



North Pacific Fisheries Commission

NPFC-2019-COM05-Final Report



**5th Commission Meeting
REPORT**

16-18 July 2019

July 2019

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**North Pacific Fisheries Commission
5th Commission Meeting**

16-18 July 2019

Tokyo, Japan

REPORT

Agenda Item 1. Opening of the Meeting

1. The 5th Meeting of the North Pacific Fisheries Commission (NPFC) took place in Tokyo, Japan on 16-18 July 2019, and was attended by Members from Canada, China, Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, the United States of America, and Vanuatu. The European Union (EU), Panama, the Food and Agriculture Organization of the United Nations (FAO), the North Pacific Anadromous Fish Commission (NPAFC), the North Pacific Marine Science Organization (PICES), the Deep Sea Conservation Coalition (DSCC), Global Fishing Watch (GFW), the Pew Charitable Trusts, World Wildlife Fund (WWF), and the Organization for Regional and Inter-regional Studies (ORIS) of Waseda University attended as observers. The meeting was opened by Mr. Kenji Kagawa (Japan), who served as the Commission Chair.

1.1 Welcome Address

2. Mr. Masaki Hoshina, Deputy Director-General, Fisheries Agency of Japan, gave a welcome address (Annex A). He welcomed the participants to Japan and highlighted the role played by the NPFC to promote the sustainable use of the resources in the NPFC Convention Area. In particular, Mr. Hoshina noted the marked decline in Pacific saury stock in recent years, especially in the exclusive economic zones of coastal Members, in part due to the development of high seas Pacific saury fisheries in recent years. He encouraged the NPFC to develop effective measures to address this decline, including the introduction of a catch limit as part of the NPFC's Conservation and Management Measure (CMM) for Pacific Saury. Lastly, Mr. Hoshina emphasized the importance of Pacific saury as a resource for all Members, especially Japan, where it is a familiar part of everyday Japanese lifestyles.

1.2 Appointment of Rapporteur

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

1.3 Adoption of Agenda

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

1.4 Meeting Arrangement

5. The Chair outlined the procedural matters for the holding of the meeting.

Agenda Item 2. Membership of the Commission

6. The Republic of Korea, as the Depository of the NPFC, provided an update on the status of the Convention. Since the previous NPFC meeting, the total number of Members remains at eight. The EU has applied for accession to the NPFC Convention and Panama has applied for Co-operating non-Contracting Party (CNCP) status.
7. The EU was invited to give a presentation to explain its intentions in applying for accession to the Convention (NPFC-2019-COM05-OP01). In response to the request made by the Commission at its previous meeting, the EU submitted a detailed fishing plan and corresponding impact assessment in March 2019. The EU intends to operate one trawler that will fish for chub mackerel. The EU believes that this is a modest fishing plan that can be accommodated based on its latest scientific knowledge. It also submitted, in March 2019, data on its historical catches in the Convention Area. As a Member, the EU would ensure the sustainability of fisheries as a top priority, contribute to the efforts of the NPFC to ensure the recovery of stocks in the Convention Area and conduct a stock assessment for chub mackerel, and abide by all of the NPFC's CMMs. The EU is willing to show restraint and flexibility in relation to fishing activities, and is open to discussing any aspects of its fishing plan. The EU stands ready to contribute to the important work of NPFC in terms of science, compliance and financial contributions, including voluntary contributions.
8. The EU provided all of the information that the Commission requested at its last meeting and provided its application to become a Contracting Party to the Commission and to the TCC more than 60 days in advance of the TCC meeting as requested by the Commission.
9. The Commission considered the EU's application. The Commission noted that the application was consistent with Article 24 of the Convention and the information requested by the Commission at its last meeting. All but one Member supported accession by the EU. Some Members noted that the Convention specifically addresses the possibility for EU accession in the terms used in Article 1, and in the provisions in Article 24(2)(a). Several Members also noted that accession by the EU would be consistent with other provisions of the Convention,

specifically Article 3(1) and Article 8, Part III, Paragraph 3 of the UN Fish Stocks Agreement.

10. The Commission invited the EU to submit an application for accession to the Commission prior to its next meeting with the information requested by Russia and other Members, and that this application allow time for consideration by the SC, TCC, and any other appropriate subsidiary bodies. The Commission tasked the SC, the TCC, and any of their relevant subsidiary bodies to review the application provided by the EU and to provide any comments to the Commission for its consideration.
11. Russia noted its objection to EU accession and provided a statement in writing as provided for in Article 24(3) of the Convention (Annex E).
12. The EU made a follow-up statement to the Commission's response (Annex F).
13. Panama was invited to give a presentation to explain its intentions in applying for CNCP status. As a CNCP, Panama would be fully committed to complying with all NPFC regulations and CMMs. Panama believes that transparency in fisheries management is the key to combatting illegal, unreported and unregulated (IUU) fishing and enhancing economic benefits for citizens and fishing communities. To that end, Panama has signed a Memorandum of Cooperation with Global Fishing Watch for the sharing of fisheries-related data. Similarly, Panama would be committed to sharing with the NPFC all its data related to transshipment, which would contribute to addressing gaps in the management of transshipment in the NPFC Convention Area, an issue regarding which some Members have expressed concern. Once the NPFC establishes a regional Vessel Monitoring System (VMS), Panama would also share its VMS data with the NPFC. Lastly, under its national ocean policy, Panama will endeavor to conserve marine resources and maintain the health of the oceans of the world.
14. The Commission considered the application and approved Panama's CNCP status for one year from the entry into force of said status.

Agenda Item 3. Report from the Secretariat

15. The Secretariat presented an annual report on the Commission's activities for the intersessional period between the 4th Commission Meeting of July 2018 and this current Commission meeting. (NPFC-2019-AR Secretariat (Rev. 1)).

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

16. The Chair of the Scientific Committee (SC), Dr. Joji Morishita (Japan), summarized the

outcomes of the 4th SC meeting (NPFC-2019-SC04 Final Report) for discussion by the Commission.

17. The Commission adopted the report and the recommendations of the SC (Annex G).

Agenda Item 5. Report of the 4th Technical and Compliance Committee meeting

18. The Chair of the Technical and Compliance Committee (TCC), Dr. Robert Day (Canada), summarized the outcomes of the 4th TCC meeting (NPFC-2019-TCC04 Final Report) for discussion by the Commission.
19. Regarding the development of a standard to address the issues of suspected IUU vessels using the same name as legally-authorized fishing vessels, database searchability, and information sharing, the Commission requested the TCC and the Small Working Group (SWG) on Operational Enforcement to conduct a review of best practices and provide a solution.
20. The Commission developed and adopted a CMM for a Compliance Monitoring Scheme (Annex O), taking into account the progress made by TCC04.
21. The Commission developed and adopted a CMM on VMS (Annex N). The CMM on VMS will enter into force upon completion of the requisite elements including engagement of consultants, contracting process and system development as necessary. The Chair of TCC will notify Members by way of a Chair's circular 60 days prior to the VMS entering into force.
22. The issue of manual reporting in the event of a mobile transceiver unit (MTU) malfunction was noted by some Members. The SWG for VMS is tasked to seek technical solutions in coordination with the VMS vendor to achieve the manual reporting requirements in the event of a malfunction. This provision will be reviewed at TCC05. The SWG will further develop guidance on MTU requirements in Annex 1 to address MTU malfunction.
23. The Commission agreed to extend the Interim Registry until 31 August 2020. The Interim Registry shall be used only by non-Members who are not CNCPs.
24. The Commission requested the Secretariat to draft an updated Terms of Reference for the TCC to allow TCC Chairs and Vice-Chairs to serve for a maximum of three terms of two years each.
25. The Commission adopted the report and the recommendations of the TCC (Annex H).

Agenda Item 6. Report of the 3rd Finance and Administration Committee meeting

26. The Chair of the Finance and Administration Committee (FAC), Dr. Bai Li (China), summarized the outcomes of the 3rd FAC meeting (NPFC-2019-FAC03 Final Report) for discussion by the Commission.
27. The Commission adopted the report and the recommendations of the FAC (Annex I).

Agenda Item 7. Conservation and Management Measures

7.1 Review of the CMMs and the recommendations by the Committees

28. Based on a review of the CMMs and the recommendations by the SC and the TCC, the Commission adopted CMM 2019-01 (Annex J) to revise the Interim Registry, CMM 2019-02 to Establish a List of Vessels Presumed to Have Carried out IUU Activities in the NPFC Convention Area (Annex K), CMM 2019-05 for Bottom Fisheries and Protection of VMEs in the NW Pacific Ocean (Annex L), CMM 2019-06 for Bottom Fisheries and Protection of VMEs in the NE Pacific Ocean (Annex M), CMM 2019-12 for a Regional Vessel Monitoring System (Annex N), CMM 2019-13 for a Compliance Monitoring Scheme (Annex O), and the NPFC IUU Vessel List for 2019 (Annex P).

7.2 Amendments/addition of CMMs

29. Japan presented a proposal to amend CMM 2018-07 for Chub Mackerel to ensure that effort in terms of numbers of vessels and catch are not increased until the stock assessment has been completed (NPFC-2019-COM05-WP01).
30. The Commission reviewed and revised the proposal and adopted the revised CMM (Annex Q).
31. Japan presented a proposal to amend CMM 2018-08 for Pacific Saury to set the total allowable catch in the Convention Area based on the Executive Summary of TWG PSSA 04-Final Report and cease fishing for Pacific saury east in certain parts of the Convention Area (NPFC-2019-COM05-WP02).
32. The Commission reviewed and revised the proposal and adopted the revised CMM (Annex R).
33. Japan presented a proposal for the establishment of a CMM for Three Pelagic Species – Japanese Sardine, Neon Flying Squirrel, and Japanese Flying Squirrel, to place limitations on effort and catch at historical levels until the stock assessment has been completed (NPFC-2019-COM05-WP013).

34. The Commission reviewed and revised the proposal and adopted the CMM for Two Pelagic Species – Japanese Sardine and Japanese Flying Squid (Annex S).
35. Canada presented a proposal for the establishment of a CMM for Sablefish in the Northeastern Pacific Ocean, to put in place effective management measures for the existing sablefish fishery in the Northeastern Pacific Ocean and implement a precautionary approach (NPFC-2019-COM05-WP07).
36. The Commission reviewed and revised the proposal and adopted the CMM (Annex T).

