 30 days in advance of the SC meeting. The information to be included in the report is specified in Appendix 1.2.

6. The SC is to review the report in 5 above and decide whether the exploratory fishing activities had SAIs on marine species or any VME. The SC then is to send its recommendations to the Commission on whether the exploratory fisheries can continue and whether additional management measures shall be required if they are to continue. The Commission is to strive to adopt conservation and management measures to prevent SAIs on marine species or any VMEs. If the Commission is not able to reach consensus on any such measures, each fishing member of the Commission is to adopt measures to avoid any SAIs on VMEs.

7. Members of the Commission shall only authorize continuation of exploratory fishing activity, or commencement of commercial fishing activity, under this protocol on the basis of comments and recommendations of the SC.

8. The same encounter protocol should be applied in both fished and unfished areas specified in Annex 2, paragraph 4(1)(a).

Appendix 1.1

Information to be provided before exploratory fisheries start

1. A harvesting plan

- Name of vessel
- Flag member of vessel
- Description of area to be fished (location and depth)
- Fishing dates
- Anticipated effort
- Target species
- Bottom fishing gear-type used
- Area and effort restrictions to ensure that fisheries occur on a gradual basis in a limited geographical area.

2. A mitigation plan

- Measures to prevent SAIs to VMEs that may be encountered during the fishery

3. A catch monitoring plan

- Recording/reporting of all species brought onboard to the lowest possible taxonomic level
- 100% satellite monitoring
- 100% observer coverage

4. A data collection plan

- Data is to be collected in accordance with “Type and Format of Scientific Observer Data to be

Collected” (Annex 5)

Appendix 1.2

Information to be included in the report

- Name of vessel
- Flag member of vessel
- Description of area fished (location and depth)
- Fishing dates
- Total effort
- Bottom fishing gear-type used
- List of VME encountered (the amount of VME indicator species for each encounter specifying the location: longitude and latitude)
- Mitigation measures taken in response to the encounter of VME
- List of all organisms brought onboard
- List of VMEs indicator species brought onboard by location: longitude and latitude

Annex 2

**SCIENCE-BASED STANDARDS AND CRITERIA FOR IDENTIFICATION OF VMES
AND ASSESSMENT OF SIGNIFICANT ADVERSE IMPACTS ON VMES AND MARINE
SPECIES**

1. Introduction

Members of the Commission have hereby established science-based standards and criteria to guide their implementation of United Nations General Assembly (UNGA) Resolution 61/105 and the measures adopted by the Members in respect of bottom fishing activities in the North Pacific Ocean (NPO). In this regard, these science-based standards and criteria are to be applied to identify vulnerable marine ecosystems (VMEs) and assess significant adverse impacts (SAIs) of bottom fishing activities on such VMEs or marine species and to promote the long-term sustainability of deep sea fisheries in the Convention Area. The science-based standards and criteria are consistent with the FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas, taking into account the work of other RFMOs implementing management of deep-sea bottom fisheries in accordance with UNGA Resolution 61/105. The standards and criteria are to be modified from time to time as more data are collected through research activities and monitoring of fishing operations.

2. Purpose

(1) The purpose of the standards and criteria is to provide guidelines for each member of the Commission in identifying VMEs and assessing SAIs of individual bottom fishing activities¹ on VMEs or marine species in the Convention Area. Each member of the Commission, using the best information available, is to decide which species or areas are to be categorized as VMEs, identify areas where VMEs are known or likely to occur, and assess whether individual bottom fishing activities would have SAIs on such VMEs or marine species. The results of these tasks are to be submitted to and reviewed by the Scientific Committee with a view to reaching a common understanding among the members of the Commission.

(2) For the purpose of applying the standards and criteria, the bottom fisheries are defined as

¹ “individual bottom fishing activities” means fishing activities by each fishing gear. For example, if ten fishing vessels operate bottom trawl fishing in a certain area, the impacts of the fishing activities of these vessels on the ecosystem are to be assessed as a whole rather than on a vessel-by-vessel basis. It should be noted that if the total number or capacity of the vessels using the same fishing gear has increased, the impacts of the fishing activities are to be assessed again.

follows:

- (a) The fisheries are conducted in the Convention Area;
- (b) The total catch (everything brought up by the fishing gear) includes species that can only sustain low exploitation rates; and
- (c) The fishing gear is likely to contact the seafloor during the normal course of fishing operations

3. Definition of VMEs

(1) Although Paragraph 83 of UNGA Resolution 61/105 refers to seamounts, hydrothermal vents and cold water corals as examples of VMEs, there is no definitive list of specific species or areas that are to be regarded as VMEs.

(2) Vulnerability is related to the likelihood that a population, community or habitat will experience substantial alteration by fishing activities and how much time will be required for its recovery from such alteration. The most vulnerable ecosystems are those that are both easily disturbed and are very slow to recover, or may never recover. The vulnerabilities of populations, communities and habitats are to be assessed relative to specific threats. Some features, particularly ones that are physically fragile or inherently rare may be vulnerable to most forms of disturbance, but the vulnerability of some populations, communities and habitats may vary greatly depending on the type of fishing gear used or the kind of disturbance experienced. The risks to a marine ecosystem are determined by its vulnerability, the probability of a threat occurring and the mitigation means applied to the threat. Accordingly, the FAO Guidelines only provide examples of potential vulnerable species groups, communities and habitats as well as features that potentially support them (Annex 2.1).

(3) A marine ecosystem is to be classified as vulnerable based on its characteristics. The following list of characteristics is used as criteria in the identification of VMEs.

- (a) Uniqueness or rarity - an area or ecosystem that is unique or that contains rare species whose loss could not be compensated for by other similar areas. These include:
 - (i) Habitats that contain endemic species;
 - (ii) Habitats of rare, threatened or endangered species that occur in discrete areas;
 - (iii) Nurseries or discrete feeding, breeding, or spawning areas

(b) Functional significance of the habitat – discrete areas or habitats that are necessary for the survival, function, spawning/reproduction or recovery of fish stocks, particular life-history stages (e.g. nursery grounds or rearing areas), or of rare, threatened or endangered marine species.

(c) Fragility – an ecosystem that is highly susceptible to degradation by anthropogenic activities

(d) Life-history traits of component species that make recovery difficult – ecosystems that are characterized by populations or assemblages of species with one or more of the following characteristics:

- (i) Slow growth rates
- (ii) Late age of maturity
- (iii) Low or unpredictable recruitment
- (iv) Long-lived

(e) Structural complexity – an ecosystem that is characterized by complex physical structures created by significant concentrations of biotic and abiotic features. In these ecosystems, ecological processes are usually highly dependent on these structured systems. Further, such ecosystems often have high diversity, which is dependent on the structuring organisms.

(4) Management response may vary, depending on the size of the ecological unit in the Convention Area. Therefore, the spatial extent of the ecological unit is to be decided first. For example, whether the ecological unit is a group of seamounts, or an individual seamount in the Convention Area, is to be decided using the above criteria.

4. Identification of potential VMEs

(1) Fished seamounts

(a) Identification of fished seamounts

It is reported that two types of fishing gear are currently used by members of the Commission in the NE area, namely long-line hook and long-line trap. The footprint of the bottom fisheries (fished seamounts) is identified based on the available fishing record. The following seamounts have been identified as fished seamounts at some point in the

past: Brown Bear, Cobb, Warwick, Eickelberg, Pathfinder, Miller, Murray, Cowie, Surveyor, Pratt, and Durgin. It is important to establish, to the extent practicable, a time series of where and when these gears have been used in order to assess potential long-term effects on any existing VMEs.

Fishing effort may not be evenly distributed on each seamount since fish aggregation may occur only at certain points of the seamount and some parts of the seamount may be physically unsuitable for certain fishing gears. Thus, it is important to know actual fished areas within the same seamount so as to know the gravity of the impact of fishing activities on the entire seamount.

Due consideration is to be given to the protection of commercial confidentiality when identifying actual fishing grounds.

(b) Assessment on whether a specific seamount that has been fished is a VME

After identifying the fished seamounts or fished areas of seamounts, it is necessary to assess whether each fished seamount is a VME or contains VMEs in accordance with the criteria in 3 above, individually or in combination using the best available scientific and technical information as well as Annex 2.1. A variety of data would be required to conduct such assessment, including pictures of seamounts taken by an ROV camera or drop camera, biological samples collected through research activities and observer programs, and detailed bathymetry map. Where site-specific information is lacking, other information that is relevant to inferring the likely presence of VMEs is to be used. The flow chart to identify data that can be used to identify VMEs is attached in Annex 2.3.

(2) New fishing areas

Any place other than the fished seamounts above is to be regarded as a new fishing area. If a member of the Commission is considering fishing in a new fishing area, such a fishing area is to be subject to, in addition to these standards and criteria, an exploratory fishery protocol (Annex 1).

5. Assessment of SAIs on VMEs or marine species

(1) Significant adverse impacts are those that compromise ecosystem integrity (i.e., ecosystem structure or function) in a manner that: (i) impairs the ability of affected populations to replace themselves; (ii) degrades the long-term natural productivity of habitats; or (iii) causes, on more than a temporary basis, significant loss of species richness, habitat or community types. Impacts are to be evaluated individually, in combination and cumulatively.

(2) When determining the scale and significance of an impact, the following six factors are to be considered:

- (a) The intensity or severity of the impact at the specific site being affected;
- (b) The spatial extent of the impact relative to the availability of the habitat type affected;
- (c) The sensitivity/vulnerability of the ecosystem to the impact;
- (d) The ability of an ecosystem to recover from harm, and the rate of such recovery;
- (e) The extent to which ecosystem functions may be altered by the impact; and
- (f) The timing and duration of the impact relative to the period in which a species needs the habitat during one or more life-history stages.

(3) Temporary impacts are those that are limited in duration and that allow the particular ecosystem to recover over an acceptable timeframe. Such timeframes are to be decided on a case-by-case basis and be on the order of 5-20 years, taking into account the specific features of the populations and ecosystems.

(4) In determining whether an impact is temporary, both the duration and the frequency with which an impact is repeated is to be considered. If the interval between the expected disturbances of a habitat is shorter than the recovery time, the impact is to be considered more than temporary.

(5) Each member of the Commission is to conduct assessments to establish if bottom fishing activities are likely to produce SAIs in a given seamount or other VMEs. Such an impact assessment is to address, *inter alia*:

- (a) Type of fishing conducted or contemplated, including vessel and gear types, fishing areas, target and potential bycatch species, fishing effort levels and duration of fishing;
- (b) Best available scientific and technical information on the current state of fishery

- resources, and baseline information on the ecosystems, habitats and communities in the fishing area, against which future changes are to be compared;
- (c) Identification, description and mapping of VMEs known or likely to occur in the fishing area;
 - (d) The data and methods used to identify, describe and assess the impacts of the activity, identification of gaps in knowledge, and an evaluation of uncertainties in the information presented in the assessment
 - (e) Identification, description and evaluation of the occurrence, scale and duration of likely impacts, including cumulative impacts of activities covered by the assessment on VMEs and low-productivity fishery resources in the fishing area;
 - (f) Risk assessment of likely impacts by the fishing operations to determine which impacts are likely to be SAIs, particularly impacts on VMEs and low-productivity fishery resources (Risk assessments are to take into account, as appropriate, differing conditions prevailing in areas where fisheries are well established and in areas where fisheries have not taken place or only occur occasionally);
 - (g) The proposed mitigation and management measures to be used to prevent SAIs on VMEs and ensure long-term conservation and sustainable utilization of low-productivity fishery resources, and the measures to be used to monitor effects of the fishing operations.
- (6) Impact assessments are to consider, as appropriate, the information referred to in these Standards and Criteria, as well as relevant information from similar or related fisheries, species and ecosystems.
- (7) Where an assessment concludes that the area does not contain VMEs or that significant adverse impacts on VMEs or marine species are not likely, such assessments are to be repeated when there have been significant changes to the fishery or other activities in the area, or when natural processes are thought to have undergone significant changes.

6. Proposed conservation and management measures to prevent SAIs

As a result of the assessment in 5 above, if it is considered that individual fishing activities are causing or likely to cause SAIs on VMEs or marine species, the member of the Commission is to adopt appropriate conservation and management measures to prevent such SAIs. The member of

the Commission is to clearly indicate how such impacts are expected to be prevented or mitigated by the measures.

7. Precautionary approach

If after assessing all available scientific and technical information, the presence of VMEs or the likelihood that individual bottom fishing activities would cause SAIs on VMEs or marine species cannot be adequately determined, members of the Commission are only to authorize individual bottom fishing activities to proceed in accordance with:

- (a) Precautionary, conservation and management measures to prevent SAIs;
- (b) Measures to address unexpected encounters with VMEs in the course of fishing operations;
- (c) Measures, including ongoing scientific research, monitoring and data collection, to reduce the uncertainty; and
- (d) Measures to ensure long-term sustainability of deep sea fisheries.

8. Template for assessment report

Annex 2.2 is a template for individual member of the Commission to formulate reports on identification of VMEs and impact assessment.

ANNEX 2.1

EXAMPLES OF POTENTIAL VULNERABLE SPECIES GROUPS, COMMUNITIES AND HABITATS AS WELL AS FEATURES THAT POTENTIALLY SUPPORT THEM

The following examples of species groups, communities, habitats and features often display characteristics consistent with possible VMEs. Merely detecting the presence of an element itself is not sufficient to identify a VME. That identification is to be made on a case-by-case basis through application of relevant provisions of the Standards and Criteria, particularly Sections 3, 4 and 5.

Examples of species groups, communities and habitat forming species that are documented or considered sensitive and potentially vulnerable to deep-sea fisheries in the high-seas, and which may contribute to forming VMEs:

a.	certain coldwater corals, e.g., reef builders and coral forest including: stony corals (scleractinia), alcyonaceans and gorgonians (octocorallia), black corals (antipatharia), and hydrocorals (stylasteridae),
b.	Some types of sponge dominated communities,
c.	communities composed of dense emergent fauna where large sessile protozoans (xenophyphores) and invertebrates (e.g., hydroids and bryozoans) form an important structural component of habitat, and
d.	seep and vent communities comprised of invertebrate and microbial species found nowhere else (i.e., endemic).

Examples of topographical, hydrophysical or geological features, including fragile geological structures, that potentially support the species groups or communities, referred to above:

a.	submerged edges and slopes (e.g., corals and sponges),
b.	summits and flanks of seamounts, guyots, banks, knolls, and hills (e.g., corals, sponges, xenophyphores),
c.	canyons and trenches (e.g., burrowed clay outcrops, corals),
d.	hydrothermal vents (e.g., microbial communities and endemic invertebrates), and
e.	cold seeps (e.g., mud volcanoes, microbes, hard substrates for sessile invertebrates).

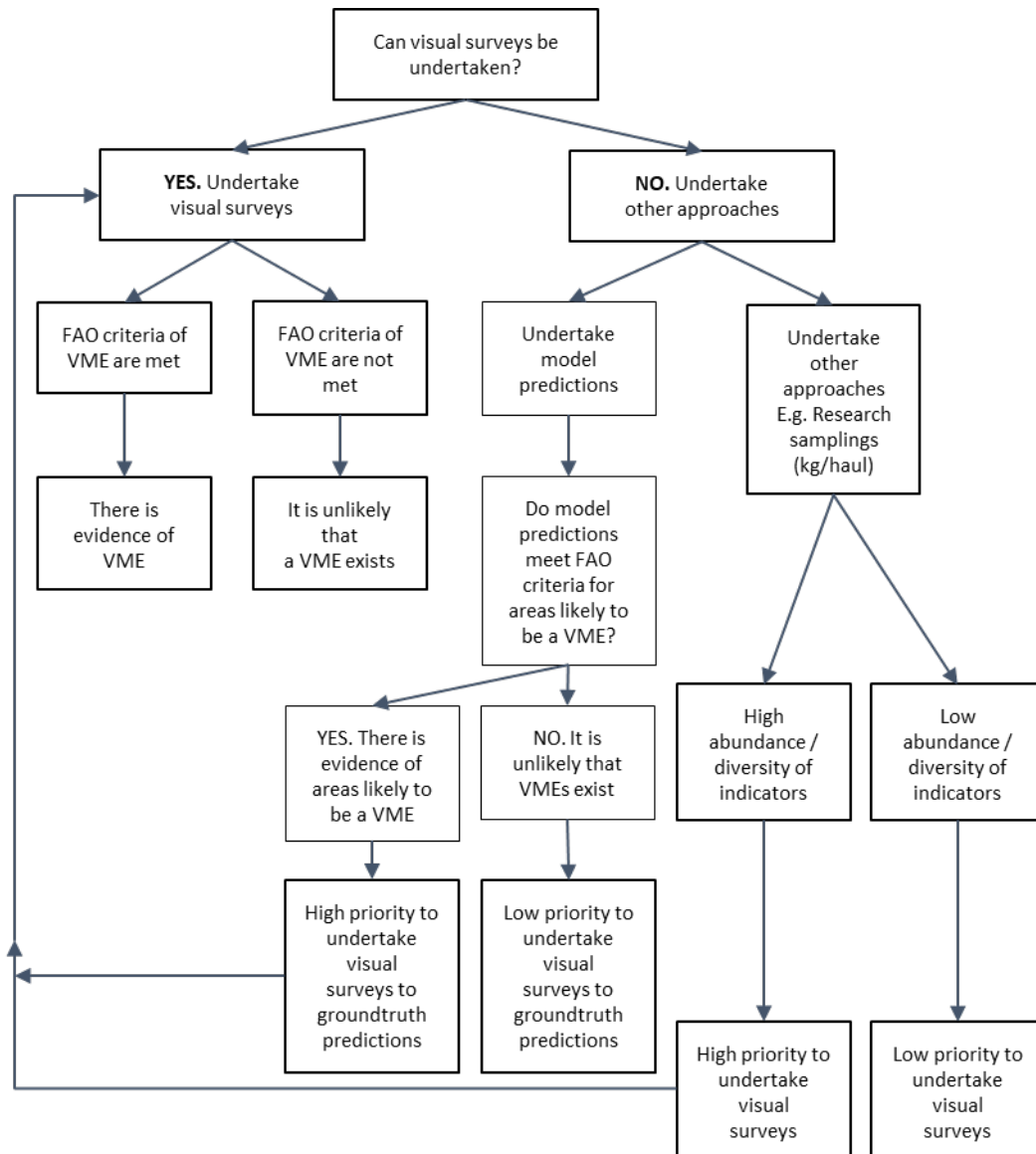
ANNEX 2.2

TEMPLATE FOR REPORTS ON IDENTIFICATION OF VMEs AND ASSESSMENT OF IMPACTS CAUSED BY INDIVIDUAL FISHING ACTIVITIES ON VMEs OR MARINE SPECIES

1. Name of the member of the Commission
2. Name of the fishery (e.g., bottom trawl, bottom gillnet, bottom longline, pot)
3. Status of the fishery (existing fishery or exploratory fishery)
4. Target species
5. Bycatch species
6. Recent level of fishing effort (every year at least since 2002)
 - (1) Number of fishing vessels
 - (2) Tonnage of each fishing vessel
 - (3) Number of fishing days or days on the fishing ground
 - (4) Fishing effort (total operating hours for trawl, # of hooks per day for long-line, # of pots per day for pot, total length of net per day for gillnet)
 - (5) Total catch by species
 - (6) Names of seamounts fished or to be fished
7. Fishing period
8. Analysis of status of fishery resources
 - (1) Data and methods used for analysis
 - (2) Results of analysis
 - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties
9. Analysis of status of bycatch species resources
 - (1) Data and methods used for analysis
 - (2) Results of analysis
 - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties
10. Analysis of existence of VMEs in the fishing ground

- (1) Data and methods used for analysis
 - (2) Results of analysis
 - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties
- 11. Impact assessment of fishing activities on VMEs or marine species including cumulative impacts, and identification of SAIs on VMEs or marine species, as detailed in Section 5 above, Assessment of SAIs on VMEs or marine species
 - 12. Other points to be addressed
 - 13. Conclusion (whether to continue or start fishing with what measures, or stop fishing).

Annex 2.3

Flow chart to identify data that can be used to identify VMEs in the NPFC Convention Area

Annex 3

**SCIENTIFIC COMMITTEE ASSESSMENT REVIEW PROCEDURES FOR BOTTOM
FISHING ACTIVITIES**

1. The Scientific Committee (SC) is to review identifications of vulnerable marine ecosystems (VMEs) and assessments of significant adverse impact on VMEs, including proposed management measures intended to prevent such impacts submitted by individual Members.
2. Members of the Commission shall submit their identifications and assessments to members of the SC at least 21 days prior to the SC meeting at which the review is to take place. Such submissions shall include all relevant data and information in support of such determinations.
3. The SC will review the data and information in each assessment in accordance with the Science-based Standards and Criteria for Identification of VMEs and Assessment of Significant Adverse Impacts on VMEs and Marine Species (Annex 2), previous decisions of the Commission, and the FAO Technical Guidelines for the Management of Deep Sea Fisheries in the High Seas, paying special attention to the assessment process and criteria specified in paragraphs 47-49 of the Guidelines.
4. In conducting the review above, the SC will give particular attention to whether the deep-sea bottom fishing activity would have a significant adverse impact on VMEs and marine species and, if so, whether the proposed management measures would prevent such impacts.
5. Based on the above review, the SC will provide advice and recommendations to the submitting Members on the extent to which the assessments and related determinations are consistent with the procedures and criteria established in the documents identified above; and whether additional management measures will be required to prevent SAIs on VMEs.
6. Such recommendations will be reflected in the report of the SC meeting at which the assessments are considered.

Annex 4

FORMAT OF NATIONAL REPORT SECTIONS ON DEVELOPMENT AND IMPLEMENTATION OF SCIENTIFIC OBSERVER PROGRAMMES

Report Components

Annual Observer Programme implementation reports should form a component of annual National Reports submitted by members to the Scientific Committee. These reports should provide a brief overview of observer programmes conducted in the NPFC Convention Area. Observer programme reports should include the following sections:

A. Observer Training

An overview of observer training conducted, including:

- Overview of training programme provided to scientific observers.
- Number of observers trained.

B. Scientific Observer Programme Design and Coverage

Details of the design of the observer programme, including:

- Which fleets, fleet components or fishery components were covered by the programme.
- How vessels were selected to carry observers within the above fleets or components.
- How was observer coverage stratified: by fleets, fisheries components, vessel types, vessel sizes, vessel ages, fishing areas and seasons.

Details of observer coverage of the above fleets, including:

- Components, areas, seasons and proportion of total catches of target species, specifying units used to determine coverage.
- Total number of observer employment days, and number of actual days deployed on observation work.

C. Observer Data Collected

List of observer data collected against the agreed range of data set out in Annex 5, including:

- Effort Data: Amount of effort observed (vessel days, net panels, hooks, etc), by area and season and % observed out of total by area and seasons
- Catch Data: Amount of catch observed of target and by-catch species, by area and season, and % observed out of total estimated catch by species, area and seasons
- Length Frequency Data: Number of fish measured per species, by area and season.
- Biological Data: Type and quantity of other biological data or samples (otoliths, sex, maturity, etc) collected per species.
- The size of length-frequency and biological sub-samples relative to unobserved quantities.

D. Detection of Fishing in Association with Vulnerable Marine Ecosystems

- Information about VME encounters (species and quantity in accordance with Annex 5, H, 2).

E. Tag Return Monitoring

- Number of tags returns observed, by fish size class and area.

F. Problems Experienced

- Summary of problems encountered by observers and observer managers that could affect the NPFC Observer Programme Standards and/or each member's national observer programme developed under the NPFC standards.

Annex 5

**NPFC BOTTOM FISHERIES
OBSERVER PROGRAMME STANDARDS: SCIENTIFIC COMPONENT**

TYPE AND FORMAT OF SCIENTIFIC OBSERVER DATA TO BE COLLECTED

A. Vessel & Observer Data to be collected for Each Trip

1. Vessel and observer details are to be recorded only once for each observed trip.
2. The following observer data are to be collected for each observed trip:
 - a) NPFC vessel ID
 - b) Observer's name.
 - c) Observer's organisation.
 - d) Date observer embarked (UTC date).
 - e) Port of embarkation.
 - f) Date observer disembarked (UTC date).
 - g) Port of disembarkation.

B. Catch & Effort Data to be collected for Trawl Fishing Activity

1. Data are to be collected on an un-aggregated (tow by tow) basis for all observed trawls.
2. The following data are to be collected for each observed trawl tow:
 - a) Tow start date (UTC).
 - b) Tow start time (UTC).
 - c) Tow end date (UTC).
 - d) Tow end time (UTC).
 - e) Tow start position (Lat/Lon, 1 minute resolution).
 - f) Tow end position (Lat/Lon, 1 minute resolution).
 - g) Type of trawl, bottom or mid-water.
 - h) Type of trawl, single, double or triple.
 - i) Height of net opening (m).
 - j) Width of net opening (m).
 - k) Mesh size of the cod-end net (stretched mesh, mm) and mesh type (diamond, square, etc).
 - l) Gear depth (of footrope) at start of fishing (m).

- m) Bottom (seabed) depth at start of fishing (m).
- n) Gear depth (of footrope) at end of fishing (m).
- o) Bottom (seabed) depth at end of fishing (m).
- p) Status of the trawl operation (no damage, lightly damaged*, heavily damaged*, other (specify)). *Degree may be evaluated by time for repairing (≤ 1 hr or > 1 hr)
- q) Duration of estimated period of seabed contact (minute)
- r) Intended target species.
- s) Catch of all species retained on board, split by species, in weight (to the nearest kg).
- t) Estimate of the amount (weight or volume) of all living marine resources discarded, split by species.
- u) Record of the numbers by species of all marine mammals, seabirds or reptiles caught.

C. Catch & Effort Data to be collected for Bottom Gillnet Fishing Activity

1. Data are to be collected on an un-aggregated (set by set) basis for all observed bottom gillnet sets.
2. The following data are to be collected for each observed bottom gillnet set:
 - a) Set start date (UTC).
 - b) Set start time (UTC).
 - c) Set end date (UTC).
 - d) Set end time (UTC).
 - e) Set start position (Lat/Lon, 1 minute resolution).
 - f) Set end position (Lat/Lon, 1 minute resolution).
 - g) Net panel ("tan") length (m).
 - h) Net panel ("tan") height (m).
 - i) Net mesh size (stretched mesh, mm) and mesh type (diamond, square, etc)
 - j) Bottom depth at start of setting (m).
 - k) Bottom depth at end of setting (m).
 - l) Number of net panels for the set.
 - m) Number of net panels retrieved.
 - n) Number of net panels actually observed during the haul.
 - o) Actually observed catch of all species retained on board, split by species, in weight (to the nearest kg).

- p) An estimation of the amount (numbers or weight) of marine resources discarded, split by species, during the actual observation.
- q) Record of the actually observed numbers by species of all marine mammals, seabirds or reptiles caught.
- r) Intended target species.
- s) Catch of all species retained on board, split by species, in weight (to the nearest kg).
- t) Estimate of the amount (weight or volume) of all marine resources discarded* and dropped-off, split by species. * Including those retained for scientific samples.
- u) Record of the numbers by species of all marine mammals, seabirds or reptiles caught (including those discarded and dropped-off).

D. Catch & Effort Data to be collected for Bottom Long Line Fishing Activity

1. Data are to be collected on an un-aggregated (set by set) basis for all observed longline sets.
2. The following fields of data are to be collected for each set:
 - a) Set start date (UTC).
 - b) Set start time (UTC).
 - c) Set end date (UTC).
 - d) Set end time (UTC).
 - e) Set start position (Lat/Lon, 1 minute resolution).
 - f) Set end position (Lat/Lon, 1 minute resolution).
 - g) Total length of longline set (m).
 - h) Number of hooks or traps for the set.
 - i) Bottom (seabed) depth at start of set.
 - j) Bottom (seabed) depth at end of set.
 - k) Number of hooks or traps actually observed during the haul.
 - l) Intended target species.
 - m) Actually observed catch of all species retained on board, split by species, in weight (to the nearest kg).

- n) An estimation of the amount (numbers or weight) of marine resources discarded* or dropped-off, split by species, during the actual observation. * Including those retained for scientific samples.
- o) Record of the actually observed numbers by species of all marine mammals, seabirds or reptiles caught (including those discarded and dropped-off).

E. Length-Frequency Data to Be Collected

1. Representative and randomly distributed length-frequency data (to the nearest mm, with record of the type of length measurement taken) are to be collected for representative samples of the target species and other main by-catch species. Total weight of length-frequency samples should be recorded, and observers may be required to also determine sex of measured fish to generate length-frequency data stratified by sex. The length-frequency data may be used as potential indicators of ecosystem changes (for example, see: Gislason, H. et al. (2000. ICES J Mar Sci 57: 468-475), Yamane et al. (2005. ICES J Mar Sci, 62: 374-379), and Shin, Y-J. et al. (2005. ICES J Mar Sci, 62: 384-396)).
2. The numbers of fish to be measured for each species and distribution of samples across area and month strata should be determined, to ensure that samples are properly representative of species distributions and size ranges.

F. Biological sampling to be conducted (optional for gillnet and long line fisheries)

1. The following biological data are to be collected for representative samples of the main target species and, time permitting, for other main by-catch species contributing to the catch:
 - a) Species
 - b) Length (to the nearest mm), with record of the type of length measurement used.
 - c) Length and depth in case of North Pacific armorhead.
 - d) Sex (male, female, indeterminate, not examined)
 - e) Maturity stage (immature, mature, ripe, ripe-running, spent)

2. Representative stratified samples of otoliths are to be collected from the main target species and, time permitting, from other main by-catch species regularly occurring in catches. All otoliths to be collected are to be labelled with the information listed in 1 above, as well as the date, vessel name, observer name and catch position.
3. Where specific trophic relationship projects are being conducted, observers may be requested to also collect stomach samples from certain species. Any such samples collected are also to be labelled with the information listed in 1 above, as well as the date, vessel name, observer name and catch position.
4. Observers may also be required to collect tissue samples as part of specific genetic research programmes implemented by the SC.
5. Observers are to be briefed and provided with written length-frequency and biological sampling protocols and priorities for the above sampling specific to each observer trip.

G. Data to be collected on Incidental Captures of Protected Species

1. Flag members operating observer programs are to develop, in cooperation with the SC, lists and identification guides of protected species or species of concern (seabirds, marine mammals or marine reptiles) to be monitored by observers.
2. The following data are to be collected for all protected species caught in fishing operations:
 - a) Species (identified as far as possible, or accompanied by photographs if identification is difficult).
 - b) Count of the number caught per tow or set.
 - c) Life status (vigorous, alive, lethargic, dead) upon release.
 - d) Whole specimens (where possible) for onshore identification. Where this is not possible, observers may be required to collect sub-samples of identifying parts, as specified in biological sampling protocols.

H. Detection of Fishing in Association with Vulnerable Marine Ecosystems

1. The SC is to develop a guideline, species list and identification guide for benthic species (e.g. sponges, sea fans, corals) whose presence in a catch will indicate that fishing occurred in association with a vulnerable marine ecosystem (VME). All observers on vessels are to be provided with copies of this guideline, species list and ID guide.
2. For each observed fishing operation, the following data are to be collected for all species caught, which appear on the list of vulnerable benthic species:
 - a) Species (identified as far as possible, or accompanied by a photograph where identification is difficult).
 - b) An estimate of the quantity (weight (kg) or volume (m³)) of each listed benthic species caught in the fishing operation.
 - c) An overall estimate of the total quantity (weight (kg) or volume (m³)) of all invertebrate benthic species caught in the fishing operation.
 - d) Where possible, and particularly for new or scarce benthic species which do not appear in ID guides, whole samples should be collected and suitable preserved for identification on shore.

I. Data to be collected for all Tag Recoveries

1. The following data are to be collected for all recovered fish, seabird, mammal or reptile tags:
 - a) Observer name.
 - b) Vessel name.
 - c) Vessel call sign.
 - d) Vessel flag.
 - e) Collect, label (with all details below) and store the actual tags for later return to the tagging agency.
 - f) Species from which tag recovered.
 - g) Tag colour and type (spaghetti, archival).
 - h) Tag numbers (The tag number is to be provided for all tags when multiple tags were attached to one fish. If only one tag was recorded, a statement is required that specifies whether or not the other tag was missing)

- i) Date and time of capture (UTC).
- j) Location of capture (Lat/Lon, to the nearest 1 minute)
- k) Animal length / size (to the nearest cm) with description of what measurement was taken (such as total length, fork length, etc).
- l) Sex (F=female, M=male, I=indeterminate, D=not examined)
- m) Whether the tags were found during a period of fishing that was being observed (Y/N)
- n) Reward information (e.g. name and address where to send reward)

(It is recognised that some of the data recorded here duplicates data that already exists in the previous categories of information. This is necessary because tag recovery information may be sent separately to other observer data.)

J. Hierarchies for Observer Data Collection

1. Trip-specific or programme-specific observer task priorities may be developed in response to specific research programme requirements, in which case such priorities should be followed by observers.
2. In the absence of trip- or programme-specific priorities, the following generalised priorities should be followed by observers:
 - a) Fishing Operation Information
 - All vessel and tow / set / effort information.
 - b) Monitoring of Catches
 - Record time, proportion of catch (e.g. proportion of trawl landing) or effort (e.g. number of hooks), and total numbers of each species caught.
 - Record numbers or proportions of each species retained or discarded.
 - c) Biological Sampling
 - Length-frequency data for target species.
 - Length-frequency data for main by-catch species.

- Identification and counts of protected species.
- Basic biological data (sex, maturity) for target species.
- Check for presence of tags.
- Otoliths (and stomach samples, if being collected) for target species.
- Basic biological data for by-catch species.
- Biological samples of by-catch species (if being collected)
- Photos

3. The monitoring of catches and biological sampling procedures should be prioritised among species groups as follows:

Species	Priority (1 highest)
Primary target species (such as North Pacific armorhead and splendid alfonsino)	1
Other species typically within top 10 in the fishery (such as mirror dory, and oreos)	2
Protected species	3
All other species	4

The allocation of observer effort among these activities will depend on the type of operation and setting. The size of sub-samples relative to unobserved quantities (e.g. number of hooks/panels examined for species composition relative to the number of hooks/panels retrieved) should be explicitly recorded under the guidance of member country observer programmes.

K. Coding Specifications to be used for Recording Observer Data

1. Unless otherwise specified for specific data types, observer data are to be collected in accordance with the same coding specifications as specified in this Annex.
2. Coordinated Universal Time (UTC) is to be used to describe times.

3. Degrees and minutes are to be used to describe locations.
4. The following coding schemes are to be used:
 - a. Species are to be described using the FAO 3 letter species codes or, if species do not have a FAO code, using scientific names.
 - b. Fishing methods are to be described using the International Standard Classification of Fishing Gear (ISSCFG - 29 July 1980) codes.
 - c. Types of fishing vessel are to be described using the International Standard Classification of Fishery Vessels (ISSCFV) codes.
5. Metric units of measure are to be used, specifically:
 - a. Kilograms are to be used to describe catch weight.
 - b. Metres are to be used to describe height, width, depth, beam or length.
 - c. Cubic metres are to be used to describe volume.
 - d. Kilowatts are to be used to describe engine power.

CMM 2024-11

(Entered into force 24 July 2024)

**CONSERVATION AND MANAGEMENT MEASURE FOR JAPANESE SARDINE,
NEON FLYING SQUID AND JAPANESE FLYING SQUID**

The North Pacific Fisheries Commission (NPFC),

Recalling that six pelagic species – Pacific saury, chub mackerel, blue mackerel, Japanese sardine, neon flying squid, and Japanese flying squid – are identified as priority species;

Also recalling that the NPFC has adopted the CMMs on two species – Pacific saury and chub mackerel;

Noting that specific measures for the remaining four species have yet to be introduced while those species have been subject to extensive fishing practices, whether they are target or bycatch species;

Reaffirming the General Principles provided in Article 3 of the Convention, in particular, Paragraph (h) stipulating that any expansion of fishing effort does not proceed without prior assessment of the impacts of those fishing activities on the long-term sustainability of fisheries resources;

Adopts the following conservation and management measure in accordance with Article 7 of the Convention:

1. Members of the Commission and Cooperating non-Contracting Parties (CNCs) with substantial harvest of any of Japanese sardine, neon flying squid and Japanese flying squid (hereinafter referred to as “the three Pelagic Species”) in the Convention Area shall refrain from expansion, in the Convention Area, of the number of fishing vessels entitled to fly their flags and authorized to fish for such species from the historical existing level until the stock assessment for such species by the SC has been completed.
2. Members of the Commission and CNCs without substantial harvest of the three Pelagic Species in the Convention Area are encouraged to refrain from expansion, in the Convention

Area, of the number of fishing vessels entitled to fly their flags and authorized to fish for such species from the historical existing level until the stock assessment for such species by the SC has been completed.

3. Members of the Commission participating in fishing for the three Pelagic Species in areas under their jurisdiction adjacent to the Convention Area are requested to take compatible measures in paragraph 1. Such Members¹ may divert part of their catch limit for areas under their jurisdiction to their own catch of the species in the Convention Area by vessels entitled to fly their flags and authorized to fish for the species, provided that: (i) the Member has established a catch limit for the species in its jurisdiction; (ii) the Member has notified the Commission of the catch limit; and (iii) the total catch of the species in the Convention Area and the areas under their jurisdiction adjacent to the Convention Area will not exceed the Member's total catch limit for its jurisdiction respectively.
4. Development of new fishing activity for the three Pelagic Species in the Convention Area by Members of the Commission without documented historical catch for such species in the Convention Area shall be determined in accordance with relevant provisions, as appropriate, including but not limited to Article 3, paragraph (h) and Article 7, subparagraphs 1(g) and (h) of the Convention.
5. Members of the Commission and CNCPs shall ensure that fishing vessels flying their flag operating in the Convention Area authorized to fish the three Pelagic Species are to be equipped with an operational vessel monitoring system that is activated at all times.
6. Members of the Commission and CNCPs shall ensure that fishing vessels flying their flag that fish the three Pelagic Species record their catches and report them to the relevant flag state authorities in accordance with their national data recording and reporting requirements.
7. Members of the Commission and CNCPs shall provide their data on the three Pelagic Species in accordance with the data requirements adopted by the Commission in the Annual Report by the end of February, every year. The Commission shall review such information at the annual

¹ Paragraph 3 applies to Russia and Japan

meeting of every year.

8. Members of the Commission and CNCPs shall cooperate to take necessary measures including sharing information, in order to accurately understand the situation and eliminate IUU fishing for the three Pelagic Species.
9. After a stock assessment for any of the three Pelagic Species has been completed, the provisions in Paragraph 1 shall be reviewed by the Commission and those provisions shall not be a precedent to hinder those Members who are not harvesting substantial amounts of the three Pelagic Species assessed in the Convention Area to develop their own fisheries in the Convention Area noting the Commission shall regularly review the harvests of such species in the Convention Area by all Members.
10. This management measure shall expire and be replaced by the measure to be adopted by the Commission based on the advice and recommendations from the Scientific Committee.

CMM 2024-12

(Entered into force 24 July 2024)

**CONSERVATION AND MANAGEMENT MEASURE
ON THE VESSEL MONITORING SYSTEM (VMS)**

The North Pacific Fisheries Commission,

Recalling Article 2 of the Convention on the Conservation and Management of High Seas Fisheries resources in the North Pacific Ocean (Convention), the long-term conservation and sustainable use of the fisheries resources in the Convention Area while protecting the marine ecosystems of the North Pacific Ocean in which these resources occur.

Recognizing Article 7, paragraph 2 (e) of the Convention regarding the development of standards, specifications and procedures for Members of the Commission to report movements and activities using real-time satellite position-fixing transmitters for vessels engaged in fishing activities in the Convention Area and, in accordance with those procedures, coordinate timely dissemination of data collected from Members' satellite vessel monitoring systems,

Reaffirming that Article 13, paragraph 1 of the Convention that Members of the Commission or Cooperating Non-Contracting Parties (CNCs) shall take necessary measures to ensure that fishing vessels entitled to fly their flag operating in the Convention Area comply with the provisions of the Convention and measures adopted pursuant to the Convention and such vessels do not engage in any activities that undermine the effectiveness of such measures and do not conduct unauthorized fishing activities within areas under national jurisdiction of another State adjacent to the Convention Area,

Determined to ensure effective monitoring, control and surveillance (MCS) and to address the challenge of illegal, unreported and unregulated (IUU) fishing in the Convention Area,

Adopts the following conservation and management measure (CMM) in accordance with Article 7 of the Convention:

Definitions

1. For the purpose of this CMM, the following definitions apply:

- a) “Convention” means the Convention on the Conservation and Management of High Seas Fisheries resources in the North Pacific Ocean.
- b) “Convention Area” means the area of the high seas areas of the North Pacific Ocean as specified in Article 4 of the Convention.
- c) “Commission” means the North Pacific Fisheries Commission (NPFC) established under Article 5 of the Convention.
- d) “Fishing activities” means the activities established under Article 1 (i) of the Convention.
- e) “Fisheries monitoring center (FMC)” means the authorized authority or agency of a Member or CNCP responsible for managing VMS for its flagged fishing vessels.
- f) “Fishing vessels” means any vessel described under Article 1 (j) of the Convention.
- g) “Inspection Presence in the Convention Area” means the Member is authorized by the High Seas Boarding Inspection CMM to conduct boardings and inspections and is planning for or actively engaged in surveillance operations, including aerial surveillance, in the Convention Area.
- h) “Manually report” means the transmission via any alternative means of the date/time, current geographical position (latitude and longitude) when an MTU fails to transmit VMS data.
- i) “Mobile transmitting unit (MTU)” means a satellite communication device capable of receiving and transmitting VMS data.
- j) “VMS” means a satellite-based monitoring system that transmits VMS data from MTUs on

fishing vessels to FMCs.

k) "VMS data" means data transmitted by an MTU including:

- i) MTU unique identifier;
- ii) the current geographical position (latitude and longitude) of the vessel (accurate to within 100m); and,
- iii) the date and time (expressed in Coordinated Universal Time (UTC)) of the fixing of the position of the vessel in paragraph 1(k)(ii).

Purpose

2. The VMS supports the Convention's objective to ensure the long-term conservation and sustainable use of the fisheries resources in the Convention Area. The VMS forms an important part of the Commission's MCS regime to ensure compliance with, and enforcement of, the provisions of the Convention and CMMs. The purpose of the VMS is to continuously monitor the positions and movements of all fishing vessels in the Convention Area for compliance purposes. VMS data may also be used to support scientific processes as agreed by the Commission.

Application

3. The VMS applies to all authorized NPFC vessels in the Convention Area.
 4. A Member or CNCP may request that waters under their jurisdiction be also covered by the VMS. This request shall be provided to the Commission for their consideration and approval.
- Mobile transmitting units (MTUs)

Mobile Transmitting Units (MTUs)

5. Each Member or CNCP shall ensure that its vessels authorized pursuant to the relevant CMM

for Vessel Registration under NPFC in the Convention Area are equipped with an MTU that complies with the guidance on minimum standards for MTUs contained in Annex 1.

6. Each Member or CNCP shall ensure that MTUs are installed on their flagged fishing vessels in the Convention Area in accordance with relevant domestic legal obligations, procedures and conditions.

VMS Data Transmission Requirements

7. Each Member or CNCP shall ensure its authorized NPFC vessels provide accurate VMS data to the Secretariat via its FMC, in accordance with this CMM.
8. All Members or CNCPs shall ensure that its flagged vessels that are authorized under NPFC and present in the Convention Area transmit VMS data every hour to their FMC.
9. A Member or CNCP may require its fishing vessels to transmit VMS data directly to the Secretariat.
10. Each Member or CNCP shall ensure that their FMC automatically transmits VMS data to the Secretariat, which shall be received no later than 60 minutes upon receipt of the data at their FMC.

Fisheries Monitoring Centers (FMCs)

11. Each Member or CNCP shall ensure that their FMC can automatically receive VMS data and transmit VMS data to the Secretariat.
12. Each Member or CNCP shall provide the Secretariat with VMS contact points in their FMCs including the name, position, email address and phone number of their VMS contact points. The Secretariat will make a list of VMS contact points available to all Members and Cooperating non-Contracting Parties.

Data Access and Use

13. All VMS data received by the Secretariat shall be treated as confidential information in accordance with NPFC's Data-Sharing and Data-Security Protocols for Vessel Monitoring System (VMS) Data (Annex 2).
14. In accordance with the NPFC's Data-Sharing and Data-Security Protocols for Vessel Monitoring System (VMS) (Annex 2), the Secretariat shall provide VMS data:
 - a) By electronic means to a Member who has an inspection presence in the Convention Area;
or
 - b) upon request from a Member to support search and rescue (SAR)

Data Sharing, Security and Integrity

15. In accordance with NPFC's Data-Sharing and Data-Security Protocols for Vessel Monitoring System (VMS) Data (Annex 2), VMS data shall only be accessed and used for the purposes included in this measure or for any other purposes as agreed by the Commission.
16. MTUs on fishing vessels shall be tamper-proof so as to preserve the security and integrity of VMS data.

VMS Data Transmission Failure

17. In the event that an MTU has failed to transmit VMS data for four hours, the flag Member or CNCP shall require the fishing vessel master to manually report every four hours to the FMC or the Secretariat by other means of communication.
18. A Member or CNCP may also require its fishing vessels to manually report directly to the Secretariat.
19. The flag Member or CNCP shall require an MTU that fails to transmit VMS data in accordance with this measure, be repaired or replaced as soon as possible and, in any event, within thirty (30) days of the VMS data transmission failure.

20. If the fishing vessel returns to port following an MTU VMS data transmission failure, the Member or CNCP shall not permit the vessel to undertake fishing in the Convention Area until the MTU has been replaced in accordance with the guidance in Annex 1 or is repaired and is able to transmit VMS data.
21. If a Member or CNCP finds that an MTU has failed to transmit VMS data for twelve hours, the Member or CNCP shall immediately notify the fishing vessel master, owner or authorized representative of this failure.
22. If a failure to transmit occurs more than two times within a period of one year, the flag Member or CNCP of the fishing vessel shall investigate the matter, including having an authorized official examine the MTU on board the vessel. The outcome of this investigation shall be forwarded to the Secretariat within fifteen (15) days of its completion.

Research Vessels

23. Notwithstanding the requirements in this CMM, research vessels operated by authority of a Member may use AIS for their position reporting. Such research vessels shall make their positions available via AIS at all times while engaging in research operations in the Convention Area. In the event of AIS data transmission failure, the research vessel is required to take steps as stipulated in paragraphs 16-21 mutatis mutandis. The flag Members of research vessels that make position reporting via AIS in accordance with this paragraph shall submit to the Secretariat relevant information (vessel name, MMSI number, abstract of research activities, etc.) 30 days prior to the initiation of their research activities. This paragraph will expire at the end of the 9th Commission meeting unless the Commission decides otherwise.

Review

24. The Secretariat shall report on the implementation of this measure annually to the Technical and Compliance Committee (TCC). The TCC shall review the implementation of the VMS after two years and make recommendations to the Commission as may be necessary.

Annex 1

Guidance on minimum standards for mobile transmitting units (MTUs)

1. The mobile transmitting unit (MTU) shall automatically and independently of any intervention by the fishing vessel, transmit VMS data as required by NPFC.
2. The VMS data shall be obtained from a satellite-based positioning system.
3. MTUs on fishing vessels must be capable of transmitting VMS data at least every fifteen minutes.
4. MTUs on fishing vessels must be tamper-proof so as to preserve the security and integrity of VMS data.
5. Storage of VMS data and other relevant information within the MTU must be safe, secure and integrated within a single unit under normal operating conditions.
6. It must not be reasonably possible for anyone, other than the Fisheries Monitoring Centre (FMC), to alter any of the VMS data stored in an MTU, including the frequency of position VMS data transmission to the FMC.
7. Any features built into the MTU or its software to assist with servicing shall not allow unauthorized access to the MTU that could potentially compromise the operation of the VMS.
8. MTUs shall be installed on fishing vessels by an authorized installer in accordance with the manufacturer's specifications and applicable standards and in accordance with a flag State's relevant domestic legal obligations, procedures and conditions.
9. Under normal satellite navigation operating conditions, VMS data must include the geographical location of a fishing vessel within an accuracy of 100 meters.
10. The MTU and/or the VMS service provider must be able send VMS data to multiple independent destinations.
11. The MTU and its component parts shall be fully integrated and housed in the same tamperproof

physical enclosure.

12. The MTU must have:

- a) all components sealed by the manufacturer; or
- b) official seals¹, individually identified with unique serial numbers, applied.

13. Relevant domestic legal obligations, procedures and conditions for MTU installation on fishing vessels should be forwarded by members and cooperating non-Contracting Parties to the Secretariat or made available upon request.

14. The MTU must have an alternate power unit, to act as a backup in case of failure of the main power, to enable the MTU to continue to meet the VMS data transmission requirements of this CMM.

15. The MTU should include audible or visible alarms to indicate a unit malfunction.

¹ Official seals or other mechanisms must be of such a type to indicate whether the MTU has been accessed or tampered with.

Annex 2

**NPFC Data-Sharing and Data-Security Protocol for Vessel Monitoring
System (VMS) Data**

Definitions

1. For the purpose of this Protocol, unless specifically defined herein, words and terms have the same meaning as in the Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean (Convention) and any conservation and management measures (CMMs) adopted by the North Pacific Fisheries Commission (Commission or NPFC), including in particular the CMM on the Vessel Monitoring System (VMS).
 - a) “Confidential” refers to non-public domain data and information held by Commission Members, the Secretariat, and by service providers contracted by the Commission, or contractors acting on their behalf, that is to be kept private, and shall not be accessed, released or disclosed unless such access, release or disclosure is for the purposes described in, and authorized by, this Protocol;
 - b) “Scientific purposes” may include estimating distribution of fishing effort for use in the Commission’s research activities; planning for and implementing tagging programmes; modelling fishing effort for use in fisheries management activities, including management strategy evaluation (MSE); estimating abundance indices or undertaking stock assessments; validating logbook data; and, any other scientific purposes agreed to by the Commission.

Purpose

2. The purpose of this Protocol is to implement Article 16, paragraph 4 of the Convention, which states, “The Commission shall establish rules to ensure the security of, access to and dissemination of data, including data reported via real-time satellite position-fixing transmitters, while maintaining confidentiality where appropriate and taking due account of the domestic practices and domestic laws of members of the Commission.”