Agenda Item 8. Adoption of Budget

8.1 Proposed budget for 2020

37. The Commission adopted the adjusted budget for 2019 and the proposed budget for 2020 as submitted by the FAC (NPFC-2019-FAC03 Final Report).

8.2 Indicative budget for 2021 and 2022

38. The Commission considered the indicative budget for the years 2021 and 2022 as submitted by the FAC (NPFC-2019-FAC03 Final Report).

Agenda Item 9. Data Management and Security

9.1 Progress in Development of NPFC Data Management System

39. The Secretariat presented an update on the progress in the development of the NPFC data management system (NPFC-2019-COM05-IP05). The major system developments for the previous fiscal year include completion of the Electronic Annual Report, enhancement of the NPFC Collaboration site, creation of the basic spatial map for VME and Bottom Fisheries and Pacific Saury Catch and Effort, development and release of the new Meeting Management System via the NPFC website, completion of the High Seas and Boarding Inspection Page, and the commissioning of a vendor to develop a small-scale HR and administration system. As for ongoing developments, the Secretariat is working with a vendor to develop the NPFC Data Warehouse to integrate all data submitted by Members and allow for specific data to be used for automatic reporting and analysis as permitted by Members.

9.2 NPFC Information Security Guidelines

40. The Commission reviewed the status of the development of NPFC Information Security Guidelines, noting that such guidelines should cover both scientific and compliance aspects. The Commission endorsed the Interim Regulations for Management of Scientific Data and Information developed and adopted by the SC (NPFC-2019-COM05-WP08). The Commission

requested the TCC to continue to develop guidelines from a compliance perspective and present draft guidelines to the next Commission meeting.

Agenda Item 10. Cooperation with Other Organizations

41. The Secretariat provided an update on cooperation with other organizations and suggestions for future collaborative work (NPFC-2019-COM05-WP09).

10.1 PICES

42. The Secretariat explained the NPFC-PICES Framework for Enhanced Scientific Collaboration in the North Pacific which was drafted by the PICES-NPFC Study Group (SG). The SG has identified two high priority areas for cooperation: stock assessment support and vulnerable marine ecosystems (VMEs). The SG has discussed potential mechanisms for collaboration such as joint workshops and symposia, observer/expert participation in each other's meetings, joint working groups, etc. The Framework was adopted by SC04 and endorsed by the Commission. SC04 also endorsed the holding of a joint PICES-NPFC workshop related to Pacific saury at the PICES Annual Meeting in October 2019 and nominated Dr. Bai Li to attend the workshop on behalf of the NPFC as an invited speaker.

10.2 NPAFC

43. The Secretariat explained that the NPFC and the NPAFC signed a Memorandum of Cooperation (MOC) on 13 May 2019. Cooperation will be focused on matters of common interest including exchange of data and information, collaboration on research efforts on species of mutual interest and implementation of CMMs. In response to a request from the NPAFC, the NPFC may share certain information about the presence of salmon bycatch or retention of salmon with the NPAFC, on a voluntary basis. Another follow-up from the MOC could be NPFC participation in a multinational research survey in the North Pacific planned in 2021 under the International Year of Salmon project of NPAFC to collect new data on species of NPFC's interests. SC04 nominated Dr. Chris Rooper to represent the NPFC at the NPAFC-PICES workshop to develop an integrated research program for the survey. The Science Manager will also take part as a co-convener.

10.3 FAO ABNJ

44. The Secretariat explained the ongoing cooperation between the NPFC and the FAO ABNJ Deep Seas Project. The project's first phase is coming to an end and the second phase will commence in 2021. In the first phase, the NPFC and FAO successfully held a joint workshop on VMEs in March 2018 and a comprehensive FAO report of the workshop has been completed and is ready for publication by FAO in 2019. The project also provided travel support for the

NPFC Science Manager to attend the Northwest Atlantic Fisheries Organization (NAFO) Scientific Council in May-June 2019, as part of the project's capacity-building program. As the objective of the project is consistent with that of the NPFC Convention, continued cooperation in the second phase of the project would be beneficial to the NPFC to advance the management of deep-sea fisheries and protection of marine ecosystems.

10.4 Other Organizations

45. Towards the development of an official cooperation agreement between the NPFC and the WCPFC, the Secretariat attended the 15th Regular Meeting of WCPFC held in 2018 as an observer and exchanged views on future cooperation with WCPFC in areas of mutual interest. The NPFC and WCPFC have agreed to raise the issue of cooperation to their respective Commissions for consideration by their Members. Cooperation would focus on compliance operations and procedures, and recent automatic identification system (AIS) exercises with GFW on alleged IUU fishing operations and transshipment, where some fishing vessels and carriers are authorized by both regional fisheries management organizations (RFMOs).
46. The Secretariat presented a proposal from the South Pacific Regional Fisheries Management Organization (SPRFMO) to develop a formal Memorandum of Understanding (MOU) between NPFC and SPRFMO. The Commission recognized that SPRFMO has a similar mandate to that of the NPFC and, as a relatively new RFMO, may share similar issues and challenges, but determined that it requires more information about SPRFMO before it can make a decision on whether or not to enter into an MOU. The Commission requested any Member who also participates in SPRFMO to represent NPFC as an observer at SPRFMO meetings and provide a report to the next Commission meeting.
47. The Secretariat reported that the Fisheries and Resources Monitoring System of FAO (FIRMS) submitted a proposal for an NPFC-FIRMS partnership agreement, which would facilitate access to a wide range of high-quality information on the status and trends of global marine fishery resources, fisheries, and their management, in order to provide decision-makers with necessary information to develop effective fisheries policies. SC04 reviewed the proposal and determined that it requires more information before it can make a recommendation. It therefore suggested that a representative from FAO FIRMS could attend the next SC meeting to give a detailed explanation.
48. The Secretariat suggested that the Commission consider a cooperation agreement with the Inter-American Tropical Tuna Commission (IATTC), mainly for cooperation on compliance, given that vessels, especially carrier vessels, are operating in both Convention Areas. There is

also the issue of the migration of tunas into the northeastern corner of the NPFC Convention Area and north of the IATTC Convention Area, creating a “gap area” where it is unclear who has responsibility for the management of these fisheries resources.

49. With regard to future opportunities for cooperation with other organizations, the Commission recognized the need to prioritize cooperation with RFMOs that have Convention Areas that are similar to or overlap with that of the NPFC, and to allow for the delivery of the Secretariat’s core program.

Agenda Item 11. Other Matters

11.1 Strategic Plan for the Commission

50. The Secretariat presented the proposed process and timelines for the development of a Strategic Plan for the Commission (NPFC-2019-COM05-WP10). The Commission endorsed the proposal.

11.2 Selection of the Chair and Vice Chair

51. The Secretariat made available the practices of ten other RFMOs for appointing new chairs and three options for the election of a new Chair and Vice Chair of the Commission and its subsidiary bodies. The Commission did not have time to discuss the information.
52. The Commission selected Dr. Vladimir Belyaev (Russia) to serve as the new Chair and Mr. Shingo Ota (Japan) to serve as the new Vice Chair.

11.3 Secondment and Intern for 2018

53. The Secretariat presented the recommendations of the FAC regarding the applications for the 2019-2020 NPFC Secondment and Internship programs. The Commission endorsed the FAC recommendation to hire the top three internship candidates in the ranking prepared by the Secretariat. There were no applicants for secondment.

11.4 Press Release

54. The Secretariat presented a proposal for publishing press releases on the NPFC website to share information about the Commission and Committee meetings with the media and public, and a draft press release template (NPFC-2019-COM05-IP01). The Commission endorsed the proposal and template.

11.5 Performance Review of the Commission

55. The Secretariat presented a draft timeline and budget estimate for conducting a performance

review of the Commission (NPFC-2019-COM05-IP02). The Commission considered the proposal and agreed to hold further discussions at the next Commission meeting. The Commission requested the Secretariat to conduct a review of the methodology applied by other RFMOs in conducting their performance reviews, including the compositions of their review panels, and present this information at the next Commission meeting.

11.6 Others

56. As was previously discussed at COM03 and COM04, Russia reiterated its intention to resume its crab fisheries in the Convention Area. The Commission recognized Russia's intention to resume its crab fisheries in the Convention Area.
57. The Commission agreed that for the Chub mackerel MSE process, noted in the SC report, the working group would be co-led by a science and fisheries management representative and be comprised of participants including scientists, managers, and stakeholders, including industry and non-governmental organizations. The Commission also recognized that MSE is an iterative process that requires clear management objectives.

Agenda Item 12. Date and Place of Next Meeting

58. The following schedule and venues were recommended:
 - a. TCC: 30 July-1 August in Japan;
 - b. FAC: 3 August in Japan; and
 - c. Commission: 4-6 August in Japan.
59. Russia expressed its intention to host the Commission meeting in 2021.

Agenda Item 13. Adoption of the Report

60. The report was adopted by consensus.

Agenda Item 14. Close of Meeting

61. The Chair expressed his honor to have served as the first Chair of the NPFC, his gratitude for the support of all Members and Observers, and his hope that the NPFC will enjoy continued success.
62. The Members thanked the Chair for his hard work and effective leadership.
63. The Commission meeting closed at 21:58 on 18 July 2019.

Annexes

Annex A – Opening Remarks by Japan

Annex B – Agenda

Annex C – List of Documents

Annex D – List of Participants

Annex E – Russia’s statement

Annex F – EU statement

Annex G – Report of the 4th Scientific Committee Meeting

Annex H – Report of the 4th Technical and Compliance Committee Meeting

Annex I – Report of the 3rd Finance and Administration Committee Meeting

Annex J – CMM 2019-01 Conservation and Management Measure on Information Requirements for Vessel Registration

Annex K – 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 North Pacific Fisheries Commission

Annex L – CMM 2019-05 Conservation and Management Measure for Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northwestern Pacific Ocean

Annex M – CMM 2019-06 Conservation and Management Measure for Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northeastern Pacific Ocean

Annex N – CMM 2019-12 Conservation and Management Measure on the Vessel Monitoring System (VMS)

Annex O – CMM 2019-13 Conservation and Management Measure for the Compliance Monitoring Scheme

Annex P – NPFC IUU Fishing Vessel List for 2019

Annex Q – CMM 2019-07 Conservation and Management Measure for Chub Mackerel

Annex R – CMM 2019-08 Conservation and Management Measure for Pacific Saury

Annex S – CMM 2019-11 Conservation and Management Measure for Japanese Sardine and Japanese Flying Squid

Annex T – CMM 2019-10 Conservation and Management Measure for Sablefish



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OPENING REMARKS
BY
MASAKI HOSHINA
DEPUTY DIRECTOR-GENREAL, FISHERIES AGENCY OF JAPAN

Good morning. To mark the opening of the 5th NPFC Commission Meeting, I would like to deliver some short remarks. First of all, I would like to express my sincere gratitude to all of you for coming all the way to Japan. Although it has been in rainy, it is much cooler when compared to the same period as last year. I hope you will enjoy staying in Tokyo.