Scope of Application

3. This Protocol applies to VMS data transmitted to, received by, stored, and, used by the Secretariat, the Commission and its Members, and authorized contractors, from authorized NPFC vessels in the Convention Area.

General Provisions

Accountability and Control System

4. All VMS data shall be considered confidential.
5. It is the responsibility of each Commission Member, and the Secretariat, to take all necessary measures to comply with this Protocol when transmitting and receiving VMS data.
6. Prior to accessing VMS data, authorized contractors shall be informed that VMS data is confidential and shall sign the Confidentiality Agreement (attached as Appendix 1) stipulating that they have been informed that the VMS data is confidential and that they have reviewed, are familiar with, and agree to the procedures to protect confidential VMS data set forth in the Confidentiality Agreement.
7. Where VMS data is transmitted by the Secretariat, with the approval of the Commission, to a party not already authorized to receive VMS data in accordance with this protocol, the Secretariat shall remain responsible for such data. The third party must receive written authorization from Secretariat to receive VMS data and shall be required to sign the Confidentiality Agreement (attached as Appendix 1). Breach of the Confidentiality Agreement constitutes breach of this Protocol, and will result in access to confidential VMS data being revoked, until corrective actions deemed appropriate by the Commission and the Secretariat have been taken. The third party will maintain the data provided to it in a manner no less stringent than the security standards established by the Commission.
8. The Executive Secretary will report to the Commission annually on the compliance with this Protocol, including any breach thereof.

Data Purposes

9. All VMS data collection, access, storage, use, and dissemination shall only be undertaken for the purposes of monitoring, control, and surveillance in the Convention Area, supporting search and rescue operations, and fulfilling the functions of the Commission, as established in Article 7(1) and (2) of the Convention, including scientific purposes as defined above, and subject to any additional relevant regulations, protocols, CMMs or policies approved by the Commission.

Safeguards

10. All authorized personnel having access to VMS data are prohibited from unauthorized use or disclosure of such data.
11. All VMS data shall be protected against loss or theft, as well as unauthorized access, dissemination, copying, use, or modification, by security safeguards, in accordance with the Data Retention and Security Section of this Protocol.

Data Access and Use

12. VMS data should only be accessed and/or used by authorized personnel in the Secretariat, authorized MCS entities and personnel, and authorized contractors, for the identified purposes in this Protocol or for other purposes identified by the Commission.
13. The Secretariat shall not make VMS data available to a Member where the Commission has established that the Member has not complied with this Protocol, or the CMM for VMS.

Use for Inspection Presence in Convention Area

14. For a Member who has an Inspection Presence in the Convention Area, VMS data shall be made available electronically in accordance with the following provisions:
 - a) Each Member shall identify a point of contact for VMS data;
 - b) Each Member who has an Inspection Presence in the Convention Area shall provide the Secretariat with the geographic area (in multiples of 10 degrees latitude and longitude with a north and south latitude boundary and an east and west longitude boundary) of the planned boarding and inspection or surveillance operations at least 72 hours in advance, when practicable;

- c) Each Member who has an Inspection Presence in the Convention Area shall only make VMS data available to authorities or inspectors, as defined in the CMM for High Seas Boarding and Inspection Procedures for the North Pacific Fisheries Commission (NPFC) responsible for fisheries monitoring, control, and surveillance activities in the Convention Area unless the data is being used in an investigation, or a judicial, or administrative proceeding, and subject to any relevant domestic laws and policies, and has requested VMS data in support of HSBI/MCS activities.

15. Where the fishing vessel to which the VMS data pertains has been involved in an alleged violation of a CMM, the Convention, or domestic laws or regulations, the VMS data pertaining to the alleged violation may be retained, and the Secretariat will be notified, by Members who have an inspection presence in the Convention Area until appropriate proceedings, including investigations, and judicial or administrative proceedings, have concluded.
16. Should no VMS data be retained pursuant to paragraph 15, each Member who has an Inspection Presence in the Convention Area shall delete all VMS data received from the Secretariat within seven days following the completion of monitoring, control, and surveillance activities in the Convention Area. The Member shall also submit a written confirmation to the Secretariat of the deletion of the VMS data within seven working days following the completion of monitoring, control, and surveillance activities.

Use for Search and Rescue Operations

17. For the purpose of supporting search and rescue operations by a Commission Member, the Secretariat shall make VMS data available upon request from a Member.

Data Retention and Security

Data Retention

18. All VMS data transmitted to the Secretariat in accordance with the Convention and CMMs shall be retained by the Secretariat.
19. Each Commission Member shall retain VMS data for fishing vessels flying its flag for at least one year.

Data Security

20. Each Commission Member and the Executive Secretary shall ensure the security of VMS data in their respective electronic data processing facilities, particularly where the use of VMS data involves transmission over a network.
21. Security measures must be appropriate to the level of risk posed by the transmission, processing, and storage of VMS data. At a minimum, the following security requirements must be implemented prior to transmitting or receiving VMS data:
 - a) The Executive Secretary shall ensure that regional system access to VMS data under its control is protected such that all data that enters the system is securely stored and will not be accessed by or tampered with from unauthorized individuals by implementing, at minimum, the following measures:
 - i) physical access to the computer system which transmits, uses, and stores VMS data is controlled;
 - ii) each user of the system is assigned a unique identification and associated password, and each time the user logs on to the system, he or she must provide the correct password;
 - iii) user access shall be audited annually for analysis and detection of security breaches; and
 - iv) each user shall be given access only to the data necessary for his or her task.
 - b) Data exchange protocols for electronic transmission of VMS data between Commission Members and the Secretariat shall be duly tested by the Secretariat and periodically reviewed by the Commission. Electronic transmission is subject to security procedures established in this Protocol.
 - c) Appropriate encryption protocols duly tested by the Secretariat and periodically reviewed by the Commission shall be applied by authorized contractors, including the use of cryptographic techniques to ensure confidentiality and authenticity.
 - d) Security procedures shall be designed by authorized contractors addressing access to the

system hardware and software, system administration and maintenance, backup, and general usage of the system. Each Commission Member, and the Executive Secretary, shall ensure proper maintenance of system security and restrict access to the system accordingly. Each Commission Member shall liaise with the Secretariat in order to identify and resolve any security breaches or issues.

Appendix 1

Confidentiality Agreement
For Accessing North Pacific Fisheries Commission (NPFC) Confidential Vessel Monitoring
System (VMS) Data

Applicant Name, contact information, and signature:

Full Name	Agency/Organization, Address, Email, and Phone	Signature and Date

In return for the NPFC Secretariat granting me access to confidential NPFC VMS data, I hereby make the following declarations and promises:

1. I am (check the appropriate box):

a. ☒ a contractor employed by the NPFC, or one of its Members, whose official duties require access to confidential VMS data.

b. ☒ an employee of an organization, which the NPFC Secretariat has authorized in writing to receive confidential VMS data.

2. I am requesting access to confidential NPFC VMS data:

a. for the following purposes (provide a detailed explanation, attaching an additional sheet if necessary):

- b. on behalf of the following organization: _____.
3. I have read and understood the NPFC Data-Sharing and Data-Security Protocols for Vessel Monitoring System (VMS) Data (“Protocols”). I understand that the VMS data I am requesting are confidential, as defined in the Protocols. I agree to abide by the provisions of the Protocols that address protecting and safeguarding confidential VMS data.
 4. I agree to abide by any additional written conditions regarding the use of confidential VMS data the Secretariat attaches to this Confidentiality Agreement.
 5. I agree to abide by the NPFC Data Sharing and Data Security Protocols.
 6. I agree that the confidential VMS data shall be used only for the purposes for which I am requesting the data, be accessed only by me and other individuals who have signed a Confidentiality Agreement, and be destroyed upon completion of the usage for which the data are being requested. I further agree to report the destruction of the confidential VMS data to the Secretariat.
 7. I agree to make no unauthorized copies of the requested confidential VMS data. If a copy of all, or part, of the data is made by me, all copies, and/or parts thereof, will be registered with the Secretariat and will be destroyed upon completion of the purpose for which I requested the data.
 8. Prior to the publication of any report in which I intend to use requested confidential VMS data, I agree to provide the report to the Secretariat for clearance to ensure that no confidential VMS data will be published.
 9. I agree to provide a copy of any published reports referenced in paragraph 8 to the Secretariat.
 10. I agree not to disclose, divulge, or transfer, either directly or indirectly, the requested confidential VMS data to any third party without the prior written consent of the Secretariat.
 11. I agree to promptly notify the Secretariat, in writing, of any unauthorized or inadvertent disclosure of confidential VMS data.
 12. I assume all liability, if any, with respect to my breach of this Confidentiality Agreement after I receive the requested confidential VMS data.

13. In the event of my breach of this Confidentiality Agreement, I understand that the Secretariat will not grant me access to confidential VMS data until corrective actions deemed appropriate by the Secretariat have been taken by me, my employer, or by the Member under whose supervision I work.

This Agreement is effective on the date indicated below upon signature of an authorized representative of the Secretariat.

Authorized NPFC Secretariat Representative

Date

CMM 2024-13

(Entered into force 24 July 2024)

**CONSERVATION AND MANAGEMENT MEASURE FOR
THE COMPLIANCE MONITORING SCHEME**

The North Pacific Fisheries Commission (NPFC),

Acknowledging the importance of compliance by Members and Cooperating Non-Contracting Parties to achieve the objective of the Convention as defined in Article 2;

Recognizing that Article 7 of the Convention directs the Commission to establish procedures for reviewing compliance with the Convention and measures adopted pursuant to the Convention;

Recalling that the Commission has adopted a wide range of conservation and management measures to give effect to the objective of the Convention;

Noting that, in accordance with Article 17 of the Convention, Members of the Commission are required to enforce the provisions of the Convention and any conservation and management measures adopted by the Commission;

Noting also that, in accordance with international law, Members and Cooperating Non-Contracting Parties have responsibilities to effectively exercise jurisdiction and control over their flagged vessels and with respect to their nationals;

Acknowledging that Article 13 of the Convention obliges Members of the Commission to take the necessary measures to ensure that fishing vessels flying their flag comply with the provisions of the Convention and the conservation and management measures adopted pursuant thereto;

Recognizing the responsibility of Members and Cooperating Non-Contracting Parties to fully and effectively implement the provisions of the Convention and the conservation and management measures adopted by the Commission, and the need to improve such implementation and ensure compliance with these commitments;

Noting that, in a responsible, open, transparent and non-discriminatory manner, the Commission should be made aware of all available information that may be relevant to the work of the Commission in identifying and addressing instances of non-compliance with conservation measures;

Also recognizing the importance of having a shared understanding of what is required to comply with an obligation thereby ensuring clear and consistent assessment of the compliance of Members and Cooperating Non-Contracting Parties with all relevant obligations

Adopts the following conservation and management measure in accordance with Article 7 of the Convention:

I. Purpose

1. The purpose of the NPFC Compliance Monitoring Scheme (CMS) is to ensure that all Members and Cooperating Non-Contracting Parties (CNCs) implement and comply with obligations under the Convention and conservation and management measures (CMMs) adopted by the Commission. The purpose of the CMS is also to assess Members' and CNCs' actions in response to alleged violations by their flagged vessels or nationals, not to assess compliance by individual vessels or persons.
2. The CMS is designed to improve Members' and CNCs' implementation of and compliance with their obligations under the Convention and CMMs by:
 - (a) Establishing procedures for reviewing compliance with obligations deriving from the Convention and CMMs;
 - (b) Assessing compliance and identifying any trends in non-compliance;
 - (c) Identifying areas in which technical assistance or capacity building may be needed to assist Members or CNCs to attain compliance;
 - (d) Identifying obligations which may require amendment for effective implementation and assessment of compliance;
 - (e) Providing responses to non-compliance; and,
 - (f) Monitoring and verifying corrective actions taken by a Member or CNC to resolve outstanding instances of non-compliance.

II. Scope and Application

3. The Commission, with the assistance of the Technical and Compliance Committee (TCC), shall assess Members' and CNCs' implementation of and compliance with the obligations arising under the Convention and the CMMs adopted by the Commission and identify trends in and instances of non-compliance.
4. For obligations relating to fishing activities, unless otherwise specified in the relevant CMM, the compliance assessment shall apply to those activities occurring in the Convention Area.
5. The CMS shall not prejudice the rights, jurisdiction and duties of any Member or CNC to enforce its domestic laws or to take more stringent measures in accordance with its domestic laws, consistent with that Member's or CNC's international obligations.
6. For obligations on quantitative annual limits (e.g., catch limit, effort limit), the compliance assessment period shall be the previous calendar year. For other obligations, the compliance

assessment period shall be from November 1st of year X-1 to October 31st of year X, where X is the calendar year preceding the TCC meeting.

7. The Commission, with the assistance of TCC, shall determine annually for each Member and CNCP, compliance status and potential responses for each obligation subject to assessment, in accordance with Annexes I and II.
8. Each Member and CNCP shall provide annually to the Secretariat responses to an Implementation Questionnaire, to be developed based on the obligations in Annex II, indicating how it has implemented the conservation and management measures and ensured compliance with and enforcement of obligations adopted by the Commission. The Questionnaire will be made available by the Secretariat for Member use as soon as possible annually, but at the latest 135 days before the TCC meeting. Members and CNCPs shall submit responses to the Secretariat through their Implementation Questionnaire 90 days before the TCC meeting and submit their Annual Reports by February 15th each year.

III. Draft Compliance Report

9. Prior to TCC, the Secretariat shall compile relevant data and information received from Members and CNCPs, including through their Annual Reports, any data collection source held by the Commission (e.g., reports from observers, Vessel Monitoring Systems, High Seas Boarding and Inspections, and high seas transshipments), communications with Members and CNCPs and, where appropriate, any other relevant information relating to compliance with NPFC CMMs available to the Secretariat. The Secretariat shall then prepare a Draft Compliance Report.

10. The Draft Compliance Report shall:

- (a) Present all available relevant data and information relating to each Member's or CNCP's implementation of and compliance with each obligation under the Convention or CMMs listed in Annex II and identify the data and information sources.
- (b) Identify the areas of potential non-compliance for each Member and CNCP for the obligations listed in Annex II for the current assessment year, and any areas of potential repeated non-compliance with a particular obligation for two or more consecutively assessed years where Members do not fulfill their obligations including imposed sanctions to those vessels in violation of the CMMs adopted by the Commission, or as determined by the Commission.

As appropriate, the Secretariat may request any follow-up information relating to any issues of potential non-compliance identified for the current assessment year.

- (c) Report on any outstanding compliance issues for each Member or CNCP that were identified from previous years, including unresolved non-compliance issues, flag state investigations, or any corrective actions reported by the Member or CNCP, and, as appropriate, requests from the Secretariat for any follow-up information relating to the

previous compliance issues.

- (d) Identify provisions/obligations that lack clarity or have inadequate reporting mechanisms or have insufficient data that make it challenging for the Secretariat and TCC to conduct compliance assessments, including factors that contribute to the lack of clarity or data gaps, and suggest means to address these issues.
11. No later than 60 days before the TCC meeting, the Secretariat shall provide each Member and CNCP its section of the Draft Compliance Report.
12. No later than 30 days before the TCC meeting, each Member and CNCP shall provide any additional information needed/requested on its section of the Draft Compliance Report to the Secretariat. This information shall, as appropriate:
- (a) Provide information, clarifications, amendments, or corrections that address the potential compliance issues identified or respond to any request for additional information and/or evidence demonstrating implementation of and compliance with the relevant obligations;
 - (b) Propose corrective actions to be taken, along with time frames, to come into compliance;
 - (c) Identify any causes of the potential compliance issues or mitigating circumstances;
 - (d) Identify any technical assistance or capacity building that could assist with achieving compliance; and,
 - (e) Indicate progress of on-going flag state investigations in response to alleged violations by its flagged vessels.
13. The Secretariat shall then revise the Draft Compliance Report to add all information provided pursuant to paragraph 12 above.
14. No later than 10 days before TCC, the Secretariat shall circulate the revised Draft Compliance Report to Members and CNCPs and make it available on the non-public section of the Commission website.

IV. Provisional Compliance Report

15. TCC shall consider the Draft Compliance Report and may take into account any additional, readily verifiable information provided by Members, CNCPs, and accredited observers, including from non-governmental organizations or other organizations concerned with matters relevant to the implementation of the Convention.
16. In considering and assessing the compliance of each Member or CNCP with relevant obligations or any areas of repeated non-compliance, TCC shall also focus on clarifying the intent and purpose of each obligation to be assessed and assessing whether Members and CNCPs have adopted and/or implemented effective mechanisms to ensure the compliance

with the NPFC obligations

17. TCC shall develop a Provisional Compliance Report, which shall include an assessment for each Member's or CNCP's compliance with obligations included in Annex II and any areas of repeated non-compliance, and which shall assign a compliance status for each individual obligation based on Annex I.
18. Each compliance assessment shall be decided by consensus. If consensus cannot be reached, the Provisional Compliance Report shall indicate majority and minority views.
19. Notwithstanding paragraph 18 above, a Member or CNCP cannot block agreement on its own compliance assessment if all other Members present have concurred with the assessment. If the assessed Member disagrees with the assessment, its views shall be reflected in the Provisional Compliance Report.
20. The Provisional Compliance Report shall also include an Executive Summary with recommendations or observations from TCC regarding, as appropriate:
 - (a) Non-compliance trends;
 - (b) Existing obligations that should be amended or improved;
 - (c) Revisions to the list of obligations to be assessed;
 - (d) Obstacles to implementation identified by Members and CNCPs; and
 - (e) Capacity building assistance needs.
21. TCC shall forward the Provisional Compliance Report to the Commission for consideration at the annual meeting.

V. Final Compliance Report

22. At each regular Commission meeting, the Commission shall consider the Provisional Compliance Report recommended by TCC and adopt by consensus a Final Compliance Report. If consensus cannot be reached, the Final Compliance Report shall indicate majority and minority views. A Member or CNCP cannot block consensus on its own compliance assessment.
23. The Final Compliance Report shall include:
 - (a) A final compliance status for each Member and CNCP against each assessed obligation;
 - (b) All identified areas of repeated non-compliance by a Member or CNCP.
 - (c) All responses taken and to be taken to address areas of non-compliance; and
 - (d) An Executive Summary addressing the issues listed in paragraph 20.

24. Within 30 days following the adoption of the Final Compliance Report, the Chair of the Commission shall send a Letter of Concern to each Member or CNCP assessed as Non-Compliant or Priority Non-Compliant. Such letters shall describe the relevant compliance issue(s) and the required response(s) identified in the Final Compliance Report.

VI. Data Protection

25. The Draft and Provisional Compliance Reports, and all associated documentation, shall constitute confidential data, but the Final Compliance Report and the executive summary shall be public domain data.

VII. Identification of obligations to be Assessed

26. Annex II includes the list of obligations to be assessed as part of the annual Compliance Monitoring Report (CMR). The TCC will review Annex II annually and recommend removing or adding obligations to be assessed in the following year's CMR. Each year, upon consideration of the TCC's recommendations, the Commission shall update what obligations shall be assessed in the following year's CMR, as appropriate, taking into account factors such as:

- (a) The needs and priorities of the Commission;
- (b) The advice of TCC;
- (c) Evidence of non-compliance or repeated non-compliance with a particular obligation;
- (d) The risks posed by non-compliance to the achievement of the objectives of the Convention; and,
- (e) Whether sufficient verifiable information is available to determine compliance.

VIII. Future Work and Review of this Conservation Measure

27. The Commission tasks the TCC to establish a multi-year workplan of tasks to enhance the Compliance Monitoring Scheme with the aim of making it more efficient and effective. This workplan shall include the development of the following guidelines and operating procedures to support the implementation of the CMS, as necessary:

- (a) audit points to clarify the Commission's obligations assessed under the CMS
- (b) automatic responses for non-compliance with certain administrative obligations listed in Annex II to streamline the process;
- (c) corrective actions to encourage and incentivize Members' compliance with the Commission's obligations where non-compliance is identified; and,
- (d) any other guidelines or procedures that it deems necessary to enhance the effectiveness

and efficiency of the CMS.

28. As a matter of priority by the 9th Commission meeting, the TCC will develop and the Commission will consider revised Rules of Transparency for TCC to clarify any additional guidelines pertaining to the participation of observers in TCC meetings related to the Compliance Monitoring Scheme. Until the Commission adopts the revised Rules of Transparency for TCC, notwithstanding Paragraph 25, the consideration of the draft compliance report and the provisional compliance report, as detailed in paragraphs 15 and 22 respectively, shall be open to participation by accredited observers, in accordance with NPFC Rules of Procedure, in particular Rule 5.2.1 and Rule 9.
29. The obligations to be assessed in Annex II shall be reviewed annually by the Commission, and as necessary, the Implementation Questionnaire. The conservation and management measure as a whole shall be reviewed at Commission meetings as necessary.

ANNEXES

- Annex I – Compliance Status Table
- Annex II – Obligations to be Assessed

Annex I

Compliance Status Table

Compliance Status	Criteria	Potential Responses
Compliant	<p>Member or CNCP fully compliant with obligation.</p> <p>Member or CNCP has taken required actions under the Convention in particular article 17 to investigate or address potential violations of its vessels.</p>	None
Delayed Submission	Member or CNCP has fulfilled its reporting obligations (those not related to individual vessels reporting) after the mandatory deadlines, and it is not a repeated case of non-compliance.	Member or CNCP to provide the missing report and indicate any relevant actions taken.
Non-Compliant	<p>Member or CNCP not compliant with obligation identified in Annex II and which does not meet the criteria of Delayed Submission.</p> <p>Member or CNCP has failed to undertake required actions under the Convention in particular article 17 to investigate or address potential violations of its vessels.</p>	<p>i Member or CNCP to rectify non-compliance and include in its next Annual Report all actions taken,</p> <p>ii Consideration of further responses.</p>
Priority non-compliant	Member or CNCP has demonstrated non-compliance of a particular obligation listed in Annex II for two or more consecutively assessed years, non-compliance that significantly undermines the objectives of the Convention, or any other non-compliance identified as	<p>i Member or CNCP to rectify non-compliance and include in its next Annual Report all actions taken,</p> <p>ii Consideration of further responses.</p>

	<p>Priority non-compliance by the Commission.</p> <p>Member or CNCP has repeatedly failed to undertake required actions under the Convention in particular article 17 to investigate or address potential violations of its vessels.</p>	
Unable to be Assessed at this time	<p>Ambiguity of relevant obligation, or insufficient data.</p>	<p>(for ambiguity)</p> <p>Review and potentially amend relevant provision(s)</p> <p>(for insufficient data)</p> <p>Identify how data gaps might be remedied and potentially amend relevant provision(s)</p>
Not Applicable	<p>Relevant obligation is not applicable to Member or CNCP</p>	<p>None</p>
Flag State Action Ongoing	<p>Flag state action currently ongoing to investigate or address potential violations of its flagged vessels.</p>	<p>i. Member or CNCP to report progress in its Annual Report until resolved; and,</p> <p>ii. Review by TCC and Commission and deadline(s) placed on Member or CNCP to provide further information to the Secretariat and/or take action(s) until resolved</p>

Obligations to be Assessed

As per Article 13(1) of the Convention, a Member shall take such measures as may be necessary to ensure that fishing vessels entitled to fly its flag abide by the CMMs and therefore, for the obligations listed below, it is the Member's compliance that is being assessed regardless of the wording of a specific obligation.

No.	Paragraph to be Assessed	OBLIGATION
<p align="center">CMM 2023-01</p> <p align="center">INFORMATION REQUIREMENTS FOR VESSEL REGISTRATION</p>		
		For the purpose of the effective implementation of the Convention, each Commission member or Cooperating non-Contracting Party shall:
1	3	<p>Promptly update the NPFC Vessel Registry with:</p> <ul style="list-style-type: none"> (a) any additions to the record; e.g., new vessel authorizations; (b) any modifications to this information with dates of such modifications; and (c) any deletions from the record, specifying which of the following reasons is applicable: <ul style="list-style-type: none"> (i) the voluntary relinquishment of the fishing by the fishing vessel owner or operator; (ii) the withdrawal or non-renewal of the fishing authorization issued in respect of the fishing vessel under Article 13, paragraph 2 of the Convention; (iii) the fact that the fishing vessel concerned is no longer entitled to fly its flag; (iv) the scrapping, decommissioning or loss of the fishing vessel concerned; or (v) any other grounds, with a specific explanation provided.
2	4	Provide to the Commission, as part of the annual report required pursuant to Article 16 of the Convention, the names of the fishing vessels entered in the record that conducted fishing activities during the previous calendar year.
3	5 <u>Vessel Marking</u>	Each Commission Member and Cooperating non Contracting Party shall ensure that every fishing vessel authorized to fly its flag bear markings that are readily identified in accordance with the <i>FAO Standard Specifications for the Marking and Identification of Fishing Vessels</i> , and recognize that non-compliance with these standards shall be considered a serious violation according to Article 17, paragraph 5 of the NPFC Convention and Article 21 Paragraph 11(f) of the United Nations Fish Stocks Agreement.
4	7	The Commission member or Cooperating non-Contracting Parties entering vessels identified in paragraph 2 on the NPFC

No.	Paragraph to be Assessed	OBLIGATION
		<p>Vessel Registry established under paragraph 1 shall attest that the vessel or vessels being added recommended are not vessels:</p> <p>(a) with a history of illegal, unreported or unregulated (IUU) fishing, unless the ownership of the vessel has subsequently changed and the new owner has provided sufficient evidence demonstrating that the previous owner or operator has no legal, beneficial or financial interest in, or control of the vessels, or Commission members or Cooperating non-Contracting Parties concerned is satisfied that, having taken into account all relevant facts, the vessel is no longer engaged in or associated with IUU fishing; or</p> <p>(b) that are currently listed on any of the IUU vessel lists adopted by regional fishery management organizations (RFMOs)</p>
<p style="text-align: center;">CMM 2024-02</p> <p style="text-align: center;">TO ESTABLISH A LIST OF VESSELS PRESUMED TO HAVE CARRIED OUT ILLEGAL, UNREPORTED AND UNREGULATED ACTIVITIES IN THE CONVENTION AREA</p>		
		<p>24. Members/CNCPs shall take all necessary non-discriminatory measures under their applicable legislation, international law and each Members/CNCPs' international obligations, and pursuant to paras 56 and 66 of the IPOA-IUU to:</p>
5	24(a)	Remove or withdraw vessels on the NPFC IUU Vessel List from the NPFC Vessel Registry;
6	24(b)	Ensure that fishing vessels, support vessels, mother ships or cargo vessels flying their flag do not participate in any transshipment or joint fishing operations with, support or re-supply vessels on the NPFC IUU Vessel List;
7	24(c)	Prohibit the entry into their ports of vessels included on the NPFC IUU Vessels List, except in the case of <i>force majeure</i> ;
8	24(d)	Prohibit the chartering of a vessel on the NPFC IUU Vessels List;
9	24(e)	Refuse to grant their flag to vessels on the NPFC IUU Vessel List, unless the ownership of the vessel has subsequently changed and the new owner has provided sufficient evidence demonstrating that the previous owner has no legal, beneficial or financial

No.	Paragraph to be Assessed	OBLIGATION
		interest in, or control of the vessels, or the member concerned is satisfied that that, having taken into account all relevant facts, the vessel is no longer engaged in or associated with IUU fishing activities;
10	24(f)	Prohibit commercial transactions, imports, landings and/or transshipment of species covered by the Convention from vessels on the IUU Vessel List.
<p style="text-align: center;">CMM 2024-09</p> <p style="text-align: center;">HIGH SEAS BOARDING AND INSPECTION PROCEDURES</p>		
11	7	Each Member of the Commission shall ensure that vessels flying its flag accept boarding and inspection by authorized inspectors in accordance with these procedures.
12	7	Such authorized inspectors shall comply with these procedures in the conduct of any such activities.
		14. Each Contracting Party that intends to carry out boarding and inspection activities pursuant to these procedures shall so notify the Commission, through the Executive Secretary, and shall provide the following:
13	26	<p>During the conduct of a boarding and inspection, the master of the fishing vessel shall:</p> <ul style="list-style-type: none"> (a) follow internationally accepted principles of good seamanship so as to avoid risks to the safety of authorized inspection vessels and inspectors; (b) accept and facilitate prompt and safe boarding by the authorized inspectors; (c) provide a boarding ladder. Annex A provides guidelines for a safe boarding ladder; (d) cooperate with and assist in the inspection of the vessel pursuant to these procedures; (e) not assault, resist, intimidate, interfere with, or unduly obstruct or delay the inspectors in the performance of their duties; (f) allow the inspectors to communicate with the crew of the inspection vessel, the authorities of the inspection vessel, any embarked observers, as well as with the authorities of the fishing vessel being inspected;

No.	Paragraph to be Assessed	OBLIGATION
		(g) provide the inspectors onboard with reasonable facilities, including, where appropriate, food and accommodation; and (h) facilitate safe disembarkation by the inspectors
14	28	The authorities of the fishing vessel, unless generally accepted international regulations, procedures and practices relating to safety at sea make it necessary to delay the boarding and inspection, shall direct the master to accept the boarding and inspection. If the master does not comply with such direction, the Member shall suspend the vessel's authorization to fish and order the vessel to return immediately to port. The Member shall immediately notify the authorities of the inspection vessel and the Commission of the action it has taken in these circumstances.
15	41	Contracting Parties that authorize inspection vessels to operate under these procedures shall report annually to the Commission on the boarding and inspections carried out by its authorized inspection vessels, as well as upon possible violations observed.
16	42	Contracting Parties shall include in their annual statement of compliance within their Annual Report to the Commission under Article 16 of the Convention action that they have taken in response to boarding and inspections of their fishing vessels that resulted in observation of alleged violations, including any proceedings instituted and sanctions applied.
<p style="text-align: center;">CMM-2024-05</p> <p style="text-align: center;">BOTTOM FISHERIES AND PROTECTION OF VULNERABLE MARINE ECOSYSTEMS IN THE NORTHWESTERN PACIFIC OCEAN</p>		
	4. Members of the Commission shall take the following measures in order to achieve sustainable management of fish stocks and protection of VMEs in the western part of the Convention Area:	
17	4.A	Limit fishing effort in bottom fisheries on the western part of the Convention Area to the level agreed in February 2007 in terms of the number of fishing vessels and other parameters which reflect the level of fishing effort, fishing capacity or potential impacts on marine ecosystems.
18	4.G	Further, considering accumulated information regarding fishing activities in the western part of the Convention Area, in areas where, in the course of fishing operations, cold water corals more than 50Kg or sponges more than 350Kg are encountered in

No.	Paragraph to be Assessed	OBLIGATION
		<p>one gear retrieval, Members of the Commission shall require vessels flying their flag to cease bottom fishing activities in that location. In such cases, the vessel shall not resume fishing activities until it has relocated a sufficient distance, which shall be no less than 1 nautical mile, so that additional encounters with VMEs are unlikely. All such encounters, including the location, gear type, date, time and name and weight of the VME indicator species, shall be reported to the Secretariat, through the Member, within one business day. The Executive Secretary shall, within one business day, notify the other Members of the Commission and at the same time implement a temporary closure in the area to prohibit fishing vessels from contacting the sea floor with their fishing gear. Members shall inform their fleets and enforcement operations within one business day of the receipt of the notification from the Executive Secretary. It is agreed that the VME indicator taxa include five groups of cold water corals, specifically black corals (Antipatharia), gorgonians, pennatulaceans, stony coral (Scleractinia), and soft corals. The VME indicator taxa also include the classes of Hexactinellida and Demospongiae in the phylum Porifera.</p>
19	4.L	<p>Limit annual catch of North Pacific armorhead consistent with the precautionary approach. In years when strong recruitment of North Pacific armorhead is not detected by the monitoring survey (Annex 6), Japan shall limit the catch of North Pacific armorhead by vessels flying its flag to 500 tons, and Korea shall limit its catch of North Pacific armorhead by vessels flying its flag to 200 tons. When a strong recruitment of North Pacific armorhead is detected by the monitoring survey (Annex 6), Japan shall limit its annual catch of North Pacific armorhead by vessels flying its flag to 10,000 tons, and Korea shall limit its annual catch of North Pacific armorhead by vessels flying its flag to 2,000 tons. The catch overages for any given year shall be subtracted from the applicable annual catch limit in the following year, and catch underages during any given year shall not be added to the applicable annual catch limit during the following year.</p>
20	5	<p>Members of the Commission shall submit to the SC their assessments of the impacts of fishing activity on marine species or any VMEs, including the proposed management measures to prevent such impact. Such submissions shall include all relevant data and information in support of any such assessment. Procedures for such reviews including procedures for the provision of advice and recommendations from the SC to the submitting Member are attached (Annex 3). Members will only authorize bottom fishing activity pursuant to paragraph 4 (C).</p>
		<p>6. To facilitate the scientific work associated with the implementation of these measures, each Member of the Commission shall undertake:</p>

No.	Paragraph to be Assessed	OBLIGATION
21	6.A	<p>and management measures, Members of the Commission are to provide updated information on an annual basis.</p> <p>Reporting of information for purposes of defining the footprint</p> <p>Members of the Commission shall provide, for each year, the number of vessels by gear type, size of vessels (tons), number of fishing days or days on the fishing grounds, total catch by species, and areas fished (names of seamounts) to the Secretariat. The Secretariat shall circulate the information received to the other Members consistent with the approved Regulations for Management of Scientific Data and Information. To support assessments of the fisheries and refinement of conservation and management measures, Members of the Commission are to provide updated information on an annual basis.</p>
22	6.B	<p>Collection of information</p> <ul style="list-style-type: none"> (i) Members shall ensure each bottom fishing vessel operating in the western part of the Convention Area collects the following scientific information. Members shall provide the scientific information to the Secretariat. <ul style="list-style-type: none"> (a) Catch and effort data (b) Related information such as time, location, depth, temperature, etc. (ii) As appropriate, Members should encourage the collection of information from research vessels operating in the western part of the Convention Area and provide updates to the Commission to the extent possible. <ul style="list-style-type: none"> (a) Physical, chemical, biological, oceanographic, meteorological, etc. (b) Ecosystem surveys. (c) Seabed mapping (e.g. multibeam or other echosounder); seafloor images by drop camera, remotely operated underwater vehicle (ROV) and/or autonomous underwater vehicle (AUV). (iii) Collection of observer data <p>Duly designated observers from the flag member shall collect information from bottom fishing vessels operating in the western part of the Convention Area. Observers shall collect data in accordance with Annex 5. Each Member of the Commission shall submit the reports to the Secretariat in accordance with Annex 4. The Secretariat shall compile this information on an annual basis and make it available to the Members of the Commission.</p>
23	8	<p>Members shall ensure that all vessels authorized to bottom fish in the western part of the Convention Area shall carry an observer on board. Members shall ensure that observers are independent, impartial, and qualified to fulfill the requirements</p>

No.	Paragraph to be Assessed	OBLIGATION
	<u>Observers</u>	<p>of this measure and to enhance data collection. An observer is deemed to be independent, impartial, and qualified if the observer:</p> <ul style="list-style-type: none"> (a) is deployed from a Commission Member's, or Cooperating non-Contracting Party's, national observer program, and familiar with NPFC fisheries resources, fishing activities, and CMMs; (b) is neither part of the crew, nor has any employment or family relationship to the ownership or operator of the fishing vessel; and (c) does not have any shared business interests with the owner or operator of the fishing vessel. <p>An observer shall be provisioned, accommodated, and provided safe working conditions and access to independent communications in accordance with the Commission requirements and the Member's domestic laws and regulations.</p>
<p style="text-align: center;">CMM 2024-06</p> <p style="text-align: center;">BOTTOM FISHERIES AND PROTECTION OF VULNERABLE MARINE ECOSYSTEMS IN THE NORTHEASTERN PACIFIC OCEAN</p>		
24	8	<p>The Members shall provide all available information as required by the Commission for any current or historical fishing activity by their flag vessels, including the number of vessels by gear type, size of vessels (tons), number of fishing days or days on the fishing grounds, total catch by species, areas fished (names or coordinates of seamounts), and information from scientific observer programmes (see Annexes 4 and 5) to the NPFC Secretariat as soon as possible and no later than one month prior to SC meeting. The Secretariat will make such information available to SC.</p>
<p style="text-align: center;">CMM 2024-07</p> <p style="text-align: center;">CHUB MACKEREL</p>		
25	1	<p>Members of the Commission and Cooperating non-Contracting Parties (CNCs) with substantial harvest of chub mackerel in the Convention Area shall refrain from expansion, in the Convention Area, of the number of fishing vessels entitled to fly their flags and authorized to fish for chub mackerel from the historical existing level until the stock assessment by the SC has been completed.</p>

No.	Paragraph to be Assessed	OBLIGATION
26	13	Members of the Commission and CNCPs shall provide their data on chub mackerel separated by the Convention Area and the areas under national jurisdiction adjacent to the Convention Area in accordance with the data requirements adopted by the Commission in the Annual Report by the end of February, every year. The Commission shall review such information at the annual meeting of every year.
<p style="text-align: center;">CMM 2024-08 PACIFIC SAURY</p>		
27	1	Members of the Commission, not described under Paragraph 2, and that are currently fishing for Pacific saury shall refrain from expansion, in the Convention Area, of the number of fishing vessels entitled to fly their flags and authorized to fish for Pacific saury from the historical existing level.
28	2	Members fishing for Pacific saury in areas of their jurisdiction that are adjacent to the Convention Area <i>shall refrain from rapid expansion</i> , in the Convention Area, of the number of fishing vessels entitled to fly their flags and authorized to fish for Pacific saury from the historical existing level.
29	9	As a provisional measure until the Commission decides allocation of the TAC, each Member of the Commission shall reduce the annual total catch of Pacific saury by the fishing vessels entitled to fly its flag in 2024 by 55% from its reported catch in 2018, and shall take necessary measures so that the total catch in the Convention Area will not exceed the TAC set out in paragraph 8.
30	10	<p>To comply with the TAC, the following measures shall be in place in 2024:</p> <ul style="list-style-type: none"> a) Members of the Commission shall report to the Executive Secretary, in the electronic format, weekly catches of Pacific saury in the Convention Area by fishing vessels flying their flags by Wednesday of the next week. The Executive Secretary shall make publicly available the compiled catch of Pacific saury in the Convention Area on the Commission's website as well as share each Member's catch of Pacific saury in the Convention Area on the Member's page of Commission's website without delay; and b) In the event that the total reported catch of all Members reaches 90% of the TAC set out in paragraph 8, the Executive Secretary shall notify all Members without delay. Those Members with more than 10,000 mt of catch limits shall close

No.	Paragraph to be Assessed	OBLIGATION
		the fishery within 72 hours from the receipt of the notification. Those Members with less than 10,000 mt of catch limits may continue operations, but their total catch shall not exceed 90% of their catch limits.
31	12	In the event that a Member reaches 70% of its catch limit set out in paragraph 9, the Executive Secretary shall inform that Member of that fact, with a copy to all other Members. That Member shall close the fishery for its flagged vessels when the total catch of its flagged vessels is equivalent to 100% of its catch limit. Such Member shall notify promptly the Executive Secretary of the date of the closure, except as described in paragraph 13.
<p align="center">CMM 2019-10 SABLEFISH</p>		
32	8	All vessels authorized to fish sablefish in the eastern part of the Convention Area shall have 100% observer coverage.
<p align="center">CMM 2024-11 JAPANESE SARDINE, NEON FLYING SQUID AND JAPANESE FLYING SQUID</p>		
33	1	Members of the Commission and Cooperating non-Contracting Parties (CNCs) with substantial harvest of any of Japanese sardine, neon flying squid and Japanese flying squid (hereinafter referred to as “the three Pelagic Species”) in the Convention Area shall refrain from expansion, in the Convention Area, of the number of fishing vessels entitled to fly their flags and authorized to fish for such species from the historical existing level until the stock assessment for such species by the SC has been completed.
34	7	Members of the Commission and CNCs shall provide their data on the three Pelagic Species in accordance with the data requirements adopted by the Commission in the Annual Report by the end of February, every year. The Commission shall review such information at the annual meeting of every year.
<p align="center">CMM 2024-12 VESSEL MONITORING SYSTEM</p>		

No.	Paragraph to be Assessed	OBLIGATION
35	8	All Members or CNCPs shall ensure that its flagged vessels that are authorized under NPFC and present in the Convention Area transmit VMS data every hour to their FMC.
36	10	Each Member or CNCP shall ensure that their FMC automatically transmits VMS data to the Secretariat, which shall be received no later than 60 minutes upon receipt of the data at their FMC.
37	11	Each Member or CNCP shall ensure that their FMC can automatically receive VMS data and transmit VMS data to the Secretariat.
38	12	Each Member or CNCP shall provide the Secretariat with VMS contact points in their FMCs including the name, position, email address and phone number of their VMS contact points. The Secretariat will make a list of VMS contact points available to all Members and Cooperating non-Contracting Parties.
39	22	If a failure to transmit occurs more than two times within a period of one year, the flag Member or CNCP of the fishing vessel shall investigate the matter, including having an authorized official examine the MTU on board the vessel. The outcome of this investigation shall be forwarded to the Secretariat within fifteen (15) days of its completion.
<p style="text-align: center;">CMM 2023-13</p> <p style="text-align: center;">COMPLIANCE MONITORING SCHEME</p>		
<p style="text-align: center;">CMM 2024-03</p> <p style="text-align: center;">TRANSSHIPMENTS</p>		
40	4	A fishing vessel shall only engage in a transshipment, or other transfer activity in the Convention Area, if both the offloading and receiving vessel are duly authorized by its Flag State and included in the NPFC Vessel Registry
41	6	If a fishing vessel intends to engage in a transshipment in an area under national jurisdiction, including a port, the fishing

No.	Paragraph to be Assessed	OBLIGATION
		vessel shall receive an authorization from the relevant coastal or port State before engaging in the transshipment.
42	8	All reporting shall comply with the procedures to be adopted by the Commission.
43	9	All reporting related to a transshipment shall include all marine species, including bycatch and unregulated species, taken in the Convention Area.
44	10	A fishing vessel shall maintain an electronic or physical record on board the fishing vessel of each transshipment it has engaged in during the current trip. The record shall include each transshipment declaration and daily activity records, such as those in a navigation logbook.
45	12	A fishing vessel, or a Commission Member or Cooperating non-Contracting Party on behalf of the vessel, shall provide an advance notification to the authorities listed in paragraph 13 as soon as possible, and at least 24 hours in advance of the intended transshipment. The advance notification form is included in Annex I.
46	14	A receiving vessel, or a Commission Member or Cooperating non-Contracting Party on behalf of the receiving vessel, shall provide an advance notification to the authorities listed in paragraph 13 as soon as possible, and at least 24 hours in advance of the intended other transfer activity. The advance notification form is included in Annex I.
47	15	If the transshipment does not start after 24 hours of the estimated start time, or within 20 nautical miles of the estimated start location, as contained in the advance notification, the fishing vessels involved in the transshipment, or Commission Members or Cooperating non-Contracting Parties on their behalf shall modify the submitted advance notification.
48	16	If the other transfer activity does not start after 24 hours of the estimated start time, or within 20 nautical miles of the estimated start location, as contained in the advance notification, the receiving vessel, or Commission Member or Cooperating non-Contracting Party of the receiving vessel, shall modify the submitted advance notification.
49	19	If a transshipment is cancelled before it is undertaken, a fishing vessel intending to engage in the transshipment, or the

No.	Paragraph to be Assessed	OBLIGATION
		Commission Member or Cooperating non-Contracting Party whose fishing vessel intended engage in the transshipment, shall notify the Secretariat of the cancellation as soon as possible.
50	21	If a Commission Member, or Cooperating non-Contracting Party, receives suitably documented information that its flagged fishing vessel is, or appears to be, non-compliant with the Convention, or a conservation and management measure, the Commission Member, or Cooperating non-Contracting Party, shall conduct an investigation.
51	22	<p>The investigating Commission Member, or Cooperating non-Contracting Party, shall provide a report on the progress of the investigation, including an attestation of the fishing vessel's status under paragraph 19, no later than 60 days after receiving the information, to:</p> <ul style="list-style-type: none"> (a) The Secretariat (b) The Commission Member, or Cooperating non-Contracting Party that provided this information. <p>Following the investigation process, information shall be provided about any appropriate enforcement action taken in line with its national laws.</p>
52	23	If a fishing vessel receives catch from more than one offloading vessel, the fishing vessel shall ensure that the catch from each offloading vessel is stored separately and readily identifiable. The receiving vessel shall have a stowage plan available on board at all times.
53	25	A fishing vessel having engaged in, or a Commission Member or Cooperating non-Contracting Party whose fishing vessel has engaged in, a transshipment shall provide a transshipment declaration to the authorities listed in paragraph 25 as soon as possible, and no later than 10 days after the transshipment. The transshipment declaration form is included in Annex II.
54	27	The Commission shall establish a regional observer and/or electronic monitoring program no later than its 9th Commission meeting. Until the Commission establishes an observer and/or electronic monitoring program, a Commission Member, or Cooperating non-Contracting Party, is responsible for the deployment of independent, impartial, and qualified observers to

No.	Paragraph to be Assessed	OBLIGATION
		fulfill the requirements of this measure.
55	29	An observer shall be provisioned, accommodated, including access to independent communications, and provided safe working conditions by the receiving vessel in accordance with the Commission Member's, or Cooperating non-Contracting Party's, domestic laws and regulations.
56	30	A Commission Member, or Cooperating non-Contracting Party, shall ensure that its receiving vessels engaging in a transshipment have an observer on board.
57	31	A fishing vessel may only engage in one transshipment at a time for each observer that is available to monitor and report on the transshipment.
58	32	<p>An observer shall have:</p> <ul style="list-style-type: none"> (a) full, unobstructed, and safe access to each fishing vessel involved in the transshipment, including, inter alia, access to crew, gear, equipment, records, electronic means of communication, and fish holds; and (b) adequate and appropriate space to undertake their responsibilities pursuant to this measure.
59	34	<p>An observer shall record an observer report immediately after each transshipment and keep the report onboard, and provide an observer transshipment report, as specified in Annex III, as soon as possible, but no later than 10 days from the disembarkation of the observer, to:</p> <ul style="list-style-type: none"> (a) the Commission Member, or Cooperating non-Contracting Party, of the flags of the receiving vessel and the offloading vessel; and (b) the Secretariat
60	35	In the case where an observer observes an activity or condition that is not consistent with this conservation and management measure, the observer shall notify the finding, as well as documented evidence, to the extent possible, without delay to the

No.	Paragraph to be Assessed	OBLIGATION
		Secretariat and the authorities of the Commission Member or Cooperating non-Contracting Party of the flags of the receiving and offloading vessels.
61	36	The Commission Member or Cooperating non-Contracting Party of the flag of the vessel whose violation has been observed and notified shall make the best effort to respond to this notification through the Secretariat without delay and undertake investigation on the observed violation. The Commission Member or Cooperating non-Contracting Party shall report any finding and/or relevant actions taken in their Annual Report.
62	47	<p>In the case of force majeure, the fishing vessel, or Commission Member or Cooperating non-Contracting Party, shall:</p> <p>(a) notify the Secretariat prior to the completion of the transshipment, or other transfer activity, as well as the circumstances giving rise to the force majeure; and</p> <p>(b) provide a transshipment declaration on the transshipment as soon as possible, but within 10 days of the transshipment.</p>
63	49	Each Commission Member, and Cooperating non-Contracting Party, shall provide an annual summary of the data and information collected from all authorized fishing vessels having undertaken a transshipment, including each year's transshipment declarations, to the Commission at the Technical and Compliance Committee meeting. The summary shall be included in the Annual Report, as per Article 16(3) of the Convention. The template for this summary is included in Annex V.
64	50	A Commission Member, or Cooperating non-Contracting Party, shall take all reasonable steps to verify the information received from fishing vessels having engaged in a transshipment.
65	52	Commission Members and Cooperating non-Contracting Parties shall investigate instances of potential non-compliance with this measure, and report the results of those investigations to the Commission.
CMM 2023-14		

No.	Paragraph to be Assessed	OBLIGATION
SHARKS		
66	6	No fishing vessel shall engage in shark finning.
67	7	<p>No fishing vessel shall:</p> <p>(a) retain on board, or otherwise possess or control, a shark fin that is not naturally attached to the corresponding shark; or</p> <p>(b) transship, or land, a shark fin that is not naturally attached to the corresponding shark unless the fishing vessel complies with paragraph 8.</p>
68	8	<p>A fishing vessel may only remove a shark fin from the corresponding shark if the shark is incidentally caught, taken, or harvested, and if:</p> <p>(a) the shark fin and the corresponding shark can be readily identified; and</p> <p>(b) one of the following methods is used:</p> <ul style="list-style-type: none"> i the shark fin is stored in the same bag, preferably a biodegradable one, as the corresponding shark; ii the shark fin is bound to the corresponding shark using rope or wire; or iii the shark fin and the corresponding shark are identically, uniquely, and numerically tagged in a manner that an authorized inspector can readily identify the matching of the shark fin to the corresponding shark.
69	9	A fishing vessel shall record, and maintain a record of, any shark catch in the Convention Area, to the extent possible by species, in its logbook on board the fishing vessel.
70	10	A Commission Member, or Cooperating non-Contracting Party, shall annually report all shark catches, to the extent possible by species, from their fishing vessels to the Secretariat.
CMM 2024-15		

No.	Paragraph to be Assessed	OBLIGATION
POLLUTION		
71	4	No fishing vessel shall discard or abandon fishing gear at sea. A Commission Member, or Cooperating non-Contracting Party (Member or CNCP) shall take necessary measures to ensure that its fishing vessels do not discard or abandon fishing gear at sea.
72	8	A Member or CNCP shall take necessary measures to ensure that its fishing vessels do not release any plastics, including synthetic ropes, synthetic fishing nets, plastic garbage bags, or incinerator ashes from plastics products, at sea
73	11	<p>A fishing vessel shall take all reasonable precautions to prevent:</p> <ul style="list-style-type: none"> (a) the abandonment, loss, or discard of fishing gear at sea; and (b) the release of garbage, and plastics, at sea. <p>A Member or CNCP shall take necessary measures to ensure that its fishing vessels take all reasonable precautions to prevent:</p> <ul style="list-style-type: none"> a) the abandonment, loss, or discard of fishing gear at sea; and b) the release of garbage, and plastics, at sea.
74	12	A Member or CNCP shall take necessary measures to ensure that its fishing vessels make every reasonable effort to retrieve any abandoned, lost, or discarded gear, garbage, or plastics that it has released as soon as possible and if safe to do so.
75	16	A Member or CNCP shall take necessary measures to ensure that its fishing vessels, to the extent possible, safely store and retain on board all fishing gear, garbage, and plastics until they can be disposed of at an adequate port reception facility.