NPFC was established in 2015 and this is already the 5th Commission Meeting. We have discussed and introduced conservation and management measures, including the limitation on the number of authorized fishing vessels for Pacific saury, chub mackerel and the adaptive management in bottom fisheries. In addition, the management measures on High Seas Boarding Inspection scheme and IUU vessel list have entered into force in the Convention area.

On the other hand, we still have a number of issues to solve toward achieving sustainable use of fishery resources in the Convention area. When we look at the stock status of Pacific saury, the biomass is on the declining trend, despite the current conservation and management measures which prohibit expansion of the number of authorized fishing vessels. I have to say regrettably that NPFC has yet been able to adopt effective conservation and management measures to conserve this important resource.

Pacific saury is one of the traditionally used fishery resources in Japan, representing a taste of the autumn season and essential for coastal communities in which the fishery sector including processors and distributors are heavily dependent on.

Japanese fishermen used to catch approximately 300 thousand tons of Pacific saury in the Japanese water before fishing activities by distant water vessels were developed in the Convention area. In recent years, migration of Pacific saury to coastal states' waters has been decreasing, and Japanese fishermen have been suffering from a record low catch. Not only fishermen but also the general public are seriously concerned about the stock status.



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The Scientific Committee held in April agreed on consensus stock assessment results and recommended that the Commission consider further management measures for avoiding an increasing trend in the exploitation rate of Pacific saury to sustain biomass. This means we are required to seriously consider introducing catch limits for Pacific saury during this meeting.

I would like to expect Members to have constructive discussions toward the establishment of catch limits for Pacific saury.

In accordance with relevant international laws, such as United Nations Convention on the Law of the Sea, conservation and management measures in the Convention area must be compatible with those in coastal states' waters, while taking into account the sustainability of coastal states' fisheries.

Finally, I hope Members can discuss important agendas in an amicable and cooperative manner during the three-day meeting. The Fisheries Agency of Japan hosts a welcome reception this evening. All of you are invited. I would like to conclude my remarks by wishing Members to spend wonderful time in Japan.

Thank you.

Agenda

Agenda Item 1. Opening of Meeting

- 1.1 Welcome Address
- 1.2 Appointment of Rapporteur
- 1.3 Adoption of Agenda
- 1.4 Meeting Arrangement

Agenda Item 2. Membership of the Commission

Agenda Item 3. Report from the Secretariat

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

Agenda Item 5. Report of the 4th Technical and Compliance Committee meeting

Agenda Item 6. Report of the 3rd Finance and Administration Committee meeting

Agenda Item 7. Conservation and Management Measures

- 7.1 Review of the CMMs and the recommendations by the Committees
- 7.2 Amendments/addition of CMMs

Agenda Item 8. Adoption of budget

- 8.1 Proposed budget for 2020
- 8.2 Indicative budget for 2021 and 2022

Agenda Item 9. Data Management and Security

- 9.1 Progress in Development of NPFC Data Management System
- 9.2 NPFC Information Security Guidelines

Agenda Item 10. Cooperation with other organizations

- 10.1 PICES
- 10.2 NPAFC
- 10.3 FAO ABNJ
- 10.4 Other Organizations

Agenda Item 11. Other matters

- 11.1 Strategic Plan for the Commission
- 11.2 Selection of the Chair and Vice Chair
- 11.3 Secondment and Intern for 2019
- 11.4 Press Release
- 11.5 Performance Review of the Commission
- 11.6 Others

Agenda Item 12. Date and Place of next meeting

Agenda Item 13. Adoption of the report

Agenda Item 14. Close of Meeting

List of Documents

MEETING INFORMATION PAPERS

Document Number	Title
NPFC-2019-COM05-MIP01	Details for the 4th Technical and Compliance Committee, 3rd Finance and Administration Committee and 5th Commission Meetings
NPFC-2019- COM05-MIP02	Provisional Agenda
NPFC-2019- COM05-MIP03	Provisional Annotated Agenda
NPFC-2019- COM05-MIP04 (Rev 2)	Indicative Schedule

REFERENCE DOCUMENTS

Document Number	Title
NPFC-2019-AR (Rev 1)	Annual Report 2018/2019
NPFC-2019-IUU	NPFC IUU Vessel List for 2019

WORKING PAPERS

Document Number	Title
NPFC-2019-COM05-WP01 (Rev 2)	Amendment to the CMM for Chub Mackerel
NPFC-2019-COM05-WP02 (Rev 7)	Conservation and Management Measure for Pacific Saury
NPFC-2019-COM05-WP03	Conservation and Management Measure for Japanese Flying Squid
NPFC-2019- FAC03-WP03	2019 NPFC Internship Program
NPFC-2019-COM05-WP04	Conservation and Management Measure for Japanese Sardine
NPFC-2019-COM05-WP05	Conservation and Management Measure for Neon Flying Squid
NPFC-2019-TCC04-WP05 (Rev 8)	Conservation and Management Measure for a Regional Vessel Monitoring System
NPFC-2019-COM05-WP06	Adaptive Management for North Pacific Armorhead, Annex 6, CMM 2019-05
NPFC-2019-COM05-WP07 (Rev 8)	Conservation and Management Measure for Sablefish in the Northeastern Pacific Ocean
NPFC-2019-COM05-WP08	Interim Regulations for Management of Scientific Data and Information
NPFC-2019-COM05-WP09	Cooperation with other organizations
NPFC-2019-COM05-WP10	Development of a Strategic Plan for the Commission

NPFC-2019-COM05-WP11	Review of the practices of other RFMOs for appointing new Chairs
NPFC-2019-COM05-WP12 (Rev 3)	Conservation and Management Measure for a Compliance Monitoring Scheme
NPFC-2019-COM05-WP13 (Rev 5)	Conservation and Management Measure for Japanese Sardine and Japanese Flying Squid
NPFC-2019-COM05-WP14	Conservation and Management Measure for Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northwestern Pacific Ocean
NPFC-2019-COM05-WP15	Conservation and Management Measure for Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northeastern Pacific Ocean

INFORMATION PAPERS

Document Number	Title
NPFC-2019-COM05-IP01	Press Release
NPFC-2019-COM05-IP02	Consideration of the first Performance Review of the Commission
NPFC-2019-COM05-IP03 (Rev 1)	Meeting Schedule for other organizations
NPFC-2019-COM05-IP04	Status of Members' Annual Reports for 2018
NPFC-2019-COM05-IP05	Progress in the Development of NPFC Data Management System
NPFC-2019-COM05-IP06	Russia's Statement
NPFC-2019-COM05-IP07	Opening Remarks by Japan

OBSERVER PAPERS

Document Number	Title
NPFC-2019-COM05-OP01	European Union request to accede to the Convention of NPFC
NPFC-2019-COM05-OP02	EU Statement

MEETING REPORTS

Document Number	Title
NPFC-2019-SC04- Final Report	Report of the 4 th Meeting of the Scientific Committee
NPFC-2019-TCC04-Final Report	Report of the 4 th Meeting of the Technical and Compliance Committee
NPFC-2019- FAC03-Final Report	Report of the 3 rd Meeting of the Finance and Administration Committee

List of Participants

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Russia's Statement

Russia, in accordance with paragraph 3 of Article 24 of the Convention regarding the intention of the EU to accede to the Convention, reports the following.

Based on the information provided, the EU plans to fish for mackerel in the Convention Area, regulated in accordance with the NPFC Conservation Measures.

At the same time, the mackerel fishery in the Convention Area was not previously carried out by EU vessels.

In accordance with paragraph 1 (h) Article 7 of the Convention the Commission shall, in accordance with the principles set out in Article 3, and based on the best scientific information available and the advice of the Scientific Committee, agree on means by which fishing interests of new Contracting Parties may be accommodated in a manner consistent with the need to ensure long-term sustainability of the fisheries resources covered by this Convention.

However, the Scientific Committee was not able to consider the implications of potential impact on the status of the transboundary stock of mackerels after the start of EU fishing activities in the event of the accession to the Commission.

Also, the Scientific Committee has not yet completed an assessment of the status of the stock of mackerel in the Convention Area.

In accordance with Article 7 of the United Nations 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 Stock in determining the nature and extent of participatory rights for new members of a subregional or regional fisheries management organization, or for new participants in a subregional or regional fisheries management arrangement, States shall take into account, inter alia:

- (a) the status of the straddling fish stocks and highly migratory fish stocks and the existing level of fishing effort in the fishery;
- (b) the respective interests, fishing patterns and fishing practices of new and existing members or participants;
- (c) the respective contributions of new and existing members or participants to conservation and management of the stocks, to the collection and provision of accurate data and to the conduct of scientific research on the stocks;
- (d) the needs of coastal fishing communities which are dependent mainly on fishing for the stocks;

(e) the needs of coastal States whose economies are overwhelmingly dependent on the exploitation of living marine resources; and

(f) the interests of developing States from the subregion or region in whose areas of national jurisdiction the stocks also occur.

At the same time, the Commission has not yet defined general terms and conditions for the evaluation of applications from other States or regional economic integration organizations whose fishing vessels wish to conduct fishing activities for fisheries resources in the Convention Area.

In accordance with paragraph 2 Article 24 of the Convention the intention of other States to start fishing in the Convention Area does not automatically impose obligations on the Member States to send invitations to join the Convention.

Therefore, the any other State or regional economic integration organization can submit all information stipulated in Rule 10 of the NPFC Rules of Procedure in its application to receive the status of Cooperating non-Contracting Party (CNCP) as an initial step for further consideration by the Commission.