CMM 2024-02

(Entered into force 24 July 2024)

**CONSERVATION AND MANAGEMENT MEASURE TO ESTABLISH A LIST
OF VESSELS PRESUMED TO HAVE CARRIED OUT ILLEGAL,
UNREPORTED AND UNREGULATED FISHING ACTIVITIES IN THE
CONVENTION AREA OF THE NORTH PACIFIC FISHERIES COMMISSION**

The North Pacific Fisheries Commission (NPFC):

Recalling that the FAO Council adopted on 23 June 2001 an International Plan of Action to prevent, deter and eliminate illegal, unreported and unregulated fishing (IPOA-IUU). This plan stipulates that the identification of the vessels carrying out illegal, unreported and unregulated (IUU) fishing activities should follow agreed procedures and be applied in an equitable, transparent and non- discriminatory way;

Concerned that IUU fishing activities in the Convention Area undermine the effectiveness of the conservation measures adopted by the NPFC;

Further concerned that there is a possibility that vessel owners engaged in such fishing activities may have re-flagged their vessels to avoid compliance with NPFC measures;

Determined to address the challenge of an increase in IUU fishing activities by way of measures to be applied in respect to vessels, without prejudice to further measures adopted in respect of Members, Cooperating Non-Contracting Parties (CNCs) and non-Contracting Parties under the relevant NPFC instruments;

Considering the action undertaken in other regional fisheries organizations to address this issue;

Conscious of the need to address, as a matter of priority, the issue of vessels conducting IUU fishing activities;

Noting that efforts to prevent, deter and eliminate IUU fishing must be addressed in the light of all relevant international fisheries instruments and in accordance with other international obligations, including the rights and obligations established under the World Trade Organization (WTO) Agreement; and

Recalling Articles 13, 14, 15 and 17 of the Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean (hereinafter called the “Convention”)

regarding the flag State duties, port State duties, duties of fishing entities and provisions for compliance and enforcement;

Adopts the following conservation and management measure in accordance with Article 7 of the Convention:

Identification of IUU activities

1. At each meeting, the Commission will identify those vessels which have engaged in fishing activities for species covered by the Convention within the Convention Area in a manner which has undermined the effectiveness of the Convention and the NPFC measures in force, and shall establish, and, as necessary amend, a list of such vessels (the IUU Vessel List), in accordance with the procedures and criteria set out in this conservation measure.
2. This identification shall be suitably documented, *inter alia*, on reports from Members/CNCPs relating to NPFC Conservation measures in force, trade information obtained on the basis of relevant trade statistics such as Food and Agriculture Organization of the United Nations (FAO) data, statistical documents and other national or international verifiable statistics, as well as any other information obtained from port States and/or gathered from the fishing grounds that is suitably documented. Information from Members/CNCPs should be provided in the format approved by the Commission.
3. For the purposes of this conservation measure, vessels fishing for species covered by the Convention are presumed to have carried out IUU fishing activities, as described in the IPOA on IUU fishing, in the Convention Area when a Member/CNCP presents suitably documented information that such vessels, *inter alia*:
 - (a) Harvest species covered by the Convention in the Convention Area and are not on the NPFC record of authorized vessels or
 - (b) Engage in fishing for fishery resources when the Member or CNCP, under whose flag the vessel is sailing, has exhausted or has no quotas, catch limit or effort allocation, including, if applicable, those received from another Member/CNCP under relevant NPFC conservation measures, or
 - (c) Do not record or report their catches made in the Convention Area consistent with NPFC measures, or make false reports, or
 - (d) Take and land undersized fish in contravention of relevant NPFC conservation measures, or
 - (e) Fish in a closed area or during a closed season in contravention of relevant NPFC

conservation measures, or

- (f) Use prohibited fishing gear in contravention of relevant NPFC conservation measures, or
 - (g) Transship with, participate in joint fishing operations with, support or re-supply vessels included in the IUU Vessel List, or
 - (h) Are without nationality and harvest species covered by the Convention in the Convention Area, or
 - (i) Engage in any other fishing activities that undermine the provisions of the Convention or any other NPFC conservation measures.
4. If a Member/CNCP has not taken such measures as may be necessary so that fishing vessels entitled to fly its flag avoid conducting unauthorized fishing activities within areas under national jurisdiction of another State adjacent to the Convention Area in accordance with Article 13, the Member/CNCP, within whose areas under national jurisdiction the unauthorized fishing activities were conducted, may submit a proposal for listing the vessels on the draft IUU List if consultation with the Member/CNCP has not resolved the matter. Relevant procedures set out in paragraph 6 below shall apply for proposals under this paragraph.
 5. If a Member/CNCP has information that a vessel is presumed to be carrying out IUU activities in the Convention Area during the years from the previous meeting to the current year, the Member/CNCP with such information is encouraged to provide that information as soon as possible to, and consult with, any Member/CNCP or non-Contracting Party that may have a vessel presumed to be carrying out IUU activities for clarification before providing that information to the Executive Secretary under the provisions of paragraph 6.

Information on alleged IUU fishing activities

6. At least 70 days before the meeting of the Technical and Compliance Committee (TCC), Members/CNCPs shall transmit to the Executive Secretary their list of vessels presumed to be carrying out IUU activities in the Convention Area during the years from the previous meeting to the current year, accompanied by suitably documented information, as provided in para 2, concerning the presumption of this IUU activity.
7. Before or at the same time as transmitting a list of presumed IUU vessels to the Executive Secretary, the Member/CNCP shall notify, either directly or through the Executive Secretary, the relevant Member/CNCP/Non-Contracting Party of a vessel's inclusion on this list and provide a copy of the pertinent suitably documented information. The Member/CNCP/Non-Contracting Party shall promptly acknowledge receipt of the notification. If no

acknowledgement is received within 10 days of the date of transmittal, the Executive Secretary, Member/CNCP shall retransmit the notification through an alternative means of communication.

Draft IUU Vessel List

8. The Executive Secretary shall draw up a draft IUU Vessel List incorporating the lists of vessels and suitably documented information received pursuant to para 6, and any other suitably documented information at his disposal, and shall transmit it, together with all the supporting information provided, to all Members/CNCPs, as well as to non-Contracting Parties with vessels on the list, at least 55 days before the TCC's meeting except otherwise decided by the TCC.
9. The Executive Secretary shall request each Member/CNCP/non-Contracting Party with vessels on the draft IUU Vessel List to notify the owner of the vessels of their inclusion in that list, and of the consequences of their inclusion being confirmed in the IUU Vessel List.
10. Upon receipt of the draft IUU Vessel List, Members/CNCPs shall closely monitor the vessels included in that list in order to follow their activities and possible changes of name, flag or registered owner.
11. As appropriate, Members/CNCPs/non-Contracting Parties with vessels on the list should transmit, at least 10 days before the TCC's meeting, their comments to the Executive Secretary, including suitably documented information, showing that the vessels have fished in a manner consistent with NPFC conservation measures or have fished exclusively for species not covered by the Convention.
12. The Executive Secretary shall re-circulate the draft IUU Vessel List, 7 days in advance of the TCC's meeting, to the Members/CNCPs/non-Contracting Parties concerned, together with all the suitably documented information provided pursuant to paras 6 and 11 above.
13. Members/CNCPs/non-Contracting Parties may at any time submit to the Executive Secretary any additional suitably documented information regarding any vessels on the draft IUU Vessel List. The Executive Secretary shall circulate this additional information to all Members/CNCPs and to the non-Contracting Parties concerned immediately upon receipt of such information.

Provisional and current IUU Vessel List

14. The NPFC's IUU Vessel List adopted at the previous meeting of the Commission, any new suitably documented information regarding this list, and any updates made by the Executive

Secretary under paragraphs 29 or 34, shall be transmitted to Members/CNCPs and the non-Contracting Parties concerned in conjunction with the draft IUU Vessel List and materials outlined in para 8.

15. Members/CNCPs/non-Contracting Parties with vessels on the current NPFC IUU Vessel List should transmit at least 30 days before the meeting of the TCC, but may submit at any time, to the Executive Secretary suitably documented information regarding any of the vessels on the current NPFC IUU Vessel List, including, where appropriate, suitably documented information as provided for in paragraph 29 or in paragraph 34. The Executive Secretary shall re-circulate the current NPFC IUU Vessel List two weeks in advance of the meeting of the TCC to the Members/CNCPs and non-Contracting Parties concerned, together with all the information provided pursuant to paragraph 14 and this paragraph.
16. At its meeting, the TCC shall:
 - (a) following consideration of the draft IUU Vessel List and the suitably documented information circulated under paragraphs 8, 12 and 13, adopt a Provisional IUU Vessel List; and
 - (b) following consideration of the current NPFC IUU Vessel List and the suitably documented information circulated under paragraphs 14 and 15, recommend to the Commission which, if any, vessels should be removed from the current NPFC IUU Vessel List, if such vessels have not already been removed pursuant to the procedures in paragraphs 29-32.
17. The TCC shall not include a vessel on the Provisional IUU Vessel List if the Member/CNCP/non-Contracting Party, under whose flag the vessel is sailing, demonstrates that:
 - (a) The vessel fished in a manner consistent with the Convention and NPFC Conservation Measures or have fished exclusively for species not covered by the NPFC Convention, or
 - (b) Effective action has been taken in response to the IUU fishing activities in question, such as, *inter alia*, prosecution or the imposition of sanctions of adequate severity.
18. The TCC shall not include a vessel on the Provisional IUU Vessel List if the notifying Member/CNCP did not follow the provisions of para 7.
19. The TCC shall recommend removal of a vessel from the current NPFC IUU Vessel List only if the Member/CNCP/Non-Contracting Party, under whose flag the vessel is sailing, submits to the Executive Secretary the information provided in para 29 of this measure.
20. Following the examination referred to in para 16, the TCC shall submit the Provisional IUU

Vessel List to the Commission for its consideration, and as appropriate, recommend any proposed changes to the current NPFC IUU Vessel List.

21. The draft IUU Vessel List, Provisional IUU Vessel List, and the NPFC IUU Vessel List shall contain the following details for each vessel:
 - (a) name and previous names, if any;
 - (b) flag and previous flags, if any;
 - (c) owner and previous owners, including beneficial owners, if any;
 - (d) operator and previous operators, if any;
 - (e) call sign and previous call signs, if any;
 - (f) Lloyds/IMO number, if any;
 - (g) photographs, where available;
 - (h) date first included on the IUU Vessel List;
 - (i) CMM and paragraph noting violation;
 - (j) summary of activities which justify inclusion of the vessel on the list, together with references to all relevant documents informing of and evidencing those activities; and
 - (k) the date(s) and subsequent sightings of the vessels, if any, and any other related activities.

NPFC IUU Vessel List

22. At its meeting, the Commission shall review the Provisional IUU Vessel List, taking into account any new suitably documented information related to vessels on the Provisional IUU Vessel List, and any recommendations to amend the current NPFC IUU Vessel List made pursuant to paragraph 20 above, and adopt a new NPFC IUU Vessel List. To the maximum extent possible Members/CNCPs/non-Contracting Parties concerned shall provide any new suitably documented information at least two weeks before the meeting of the Commission.
23. Upon adopting the new NPFC IUU Vessel List, the Commission shall request Members/CNCPs/non-Contracting Parties with vessels on the NPFC IUU Vessel List to:
 - (a) notify the owner of the vessels of its inclusion on the NPFC IUU Vessel List and the consequences that result from being included in the list, and
 - (b) take all the necessary measures to eliminate these IUU fishing activities, including, if

necessary, the withdrawal of the registration or the fishing licenses of these vessels, and to inform the Commission of the measures taken in this respect.

24. Members/CNCPs shall take all necessary non-discriminatory measures under their applicable legislation, international law and each Members/CNCPs' international obligations, and pursuant to paras 56 and 66 of the IPOA-IUU to:
 - (a) remove or withdraw vessels on the NPFC IUU Vessel List from the NPFC Vessel Registry;
 - (b) ensure that fishing vessels, support vessels, mother ships or cargo vessels flying their flag do not participate in any transshipment or joint fishing operations with, support or re-supply vessels on the NPFC IUU Vessel List;
 - (c) prohibit the entry into their ports of vessels included on the NPFC IUU Vessel List, except in the case of investigation or *force majeure*;
 - (d) prohibit the chartering of a vessel on the NPFC IUU Vessel List;
 - (e) refuse to grant their flag to vessels on the NPFC IUU Vessel List, unless the ownership of the vessel has subsequently changed and the new owner has provided sufficient evidence demonstrating that the previous owner or operator has no legal, beneficial or financial interest in, or control of the vessels, or the Member concerned is satisfied that, having taken into account all relevant facts, the vessel is no longer engaged in or associated with IUU fishing activities;
 - (f) prohibit commercial transactions, imports, landings and/or transshipment of species covered by the Convention from vessels on the IUU Vessel List;
 - (g) encourage traders, importers, transporters and others involved, to refrain from transactions in, and transshipment of, species covered by the Convention caught by vessels on the NPFC IUU Vessel List;
 - (h) collect, and exchange with other Members/CNCPs, any appropriate information with the aim of searching for, controlling and preventing false import/export certificates for species covered by the Convention from vessels on the NPFC IUU Vessel List.
25. Members/CNCPs should cooperate with each other and other flag States to strengthen their legal, operational and institutional capacity to take action against their flagged vessels that have engaged in IUU fishing in the Area, including the imposition of adequate sanctions, as an alternative to de-flagging such vessels, thereby rendering such vessels without nationality.
26. The Executive Secretary shall take any measure necessary to ensure publicity of the NPFC IUU Vessel List, in a manner consistent with any applicable confidentiality requirements, including placing it on the NPFC website. Furthermore, the Executive Secretary shall

transmit the NPFC IUU Vessel List to the FAO and to other regional fisheries organizations for the purposes of enhancing cooperation between the NPFC and these organizations aimed at preventing, deterring and eliminating IUU fishing.

27. Upon receipt of the final IUU vessel list established by another Regional Fisheries Management Organization (RFMO) and any other information regarding the list including its modification, the Executive Secretary shall circulate it to Members/CNCPs and shall place it on the NPFC website.
28. Without prejudice to the rights of Members/CNCPs and coastal states to take proper action, consistent with international law, including applicable WTO obligations, the Members/CNCPs shall not take any unilateral trade measures or other sanctions against vessels on the draft or Provisional IUU Vessel Lists, pursuant to paras 8 or 16, or that have been removed from the NPFC IUU Vessel List, pursuant to paras 19 and 22, on the grounds that such vessels are involved in IUU fishing activities.

Removal of a Vessel from the NPFC IUU Vessel List

29. Member/CNCPs/non-Contracting Parties with a vessel on the NPFC IUU Vessel List may request the removal of the vessel from the list at any time during the intersessional period by submitting to the Executive Secretary suitably documented information demonstrating that:
 - (a) It has adopted measures that will seek to ensure that the vessel complies with all NPFC measures, it will be able to assume effectively its duties with regards to the monitoring and control of the vessel's fishing activities in the Convention Area, and it has taken effective action in response to the IUU fishing activities that resulted in the vessel's inclusion in the NPFC IUU Vessel List, including prosecution or the imposition of sanctions of adequate severity; or
 - (b) The vessel has changed ownership and that the new owner can establish that the previous owner no longer has any legal, financial or real interests in the vessel or exercises control over it, and that the new owner has not participated in IUU fishing activities; or
 - (c) The vessel has been sunk or scrapped.
30. The Executive Secretary will transmit the removal request, with all the supporting information, to the Members/CNCPs within 15 days following the receipt of the removal request. Members/CNCPs shall promptly acknowledge receipt of the removal request. If no acknowledgement is received within 10 days of the date of transmittal, the Executive Secretary shall retransmit the removal request and shall use additional means available to ensure the request has been received.

31. Each Commission Member shall examine the removal request and notify the Executive Secretary in writing of its decision, and the rationale therefore, regarding the removal of the vessel within 30 days following the notification by the Executive Secretary. Decisions on the request to remove the vessel shall be made in accordance with Rule 2 of the Rules of Procedure.
32. If Commission Members agree to the removal of the vessel from the NPFC IUU Vessel List within the period stipulated in para 31, the Executive Secretary will inform Members/CNCPs, and non-Contracting Parties concerned, FAO and other regional fisheries management organizations, and will immediately remove the vessel from the NPFC IUU Vessel List, as published on the NPFC website.
33. If Commission Members disagree with the request for the removal of the vessel from the IUU Vessel List, the vessel will be maintained on the NPFC IUU Vessel List and the Executive Secretary will inform the Members/CNCPs/non-Contracting Parties that made the removal request.

Updating Information about Vessel on the NPFC IUU Vessel List

34. At any time, a Member/CNCP with information indicating a change in details listed in Annex B (a) through (g) of a vessel appearing on the NPFC IUU Vessel List shall, as soon as practicable, transmit such information to the Executive Secretary. The Executive Secretary shall communicate such information to all Members/CNCPs. The Executive Secretary shall verify the information. After verification, the Executive Secretary will update the current NPFC IUU Vessel List on the NPFC website to reflect such information.
35. If the Secretariat, after reasonable efforts or other input received, is unable to verify the information submitted by the Member/CNCP, the IUU Vessel List will not be updated and the proposed changes will be discussed at the next TCC and Commission meeting.

Review

36. This Conservation and Management Measure shall be subject to review and, as appropriate, revision by the TCC and acceptance by the Commission.

Annex A**NPFC Reporting Form for Illegal Activity**

Recalling NPFC CMM 2016 - 02 on *Establishing a list of vessels presumed to have carried out illegal, unreported and unregulated fishing activities in the Convention Area of North Pacific Fisheries Commission*, attached are details of illegal activity recorded in

Details of Vessel

- a. Name of vessel and previous names, if any;
- b. Flag of vessel and previous flags, if any;
- c. Owner and previous owner, including beneficial owners, if any;
- d. Operator of vessel and previous operators, if any;
- e. Call sign of vessel and previous call sign, if any;
- f. Lloyds/IMO number, if any;
- g. Photographs of the vessel, where available;
- h. Date vessel was first included on the IUU List;
- i. CMM and paragraph noting violation;
- j. Summary of activities which justify inclusion of the vessel on the list, together with references to all relevant documents informing of and evidencing those activities (more detail in section 2);
- k. the date(s) and subsequent sightings of the vessels, if any, and any other related activities.

Details of elements contravened

(Indicate with an "X" the individual elements of CMM contravened, and provide relevant details including date, location, source of information. Additional information can be provided in an attachment, if necessary, and listed under section 3).

Item	Definition	Indicate
a	Harvest species covered by the Convention in the Convention Area and are not on the NPFC record of authorized vessels	

b	Engage in fishing for fishery resources, when the Member or CNCP, under whose flag the vessel is sailing, has exhausted or has no quotas, catch limit or effort allocation, including, if applicable, those received from another Member/CNCP, under relevant NPFC conservation	
c	Do not record or report their catches made in the Convention Area consistent with NPFC Measures, or make false reports	
d	Take and land undersized fish in contravention of relevant NPFC conservation measures	
e	Fish in a closed area or during a closed season in contravention of relevant NPFC conservation measures	
f	Use prohibited fishing gear in contravention of relevant NPFC conservation measures	
g	Transship with, participate in joint fishing operations with, support or re-supply vessels included in the IUU vessels list	
h	Are without nationality and harvest species covered by the Convention in the Convention Area	
i	Engage in any other fishing activities that is in contravention of relevant NPFC conservation measures	
j	Are related to paragraph 4 of this conservation and management measure	

Associated documents

(List here the associated documents that are appended e.g. boarding reports, court proceedings, photographs).

Recommended actions

Item	Recommended actions	Indicate
A	Notification to NPFC Executive Secretary only. No further action is recommended	
B	Notification of illegal activity to NPFC Executive Secretary. Recommend notification of activity to flag Member/CNCP/non-Contracting Party	
C	Recommended for inclusion on NPFC IUU Vessel List	

Annex B

**Information to be included in all NPFC IUU Vessel Lists
(Draft, Provisional and Final)**

The Draft IUU Vessel List, as well as the Provisional and Final IUU Vessel Lists shall contain the following details, where available:

- a. Name of vessel and previous names, if any;
- b. Flag of vessel and previous flags, if any;
- c. Owner and previous owners, including beneficial owners, if any;
- d. Operator of vessel and previous operators, if any;
- e. Call sign of vessel and previous call signs, if any;
- f. Lloyds/IMO number, if any;
- g. Photographs of the vessel, where available;
- h. Date vessel was first included on the IUU Vessel List;
- i. CMM and paragraph noting violation;
- j. Summary of activities which justify inclusion of the vessel on the List, together with references to all relevant documents informing of and evidencing those activities;
- k. the date(s) and subsequent sightings of the vessels, if any, and any other related activities.

CMM 2024-15

(Entered into force 24 July 2024)

**CONSERVATION AND MANAGEMENT MEASURE ON THE PREVENTION,
REDUCTION, AND ELIMINATION OF MARINE POLLUTION**

The North Pacific Fisheries Commission (NPFC),

Concerned with the prevalence of marine pollution in the world's oceans, and its detrimental effects on marine species, marine ecosystems, and the livelihoods of legitimate fishers;

Recognizing the significant ecological threat posed by abandoned, lost, or discarded fishing gear (ALDFG) to the sustainability of fisheries resources;

Aware of both the role fishing vessels have in producing marine pollution during fishing activities from waste, harmful liquid substances, and ALDFG fishing gear, and their equal potential to combat marine pollution;

Committed to the use of the precautionary approach in fisheries management in light of the lack of data and information on marine pollution in the North Pacific Ocean;

Recalling that Article 3(k) of the Convention requires Commission Members and Cooperating non-Contracting Parties to minimize pollution or waste originating from fishing vessels, catch by lost or abandoned gear, and impacts on other species and marine ecosystems through measures including, to the extent practicable, the development and use of selective, environmentally safe, and cost-effective fishing gear and techniques;

Noting that the International Convention for the Prevention of Pollution from Ships (MARPOL) seeks to eliminate and reduce the amount of garbage being discharged into the sea from ships and that Annex V of MARPOL applies to all vessels but that there is limited monitoring and implementation of MARPOL obligations on fishing vessels, and consequently little information exists about illegal pollution activities by fishing vessels at sea;

Noting further that the need to prevent and significantly reduce marine pollution of all kinds was affirmed at the United Nations Conference to Support the Implementation of Sustainable Development Goal 14 through the adoption of paragraph 13(g) of the "Our ocean, our future: call for action" declaration;

Desiring to establish rules, and encourage advancements, in the prevention, reduction, and elimination of marine pollution in the North Pacific Ocean;

Adopts the following:

Definitions

1. This measure shall be interpreted, unless otherwise stated, in accordance with the Convention.
2. The following definitions apply:
 - a) “fishing gear” means any physical device or part thereof or combination of items that may be placed on or in the water or on the seabed with the intended purpose of catching, taking, or harvesting, or controlling for the subsequent catching, taking, or harvesting, of fisheries resources;
 - b) “garbage” means all kinds of food wastes, domestic wastes, and operational wastes as defined under Annex V of MARPOL, including incinerator ashes, cooking oil, floating dunnage, or lining and packing materials¹, but excluding plastics;
 - c) “plastics” means a solid material which contains as an essential ingredient one or more high molecular mass polymers and which is formed during either manufacture of the polymer or the fabrication into a finished product by heat or pressure;

¹ For greater clarity, a reference to garbage in paragraphs 12 – 17 does not include garbage that is permitted to be released under Annex V of MARPOL

Scope

3. This measure applies to all fishing vessels in the Convention Area.

Prohibitions on Marine Pollution

Prohibition on Discard or Abandonment of Fishing Gear

4. A Commission Member, or Cooperating non-Contracting Party (Member or CNCP) shall take necessary measures to ensure that its fishing vessels do not discard or abandon fishing gear at sea.
5. A fishing vessel is deemed to have discarded fishing gear if it relinquishes control of the fishing gear, except in the event of distress.
6. A fishing vessel is deemed to have abandoned fishing gear if it loses control of the fishing gear, or relinquishes control due to *force majeure*, and does not make every reasonable effort to retrieve the fishing gear.

Lost Fishing Gear

7. If a fishing vessel loses control of its fishing gear, or relinquishes control due to *force majeure*, and makes every reasonable effort to retrieve the fishing gear, but it is impossible to retrieve, the fishing gear is considered lost.