So, a State which is not a member of the NPFC, and which does not otherwise agree to apply the conservation and management measures established by the NPFC, is not discharged from the obligation to cooperate, in accordance with the Convention and this Agreement, in the conservation and management of the relevant fish stocks.

Taking that consideration into account, as well as on the basis of the general principles of the Convention set forth in Article 3 of the Convention, in terms of preventing or eliminating overfishing and excess fishing capacity, Russia suggests that there is a need for Scientific Committee to make a preliminary assessment of potential EU fishing activities in the Convention Area before deciding on the possibility of accession to the Convention.

EU Statement

Mr. Chair, distinguished Members of the Commission.

This is the second time that the Commission has considered our application to become a Member of the NPFC. It is also the second time that the Commission has been unable to reach consensus. At its 2018 annual meeting, the NPFC decided that it lacked sufficient information to make a determination on our application and invited the EU to submit additional information. That was a disappointing outcome for the EU. This year's outcome is even more disappointing. Already in March of this year, the EU duly submitted the information requested by the Commission including a detailed fishing plan with an impact assessment and its historical track-record of fishing in the Convention Area. The information clearly demonstrates that the EU has a real interest in membership of the NPFC in the sense of Article 8(3) of the UNFSA. Moreover, Article 24(2)(a) of the NPFC Convention allows for and envisions EU Membership. Finally, Article 116 of the UNCLOS recognizes the freedom of high seas fishing, to which EU fishing vessels are entitled. The EU has made every effort to provide the NPFC with the information it has requested, which goes beyond what is generally required for membership of Regional Fisheries Management Organizations or expected of NPFC Members, who are not required to undertake similar assessments when their vessels become active in the fisheries.

We will reflect on the Commission's decision, in particular the written reasons presented by the Contracting Party that did not join the consensus, as envisaged under Article 24(3) of the NPFC Convention. We will examine these reasons in the light of the prohibition on discrimination laid down in Article 8(3) of the UNFSA and of the NPFC's previous practice in handling cases of accession, and we will consider all possible options in this regard.

Mr. Chair, distinguished delegates, we would like to sincerely thank all the Members who have supported our application and all the efforts made to reach a consensus decision. We remain committed to engage constructively and in good faith with all Members of this Commission towards EU membership.

Thank you.

**North Pacific Fisheries Commission
4th Meeting of the Scientific Committee**

23-26 April 2019

Jeju, Republic of Korea

REPORT

Agenda Item 1. Opening of the Meeting

1. The 4th Meeting of the Scientific Committee (SC) took place in Jeju, Republic of Korea on 23-26 April 2019, and was attended by Members from Canada, China, Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, the United States of America and Vanuatu. The European Union and the North Pacific Anadromous Fish Commission (NPAFC) attended as observers. The meeting was opened by Dr. Joji Morishita (Japan) who served as the SC Chair.
2. Mr. Dong Yeob Yang, Director-General, Ministry of Oceans and Fisheries of the Republic of Korea, welcomed the participants to Jeju on behalf of the host Member. He highlighted the important role played by the SC, as well as the scientific research and surveys conducted by the NPFC Members, for the sustainable use and conservation of fisheries resources in the North Pacific Ocean. Mr. Yang also commended the NPFC for the successful and constructive holding of the NPFC's small scientific committee (SSC) meetings over the past few days. Lastly, he expressed his hope that the SC meeting would yield fruitful outcomes that would lay the foundation for the development of management measures for the ecosystems in the North Pacific Ocean and contribute to the discussions of the upcoming Commission meeting.

Agenda Item 2. Adoption of Agenda

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

Agenda Item 3. Meeting arrangements

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

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

4.1 SSC on Vulnerable Marine Ecosystems (SSC VME)

5. The Chair of the SSC VME, Dr. Bai Li (China), summarized the outcomes and recommendations of the 4th SSC VME meeting (NPFC-2019-SSC VME04-Final Report).
6. The SC reviewed the recommendations of the SSC VME and endorsed the following recommendations:
 - (a) Endorse a plan and timelines to determine the type and resolution of data to be shared for SAI assessment and a map of combined fishing footprint and effort.
 - (b) Endorse a flowchart for VME post-encounter treatment in the NPFC and continue developing the details of the post-encounter measure intersessionally.
 - (c) Conduct further research to define the range of the two VME sites identified in NPFC-2019-SSC VME04-WP02 and close them to fishing.
 - (d) Endorse the revised CMM 2018-05.
 - (e) Endorse the revised CMM 2017-06.
 - (f) Consider using the FAO's publicly-available Vulnerable Marine Ecosystems Map as a template for developing the NPFC's own VME map.
 - (g) Consider the holding of a course/school on VME indicator taxa identification as a new project.
 - (h) Endorse the draft guide and a list of specifications regarding the design and content of the common VME taxa identification guide in the western North Pacific Ocean.
 - (i) Endorse the updated 2017-2021 SSC VME Work Plan (NPFC-2019-SSC VME04-WP05 (Rev. 1)).
7. Based on recommendation (a) of the SSC VME, the SC observed that the SSC VME agreed to continue discussions about data sharing intersessionally, with the aim of reaching a consensus on the type and resolution of data by mid-June and sharing data by November 2019. The outcomes of this intersessional work will be reported by the SC Chair to the Commission for adoption, if needed.
8. Based on recommendation (c) of the SSC VME, the SC agreed to conduct further research to define the range of the two VME sites identified in NPFC-2019-SSC VME04-WP02 with the potential to close them to fishing.
9. The SC reviewed and endorsed the revisions proposed by the SSC VME to CMM 2018-05 (Annex D) and CMM 2017-06 (Annex E) in relation to the reporting of VME encounters to the NPFC Secretariat as soon as possible and also reporting of detailed information about VME encounters in the annual reports of the Members.

10. Based on recommendation (f) of the SSC VME, the SC considered and endorsed the use of the FAO's publicly-available Vulnerable Marine Ecosystems Map as a template for developing the NPFC's own VME map.
11. The SC considered recommendation (g) of the SSC VME regarding the holding of an international course on VME indicator taxa identification as a new project and requested more information. Russia provided further details including the aim, intended participants, course content, estimated duration, number of lecturers, and estimated costs. The SC endorsed the proposal and included it as part of its list of proposed scientific projects (Annex F). The SC also considered the possibility of conducting this course in collaboration with the North Pacific Marine Science Organization (PICES), which has extensive experience in holding such courses, or other organizations.

4.2 SSC on Bottom Fish (SSC BF)

12. The Chair of the SSC BF, Dr. Taro Ichii (Japan), summarized the outcomes and recommendations of the 2nd SSC BF meeting (NPFC-2019-SSC BF02-Final Report).
13. The SC reviewed the recommendations of the SSC BF and endorsed the following recommendations:
 - (a) Endorse the Interim Guidance for Management of Scientific Data.
 - (b) Endorse the updated draft template for collecting scientific observer data from NPFC bottom fisheries (NPFC-2019-SSC BF02-WP02 (Rev. 1)).
 - (c) Endorse the revised CMM 2018-05.
 - (d) Endorse the revised CMM 2017-06.
 - (e) Endorse the updated 2017-2021 SSC BF Work Plan (NPFC-2019-SSC BF02-WP04 (Rev. 1)).
 - (f) Consider using the FAO's publicly-available bottom fishing areas map as a template for developing the NPFC's own bottom fishing map.
 - (g) Establish a small working group for the development of the combined bycatch taxa list for the Convention Area, and the development of the fish identification guide for scientific observers for the northwestern Pacific Ocean.
 - (h) Combine the SSC BF and the SSC VME into one new SSC addressing VME and BF.
 - (i) Select Dr. Chris Rooper (Canada) to serve as the Chair of the SSC addressing VME and BF, and Ms. Kari Fenske (United States) to serve as its Vice-Chair.
14. The SC reviewed and endorsed the revisions proposed by the SSC BF to CMM 2018-05 (Annex D) in relation to the monitoring survey for the adaptive management of North Pacific armorhead.

15. The SC reviewed and endorsed the revisions proposed by the SSC BF to CMM 2018-05 (Annex D) and CMM 2017-06 (Annex E) in relation to the type and format of scientific observer data to be collected in accordance with Annex 5 of each of the CMMs.
16. Based on recommendation (f) of the SSC BF, the SC considered and endorsed the use of the FAO's publicly-available bottom fishing areas map as a template for developing the NPFC's own bottom fishing map.
17. Based on recommendation (g) of the SSC BF, the SC agreed to establish a small working group for the development of the combined bycatch taxa list for the Convention Area, and the development of the fish identification guide for scientific observers for the northwestern Pacific Ocean. The SC included this work in its work plan (Annex G) and its list of scientific projects (Annex F).
18. Based on recommendation (h) of the SSC BF, the SC agreed to combine the SSC VME and the SSC BF into the new SSC for Bottom Fish & Marine Ecosystems (SSC BF-ME). The SC drafted and adopted the Terms of Reference (TOR) for the SSC BF-ME (Annex H).

4.3 SSC on Pacific Saury (SSC PS)

19. The Chair of the SSC PS, Dr. Toshihide Iwasaki (Japan), summarized the outcomes and recommendations of the 4th SSC PS meeting (NPFC-2019-SSC PS04-Final Report).
20. The SC reviewed the recommendations of the SSC PS and endorsed the following recommendations:
 - (a) The SSC PS recommends that the SC endorse the stock assessment report from the TWG PSSA04.
 - (b) According to the stock assessment results by TWG PSSA04, the SSC PS recommends that further measures should be taken effectively to avoid the increasing trend in the exploitation rate to sustain biomass.
 - (c) The SSC PS recommends that Members share more data (e.g. size-at-maturity measurements, catch-at-size data and catch-at-age data, etc.) for improving the current stock assessment and developing future stock assessments.
 - (d) The SSC PS recommends that the SC endorse the updated table for identification of scientific data which can be collected and/or validated by at-sea observers, fishermen, electronic reporting systems and other means for Pacific saury.
 - (e) The SSC PS recommends that the SC recommend that the Commission fund the participation of Dr. Larry Jacobson (or an expert with similar qualifications and

experience) in the next Pacific saury meetings.

- (f) The SSC PS recommends that the SC endorse the updated 2017-2021 SSC PS Work Plan (NPFC-2019-SSC PS04-WP03 (Rev. 1)).
- (g) The SSC PS recommends that the SC combine the SSC PS and the TWG PSSA into one new SSC.
- (h) Select Dr. Toshihide Kitakado (Japan) to serve as the Chair of the new SSC.
- (i) The SSC PS recommends that the SC determine the Terms of Reference (TORs) for the new SSC which should include the TORs of the TWG PSSA.
- (j) The SSC PS recommends that the SC recommend that the Commission consider allowing more flexibility (i.e. multiple extensions) in the terms for the Chairs of the SC's subsidiary bodies.
- (k) The SSC PS noted the definitions of juvenile as it pertains to Pacific saury, its spawning season, its seasonal change in minimum length at maturity and areas where age-0 Pacific saury are abundant (NPFC-2019-SSC PS04-Final Report, paragraphs 20-24).
- (l) The SSC PS agreed to examine the amount of data available for maturity and length of Pacific saury, and fit a logistic curve to available maturity data considering all spatial or temporal combinations that are relevant and possible.

21. The SC recognized and commended the significant work done by the SSC PS and the Technical Working Group on Pacific Saury Stock Assessment (TWG PSSA) to produce a consensus stock assessment.

22. The SC endorsed the stock assessment report from the TWG PSSA and the estimates of reference quantities based on the stock assessment results provided by the TWG PSSA: Based on combined model estimates, B was below Bmsy (B/B_{msy} during 2016-2018 = 0.82) and F was below Fmsy (F/F_{msy} during 2015-2017 = 0.82). Results indicate that the stock declined from near carrying capacity in the mid-2000's after a period of high productivity to current levels. Exploitation rates were increasing slowly during this period but remained lower than Fmsy. Point estimates indicate that stock biomass fell to the lowest value since 1980 ($B/B_{msy} = 0.63$) in 2017, then increased to Bmsy in 2018. Biomass estimates show long-term fluctuations and interannual variability.

23. The SC considered the results of the stock assessment conducted by the TWG PSSA and recommended that the Commission consider further management measures for avoiding an increasing trend in the exploitation rate of Pacific saury to sustain biomass.

24. The SC recognized the significant contributions made by Dr. Larry Jacobson to the work of the

TWG PSSA and recommended that the Commission fund the participation of Dr. Larry Jacobson (or an expert with similar qualifications and experience) in the next Pacific saury meetings.

25. Based on recommendations (g) – (i), the SC agreed to combine the SSC PS and the TWG PSSA as a new SSC PS. The SC held initial discussions on the development of the TOR for the new SSC PS and requested that the SSC PS develop a draft TOR at its next meeting for submission to and adoption at the SC05 meeting.
26. The SC recognized the specialized nature of the subjects and tasks that its subsidiary bodies deal with and noted that allowing Chairs to serve more than two consecutive terms would provide greater consistency and continuity of expertise to its subsidiary bodies. The SC therefore recommended that the Commission allow multiple extensions of the terms of the Chairs of the SC's subsidiary bodies, if necessary.
27. The SC recognized the importance of defining juvenile as it pertains to Pacific saury and considered the initial review of available information conducted by the SSC PS. The SSC PS noted differences in the definition of juvenile among different organizations, seasonal observed minimum length at maturity, and minimum length at maturity between experimental and natural conditions. The SSC PS concluded that age-0 Pacific saury are abundant east of 165-170 degrees east during June to July, when age-0 fish have not reached sexual maturity, and most of them are unlikely to migrate into fishing grounds in the main fishing season (August to November) of the same year. Furthermore, the SSC PS concluded that both immature fish and adults are under fishing pressure. The SC recognized that further research is needed, and endorsed the work proposed by the SSC PS to further analyze maturity and length data for Pacific saury.

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

28. The Chair of the TWG CMSA, Dr. Oleg Katugin (Russia), summarized the outcomes and recommendations of the 2nd TWG CMSA meeting (NPFC-2019-TWG CMSA02-Final Report).
29. The SC reviewed the recommendations of the TWG CMSA and endorsed the following recommendations:
 - (a) The TWG CMSA agreed to use abundance indices derived from Japan's summer recruitment survey, autumn recruitment survey, and dip-net fishery, as well as Russia's historical chub mackerel fisheries as candidate indices.
 - (b) The TWG CMSA agreed to explore the possibility of using abundance indices derived from Japan's spring recruitment survey, Russia's resumed chub mackerel fisheries,

China's chub mackerel fisheries, and Japan's purse seine fishery as candidate indices.

- (c) The TWG CMSA agreed to further discuss using three reference cases for natural mortality for operating models: the median value for M, the mean value for M, and age-specific mortality from NPFC-2019-TWG CMSA02-WP01 (Rev. 2).
- (d) The TWG CMSA agreed to test the following five stock assessment models using the operating model: a SAM model, a VPA model, an ASAP model, a KAFKA model, and a state-space production model.
- (e) The TWG CMSA recommended that the SC endorse the Protocol of the Operating Model Development.
- (f) The TWG CMSA agreed to use PopSim as the platform for the operating model.
- (g) The TWG CMSA agreed that the basic operating model has no spatial structure and agreed to consider spatially-structured models as future work.
- (h) The TWG CMSA agreed that the operating model has an age-based structure rather than length-based structure according to the availability of the existing data, and that the starting year of operating model is 1970.
- (i) The TWG CMSA agreed on the list of possible and compulsory performance measures for evaluating the candidate stock assessment models.
- (j) The TWG CMSA agreed to share data to estimate parameters for the operating model using the candidate stock assessment models.
- (k) The TWG CMSA recommended that the SC endorse the TWG CMSA's proposal of seeking an external expert to support the development of the operating model and inviting him/her to attend the next TWG CMSA meeting.
- (l) The TWG CMSA recommended that the SC endorse the updated TWG CMSA Work Plan.
- (m) The TWG CMSA agreed to extend the term of the current Chair, Dr. Oleg Katugin, for two more years.
- (n) The TWG CMSA recommended that the next TWG CMSA meeting should be held at the end of 2019 or in early 2020, and if necessary SWG OM CMSA will meet informally prior to TWG CMSA03.

30. Japan stated that chub mackerel is mainly distributed around Japan for most of its life history including its spawning grounds. Japan has been conducting responsible management of the species using TAC based on its own stock assessment. Chub mackerel catch has been increasing in the Convention Area due to increasing stock abundance because of recent high recruitment and appropriate management. The recent stock increase was a result of a single dominant year class, thus it is expected that stocks will decrease in the future. Following Convention Article 3i of the NPFC, management should be consistent with Japanese domestic management. In the BRP/HCR/MSE Workshop in March 2019, the Workshop recommended

that the construction of MSE would be the highest priority for the stock assessment of chub mackerel. It is also pointed out that uncertainty for the Japanese stock assessment of the species prevents the taking of appropriate management measures for the Convention Area based on stock assessment. Considering the current chub mackerel fisheries status and the stock assessment progress made by the TWG CMSA, Japan suggested that further increase of fishing effort in the Convention Area be avoided to be consistent with the precautionary principle until the stock assessment is completed and a recommended sustainable level of fishing is available.

31. Russia echoed the concern on a possible increase in fishing effort for chub mackerel in the Convention Area, and pointed out that, at this stage, the existing CMM 2018-07 For Chub Mackerel is sufficient to address this issue.

4.5 Biological Reference Point/Harvest Control Rule/Management Strategy Evaluation Workshop (BRP/HCR/MSE) Workshop

32. The Chair of the BRP/HCR/MSE Workshop, Mr. Luoliang Xu, summarized the outcomes and recommendations of the workshop.
33. The SC reviewed the recommendations of the BRP/HCR/MSE Workshop and endorsed the following recommendations:
 - (a) The Workshop recommended conducting MSE for only one species at a time due to the resource-intensive and complex nature of the process. Because chub mackerel is a longer-lived species than Pacific saury and more stock assessment data are available, enabling the operating model to be conditioned, the Workshop recommended conducting MSE for chub mackerel as the first priority (See Punt et al. 2016 for best practices).
 - (b) For Pacific saury, the Workshop recommended to consider developing an age-structured operating model for use in simulation work to identify and evaluate potential reference points (for example B_{lim} and F_{target}). It is suggested that initial simulation work focus on constant F runs (e.g. to investigate MSY -based reference points, B_{lim} and F_{target}) and empirical HCR (e.g. taking a constant proportion of the estimated survey biomass). Model-based and empirical HCR could both be considered when a full MSE is undertaken.
 - (c) For chub mackerel, the Workshop recommended considering to conduct initial assessments with a range of models, which could be used in a subsequent MSE.
 - (d) The Workshop recommended that the SC propose to the Commission to explore the possibility of creating an intermediary group consisting of scientists, managers and stakeholders, as needed, when conducting an MSE.
 - (e) Consideration could be given to the role of small pelagic fish in the ecosystem as key low trophic level stocks and also to climate variability when setting the reference points.

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

34. The Science Manager provided a summary of the status of Members' annual reports for 2018 (NPFC-2019-SC04-IP01 (Rev. 2)) and informed the SC that annual summary footprints for bottom fish, Pacific saury, chub and spotted mackerels, Japanese sardine, and squids are available on the NPFC website.

35. The SC discussed the need to report data for measuring effort and analyzing trends in effort as accurately as possible. In particular, the SC noted that it would be useful to report information on the number of vessels licensed to fish for the priority species of the NPFC as this would enable the measurement of latent effort. At the same time, the SC recognized that there are various factors that make it difficult to report such data for certain species, for example because they are caught within and outside Members' exclusive economic zones or by several types of gear. The SC noted that the reporting of information on the number of licensed vessels may also facilitate the work of the Technical and Compliance Committee (TCC).

5.1 Data reporting templates

36. The Science Manager reported on the progress in developing standardized templates for data collection and reporting for bottom fish (complete), Pacific saury (complete), chub and spotted mackerels (not yet started; to be developed when the stock assessment model and corresponding data requirements are decided), Japanese sardine (not yet started), and squids (not yet started).

5.2 Observer Program

37. The Science Manager presented a template for collecting scientific observer data from NPFC bottom fisheries and a table for identification of scientific data which can be collected and/or validated by at-sea observers, fishermen, electronic reporting systems and other means for Pacific saury (Annex I).