Prohibition on Release of Plastics

8. A Member or CNCP shall take necessary measures to ensure that its fishing vessels do not release any plastics, including synthetic ropes, synthetic fishing nets, plastic garbage bags, or incinerator ashes from plastics products, at sea.
9. Paragraph 8 shall not apply when it is necessary to secure the safety of human life or of vessels at sea in cases of *force majeure* caused by stress of weather, or in any case which constitutes a danger to human life or a real threat to vessels. A Member or CNCP shall take necessary measures to ensure that such release be so conducted as to minimize the likelihood of damage to human or marine life and reported to the Commission through the Secretariat within 14

working days of the incident. The Member of CNCP shall report any such cases in the Annual Report.

Prohibition on the Release of Other Marine Pollutants

10. A Member or CNCP is encouraged to implement appropriate on-board storage for, and to prohibit the release of the following discharges at sea by its fishing vessels, except as permitted under applicable international instruments:

- a) oil, fuel products, or oily residues;
- b) sewage; and
- c) garbage.

Other Requirements

Preventive Measures

11. A Member or CNCP shall take necessary measures to ensure that its fishing vessels take all reasonable precautions to prevent:

- a) the abandonment, loss, or discard of fishing gear at sea; and
- b) the release of garbage, and plastics, at sea.

Retrieval of Fishing Gear and Other Marine Pollutants

12. A Member or CNCP shall take necessary measures to ensure that its fishing vessels make every reasonable effort to retrieve any abandoned, lost, or discarded gear, garbage, or plastics that it has released as soon as possible and if safe to do so.

13. A Member or CNCP shall take necessary measures to encourage its fishing vessels to retrieve any abandoned, lost, or discarded fishing gear, garbage, or plastics that it observes at sea.

14. A Member or CNCP shall take necessary measures to encourage its fishing vessels to carry equipment on board to retrieve any abandoned, lost, or discarded fishing gear, garbage, or plastics that it released or observes.
15. A Member or CNCP is encouraged to submit to SC and TCC any information derived from the implementation of paragraphs 12 and 13.

Storage, Retention, and Disposal of Marine Pollutants

16. A Member or CNCP shall take necessary measures to ensure that its fishing vessels, to the extent possible, safely store and retain on board all fishing gear, garbage, and plastics until they can be disposed of at an adequate port reception facility.
17. A Member or CNCP shall take necessary measures to encourage its fishing vessels that are 400 GT and above and fishing vessels which are certified to carry 15 or more persons and engaged in international voyages to keep a Garbage Record Book on board the vessel that records the disposal and/or treatment of garbage in accordance with MARPOL Regulation 10, Annex V.

Review

18. The Commission shall review this measure annually, taking into account, *inter alia*:
 - a) the effectiveness of this measure in preventing, reducing, and eliminating marine pollution, including the potential for reporting requirements; and
 - b) the development of international standards, guidelines, or best practices, or international instruments related to the prevention, reduction, and elimination of marine pollution.

CMM 2024-09

(Entered into force 24 July 2024)

**CONSERVATION AND MANAGEMENT MEASURE FOR
HIGH SEAS BOARDING AND INSPECTION PROCEDURES FOR THE
NORTH PACIFIC FISHERIES COMMISSION**

1. The following procedures are established by the North Pacific Fisheries Commission, in accordance with Article 7, paragraph 2-c of its Convention, to govern high seas boarding and inspection of fishing vessels in the Convention Area.

Definitions

2. For the purposes of interpreting and implementing these procedures, the following definitions shall apply:
 - a) “Convention” means the Convention on the Conservation and Management of High Seas Fisheries resources in the North Pacific Ocean;
 - b) “Commission” means the North Pacific Fisheries Commission (NPFC) established under Article 5 of the Convention;
 - c) “Authorities of the Inspection Vessel” means the authorities of the Contracting Party under whose jurisdiction the inspection vessel is operating;
 - d) “Authorities of the Fishing Vessel” means the authorities of the Member of the Commission under whose jurisdiction the fishing vessel is operating;
 - e) “Authorized inspection vessel” means any vessel included in the Commission’s register of vessels as authorized to engage in boarding and inspection activities pursuant to these procedures;
 - f) “Authorized inspector” means inspectors employed by the authorities responsible for boarding and inspection included in the Commission register and authorized to conduct boarding and inspection activities pursuant to these procedures;
 - g) “Fishing activity” means the activities established under Article 1 (i) of the Convention;

- h) “Fishing vessels” means any vessel described under Article 1 (j) of the Convention.

Purpose

3. Boarding and inspection and related activities conducted pursuant to these procedures shall be for the purpose of ensuring compliance with the provisions of the Convention and conservation and management measures adopted by the Commission and in force.

Area of Application

4. These procedures shall apply throughout the Convention Area, which consists of the high seas areas of the North Pacific Ocean as specified in Article 4 of the Convention.

General Rights and Obligations

5. Each Contracting Party may, subject to the provisions of these procedures, carry out boarding and inspection on the high seas of fishing vessels engaged in or reported to have engaged in a fishery regulated pursuant to the Convention.
6. These procedures shall also apply in their entirety as between a Contracting Party and a Fishing Entity, subject to a notification to that effect to the Commission from the parties concerned.
7. Each Member of the Commission shall ensure that vessels flying its flag accept boarding and inspection by authorized inspectors in accordance with these procedures. Such authorized inspectors shall comply with these procedures in the conduct of any such activities.

General Principles

8. These procedures are intended to implement and give effect to, and are to be read consistently with, Article 7.2.c and Article 17.6 of the Convention.
9. These procedures shall be implemented in a transparent and non-discriminatory manner, taking into account, inter alia:

- a) such factors as the presence of observers on board a vessel and the frequency and results of past inspections; and
 - b) the full range of measures to monitor compliance with the provisions of the Convention and agreed conservation and management measures, including inspection activities carried out by the authorities of Members of the Commission in respect of their own flag vessels.
 - c) that NPFC Member inspectors are at risk of serious injury during the boarding process and that minimum standards for boarding ladders are to be implemented to the extent possible minimize this risk.
10. While not limiting efforts to ensure compliance by all vessels, priority for boarding and inspection efforts pursuant to these procedures may be given to:
- a) fishing vessels that are not on the NPFC Record of Fishing Vessels and are flagged to Members of the Commission;
 - b) fishing vessels reasonably believed to engage or to have been engaged in any activity in contravention of the Convention or any conservation and management measure adopted thereunder;
 - c) fishing vessels that are entitled to fly the flag of a Member of the Commission that does not dispatch patrol vessels to the area of application to monitor its own fishing vessels;
 - d) fishing vessels without observers on board if so required by the Convention, Article 7.2b;
 - e) fishing vessels with a known history of violating conservation and management measures adopted by international agreement or any domestic laws and regulations.
11. The Commission shall keep the implementation of these procedures under review.
12. The interpretation of these procedures shall rest with the Commission.

Participation

13. The Commission shall maintain a register of all authorized inspection vessels and authorities or inspectors. Only vessels and authorities or inspectors listed on the Commission's register are authorized under these procedures to board and inspect fishing vessels of Commission Members and Cooperating Non-Contracting Parties on the high seas within the Convention Area.
14. Each Contracting Party that intends to carry out boarding and inspection activities pursuant to these procedures shall so notify the Commission, through the Executive Secretary, and shall provide the following:
 - a) with respect to each inspection vessel it assigns to boarding and inspection activities under these procedures:
 - i) details of the vessel (name, description, photograph, registration number, port of registry (and, if different from the port of registry, port marked on the vessel hull), international radio call sign and communication capability);
 - ii) An example of the credentials issued to the inspectors by its authorities;
 - iii) notification that the inspection vessel is clearly marked and identifiable as being on government service;
 - iv) notification that the crew has received and completed training in carrying out boarding and inspection activities at sea in accordance with any standards and procedures as may be adopted by the Commission.
 - b) with respect to inspectors it assigns pursuant to these procedures:
 - i) the names of the authorities responsible for boarding and inspection;
 - ii) notification that such authorities' inspectors are fully familiar with the fishing activities to be inspected and the provisions of the Convention and conservation and management measures in force; and
 - iii) notification that such authorities' inspectors have received and completed training in carrying out boarding and inspection activities at sea in accordance with any standards and procedures as may be adopted by the Commission.

15. Where military vessels are used as a platform for the conduct of boarding and inspection, the authorities of the inspection vessel shall ensure that the boarding and inspection is carried out by inspectors fully trained in fisheries enforcement procedures and duly authorized for this purpose under national laws, and that boardings from such military vessels and inspectors conform to the procedures contained within these Boarding and Inspection Procedures.
16. Authorized inspection vessels and inspectors notified by Contracting Parties pursuant to paragraph 14 shall be included on the Commission register once the Executive Secretary confirms that they meet the requirements of that paragraph.
17. To enhance the effectiveness of the Commission's boarding and inspection procedures, and to maximize the use of trained inspectors, Contracting Parties may identify opportunities to place authorized inspectors on inspection vessels of another Contracting Party. Where appropriate, Contracting Parties should seek to conclude bilateral arrangements to this end or otherwise facilitate communication and coordination between them for the purpose of implementing these procedures.
18. The Executive Secretary shall ensure that the register of authorized inspection vessels and authorities or inspectors is at all times available to all Members of the Commission and shall immediately circulate any changes therein. Updated lists shall be posted on the Commission website. Each Member of the Commission shall take necessary measures to ensure that these lists are circulated in a timely manner to each of its fishing vessels operating in the Convention Area.

Procedures

19. The NPFC inspection flag, as described in Annex B, shall be flown by authorized inspection vessels, in clearly visible fashion.
20. Authorized inspectors shall carry an approved identity card identifying the inspector as authorized to carry out boarding and inspection procedures under the auspices of the Commission and in accordance with these procedures.
21. An authorized inspection vessel that intends to board and inspect a fishing vessel on the high seas that is engaged in or reported to have engaged in a fishery regulated pursuant to the Convention shall, prior to initiating the boarding and inspection:

- a) make best efforts to establish contact with the fishing vessel by radio, by the appropriate International Code of Signals or by other accepted means of alerting the vessel;
- b) provide the information to identify itself as an authorized inspection vessel - name, registration number, international radio call sign and contact frequency;
- c) communicate to the master of the vessel its intention to board and inspect the vessel under the authority of the Commission and pursuant to these procedures; and
- d) initiate notice through the authorities of the inspection vessel of the boarding and inspection to the authorities of the fishing vessel.

22. In carrying out boarding and inspection pursuant to these procedures, the authorized inspection vessel and authorized inspectors shall make their best efforts to communicate with the master of the fishing vessels in a language that the master can understand. In order to facilitate communications between the inspectors and the master of the vessel, the Commission shall develop a standardized multi-language questionnaire, which shall be circulated to all Contracting Parties with authorized inspection vessels.

23. Authorized inspectors shall have the authority to inspect the vessel, its license, gear, equipment, records, facilities, fish and fish products and any relevant documents necessary to verify compliance with the conservation and management measures in force pursuant to the Convention.

24. Boarding and inspection pursuant to these procedures shall:

- a) be carried out in accordance with internationally accepted principles of good seamanship so as to avoid risks to the safety of fishing vessels and crews;
- b) be conducted as much as possible in a manner so as not to interfere unduly with the lawful operation of the fishing vessel;
- c) take reasonable care to avoid action that would adversely affect the quality of the catch; and
- d) not be conducted in such manner as to constitute harassment of a fishing vessel, its officers or crew.

25. In the conduct of a boarding and inspection, the authorized inspectors shall:

- a) present their identity card to the master of the vessel and a copy of the text of the relevant measures in force pursuant to the Convention in the relevant area of the high seas;
- b) not interfere with the master's ability to communicate with the authorities of the fishing vessel;
- c) complete the inspection of the vessel within 4 (four) hours unless evidence of a serious violation is found;
- d) collect and clearly document any evidence they believe indicates a violation of measures in force pursuant to the Convention;
- e) provide to the master prior to leaving the vessel a copy of an interim report on the boarding and inspection including any objection or statement which the master wishes to include in the report;
- f) promptly leave the vessel following completion of the inspection if they find no evidence of a serious violation; and
- g) provide a full report on the boarding and inspection to the authorities of the fishing vessel, pursuant to paragraph 31, which shall also include any master's statement.

26. During the conduct of a boarding and inspection, the master of the fishing vessel shall:

- a) follow internationally accepted principles of good seamanship so as to avoid risks to the safety of authorized inspection vessels and inspectors;
- b) accept and facilitate prompt and safe boarding by the authorized inspectors;
- c) provide a safe boarding ladder; Annex A provides guidelines for a safe boarding ladder;
- d) cooperate with and assist in the inspection of the vessel pursuant to these procedures;

- e) not assault, resist, intimidate, interfere with, or unduly obstruct or delay the inspectors in the performance of their duties;
- f) allow the inspectors to communicate with the crew of the inspection vessel, the authorities of the inspection vessel, any embarked observers, as well as with the authorities of the fishing vessel being inspected;
- g) provide the inspectors onboard with reasonable facilities, including, where appropriate, food and accommodation; and
- h) facilitate safe disembarkation by the inspectors.

27. If the master of a fishing vessel refuses to allow an authorized inspector to carry out a boarding and inspection in accordance with these procedures, such master shall offer an explanation of the reason for such refusal. The authorities of the inspection vessel shall immediately notify the authorities of the fishing vessel, as well as the Commission, of the master's refusal and any explanation.

28. The authorities of the fishing vessel, unless generally accepted international regulations, procedures and practices relating to safety at sea make it necessary to delay the boarding and inspection, shall direct the master to accept the boarding and inspection. If the master does not comply with such direction, the Member shall suspend the vessel's authorization to fish and order the vessel to return immediately to port. The Member shall immediately notify the authorities of the inspection vessel and the Commission of the action it has taken in these circumstances.

Use of Force

29. The use of force shall be prohibited except when and to the degree necessary to ensure the safety of the inspectors during the conduct of their boarding and inspection activities. The degree of force used shall not exceed that reasonably required in the circumstances.

30. Any incident involving the use of force shall be immediately reported to the authorities of the fishing vessel, as well as to the Executive Secretary for distribution to the Commission.

Inspection Reports

31. Authorized inspectors shall prepare a full report on each boarding and inspection they carry out pursuant to these procedures in accordance with a format specified by the Commission. The authorities of the inspection vessel from which the boarding and inspection was carried out shall transmit a copy of the boarding and inspection report to the authorities of the fishing vessel being inspected, as well as the Secretariat, within 3 (three) full working days of the completion of the boarding and inspection. Where it is not possible for the authorities of the inspection vessel to provide such report to the authorities of the fishing vessel within this timeframe, the authorities of the inspection vessel shall inform the authorities of the fishing vessel and shall specify the time period within which the report will be provided.
32. Such report shall include the names and authority of the inspectors and clearly identify any observed activity or condition that the authorized inspectors believe to be a violation of the Convention or conservation and management measures in force and indicate the nature of specific factual evidence of such violation.

Serious Violations

33. In the case of any boarding and inspection of a fishing vessel during which the authorized inspectors observe an activity or condition that would constitute a serious violation, as defined in paragraph 38, the authorities of the inspection vessels shall immediately notify the authorities of the fishing vessel, directly as well as through the Commission.
34. Upon receipt of a notification under paragraph 33, the authorities of the fishing vessels shall without delay:
 - a) assume their obligation to investigate and, if the evidence warrants, take enforcement action against the fishing vessel in question and so notify the authorities of the inspection vessel, as well as the Commission; or
 - b) authorize the authorities of the inspection vessel to complete investigation of the possible violation and so notify the Commission.
35. In the case of 34(a) above, the authorities of the inspection vessel shall provide, as soon as practicable, the specific evidence collected by the authorized inspectors to the authorities of the fishing vessel.

36. In the case of 34(b) above, the authorities of the inspection vessel shall provide the specific evidence collected by the authorized inspectors, along with the results of their investigation, to the authorities of the fishing vessel immediately upon completion of the investigation.
37. Upon receipt of a notification pursuant to paragraph 33, the authorities of the fishing vessel shall make best effort to respond without delay and in any case no later than within 3 (three) full working days.
38. For the purposes of these procedures, a serious violation means the following violations of the provisions of the Convention or conservation and management measures adopted by the Commission:
- a) fishing without a valid license, permit or authorization issued by the Member whose flag the fishing vessel is entitled to fly, in accordance with Article 13 of the Convention;
 - b) significant failure to maintain records of catch and catch-related data in accordance with the Commission's reporting requirements or significant misreporting of such catch and/or catch-related data;
 - c) fishing in a closed area;
 - d) fishing during a closed season;
 - e) intentional taking or retention of species in contravention of any applicable conservation and management measure adopted by the Commission;
 - f) significant violation of catch limits or quotas in force pursuant to the Convention;
 - g) using prohibited fishing gear;
 - h) falsifying or intentionally concealing the markings, identity or registration of a fishing vessel;
 - i) concealing, tampering with or disposing of evidence relating to investigation of a violation;
 - j) multiple violations which taken together constitute a serious disregard of measures in force pursuant to the Commission;

- k) refusal to accept a boarding and inspection, other than as provided in paragraphs 27 and 28;
- l) assault, resist, intimidate, sexually harass, interfere with, or unduly obstruct or delay an authorized inspector; and
- m) intentionally tampering with or disabling the vessel monitoring system;
- n) such other violations as may be determined by the Commission, once these are included and circulated in a revised version of these procedures.

Enforcement

- 39. Any evidence obtained as a result of a boarding and inspection pursuant to these procedures with respect to violation by a fishing vessel of the Convention or conservation and management measures adopted by the Commission and in force shall be referred to the authorities of the fishing vessel for action in accordance with Article 17 of the Convention.
- 40. For the purposes of these procedures, the authorities of the fishing vessels shall regard interference by their fishing vessels, captains or crew with an authorized inspector or an authorized inspection vessel in the same manner as any such interference occurring within its exclusive jurisdiction.

Annual Reports

- 41. Contracting Parties that authorize inspection vessels to operate under these procedures shall report annually to the Commission on the boarding and inspections carried out by its authorized inspection vessels, as well as upon possible violations observed.
- 42. Contracting Parties shall include in their annual statement of compliance within their Annual Report to the Commission under Article 16 of the Convention action that they have taken in response to boarding and inspections of their fishing vessels that resulted in observation of alleged violations, including any proceedings instituted and sanctions applied.

Other Provisions

43. Authorized inspection vessels, while carrying out activities to implement these procedures, shall engage in surveillance aimed at identifying fishing vessels of non-Members undertaking fishing activities on the high seas in the Convention area. Any such vessels identified shall be immediately reported to the Executive Secretary for distribution to the Commission.
44. The authorized inspection vessel shall attempt to inform any fishing vessel identified pursuant to paragraph 43 that has been sighted or identified as engaging in fishing activities that are undermining the effectiveness of Convention and that this information will be sent to the Executive Secretary for distribution to the Members of the Commission and the non-Member whose flag the fishing vessel is entitled to fly of the vessel in question.
45. If warranted, the authorized inspectors may request permission from the fishing vessel and/or the non-Member whose flag the vessel is entitled to fly to board a vessel identified pursuant to paragraph 43. If the vessel master or the vessel's non-Member whose flag the vessel is entitled to fly consents to a boarding, the findings of any subsequent inspection shall be transmitted to the Executive Secretary. The Executive Secretary shall distribute this information to all Commission Members as well as to the non-Member whose flag the vessel is entitled to fly.
46. Contracting Parties shall be liable for damage or loss attributable to their action in implementing these procedures when such action is unlawful or exceeds that reasonably required in the light of available information.

Commission Coordination and Oversight

47. Authorized inspection vessels in the same operational area should seek to establish regular contact for the purpose of sharing information on areas in which they are patrolling, on sightings and on boarding and inspections they have carried out, as well as other operational information relevant to carrying out their responsibilities under these procedures.
48. The Commission shall keep under continuous review the implementation and operation of these procedures, including review of annual reports relating to these procedures provided by Members. In applying these procedures, Contracting Parties may seek to promote optimum use of the authorized inspection vessels and authorized inspectors by:

- a) identifying priorities by area and/or by fishery for boarding and inspections pursuant to these procedures;
- b) ensuring that boarding and inspection on the high seas is fully integrated with the other monitoring, compliance and surveillance tools available pursuant to the Convention;
- c) ensuring non-discriminatory distribution of boarding and inspections on the high seas among fishing vessels of Members of the Commission without compromising the opportunity of Contracting Parties to investigate possible serious violations; and
- d) taking into account high seas enforcement resources assigned by Members of the Commission to monitor and ensure compliance by their own fishing vessels, particularly for small boat fisheries whose operations extend onto the high seas in areas adjacent to waters under their jurisdiction.

Settlement of Disagreements

- 49. In the event of a disagreement concerning the application or implementation of these procedures, the parties concerned shall consult in an attempt to resolve the disagreement.
- 50. If the disagreement remains unresolved following the consultations, the Executive Secretary of the Commission shall, at the request of the parties concerned, and with the consent of the Commission, refer the disagreement to the Technical and Compliance Committee (TCC). The TCC shall establish a panel of five representatives, acceptable to the parties to the disagreement, to consider the matter.
- 51. A report on the disagreement shall be drawn up by the panel and forwarded through the TCC Chair to the Executive Secretary for distribution to the Commission within two months of the TCC meeting at which the case is reviewed.
- 52. Upon receipt of such report, the Commission may provide appropriate advice with respect to any such disagreement for the consideration of the Members concerned.
- 53. Application of these provisions for the settlement of disagreements shall be non-binding. These provisions shall not prejudice the rights of any Member to use the dispute settlement procedures provided in the Convention.

Annex A**Boarding Ladder Guidelines**

Commencing on March 1st, 2022, the Master of a fishing vessel with fishing vessel with a registered tonnage greater than or equal to 250 GT (Gross Tonnage) or GRT (Gross Register Tonnage), as registered in the NPFC Vessel Registry, is encouraged to provide a board ladder that meets the following guidelines:

- a) A boarding ladder should be provided for the purpose of enabling Authorized Inspectors to safely embark and disembark at-sea pursuant to the provisions of CMM 2023-09.
- b) The ladder should be secured in an area that is clear of any possible discharges, lines, or obstructions from the vessel.
- c) The ladder should be placed as near to the mid-length of the vessel as practicable.
- d) Handholds should be provided to ensure a safe passage from the deck to the head of the ladder and vice versa.
- e) The rigging of the ladder and the embarkation and disembarkation of an Authorized Inspector should be overseen by a responsible crew member of the vessel, who [should] have communication with the bridge.
- f) The steps of the ladder should be:
 - i) made of hardwood (or of a suitable equivalent material).
 - ii) free from sharp edges or splinters.
 - iii) provided with an effective non-slip surface.
 - iv) not less than 480 mm long, 115 mm wide and 25 mm in depth.
 - v) equally spaced apart to ensure safe and ergonomic climbing of the ladder by an Authorized Inspector.
 - vi) secured in such a manner that they will remain horizontal.
- g) The side ropes of the ladder should:
 - i) consist of two uncovered manila ropes not less than 65 mm in circumference on each side.
 - ii) should be continuous with no joins.
 - iii) should have ends secured to prevent unravelling.

- iv) Battens (span boards) made of hardwood or a material of equivalent properties, in one piece, should be provided to prevent the boarding ladder from twisting.
- v) An authorized inspector should have the discretion to instruct a vessel master to move or reconfigure the boarding ladder if deemed unsafe for use.

Note: A graphic regarding the boarding ladder is attached hereto.

Annex B

HSBI Inspection Flag and Pennant

The intended use of the flag is for inspection vessels, and the pennant for boarding launches.

The following Inspection Flag is intended to be used by authorized inspection vessels. The dimensions are 94 cm by 213 cm (height by length).



The following Boarding Pennant is intended to be used by authorized inspection vessels. The dimensions are 44 cm by 66 cm (height by length)



CMM 2024-03

(Entered into forced 24 July 2024)

CONSERVATION AND MANAGEMENT MEASURE ON TRANSSHIPMENTS

The North Pacific Fisheries Commission (NPFC),

Deeply concerned about the negative impacts of illegal, unreported, and unregulated (IUU) fishing and its detrimental effect upon fish stocks, marine ecosystems, and the livelihoods of legitimate fishers, and the increasing need for food security on a global basis;

Aware of the need to conduct transshipments of fisheries resources and products of fisheries resources taken in the Convention Area;

Recognizing that while transshipment is an important global commercial fishing practice, if not adequately managed, it may increase IUU fishing of NPFC fisheries resources in the North Pacific Ocean;

Acknowledging that effective conservation and management of NPFC fisheries resources is dependent on accurate, timely, and shared reporting of catches;

Recognizing that effective monitoring, control, and surveillance activities in the high seas require access to information about transshipments and other transfer activities before they occur;

Noting Article 7(2)(a) of the Convention which states that the Commission shall establish procedures for the regulation and monitoring of transshipment of fisheries resources and products of fisheries resources taken in the Convention Area, including notification to the Commission of the location and quantity of any transshipment; and

Desiring to establish the necessary rules and procedures to monitor, report, and verify transshipments to support monitoring, control, and surveillance activities, enhance science and compliance efforts, and fulfill the objective of the Convention;

Adopts the following:

Definitions

1. This measure shall be interpreted, unless a contrary intention appears, in accordance with the Convention.¹
2. The following definitions apply:
 - a) “landing” means all transfers of any quantity of fish onboard from a vessel, other than a transshipment, including transfers of fish to a port facility, transfers of fish from one vessel to another through a port facility, or other means of transportation, and transfers of fish from a vessel to a container, truck, train, or another means of transportation;
 - b) “other transfer activity” means a transfer of fuel, gear, materials, or other supplies, or a transfer of at least one person, from one fishing vessel to another fishing vessel in the Convention Area;
 - c) “port” means any harbour, marine terminal, shore-side facility, or other shore-side place used for landing, loading and unloading, transshipping, packaging, or processing of fisheries resources and products thereof or the refuelling or resupplying of fishing vessels in waters of national jurisdiction;
 - d) “product of fisheries resources” means any article that is produced from or composed of, in whole or in part, any fisheries resource; and
 - e) “trip” means a voyage commencing at the time a fishing vessel leaves a port to engage in a fishing activity and terminates at the time the fishing vessel enters a port.