38. The SC reviewed the work done and agreed to continue to develop the scientific aspects of the regional observer program, while recognizing the need to distinguish between the scientific and compliance aspects of the program.

5.3 Information management and security regulations

5.3.1 Interim Guidance for Management of Scientific Data

5.3.2 Regulations for management of scientific meeting documents

39. The Science Manager presented the Interim Regulations for Management of Scientific Data and Information (NPFC-2019-SC04-WP01 (Rev. 1)), which includes the Interim Guidance for

Management of Scientific Data and regulations for management of scientific meeting documents, meeting reports and intersessional communications on the NPFC website.

40. The SC reviewed and revised the Interim Regulations for Management of Scientific Data and Information (Annex J). The SC recommended that the Commission endorse the regulations for use by the SC and its subsidiary bodies on an interim basis.

5.4 NPFC data management system

5.4.1 Update on the developments since the previous SC meeting

5.4.2 Electronic Annual Report

41. The Data Coordinator, Mr. Mervin Ogawa, reported on the progress in the development of the SC-related data management system (NPFC-2019-SC04-WP03). This includes improvement of the user interface of the NPFC Collaboration site; launch of a new Meeting Management System; development of preliminary spatial maps for VME and bottom fisheries, and Pacific saury catch and effort; and development of a prototype Electronic Annual Report.
42. The SC recognized the good progress made by the Secretariat and requested that the Secretariat continue developing the SC-related data management system, with comments and advice to be provided by Members.
43. The SC discussed the development of preliminary spatial maps for VME and bottom fisheries, and Pacific saury catch and effort, and made the following recommendations:
 - (a) The SC recommends that Pacific saury catch and effort data be displayed on a publicly accessible map on the NPFC website in 1x1 degree cells for each month for both the national waters and for NPFC Convention Area cells. The map should show a small, medium, or large circle in each monthly 1x1 degree cell representing the catch or effort (different layers) for data from all Members. The size of the circle to be shown in each grid cell and month will be as follows: The small circles will represent catch (or effort) values equal to or smaller than the median catch (or effort) for that month from all Members' data minus the median absolute deviation. The large circles will represent catch values equal to or larger than the median plus the median absolute deviation. A medium circle will represent median catch levels that fall between the small and large circles.
 - (b) Months and cells with no catch or with no effort will have no symbol. This will allow for the public to see relative catch and effort data for Pacific saury, without revealing specific catch or effort data values or identifying which Members are represented.
 - (c) Catch and effort map specifications for other species will be determined on a case-by-case basis.

Agenda Item 6. Scientific projects for 2019 and 2020

6.1 Ongoing/planned projects

6.2 New projects

6.3 Review and prioritization of projects

44. The Science Manager presented a draft list of scientific projects that were discussed above and during the SSC meetings.

45. The SC reviewed and revised the list of proposed scientific projects, and endorsed it for consideration by the Commission (Annex F).

46. As the SC noted at its previous meeting, the scope of the scientific activities of the NPFC continues and will continue to grow, as illustrated by the intensive schedule of scientific meetings and projects planned for the end of 2019 and the beginning of 2020. In light of this, the SC recognized the potential need to provide greater support for the Secretariat in the future, for example through the enhanced capacity of the Secretariat itself, support from external suppliers, or assistance from Members.

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

47. The SC reviewed and revised its Work Plan (Annex G), which shall be included in the 2017-2021 Research Plan.

48. The SC agreed to transition to five-year rolling research and work plans from 2020 onwards, and requested that each of its subsidiary bodies prepare corresponding five-year rolling work plans (i.e. 2020-2024) for the relevant priority areas, for submission to the SC05 meeting.

Agenda Item 8. Cooperation with other organizations

49. The Science Manager presented a compiled list of cooperation opportunities and requests from other organizations, for consideration by the SC (NPFC-2019-SC04-IP05).

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

50. The Co-Chair of the PICES-NPFC SG, Dr. Vladimir Kulik (Russia), presented an update on the intersessional work of the SG, including a draft NPFC-PICES Framework for Enhanced Scientific Collaboration in the North Pacific (NPFC-2019-SC04-WP02).

51. The SC recognized the merits of cooperation between the NPFC and PICES in the areas of their joint interest which are (i) support for stock assessment for priority species; (ii) vulnerable marine ecosystems; and (iii) ecosystem approach to fisheries.

52. The SC reviewed and endorsed the framework (Annex K). The SC thanked the Co-Chairs, Dr. Vladimir Kulik and Mr. Eddy Kennedy, for their leadership in advancing the work of the SG.
53. Canada presented a proposal from PICES to hold a joint PICES-NPFC workshop on *The influence of environmental changes on the potential for species distributional shifts and subsequent consequences for estimating abundance of Pacific saury* at the PICES Annual Meeting in Victoria, Canada, in October 2019 (NPFC-2019-SC04-WP02).
54. The SC endorsed the holding of the joint PICES-NPFC workshop mentioned above. The SC nominated Dr. Bai Li to attend the workshop on behalf of the NPFC as an invited speaker and give a presentation on a collaborative analysis of Member CPUE data with regards to environmental and distributional changes of Pacific saury, and recommended that the Commission provide travel support for Dr. Li's participation.

8.2 NPAFC's multinational survey in the North Pacific

55. NPAFC shared an update about the NPAFC's International Year of the Salmon (IYS) surveys in the high seas of the North Pacific (NPFC-2019-SC04-IP04). The IYS successfully conducted its first international research survey in the Gulf of Alaska in February-March 2019 and started drafting a program for a large-scale pan-Pacific multinational ecosystem survey in the high seas of the North Pacific in the near future.
56. The Science Manager informed the SC that the NPFC is invited to attend a NPAFC-PICES workshop on *Developing a collaborative, integrated ecosystem survey program to determine climate/ocean mechanisms affecting the productivity and distribution of salmon and associated pelagic fishes across the North Pacific Ocean* in Victoria, Canada, in October 2019 and take part in the development of the program (NPFC-2019-SC04-IP04).
57. The SC recognized the benefits of the NPFC's continued participation in the IYS survey program and endorsed the NPFC's participation in the NPAFC-PICES workshop. The SC endorsed the participation of the Science Manager as the workshop convener and nominated Dr. Chris Rooper to attend on behalf of the NPFC.

8.3 Cooperation with other organizations

58. The Science Manager presented a draft concept note from the Areas Beyond National Jurisdiction (ABNJ) Deep-Sea Project of FAO for the promotion of work on ecological risk assessments for deep-water elasmobranchs caught in the high seas (NPFC-2019-SC04-IP02).
59. The SC expressed its interest in the proposed work and noted its relevance to the work of the

SSC BF-ME, particularly in relation to bycatch issues.

60. The Science Manager presented an invitation for the NPFC to participate in and contribute to *the North Pacific Regional Consultative and Planning Workshop for the International Decade of Ocean Science in support of Sustainable Development Goals* in Tokyo, Japan, on 31 July – 2 August 2019 (NPFC-2019-SC04-IP03). The NPFC is invited to participate as a member of the International Steering Committee, a co-leader of one of the Working Group/Sub Themes, a participant, and/or a contributor to a list of important sustainability questions that need to be addressed on the Ocean Decade.
61. The SC encouraged any representatives from Members who are attending the workshop in a non-NPFC capacity to also consider attending as an NPFC observer and report on the workshop outcomes to the next SC meeting.
62. The Science Manager presented an invitation from FAO for the NPFC to join FAO's Fisheries and Resources Monitoring System (FIRMS) Partnership (NPFC-2019-SC04-OP01). The FIRMS Partnership aims to facilitate access to a wide range of high-quality information on the status and trends of global marine fishery resources, fisheries and their management, in order to provide decision-makers with necessary information to develop effective fisheries policies in accordance with the Code of Conduct for Responsible Fisheries.
63. The SC determined that it requires more information before it can make a recommendation regarding whether or not the NPFC should join the FIRMS Partnership. The SC suggested that a representative from FAO FIRMS could attend the next SC meeting to give a detailed explanation.

Agenda Item 9. Other matters

9.1 Selection of SC Chair

64. The SC selected Dr. Janelle Curtis (Canada) to serve as the new SC Chair and Dr. Jie Cao (China) as the new SC Vice Chair.
65. The SC thanked the Chair for his strong leadership and excellent chairing over the past four years, and hoped it would have the opportunity to continue to work with him in the future.

9.2 Structure of the Scientific Committee

66. Based on the discussion above, the SC has updated its structure, combining the SSC VME and the SSC BF into the new SSC BF-ME, and combining the SSC PS and the TWG PSSA as a new SSC PS (Annex L).

9.3 MCS related issues from SC to TCC

67. Based on the discussion above, the SC identifies the following matters as MCS related issues for consideration by TCC:

- (a) Revisions of CMMs 2018-05 and 2017-06.
- (b) As described under Agenda Item 5, the SC discussed the need to report data for measuring effort and analyzing trends in effort as accurately as possible and noted that it would be useful to report information on the number of vessels licensed to fish for the priority species of the NPFC. The SC noted that the reporting of information on the number of vessels licensed to fish each priority species may also facilitate the work of the TCC.
- (c) The SC has continued to work on the scientific aspects of the development of an NPFC observer program and encourages the TCC to continue collaboration with the SC for the development of the NPFC observer program.

9.4 Other issues

68. No other issues were discussed.

Agenda Item 10. Advice and recommendations to the Commission

69. Based on the recommendations from its SSCs, TWG CMSA, and the BRP/HCR/MSE Workshop, the SC recommends that the Commission:

- (a) Endorse the revised Work Plan (Annex G).
- (b) Endorse the proposed scientific projects (Annex F).
- (c) Allow multiple extensions of the terms of the Chairs of the SC's subsidiary bodies, if necessary.
- (d) Endorse the Interim Regulations for Management of Scientific Data and Information for use by the SC and its subsidiary bodies on an interim basis (Annex J).

VME & Bottom Fish

- (e) Adopt the proposed revisions to CMM 2018-05 as described in Annex D, with editorial revisions to Annexes 6-1, 6-2 and 6-3 which will be done by Japan intersessionally.
- (f) Adopt the proposed revisions to CMM 2017-06 as described in Annex E.

Pacific Saury

- (g) Consider summary stock assessment results for Pacific saury (paragraph 22).
- (h) Consider further management measures for avoiding an increasing trend in the exploitation rate of Pacific saury to sustain biomass.
- (i) Fund the participation of Dr. Larry Jacobson (or an expert with similar qualifications and experience) in the next Pacific saury meetings.

Chub Mackerel

- (j) Contract an external expert to support the development of the operating model for chub

mackerel stock assessment and fund his/her participation in the next TWG CMSA meeting.

BRP/HCR/MSE

- (k) Adopt the proposal of the SC to conduct MSE for only one species at a time due to the resource-intensive and complex nature of the process. Because chub mackerel is a longer-lived species than Pacific saury and more stock assessment data are available, enabling the operating model to be conditioned, conduct MSE for chub mackerel as the first priority (See Punt et al. 2016 for best practices).
- (l) Adopt the proposal of the SC for Pacific saury to develop an age-structured operating model for use in simulation work to identify and evaluate potential reference points (for example Blim and Ftarget). It is suggested that initial simulation work focus on constant F runs (e.g. to investigate MSY-based reference points, Blim and Ftarget) and empirical HCR (e.g. taking a constant proportion of the estimated survey biomass). Model-based and empirical HCR could both be considered when a full MSE is undertaken.
- (m) Adopt the proposal of the SC for chub mackerel to conduct initial assessments with a range of models, which could be used in a subsequent MSE.
- (n) Adopt the proposal of the SC to give consideration to the role of small pelagic fish in the ecosystem as key low trophic level stocks and also to climate variability when setting the reference points
- (o) Explore the possibility of creating an intermediary group consisting of scientists, managers and stakeholders, as needed, when conducting an MSE.

Data Sharing

- (p) Share data for the assessment of SAI of bottom fisheries on VME and creation of a map of combined fishing footprint and effort after the SSC BF-ME agrees upon the type and resolution of data.
- (q) Share more data of Pacific saury (e.g. size-at-maturity measurements, catch-at-size data and catch-at-age data, etc.) for improving the current stock assessment and developing future stock assessments after the SSC PS agrees upon the type and resolution of data.
- (r) Display Pacific saury catch and effort data on a publicly accessible map on the NPFC website according to the specifications described in paragraph 43.
- (s) Share data of chub mackerel to estimate parameters for the operating model using the candidate stock assessment models, as specified in Annexes G and H of the TWG CMSA02 report.

Cooperation with Other Organizations

- (t) Endorse the NPFC-PICES Framework for Enhanced Scientific Collaboration in the North Pacific (Annex K).
- (u) Hold a joint PICES-NPFC workshop on *The influence of environmental changes on the*

potential for species distributional shifts and subsequent consequences for estimating abundance of Pacific saury at the PICES Annual Meeting in Victoria, Canada, in October 2019. Provide travel support for Dr. Bai Li's participation on behalf of the NPFC as an invited speaker to give a presentation on the subject described in paragraph 54.

- (v) Endorse the participation of Dr. Chris Rooper on behalf of the NPFC in the NPAFC-PICES workshop on *Developing a collaborative, integrated ecosystem survey program to determine climate/ocean mechanisms affecting the productivity and distribution of salmon and associated pelagic fishes across the North Pacific Ocean* in Victoria, Canada, in October 2019 as described in paragraph 57.

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

VME

- (a) For VME indicator taxa, the SC noted a comprehensive SAI assessment conducted by Japan in the Emperor Seamounts and a proposal from Japan to revise the list of VME indicator taxa from Gorgonacea, Scleractinia, Antipatharia, and Alcyonacea to Gorgonacea, Scleractinia, Antipatharia, and Porifera. The SC recognized the value of the work done by Japan but determined that further research is needed.
- (b) The SC agreed to conduct further research to define the range of the two VME sites identified in NPFC-2019-SSC VME04-WP02 with the potential to close them to fishing.

Bottom Fish

- (c) The SC advises the Commission to consider the SC's discussions under Agenda Item 4.

Pacific Saury

- (d) For juvenile Pacific saury, the SC recognized the importance of defining juvenile and considered the initial review of available information conducted by the SSC PS. The SC recognized that further research is needed, and endorsed the work proposed by the SSC PS to further analyze maturity and length data for Pacific saury.
- (e) Regarding distribution of juvenile Pacific saury, the SC concluded that age-0 Pacific saury are abundant east of 165-170 degrees east during June to July, when age-0 fish have not reached sexual maturity, and most of them are unlikely to migrate into fishing grounds in the main fishing season (August to November) of the same year.

Chub Mackerel

- (f) The SC advises the Commission to consider the current chub mackerel fisheries status, the stock assessment progress made by the TWG CMSA and the SC's discussions under Agenda Item 4.

Observer Program

- (g) The SC has identified a number of types of scientific data for Pacific saury which can only

be collected and/or validated by at-sea observers (Annex I). It will continue to develop the scientific aspects of the regional observer program.

Cooperation with Other Organizations

- (h) The SC considered an invitation for the NPFC to participate in and contribute to *the North Pacific Regional Consultative and Planning Workshop for the International Decade of Ocean Science in support of Sustainable Development Goals* in Tokyo, Japan, on 31 July – 2 August 2019. The SC encouraged any representatives from Members who are attending the workshop in a non-NPFC capacity to also consider attending as an NPFC observer and report on the workshop outcomes to the next SC meeting.
- (i) The SC considered a concept note from the Areas Beyond National Jurisdiction (ABNJ) Deep-Sea Project of FAO for the promotion of work on ecological risk assessments for deep-water elasmobranchs caught in the high seas. The SC expressed its interest in the proposed work and noted its relevance to the work of the SSC BF-ME, particularly in relation to bycatch issues.

Agenda Item 11. Next meeting

71. The SSC PS05 meeting will be held in Japan in November 2019. The TWG CMSA03 meeting will be held in Japan in February 2020. The SC05, SSC PS06 and SSC-BF-ME01 meetings will be held in Vanuatu in April 2020. Members will be notified of the exact dates and locations by the Secretariat via correspondence.

Agenda Item 12. Adoption of the Report

72. The SC04 Report was adopted by consensus.

Agenda Item 13. Close of the Meeting

73. The meeting closed at 12:50 on 26 April 2019.

ANNEXES

Annex A – Agenda

Annex B – List of Documents

Annex C – List of Participants

Annex D – Revised CMM 2018-05 - Conservation and Management Measure for Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northwestern Pacific Ocean (**Refer to Annex L of the 5th Commission Meeting Report**)

Annex E – Revised CMM 2017-06 - Conservation and Management Measure for Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northeastern Pacific Ocean (**Refer to Annex M of the 5th Commission Meeting Report**)

Annex F – Scientific Projects for 2017-2021

Annex G – 2017-2021 Work Plan of Scientific Committee

Annex H – Terms of Reference for the Small Scientific Committee on Bottom Fish and Marine Ecosystems (SSC BF-ME)

Annex I – Scientific data which can be collected and/or validated by at-sea observers, fishermen, electronic reporting systems and other means for Pacific saury

Annex J – Interim Regulations for Management of Scientific Data and Information

Annex K – NPFC–PICES Framework for Enhanced Scientific Collaboration in the North Pacific

Annex L – North Pacific Fisheries Commission structure including proposed revision by the Scientific Committee

Agenda

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Agenda Item 2. Adoption of Agenda

Agenda Item 3. Meeting arrangements

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4.2 SSC on Bottom Fish

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4.5 BRP/HCR/MSE Workshop

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

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5.4 NPFC data management system

5.4.1 Update on the developments since the previous SC meeting

5.4.2 Electronic Annual Report

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Agenda Item 11. Next meeting

Agenda Item 12. Adoption of the Report

Agenda Item 13. Close of the Meeting

List of Documents

MEETING INFORMATION PAPERS

Document Number	Title
NPFC-2019-SC04-MIP01 (Rev. 3)	Details for the Meetings of the Scientific Committee and Small Scientific Committees
NPFC-2019-SC04-MIP02	Provisional Agenda
NPFC-2019-SC04-MIP03	Provisional Annotated Agenda
NPFC-2019-SC04-MIP04	Indicative Schedule

REFERENCE DOCUMENTS

Document Number	Title
NPFC-2019-AR-Annual Summary Footprint - Squids	2018 – Annual summary footprint for squids in the NPFC Area of Competence
NPFC-2019-AR-Annual Summary Footprint - Chub&Spotted Mackerels(Rev 1)	2018 – Annual summary footprint for chub mackerel and spotted mackerels in the NPFC Area of Competence
NPFC-2019-AR-Annual Summary Footprint - Japanese Sardine	2018 – Annual summary footprint for Japanese sardine in the NPFC Area of Competence
	2017-2021 Research Plan
	Five-year work plan for each priority area of the Research Plan
	Data information template for Pacific Saury
	Scientific projects for 2017-2021

WORKING PAPERS

Document Number	Title
NPFC-2019-SC04-WP01 (Rev. 2)	Interim Regulations for Management of Scientific Data and Information
NPFC-2019-SC04-WP02	NPFC–PICES Framework for Enhanced Scientific Collaboration in the North Pacific
NPFC-2019-SC04-WP03	NPFC Data Management System
NPFC-2019-SSC BF02-WP02	Data collection templates for bottom fish
NPFC-2019-SSC PS04-WP02 (Rev. 1)	Scientific data which can be collected and/or validated by at-sea observers, fishermen, electronic reporting systems and other means for Pacific saury

INFORMATION PAPERS

Document Number	Title
NPFC-2019-SC04-IP01 (Rev. 2)	Status of Members' Annual Reports for 2018
NPFC-2019-SC04-IP02	Ecological Risk Assessments for deep-water elasmobranchs caught in the high seas
NPFC-2019-SC04-IP03	North Pacific Regional Consultative and Planning Workshop for the International Decade of Ocean Science in support of Sustainable Development Goals
NPFC-2019-SC04-IP04	Cooperation with NPAFC: IYS surveys in the high seas of the North Pacific
NPFC-2019-SC04-IP05	A compiled list of cooperation opportunities and requests from other organizations

OBSERVER PAPERS

Document Number	Title
NPFC-2019-SC04-OP01	Cooperation with other organizations: NPFC - FIRMS Partnership