Scope

3. This measure applies to:
 - a) any transshipment, either at sea or in port, of any NPFC fisheries resources, or product thereof, taken in the Convention Area, except those that have been previously landed;
 - b) any transshipment that occurs in the Convention Area involving a fishing vessel² included in the NPFC Vessel Registry; or,
 - c) any other transfer activity in the Convention Area involving a fishing vessel intending to engage in, or having engaged in, a fishing activity in the Convention Area.

¹ For this measure, an auxiliary tender boat is regarded as part of its parent receiving vessel under the following circumstances: it is used to transport unprocessed fish from the offloading vessel to the parent receiving vessel; it is loaded onboard the parent receiving vessel on navigation; it operates in the line of sight of the parent receiving vessel; and it is dependent on the parent receiving vessel for transportation to the Convention Area.

² For further clarity, obligations to “a fishing vessel” apply to both the offloading vessel and the receiving vessel.

Fishing Vessels Authorized to Engage in Transshipments

Rules for Engaging in Transshipments

4. A fishing vessel shall only engage in a transshipment, or other transfer activity in the Convention Area, if both the offloading and receiving vessel are duly authorized by its Flag State and included in the NPFC Vessel Registry.
5. A fishing vessel is prohibited from operating as both an offloading vessel and a receiving vessel in the same trip.

Authorization from Relevant Coastal or Port State

6. If a fishing vessel intends to engage in a transshipment in an area under national jurisdiction, including a port, the fishing vessel shall receive an authorization from the relevant coastal or port State before engaging in the transshipment.

General Reporting Requirements

Reporting

7. All reporting to the Secretariat related to a transshipment, or other transfer activity, shall be provided electronically (e.g. email, facsimile, etc.). This includes advance notifications, transshipment declarations, and observer transshipment reports.
8. All reporting shall comply with the procedures to be adopted by the Commission.

Reporting of Bycatch and Unregulated Species

9. All reporting related to a transshipment shall include all marine species, including bycatch and unregulated species, taken in the Convention Area.

Record of Transshipment

10. A fishing vessel shall maintain an electronic or physical record on board the fishing vessel of each transshipment it has engaged in during the current trip. The record shall include each transshipment declaration and daily activity records, such as those in a navigation logbook.
11. A Commission Member, or Cooperating non-Contracting Party, shall maintain an electronic or physical record of each transshipment engaged in by each of its fishing vessels for the current year. The record shall include each transshipment declaration.

Advance Notifications

Advance Notifications for Transshipments

12. A fishing vessel, or a Commission Member or Cooperating non-Contracting Party on behalf of the vessel, shall provide an advance notification to the authorities listed in paragraph 13 as soon as possible, and at least 24 hours in advance of the intended transshipment. The advance notification form is included in Annex I.
13. A fishing vessel, or Commission Member or Cooperating non-Contracting Party, shall provide the advance notification to:
 - a) the Commission Member, or Cooperating non-Contracting Party, of its flag, if the advance notification is provided by the fishing vessel; and
 - b) the Secretariat.

Advance Notification of Other Transfer Activities

14. A receiving vessel, or a Commission Member or Cooperating non-Contracting Party on behalf of the receiving vessel, shall provide an advance notification to the authorities listed in paragraph 13 as soon as possible, and at least 24 hours in advance of the intended other transfer activity. The advance notification form is included in Annex I.

Modifications to the Advance Notification

15. If the transshipment does not start after 24 hours of the estimated start time, or within 20 nautical miles of the estimated start location, as contained in the advance notification, the fishing vessels involved in the transshipment, or Commission Members or Cooperating non-Contracting Parties on their behalf, shall modify the submitted advance notification.
16. If the other transfer activity does not start after 24 hours of the estimated start time, or within 20 nautical miles of the estimated start location, as contained in the advance notification, the receiving vessel, or Commission Member or Cooperating non-Contracting Party of the receiving vessel, shall modify the submitted advance notification.
17. For 2024 only, modification to the advance notification only needs to be submitted if the transshipment or Other Transfer Activity does not occur within 72 hours of the estimated start time or within 50 nautical miles of the estimated start location in the original advance notification.

Provision of Authorization from Relevant Flag and Coastal or Port State

18. If a fishing vessel intends to engage in a transshipment in an area under national jurisdiction, including in a port, it shall not start the operation unless an authorization from the relevant flag and coastal or port State has been provided following the receipt of the transshipment advance notification.

Cancellation of Transshipment

19. If a transshipment is cancelled before it is undertaken, a fishing vessel intending to engage in the transshipment, or the Commission Member or Cooperating non-Contracting Party whose fishing vessel intended to engage in the transshipment, shall notify the Secretariat of the cancellation as soon as possible.

Other At-Sea Requirements

Commission Member and Cooperating non-Contracting Party Responsibility

20. After receiving an advance notification for a transshipment, a Commission Member, or Cooperating non-Contracting Party, shall verify that their fishing vessel complies with the Convention and all conservation and management measures.
21. If a Commission Member, or Cooperating non-Contracting Party, receives suitably documented information that its flagged fishing vessel is, or appears to be, non-compliant with the Convention, or a conservation and management measure, the Commission Member, or Cooperating non-Contracting Party, shall conduct an investigation.
22. The investigating Commission Member, or Cooperating non-Contracting Party, shall provide a report on the progress of the investigation, including an attestation of the fishing vessel's status under paragraph 20, no later than 60 days after receiving the information, to:
 - a) the Secretariat; and
 - b) the Commission Member, or Cooperating non-Contracting Party that provided the information.

Following the investigation process, information shall be provided about any appropriate enforcement action taken in line with its national laws.

23. If a fishing vessel receives catch from more than one offloading vessel, the fishing vessel shall ensure that the catch from each offloading vessel is stored separately and readily identifiable. The receiving vessel shall have a stowage plan available on board at all times.

Mobile Transmitting Unit Failure

24. In the event of mobile transmitting unit failure, the transshipment shall be suspended, and only resume once the fishing vessel complies with the relevant procedures in *CMM on the Vessel Monitoring Systems (VMS)*.

Transshipment Declaration

25. A fishing vessel having engaged in, or a Commission Member or Cooperating non-Contracting Party whose fishing vessel has engaged in, a transshipment shall provide a transshipment declaration to the authorities listed in paragraph 26 as soon as possible, and no later than 10 days after the transshipment. The transshipment declaration form is included in Annex II.
26. A fishing vessel, or a Commission Member or a Cooperating non-Contracting Party, shall provide the transshipment declaration to:
 - a) the Commission Member, or Cooperating non-Contracting Party, of its flag; and
 - b) the Secretariat.

Independent Monitoring and Reporting

Responsibility for Observers

27. The Commission shall establish a regional observer and/or electronic monitoring program no later than its 9th Commission meeting. Until the Commission establishes an observer and/or electronic monitoring program, a Commission Member, or Cooperating non-Contracting Party, is responsible for the deployment of independent, impartial, and qualified observers to fulfill the requirements of this measure.
28. An observer is deemed to be independent, impartial, and qualified if the observer:
 - a) is deployed from a Commission Member's, or Cooperating non-Contracting Party's, national observer program, and familiar with NPFC fisheries resources, fishing activities, and CMMs;
 - b) is neither part of the crew, nor has any employment or family relationship to the ownership or operator of the fishing vessel; and
 - c) does not have any shared business interests with the owner or operator of the fishing vessel.
29. An observer shall be provisioned, accommodated, including access to independent communications, and provided safe working conditions by the receiving vessel in accordance with the Commission Member's, or Cooperating non-Contracting Party's, domestic laws and regulations.

Deployment of Observers

30. A Commission Member, or Cooperating non-Contracting Party, shall ensure that its receiving vessels engaging in a transshipment have an observer on board.

31. A fishing vessel may only engage in one transshipment at a time for each observer that is available to monitor and report on the transshipment.

Access to Fishing Vessels

32. An observer shall have:

- a) full, unobstructed, and safe access to each fishing vessel involved in the transshipment, including, *inter alia*, access to crew, gear, equipment, records, electronic means of communication, and fish holds; and
- b) adequate and appropriate space to undertake their responsibilities pursuant to this measure.

Monitoring and Reporting by Observers

33. An observer shall monitor and report on, to the greatest extent possible, that the transshipment is conducted in a manner consistent with the advance notification and other information available to the observer, and in particular, verify the consistency of transshipped quantities of fisheries resources, or products of fisheries resources.
34. An observer shall record an observer report immediately after each transshipment and keep the report onboard, and provide an observer transshipment report, as specified in Annex III, as soon as possible, but no later than 10 days from the disembarkation of the observer, to:
- a) the Commission Member, or Cooperating non-Contracting Party, of the flags of the receiving vessel and the offloading vessel; and
 - b) the Secretariat.
35. In the case where an observer observes an activity or condition that is not consistent with this conservation and management measure, the observer shall notify the finding, as well as documented evidence, to the extent possible, without delay to the Secretariat and the authorities of the Commission Member or Cooperating non-Contracting Party of the flags of the receiving and offloading vessels.
36. The Commission Member or Cooperating non-Contracting Party of the flag of the vessel whose violation has been observed and notified shall make the best effort to respond to this notification through the Secretariat without delay and undertake investigation on the observed violation. The Commission Member or Cooperating non-Contracting Party shall report any finding and/or relevant actions taken in their Annual Report.
37. The obligations related to observer coverage included in this measure will come into effect as of September 1, 2023.

Data and Information Sharing

Establishment of a Transshipment Record

38. The Commission hereby establishes a record of transshipments, and other transfer activities, hereinafter named the NPFC Transshipment Record, to make all data and information, including all reporting related to, transshipments, and other transfer activities, available to Commission Members and Cooperating non-Contracting Parties, in accordance with the NPFC Data Sharing and Data Security Protocol.
39. The data and information on the NPFC Transshipment Record may be used for either scientific or compliance purposes by:
- a) a Commission Member, or Cooperating non-Contracting Party; or
 - b) the Commission.
40. The Secretariat shall maintain the NPFC Transshipment Record in accordance with Annex IV.

Public Availability of Data and Information

41. The Secretariat shall make aggregated anonymized data and information related to transshipments publicly available on the NPFC website, in accordance with the NPFC Data Sharing and Data Security Protocol.

Sharing Data and Information with Authorized In-Port Inspectors and Port Authorities

42. An authorized in-port inspector, or port State authority, may request from the Secretariat, and the Secretariat may provide, data or information related to a fishing vessel's transshipments for in-port inspection purposes, in accordance with the NPFC Data Sharing and Data Security Protocol.

Sharing Data and Information with Other RFMOs

43. The NPFC may share data and information related to transshipments with another regional fisheries management organization (RFMO) if the NPFC has entered into a Memorandum of Understanding with that RFMO and if the RFMO agrees to comply with the NPFC Data Sharing and Data Security Protocol.

Compliance Monitoring

44. Compliance monitoring of all transshipments shall be undertaken in accordance with the CMM *for the Compliance Monitoring Scheme*.
45. The assessment of compliance shall encompass all transshipments within the scope of this measure.

Force Majeure

46. Nothing in this measure prevents a fishing vessel from engaging in a transshipment, or other transfer activity, with another fishing vessel in cases of *force majeure* that threaten the safety of the crew or result in a significant financial loss through fish or fish product spoilage.
47. In the case of *force majeure*, the fishing vessel, or Commission Member or Cooperating non-Contracting Party, shall:
- a) notify the Secretariat prior to the completion of the transshipment, or other transfer activity, as well as the circumstances giving rise to the *force majeure*; and
 - b) provide a transshipment declaration on the transshipment as soon as possible, but within 10 days of the transshipment.
48. The Secretariat shall inform the Commission of each incident of *force majeure* upon receiving notification from the fishing vessel, Commission Member, or Cooperating non-Contracting Party.

Annual Reporting and Review

Annual Reporting

49. Each Commission Member, and Cooperating non-Contracting Party, shall provide an annual summary of the data and information collected from all authorized fishing vessels having undertaken a transshipment, including each year's transshipment declarations, to the Commission at the Technical and Compliance Committee meeting. The summary shall be included in the Annual Report, as per Article 16(3) of the Convention. The template for this summary is included in Annex V.
50. A Commission Member, or Cooperating non-Contracting Party, shall take all reasonable steps to verify the information received from fishing vessels having engaged in a transshipment.
51. Each year, the Secretariat shall produce and present a summary report on the implementation of this measure to the annual meeting of the Technical and Compliance Committee for review. This report shall include summarized information collected from observers, offloading vessels and receiving vessels, and responses from Commission Members and Cooperating non-Contracting Parties on their observer transshipment reports.
52. Commission Members and Cooperating non-Contracting Parties shall investigate instances of potential non-compliance with this measure, and report the results of those investigations to the Commission.

Review of Measure

53. This measure will be reviewed regularly at the Annual Session of the Commission. This review will take into account, *inter alia*:

- a) the latest advice from the Technical and Compliance Committee regarding the effectiveness of this measure in:
 - i) providing the Commission with information about transshipments; and
 - ii) supporting effective monitoring, control, and surveillance activities in line with the obligations of the Convention and conservation and management measures;
- b) required levels of observer coverage and the potential use of electronic monitoring; and,
- c) the scope and provisions of this measure.

ANNEX I

ADVANCE NOTIFICATION

INSTRUCTIONS

In completing the advance notification, the fishing vessel shall ensure that:

1. the information is as **accurate** as possible, and legible; and
2. the information is provided in **clear, legible print** in accordance with the clarifications below (either by hand or electronically).

CLARIFICATIONS

To assist in the accurate and clear completion of the advance notification:

- use the DD-MM-YYYY format to specify the date (e.g. 01-11-2022);
- use the HH:MM format, and the 24-hour clock (UTC, or specify time zone) to specify the time (e.g. 23:15);
- “NW” is an abbreviation for “national waters”;
- “OTA” is an abbreviation for “other transfer activities”;
- use the Degrees (°) Minutes (′) format to specify the latitude and longitude (e.g. 40° 26′ N, 79° 58′ W);
- for “FAO CODE”, utilize the FAO 3-alpha codes found at www.npfc.int/priority-species, or Fisheries and Aquaculture - All Information Collections - ASFIS List of Species for Fishery Statistics Purposes (fao.org);
 - the Codes for major NPFC species are; SAP (Pacific saury), MAS (chub mackerel), MAA (blue mackerel), JAP (Japanese sardine), OFJ (neon flying squid) and SQJ (Japanese flying squid).
- for “GEOGRAPHIC LOCATION”, state where the fisheries resource (or fisheries resource processed into a product) was taken; and
- for “STATE OF FISH”, state whether the fisheries resource, or product of fisheries resource, is: (1) fresh (FRS), or (2) frozen (FRZ).

ADVANCE NOTIFICATION FOR TRANSSHIPMENTS (1/2)			
PART I – VESSEL INFORMATION			
	INFORMATION	OFFLOADING VESSEL	RECEIVING VESSEL
1	Vessel Name		
2	Flag State		
3	IMO number		
4	IRCS, if eligible, or registration number		
5	Start of Trip		
	Port Name		
	Date of Departure		
6	End of Trip (if known)		
	Port Name		
	Date of Entry		
PART II – INFORMATION ON ANTICIPATED TRANSSHIPMENT			
7	Transshipment Location	<input type="checkbox"/> High Seas, In Convention Area <input type="checkbox"/> In Port <input type="checkbox"/> High Seas, Outside Convention Area <input type="checkbox"/> NW	
	Port Name (if applicable)		
	NW (if applicable)		
	Latitude and Longitude (estimated)	Latitude:	Longitude:
8	Transshipment Start Date (estimated)		
9	Transshipment Start Time (estimated)		
PART III – VERIFICATION			
10	Vessel Master / Vessel Owner or Company		
	Name		
	Nationality		
	Email address (as applicable)		
	Telephone number (as applicable)		
	Signature		
11	Observer (for the receiving vessel only, if applicable)		
	Name		
	Nationality		
	Signature		

ADVANCE NOTIFICATION FOR TRANSSHIPMENTS (2/2)**In completing this form, ensure the estimated information is as accurate as reasonably possible.**

Weight (kg) or unit used (e.g. box, basket), and the estimated total weight in kg:

FAO Code	Geographic Location	State of Fish	Type of product (whole, G&G, etc.)	Unit	Kg per unit	Number of Units	TOTAL (kg)

ADVANCE NOTIFICATION FOR OTHER TRANSFER ACTIVITIES			
PART I – VESSEL INFORMATION			
	INFORMATION	OFFLOADING VESSEL	RECEIVING VESSEL
1	Vessel Name		
2	Flag State		
3	IMO Number		
4	IRCS, if eligible, or registration number		
PART II – INFORMATION ON ANTICIPATED OTA			
5	OTA Location	<input type="checkbox"/> High Seas, In Convention Area	
	Latitude and Longitude (estimated)	Latitude:	Longitude:
6	OTA Start Date (estimated)		
7	OTA Start Time (estimated)		
PART III – VERIFICATION			
8	Vessel Master		
	Name		
	Nationality		
	Signature		

ANNEX II

TRANSSHIPMENT DECLARATION

INSTRUCTIONS

In completing the transshipment declaration, the fishing vessel shall ensure that:

1. the information is as **accurate** as possible, and legible; and
2. the information is provided in **clear, legible print** in accordance with the clarifications below (either by hand or electronically).

CLARIFICATIONS

To assist in the accurate completion of the transshipment declaration:

- use the DD-MM-YYYY format to specify the date (e.g. 01-11-2022);
- use the HH:MM format, and the 24-hour clock (UTC, or specify time zone) to specify the time (e.g. 23:15);
- “NW” is an abbreviation for “national waters”;
- use the Degrees (°) Minutes (′) format to specify the latitude and longitude (e.g. 40° 26′ N, 79° 58′ W);
- for “FAO CODE”, utilize the FAO 3-alpha codes found at www.npfc.int/priority-species, or Fisheries and Aquaculture - All Information Collections - ASFIS List of Species for Fishery Statistics Purposes (fao.org);
 - the Codes for major NPFC species are; SAP (Pacific saury), MAS (chub mackerel), MAA (blue mackerel), JAP (Japanese sardine), OFJ (neon flying squid) and SQJ (Japanese flying squid).
- for “GEOGRAPHIC LOCATION”, state where the fisheries resource (or fisheries resource processed into a product) was taken; and
- for “STATE OF FISH”, state whether the fisheries resource, or product of fisheries resource, is: (1) fresh (FRS), or (2) frozen (FRZ).

TRANSSHIPMENT DECLARATION (1/2)			
PART I – VESSEL INFORMATION			
	INFORMATION	OFFLOADING VESSEL	RECEIVING VESSEL
1	Vessel Name		
2	Flag State		
3	IMO number		
4	IRCS, if eligible, or registration number		
5	Vessel Owner or Company (if different from Vessel Master)		
	Name		
	Nationality		
	Phone Number		
	Email		
6	Start of Trip		
	Port Name		
	Date of Departure		
7	End of Trip (if known)		
	Port Name		
	Date of Entry		
PART II – TRANSSHIPMENT INFORMATION			
	INFORMATION	COMMENCEMENT	COMPLETION
8	Transshipment Location	<input type="checkbox"/> High Seas, In Convention Area <input type="checkbox"/> High Seas, Outside CA <input type="checkbox"/> In NW <input type="checkbox"/> In Port	<input type="checkbox"/> High Seas, In Convention Area <input type="checkbox"/> High Seas, Outside CA <input type="checkbox"/> In NW <input type="checkbox"/> In Port
	Port Name (if applicable)		
	NW (if applicable)		
	Latitude		
	Longitude		
9	Transshipment Date		
10	Transshipment Time		
PART III - VERIFICATION			
	INFORMATION	OFFLOADING VESSEL	RECEIVING VESSEL
10	Vessel Master / Vessel Owner or Company		
	Name		
	Nationality		
	Signature		
11	Observer		
	Name		
	Nationality		
	Signature		

TRANSSHIPMENT DECLARATION (2/2)							
PART I – FISHERIES RESOURCES OR PRODUCTS TRANSSHIPPED							
Weight (kg) or unit used (e.g. box, basket) and the estimated total weight in kg:							
FAO Code	Geographic Location	State of Fish	Type of product (whole, G&G, etc.)	Unit	Kg per unit	Number of Units	TOTAL (kg)
PART II – FISHERIES RESOURCES OR PRODUCTS STILL ON OFFLOADING VESSEL (for offloading vessel)							
FAO Code	Geographic Location	State of Fish	Type of product (whole, G&G, etc.)	Unit	Kg per unit	Number of Units	TOTAL (kg)
PART III – FISHERIES RESOURCES OR PRODUCTS CURRENTLY ON RECEIVING VESSEL (for receiving vessel)							
FAO Code	Geographic Location	State of Fish	Type of product (whole, G&G, etc.)	Unit	Kg per unit	Number of Units	TOTAL (kg)

ANNEX III

OBSERVER TRANSSHIPMENT REPORT

INSTRUCTIONS

In completing the observer transshipment report, the fishing vessel shall ensure that:

1. the information is as **accurate** as possible, and legible; and
2. the information is provided in **clear, legible print** in accordance with the clarifications below (either by hand or electronically).

The observer must provide (e.g. as an attachment) the completed transshipment declaration with the completed observer transshipment report. It is the responsibility of the observer to provide sufficient reasoning in order to effectively explain any non-compliance.

CLARIFICATIONS

To assist in the accurate completion of the observer transshipment report:

- use the DD-MM-YYYY format to specify the date (e.g. 01-11-2022);
- use the HH:MM format, and the 24-hour clock (UTC, or specify time zone) to specify the time (e.g. 23:15);
- “NW” is an abbreviation for “national waters”;
- use the Degrees (°) Minutes (′) format to specify the latitude and longitude (e.g. 40° 26′ N, 79° 58′ W);
- for “FAO CODE”, utilize the FAO 3-alpha codes found at www.npfc.int/priority-species, or Fisheries and Aquaculture - All Information Collections - ASFIS List of Species for Fishery Statistics Purposes (fao.org);
- for “GEOGRAPHIC LOCATION”, state where the fisheries resource (or fisheries resource processed into a product) was taken;
- for “STATE OF FISH”, state whether the fisheries resource, or product of fisheries resource, is: (1) fresh (FRS), or (2) frozen (FRZ); and
- “Interruptions” refers to any stoppage in observation of the transshipment by the observer.

OBSERVER TRANSSHIPMENT REPORT (1/1)		
Please ensure that the completed transshipment declaration is attached/provided.		
PART I – OBSERVED TRANSSHIPMENT INFORMATION		
1	Observed (Y/N)	
2	Total Hours Observed	
3	Interruption(s) in Observation (Y/N)	
4	Number of Interruptions	
5	Total Time Interrupted	
PART II - COMMENTARY		
<p>In this section, the observer shall note any observed non-compliance with CMM 2023-03 <i>on Transshipments</i>, including the verification of the consistency of the transshipped quantities (by species) of fisheries resources, or products of fisheries resources.</p>		
PART III - VERIFICATION		
6	Observer	
	Name	
	Nationality	
	Signature	

ANNEX IV

NPFC TRANSSHIPMENT RECORD

In order to facilitate the availability of reporting data and information on transshipments, the following shall be implemented:

Objective

1. The Secretariat shall ensure that all data and information related to transshipments and other transfer activities, including all reporting, is immediately available through the NPFC Transshipment Record to all Commission Members, and Cooperating non-Contracting Parties, upon reception.

General Specifications

2. The NPFC Transshipment Record shall be maintained on, and be accessible through, the secure NPFC website.
3. The NPFC Transshipment Record shall record each transshipment, and other transfer activity, conducted pursuant to this measure.
4. Each transshipment, and other transfer activity, shall be recorded through a profile for the transshipment, or other transfer activity. The profile shall contain:
 - a) the advance notification for each fishing vessel involved;
 - b) the authorization from the relevant coastal or port State authority for each fishing vessel involved, if applicable;
 - c) the transshipment declaration for each fishing vessel involved; and
 - d) if a transshipment, the observer transshipment report.

Specifications for the Record in the Event of Force Majeure

5. If a transshipment, or other transfer activity, is conducted because of *force majeure*, a profile shall be generated and it shall contain:
 - a) the notification of the transshipment, or other transfer activity, and the circumstances giving rise to the *force majeure*; and
 - b) the transshipment declaration.

Direct Entry Scheme

6. The NPFC Transshipment Record shall have a secure direct entry submission webpage to receive:
 - a) advance notifications;
 - b) authorizations from relevant coastal or port States;
 - c) transshipment declarations; and
 - d) observer transshipment reports.
7. The NPFC Transshipment Record shall not accept for submission any advance notification, transshipment declaration, or observer transshipment report that does not satisfy the required data and information.

Integration with the NPFC Vessel Registry

8. Each profile in the NPFC Transshipment Record shall have a link to the NPFC Vessel Registry for each fishing vessel involved in the transshipment, or other transfer activity.
9. Each profile for a fishing vessel in the NPFC Vessel Registry shall have a link to the NPFC Transshipment Record profile of each transshipment, or other transfer activity, that the fishing vessel was involved in.

ANNEX V

INFORMATION TO BE INCLUDED IN THE ANNUAL SUMMARY OF TRANSSHIPMENT

Each Commission Member and Cooperating non-Contracting Party shall include in Part 1 of its Annual Report to the Commission:

- 1.** The total quantities, by weight, of fish stocks covered by this measure that were transshipped by fishing vessels the Commission Member or Cooperating non-Contracting Party is responsible for reporting against, with those quantities broken down by:
 - a)** offloaded and received;
 - b)** transhipped inside the Convention Area, within an EEZ, in port and high seas outside the Convention Area;
 - c)** caught inside the Convention Area and caught outside the Convention Area;
 - d)** species; and,
 - e)** product form.
- 2.** The number of transshipments covered by this measure by fishing vessels that it is responsible for reporting against, broken down by:
 - a)** offloaded and received;
 - b)** transhipped inside the Convention Area, within an EEZ, in port and outside the Convention Area; and
 - c)** caught inside the Convention Area and caught outside the Convention Area.

Resolution on Core Principles on Labor Standards in NPFC Fisheries

The North Pacific Fisheries Commission (NPFC),

Recognizing the challenges faced by fishers with respect to health, safety, and welfare due to the inherent dangers of working at sea;

Desiring to uphold the safety of life at sea;

Noting the increasing global attention to instances of poor labor conditions and mistreatment of crews including forced labor and child labor on board fishing vessels;

Recalling the importance of respect for and protection of the human rights enshrined in the Universal Declaration of Human Rights 1948;

Recalling that Articles 6 and 8 of the 1995 FAO Code of Conduct for Responsible Fisheries sets out international standards, including for the responsible conduct of fishing operations to ensure that fishing facilities and equipment as well as fisheries activities allow for safe, healthy and fair working and living conditions and meet internationally agreed standards adopted by relevant international organizations, and additionally calls upon States to ensure that fishing is conducted with due regard to the safety of human life;

Further Recalling that Article 94 of United Nations Law of the Sea Convention requires States to take measures to ensure safety at sea, including with regard to labor conditions and the training of crews, taking into account the applicable international instruments,

Reaffirming the importance of flag State responsibilities under international law, including with respect to safety at sea and labor conditions on fishing vessels;

Noting the ILO Declaration on Fundamental Principles and Rights at Work 1998, the ILO C111 Discrimination Convention, the ILO C188 Work in Fishing Convention 2007 with its objective to ensure that fishers have decent conditions of work on board fishing vessels with regard to minimum requirements for work on board, conditions of service, accommodation and food, occupational safety and health protection, medical care and social security and the IMO International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F) with its aim to promote the safety of life at sea and the protection of the marine

environment, taking into account the unique nature of the fishing industry and the fishing working environment;

Emphasizing that the 2023 Report of the resumed Review Conference of the United Nations Fish Stocks Agreement (1995 Agreement) encouraged regional fisheries management organizations and arrangements, as appropriate, to adopt standards for decent working conditions for crew, inspectors, and observers within the fisheries within their competence, in accordance with international instruments;

Acknowledging the important role played by crew members in assisting the conduct of fishing vessel operations in compliance with NPFC Conservation and Management Measures, and the central role that crew members play in contributing to effective fishing operations;

Resolves that:

1. Members and CNCPs are encouraged to ratify relevant international instruments and to address the issue of labor standards in the fisheries sector in the relevant international organizations and fora. Members and CNCPs are encouraged to make every effort to ensure that their policies for the fisheries sector address labor standards.
2. Members and CNCPs are encouraged to make every effort to ensure that their relevant legislation fully extends to all crew working on fishing vessels flying their flag under the competence of the NPFC in the NPFC Convention Area and, where appropriate and applicable, are encouraged to adopt measures into their legislation to establish minimum standards regulating crew labor conditions.
3. Members and CNCPs are encouraged to adopt and implement measures, consistent with applicable international labor minimum standards for crew members on fishing vessels to ensure fair and decent working and living conditions on board for all crew members working on vessels flying their flag and engaged in fishing or fishing-related activity under the competence of NPFC in the NPFC Convention Area. Such measures should address the following, inter alia:
 - a. The absence of forced, trafficked, or any other form of involuntary or compulsory labor;

- b. A safe and secure working environment with minimum risk to health, safety, and, to the extent possible, well-being;
- c. Fair and understandable terms of employment that are enshrined in a written contract, or other equivalent or comparable arrangement, which are made available to the employee, in a form and language that facilitates the employee's understanding of the terms, and is agreed to by the employee, while noting the respective rights and obligations under employment contracts are the responsibility of the parties to those contracts;
- d. Decent working and living conditions on board vessels, including access to potable water and food, vessel and operational safety protections, medical care, adequate periods of rest, and acceptable standards of sanitary hygiene;
- e. Access to appropriate safety equipment onboard vessels and adequate safety training before first deployment on a vessel and at appropriate intervals thereafter. Such training should be in line with the International Maritime Organization (IMO) safety training standards;
- f. Access to a communication device at no cost or at a reasonable cost to the crew member, and points of contact in case the crew member has concerns related to safety, health, or labor abuses;
- g. Decent and regular remuneration as well as appropriate insurance for the crew, no less favorable than the flag Members and CNCPs domestic laws and regulations;
- h. Appropriate unemployment, accident, and other worker protections in case of work-related sickness, injury, or death, no less favorable than the flag Members and CNCPs domestic laws and regulations; and
- i. The opportunity for crew members to disembark, to access their identity documents, to terminate the contract of employment, to communicate with an organization that can render assistance to crew, to submit complaints regarding vessel working conditions, and to seek repatriation.

4. Members and CNCPs are encouraged to make every effort to ensure workplace safety and access to medical supplies and care extend to all crew, including migrant workers, working on vessels flying their flag and operating in fisheries under the competence of NPFC in the NPFC Convention Area.
5. Members and CNCPs are further encouraged to work with any entities involved in the recruitment of crew members to implement the provisions of this Resolution, including promoting the prohibition of recruitment fees and related costs being charged to crew.
6. Members and CNCPs are encouraged to apply and, where appropriate, strengthen effective jurisdiction and control over vessels flying their flag and to make every effort to improve, enforce, and prosecute violations of all relevant laws and policies regarding labor conditions and crew member safety on board vessels.
7. Members and CNCPs are further encouraged to detect possible labor rights violations in a vessel during port inspections, including forced labor. In those inspection efforts, Members and CNCPs can use relevant ILO detection tools. Port Members and CNCPs are encouraged to notify the flag Members/CNCPs of relevant evidence or support investigation and, where appropriate, prosecution by the flag Members/CNCPs, and to take other appropriate action with respect to the vessel and its master consistent with applicable laws.
8. Members and CNCPs are encouraged to report on the implementation of this Resolution, as part of their Annual Report to the Commission. In addition, Members and CNCPs are encouraged to share information related to indications of potential labor abuses, subject to applicable confidentiality requirements, having occurred on vessels engaged in fishing or fishing-related activities under the competence of the NPFC in the Convention Area.
9. The Commission will review this Resolution no later than three years after its adoption to consider progress on these issues and other steps to address labor abuses and improve labor standards. The Commission should take into account, inter alia, information shared by members and CNCPs referred to in paragraph 7 above, input from stakeholders and publicly available reports, and any relevant guidance or standards developed by the

relevant international organizations, including, FAO, the ILO, or the IMO or other RFMOs.



Memorandum of Understanding between the North Pacific Fisheries Commission (NPFC) and the Western and Central Pacific Fisheries Commission (WCPFC)

The North Pacific Fisheries Commission (hereafter NPFC) and the Western and Central Pacific Fisheries Commission (hereafter WCPFC):

Acknowledging that the objective of the Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean (hereafter NPFC Convention) is to ensure the long-term conservation and sustainable use of the fisheries resources in the Convention Area while protecting the marine ecosystems of the North Pacific Ocean in which these resources occur

Acknowledging also that the objective of the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (hereafter WCPFC Convention) is to ensure, through effective management, the long-term conservation and sustainable use of highly migratory fish stocks in the western and central Pacific ocean;

Recognising that Article 22 of the WCPFC Convention calls upon the WCPFC to make suitable arrangements for consultation, cooperation and collaboration with other relevant intergovernmental organizations;

Recognising further that Article 21 of the NPFC Convention calls upon the NPFC to take into account the conservation and management measures or recommendations adopted by regional fisheries management organizations and arrangements and other relevant intergovernmental organizations that have competence in relation to areas adjacent to the NPFC Convention;

Conscious of the fact that there is a geographical area overlap within the Convention Areas of both the NPFC and the WCPFC;

Noting that provisions of both the NPFC and the WCPFC Conventions address the conservation of non-target, associated or dependent species which belong to the same ecosystem as the target species;

Desiring to put in place a mechanism to promote and facilitate cooperation between WCPFC and NPFC;

Therefore NPFC and WCPFC record the following understandings:

1. OBJECTIVE OF THIS MEMORANDUM

The objective of this MoU is to facilitate, where appropriate, cooperation between NPFC and WCPFC ('the Organisations') in order to advance their respective objectives, particularly with respect to stocks or species which are within the ~~competence of~~ mutual interest of both Organisations.

2. AREAS OF COOPERATION

The Organisations will establish and maintain consultation, cooperation and collaboration in respect of matters of common interest to both organisations, including but not limited to, the following areas:

- i. exchange meeting reports, information, documents and publications regarding matters of mutual interest, consistent with the information sharing policies of each organization;
- ii. exchange data and scientific information in support of the work and objectives of both Organisations, consistent with the confidentiality rules, information sharing policies and internal data security procedures of each Organisation including, but not limited to, information on:
 - a) vessels authorised to fish in accordance with conservation and management measures adopted under the NPFC and WCPFC Conventions;
 - b) at the specific request of one of the Organisations, transshipment activities of those vessels authorised to conduct transshipment in accordance with conservation and management measures adopted under the NPFC and WCPFC Conventions, on a necessity basis; and,
 - c) vessels identified as having engaged in illegal, unreported and unregulated (IUU) fishing activity and the IUU Vessel Lists established by each Organisation.
- iii. collaborate, where appropriate, on research efforts relating to species and stocks of mutual interest, including non-target, associated and dependent species;
- iv. cooperate where appropriate, on the implementation of conservation and management measures adopted under the NPFC Convention and under the WCPFC Convention;
- v. share best practices in areas of mutual interest, including but not limited to:
 - a) monitoring, control and surveillance policies and systems, including with respect to Vessel Monitoring Systems;
 - b) administration, auditing, training and structure of observer programmes; and
 - c) Compliance Monitoring Schemes, and information management systems.
- vi. exchange on expertise gained, lessons learned and use of best practices between the Organisations' Secretariats in their areas of activity.
- vii. consistent with each Organisation's rules of procedure, grant reciprocal observer status to representatives of the respective Organisations in relevant meetings of each Organisation, including those of each Organisation's subsidiary bodies;

3. CONSULTATIVE PROCESS

To facilitate effective development, implementation and enhancement of cooperation, the Organisations may establish a consultative process between their respective Secretariats that includes telephone, email and any other means of communication. The consultative process may also proceed in the margins of meetings at which both Organisations' Secretariats are represented by appropriate staff.

4. MODIFICATION

This MoU may be modified at any time with the mutual written consent of both Organisations.

5. LEGAL STATUS

This MoU does not create legally binding rights or obligations. Each Organisation should cover their own costs related to the implementation of this MoU.

This MoU does not alter the obligations of members of either Organisation to comply with the conservation and management measures adopted under their respective Conventions.

6. OTHER PROVISIONS

This MoU will commence on the date of the second signature.

Either Organisation may discontinue this MoU by giving six months' prior written notice to the other Organisation.

7. SIGNATURES

Signed on behalf of the North Pacific Fisheries Commission and the Western and Central Pacific Fisheries Commission:

FOR THE NORTH PACIFIC FISHERIES
COMMISSION (NPFC)

FOR THE WESTERN AND CENTRAL PACIFIC
FISHERIES COMMISSION (WCPFC)

~~Robert Day~~ Shingo Ota
~~Executive Secretary~~ Chair

~~Rhea Moss-Christian~~ Josie Tamate
~~Executive Director~~ Chair

Place:

Place:

Date:

Date:



Memorandum of Understanding between the North Pacific Fisheries Commission (NPFC) and the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC)

The North Pacific Fisheries Commission (hereafter NPFC) and the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (hereafter ISC):

Acknowledging the objective of the Convention on the North Pacific Fisheries Commission (hereafter NPFC Convention) is to ensure the long-term conservation and sustainable use of the fisheries resources in the Convention Area while protecting the marine ecosystems of the North Pacific Ocean in which these resources occur;

Recognising that Article 21 of the NPFC Convention requires to cooperate, as appropriate, on matters of mutual interest with relevant regional organizations or arrangements, especially with those regional fisheries management organizations or arrangements with responsibility for fisheries in marine areas near or adjacent to the NPFC Convention Area;

Acknowledging that the ISC was established [in 1995](#) to enhance scientific research and cooperation for conservation and rational utilization of the species of tuna and tuna-like fishes which inhabit the North Pacific Ocean during a part or all of their life cycle;

Recognising that the ISC maintains a central database to support the scientific research [on tuna and tuna-like species](#) in the North Pacific Ocean;

Conscious of the fact that there is a geographical area overlap within the Convention Area of the NPFC and the [area in which the ISC conducts research and stock assessments](#);

Noting that both the NPFC and the ISC address non-target, associated or dependent species which belong to the same ecosystem as the target species;

Desiring to put in place a mechanism to promote and facilitate cooperation between NPFC and ISC; intend to enter into the following Memorandum of Understanding (MOU):

1. OBJECTIVE OF THIS MEMORANDUM

The objective of this MOU is to facilitate, where appropriate, consultation, cooperation and collaboration between NPFC and ISC ('the Organisations') in order to advance their respective objectives particularly with respect to stocks or species which are within the competence or mutual interest of both Organisations.

2. AREAS OF COOPERATION

The Organisations should establish and maintain consultation and cooperation in respect of matters of common interest. In particular, the Organisations intend to:

- ~~i. exchange meeting reports, information, documents and publications regarding matters of mutual interest, consistent with the confidentiality rules and information sharing policies of each organization;~~
- ~~ii.i.~~ exchange data and scientific information in support of the work and objectives of both Organisations, consistent with the confidentiality rules, information sharing policies and internal data security procedures of each Organisation including, but not limited to, information on:
 - a) relevant stocks and species consistent with data use, access and confidentiality rules of each Organisation;
 - b) effects of climate changes on marine ecosystems in the North Pacific Ocean.
- ~~iii.ji.~~ collaborate, where appropriate, on research efforts relating to species and stocks of mutual interest, ~~including non-target, associated and dependent species~~
- ~~iv-iii.~~ exchange on expertise gained, lessons learned and use of best practices in their areas of activity;
- ~~v-iv.~~ consistent with each Organisation's rules of procedure, grant reciprocal observer status to representatives of the respective Organisations in relevant meetings of each Organisation, ~~including those of each Organisation's subsidiary bodies.~~

3. CONSULTATIVE PROCESS

To facilitate effective development, implementation and enhancement of cooperation, the Organisations may establish a consultative process between their respective ~~Secretariats~~ officers that includes telephone, email and any other means of communication. The consultative process may also proceed in the margins of meetings at which both Organisations' ~~Secretariats~~ are represented by appropriate staff or officers.

4. MODIFICATION

This MoU may be modified at any time with the mutual written consent of both Organisations.

5. LEGAL STATUS

This MoU does not create legally binding rights or obligations. Each Organisation should cover their own costs related to the implementation of this MoU.

6. OTHERS

This MoU should commence on the date of the second signature.

Either Organisation may discontinue this MoU by giving six months' prior written notice to the other Organisation.

7. SIGNATURES

Signed on behalf of the North Pacific Fisheries Commission and the International Scientific Committee.

FOR THE NORTH PACIFIC FISHERIES
COMMISSION (NPFC)

FOR THE INTERNATIONAL SCIENTIFIC
COMMITTEE (ISC)

Shingo Ota
NPFC Chair

John Holmes
ISC Chair

Place:

Place:

Date:

Date:

**TERMS OF REFERENCE
ON LEGAL ADVISORY CONSULTANCIES FOR THE NPFC SECRETARIAT**

1. The Commission authorizes Executive Secretary to provide contractual services to the Secretariat, through advertising, the independent legal experts to seek advice on particular matters on a retainer and paid “as-needed”, noting the potential benefits for the Secretariat from independent legal consultancies in assisting the work of the Commission.
2. The legal advice from the independent legal experts shall not take precedence over the views and/or decisions of Members.
3. The legal services from the independent legal experts shall be sought only to support the direct operational functions of the Secretariat in the following areas:
 - a. International fisheries and oceans related legal requirements;
 - b. Domestic legal considerations including on labor and social security issues of the Staff members of the Secretariat.
4. The independent legal experts do not attend any Commission meetings including TCC, FAC and COM.
5. Members shall not, in any case, seek advice from the independent legal experts on matters that are currently under consideration by the NPFC.
6. Executive Secretary shall report to FAC every year the contracts he/she has made to seek advice and the costs spent for the advice.



Previous Version: COM03/July 2017

Previous Version: COM07/March 2023

Current Version: COM08/April 2024

NPFC Document Policy

Abstract. *This policy is intended to ensure a common system is employed to classify documents submitted to, or developed by, the NPFC and its subsidiary bodies. It establishes approaches for providing access to NPFC meeting documents by accredited observers. It describes document requirements, includes examples which can be used as templates and provides guidelines for submission of NPFC documents.*

TYPES OF NPFC DOCUMENTS

Working Papers (WP) are documents generated by the Members or the Secretariat for consideration and discussion by the Members.

Information Papers (IP) are submitted by the Members and present information which may be useful for the Commission, does not require discussion, but may provide background for WPs.

Observer Papers (OP) are Information Papers submitted by Observers.

Meeting Information Papers (MIP) provide organizational support to participants, i.e. agenda, schedule, meeting venue etc.

Reference Documents (RD) include key NPFC documents relevant to the meeting (Convention, Rules of Procedure, CMMs etc.)

Meeting Reports (spelled out with the acronym of the meeting/workshop before wording, e.g., SSC PS01 Report/WS VME01 Report) summarize results of the meetings of the Commission and its subsidiaries.

Annual Reports (AR) are generated by the Members and describe how the Member of the Commission has implemented the conservation and management measures and monitoring, control and surveillance and enforcement procedures adopted by the Commission.

Compliance Monitoring Reports (CMR) are reports from the Secretariat on the assessment of Member's compliance with CMMs (confidential until approved).

Other documents are papers issued on an irregular basis and do not meet the above descriptions.

REQUIREMENTS FOR NPFC DOCUMENTS

All documents submitted to or developed by the NPFC and its subsidiaries shall include header (NPFC+logo), document number (appendix 1), page numbers, title, and, if appropriate, author(s) and affiliation. Specific requirements to different types of documents are as follows:

Working Paper shall have an abstract. It also *may* have cover page and citation that is strongly recommended for scientific papers which have not yet been published. Citation format:

“Author(s). Year. Title. Document number. # pp. (number of pages) Available at <http://www.npfc.int> (appendix 2)

Meeting Report shall have cover page and citation. Citation format: “NPFC or its subsidiary. Year. Title. Document number. # pp. (number of pages). Available at <http://www.npfc.int>” (appendix 3)

Annual Report shall have cover page and citation. Citation format: “Member. Year. Title. Document number. # pp. (number of pages). Available at <http://www.npfc.int>”. (appendix 4).

Compliance Monitoring Report *may* have cover page and citation, if necessary. Citation format: “Member. Year. Title. Document number. # pp. (number of pages). Available at <http://www.npfc.int>”

Reference Documents/Papers, Meeting Info Papers, Information Papers, Observer Papers and other NPFC documents do not have specific requirements but shall follow common rules for numbering and content for all documents noted above.

GUIDELINES FOR SUBMISSION OF NPFC DOCUMENTS

Submission

NPFC Documents must be prepared in English in electronic form and submitted to the Secretariat by email through the Commission's point of contact in each Member.

All text, tables, and figures must be embedded in the file.

Document number

The Secretariat will assign a document number to completed documents in the order they are received. If a document is revised, the Secretariat will add “Rev.#” in the end of document number and previous versions will be retained.

Citation

In case the document is not citable, insert one or any following sentences under the document number:

NOT TO BE CITED, or NOT TO BE CITED WITHOUT PERMISSION OF THE ISSUING AGENCY, and/or NOT TO BE DISTRIBUTED WITHOUT AUTHORIZATION OF THE ISSUING AGENCY.

Uploading of Meeting Documents on the Website

Before meetings of the Commission and its subsidiary bodies, the Secretariat will upload submitted documents to the Meetings page of the NPFC website which will be accessible for Members, CNCs, Observers and the public, unless the author of the document directs that the document remain solely available to NPFC Members. After the adoption of documents at meetings of the Commission and its subsidiary bodies, documents will be posted and will be available to the public under the meeting page of the NPFC website. Notwithstanding these provisions, documents determined to contain sensitive information in accordance with the NPFC Data Sharing and Data Security Protocol shall remain solely available to NPFC Members.

Deadlines

The Secretariat encourages the Members to follow deadlines for submission of documents as per Rules of Procedure to give others enough time for consideration and, therefore, make the Commission meetings more effective and productive.

Document type	Deadline	Clause of the NPFC Rules of Procedure
<i>Documents from the Members</i>		
Annual report	End of February	8.5

Compliance Monitoring Report	End of February	CMS CMM
Working Paper	30 days before the opening of the meeting	5.7.2
Working Paper (subsidiary bodies, 45 days ¹)	14 days before the opening of the meeting (except where meetings are coincidental)	5.7.3
<i>Documents from the Secretariat</i>		
Draft Provisional Agenda	90 days before the Meeting	5.1.1
Provisional Agenda	60 days before the Meeting	5.1.2
Meeting Papers	At least 14 days prior to the applicable Meeting	5.7.1.

Members, CNCPs and Observers are encouraged to submit meeting documents with as much advance notice as possible.

Documents submitted during the meeting will not be discussed at the meeting. They will be labeled as Information Papers for consideration by the Members. Members may, however, decide to reconsider them as Working Papers for full discussion.

MEETING DOCUMENTS AVAILABILITY

The Secretariat provides participants with the Meeting Information Papers on-line and limited printed copies will be available at meeting registration. This document package includes Provisional Agenda, Annotated Indicative Agenda, and Meeting Information.

¹ For documents or proposals that require the input of subsidiary bodies, and the meeting of such subsidiary body concluded within 45 days of the opening of a regular Commission meeting

Secretariat will provide access to documents through the website for Members, CNCPs, Observers and the public in advance of the meeting and in comparable timeframes. This access will take into account the appropriate confidentiality requirements.

Hard copy of other documents will not be available at the meeting unless a Member makes a request for up to two copies 14 days prior to the meeting. Participants must either download the documents from the website to their own devices, or bring their own hard copy to the meeting.

NUMBERING FOR NPFC MEETING DOCUMENTS

The following is proposed for an official numbering scheme for NPFC meetings. These are based on the numbering scheme of the PrepCon and other RFMOs.

1. NPFC meetings

Reference Documents

Be referred by name only.

Meeting Info Papers

NPFC – year – COM+# mtg – MIP# (Rev. # if needed) – title

e.g., NPFC-2016-COM##-MIP01

Working Papers

NPFC – year – COM+# mtg – WP# (Rev. # if needed)

Information Papers

NPFC – year – COM+# mtg – IP# (Rev. # if needed)

Observer Papers

NPFC – year – COM+# mtg – OP# (Rev. # if needed)

Meeting Report

NPFC – year – COM+# mtg – Report (draft/final)

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2. Annual Reports

NPFC-year-AR Member-(
)

Compliance Monitoring Report Summary

NPFC-year-CMR



NPFC-2016-SC01-WP01 (Rev. 1)

Summary for the stock assessment of chub mackerel (Pacific stock) in 2015

by Ryuji Yukami

Stock Assessment Group, National Research Institute of Fisheries Science, Fisheries Research
Agency, Japan

March 2016

This paper may be cited in the following manner:

Yukami R. 2016. Summary for the stock assessment of chub mackerel (Pacific stock) in 2015.
NPFC-2016-SC01-WP01 (Rev 1). 6 pp. (Available at www.npfc.int)



1st meeting of the Small Scientific Committee on Pacific Saury
REPORT

20-22 April 2016

May 2016

This paper may be cited in the following manner:

Small Scientific Committee on Pacific Saury. 2016. Meeting Report. NPFC-2016-SSC PS01-Final Report. 21 pp. (Available at www.npfc.int)



NPFC-2016-AR Canada

Annual Report for 2015

by Canada

February 2016

This paper may be cited in the following manner:

Canada. 2016. Annual Report for 2015. NPFC-2016-AR Canada (Rev 4). 10 pp.