MEETING REPORTS

Document number	Title
NPFC-2019-TWG CMSA02-Final Report	Report of the 2nd TWG CMSA meeting
NPFC-2019-WS BRP_HCR_MSE01-Final Report	Report of the BRP/HCR/MSE workshop
NPFC-2019-SSC VME04-Final Report	Report of the 4th SSC VME meeting
NPFC-2019-SSC BF02-Final Report	Report of the 2nd SSC BF meeting
NPFC-2019-SSC PS04-Final Report	Report of the 4th SSC PS meeting

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Scientific Projects for 2017-2021

(updated at SC04, Apr 2019, for adoption by COM05, Jul 2019)

#	Project	Time	Status	Next step: activities, required funds
1	VME taxa identification guide	2017-2020	<i>In progress</i> SSC VME04 agreed on the format and content of the VME taxa ID guide.	2019: Prepare a draft VME taxa ID guide and review it by the SSC. 2020: Complete editing the guide and test it out by observers and fishers. <i>2019 FY: No funds required.</i> <i>2020: 1,1mln JPY (10,000USD).</i> <i>Source: SC fund.</i>
2.1	GIS database/module as a part of NPFC database management system for spatial management of bottom fisheries and VMEs	2018-2019	<i>In progress</i> Fished seamounts and closed areas have been added to the map on the website.	Use FAO publicly-available VME map as a template for developing the NPFC's own VME map; Improvement of the interface of the map and the way of accessing of database (intersessionally). <i>2019 FY: 0,55mln JPY (5,000USD).</i> <i>Source: SC fund.</i>
2.2	Joint spatial/temporal map of Members' catch and effort on Pacific saury with a spatial resolution of one-degree grids and a temporal resolution of one month	2018-	<i>In progress.</i> Spatial/temporal map of Members' Pacific saury catch and effort has been deployed for testing on the UAT website.	Improvement of the interface of the map and the way of accessing of database (intersessionally). <i>2019 FY: 0,55mln JPY (5,000USD).</i> <i>Source: SC fund.</i>

3	Pacific saury stock assessment meeting (meeting costs)	Every year, 2017-2021	<i>TWG PSSA meetings: Feb 2017, Dec 2017, Nov 2018, Mar 2019.</i>	SSC PS05 meeting, Nov 2019 (4 days), Japan. 2.2mln JPY (20,000USD) <i>Source: SC fund.</i>
4	Chub mackerel stock assessment meeting (meeting costs)	Every year	<i>TWG CMSA meetings: Dec 2017, Mar 2019.</i>	TWG CMSA03 meeting, Feb 2020 (4 days), Japan. 2.2mln JPY (20,000USD) <i>Source: SC fund.</i>
5	Expert to review Pacific saury stock assessment (consultant fee and travel cost)	TBD later	Under consideration. SSC PS: to determine time and format.	<i>2019 FY: No funds required.</i>
6	Observer Program	2018-	<i>In progress</i> A study on the existing observer programs of Members and those of other RFMOs has been done; Scientific data which can be collected and/or validated by at-sea observers, fishermen, electronic reporting systems and other means for Pacific saury have been reviewed.	Identify data gaps which can be fulfilled by an observer program. <i>2019 FY: No funds required.</i>

7	Promotion of cooperation with NPAFC including macro-scale multinational survey in the North Pacific in 2021	2021	<i>In progress.</i>	NPAFC-PICES workshop Developing a collaborative, integrated ecosystem survey program to determine climate/ocean mechanisms affecting the productivity and distribution of salmon and associated pelagic fishes across the North Pacific Ocean (Victoria, Canada, October 2019). <i>2019 FY: 0.3mln JPY (travel costs of Science Manager who will attend as a convener).</i>
8	Invited expert for the development of the operating model for chub mackerel stock assessment (consultant fee and travel cost)	2020	<i>Proposed.</i>	Select and contract an expert. <i>2019 FY: 1,1mln JPY (10,000USD).</i>
9	Invited expert to stock assessment meetings of Pacific saury (consultant fee and travel cost)	2019-	<i>Proposed.</i>	<i>2019 FY: 1.1mln JPY (10,000USD) for two meetings.</i>
10	International Course for NPFC observers for VME indicator taxa identification (consultant fees and travel costs for two lecturers, meeting costs)	2020	<i>Proposed.</i>	3-4 days. Time and location: TBD. <i>2019 FY: No funds required.</i> <i>2020 FY: 1,65mln JPY (15,000USD).</i>

11	Standardization of bycatch species list and fish species identification guides (translation of the existing fish ID guide from Japan to additional languages)	2019-2020	<i>Proposed.</i>	2019 FY: No funds required. 2020 FY: 1.1mln JPY (10,000USD).
12	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>Proposed.</i>	2019 FY: 0.3mln JPY (travel costs of invited expert who will represent NPFC)

Past projects

#	Project	Time	Status	Next step: activities, required funds
1	NPFC/FAO VME workshop	2018-2019	<i>Concluded.</i> <i>FAO report is in press.</i>	The FAO report has been finalized by the co-chairs and shall be published as FAO Fisheries and Aquaculture report.
2	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>	

3	Workshop on biological reference points (BRP), harvest control rule (HCR) and management strategy evaluation (MSE) (meeting costs and invited experts)	2019	<i>Concluded.</i>	
4	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. Available on the NPFC website.</i>	

2017-2021 Work Plan of Scientific Committee

(updated at SC04, Apr 2019, for adoption by the Commission)

1. STOCK ASSESSMENTS FOR TARGET FISHERIES AND BYCATCH SPECIES

PACIFIC SAURY

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

2019	<p>Joint spatial/temporal map of Members' catch and effort on Pacific saury</p> <p>Continue setting limit and target reference points, harvest control rules and management strategy evaluation in conjunction with managers</p> <p>Conduct benchmark stock assessment and recommendations to Commission to improve conservation and management of Pacific saury.</p> <p>Regular update of inputs (data and indices) and existing stock assessments/ Work towards age-structured models/ Work towards development of reference points/ Initial discussions towards development of MSE (See detailed work plan).</p>	<p>Data were shared and a draft map was deployed on the test website.</p> <p>BRP/HCR/MSE workshop reviewed the approaches and practices of other regional fisheries bodies and how it can be applied to NPFC.</p> <p>Stock assessment was improved and considered as a benchmark by the TWG PSSA04.</p>	<p>Intersessionally.</p> <p>Workshop, Mar 2019.</p> <p>TWG PSSA04, Mar 2019.</p> <p>SSC PS04, Apr 2019.</p> <p>SSC PS05, fall 2019.</p>
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2020	<p>Update stock assessment and recommendations to Commission to improve conservation and management of Pacific saury</p> <p>Regular update of inputs (data and indices) and existing stock assessments/ Work towards age-structured models/ Work towards development of reference points/ Work towards development of MSE (See detailed work plan).</p>		<p>SSC PS06, spring 2020.</p> <p>SSC PS07, fall 2020.</p>
2021	<p>Update stock assessment and recommendations to Commission to improve conservation and management of Pacific saury.</p> <p>Regular update of inputs (data and indices) and existing stock assessments/ Work towards age-structured models/ Work towards development of reference points/ Work towards development of MSE (See detailed work plan).</p>		<p>SSC PS08, spring 2021.</p>

Detailed work plan for 2019-2021

Priority list

1. Conduct a stock assessment update with base case model 2 ($q_{\text{biomass}}=1$)
2. Further investigate improvements to the BSSPM
3. Develop an age-structured model
4. Continue joint CPUE work to incorporate broader spatial and temporal coverage
5. Update the biomass estimate using the existing method
6. Explore the possibility of developing a spatio-temporal model for the biomass estimate
7. Further investigate the coefficient of variation for the catchability coefficient in the Japanese survey. This variance should be included in the variance of the biomass data. If possible, refine

- the catchability estimate for the survey
8. Develop a longer-term roadmap for work related to Pacific saury stock assessment
 9. Identify target and limit reference points for stock biomass and fishing mortality

Detailed work plan

ITEM	SSC PS05 (2019 Fall)	SSC PS06 (2020 Spring)	SSC PS07 (2020 Fall)	SSC PS08 (2021 Spring)
Regular update of inputs				
Update & improvement of biomass survey index	<ul style="list-style-type: none"> ● Review 2019 survey outcomes ● Investigate/refine q_biomass ● Review a spatio-temporal modelling ● Review simulation results [H]	<ul style="list-style-type: none"> ● Review 2020 survey plan [H] ● Continue review of analytical works [H] 	Review 2020 survey outcomes	Review 2021 survey plan
Update & improvement of CPUE indices	Review CPUEs up to 2018 fisheries [H]		Review CPUEs up to 2019 fisheries	
Development of joint CPUE index	Review results and choose some initial sets of series for trial use in BSSPM [M]	Review further results [M]	Continue review of any further results	Continue review of any further results
Regular update of the existing SA				
Routine update BSSPM as a benchmark	Set up data and modify specification (if necessary) [H]	<ul style="list-style-type: none"> ● Update with base case 2 and draft BSSPM SA report ● Write a report [H] 	Update with base case 2 and draft BSSPM SA report unless there are any particular reasons	Review BSSPM report
Improvement and further investigation of BSSPM	Review any outcomes of improvements (see Para 29 in TWG04 report) [L]	Continue [L]	Continue	Continue
Toward age-structured models				
Data inventory (CPUE and size in space and time)	<ul style="list-style-type: none"> ● Review data availability for each member ● Discuss data sharing process [H]	Finalize an initial data set for initial trials of conditioning [H] (intersessionally)	Finalize data for 2020 SA	
Summarizing available information on PS biology	Review comprehensive reports (<i>inter alia</i> maturity) [H]	Finalize an initial list of assumptions for initial trials of conditioning [H] (intersessionally)	Finalize assumptions for 2020 SA	Continue

ITEM	SSC PS05 (2019 Fall)	SSC PS06 (2020 Spring)	SSC PS07 (2020 Fall)	SSC PS08 (2021 Spring)
Development of models	Review proposal and discuss evaluation methods (including simulation) [H]	<ul style="list-style-type: none"> ● Start conditioning and review results [M] ● Compare with BSSPM results [M] 	Develop base and robustness scenarios	<ul style="list-style-type: none"> ● Review results of analyses by an agreed initial set of SA models ● Write an SA report?
Uncertainty in models (possible link with OM grid under MSE)	Grid of uncertainty and information gaps [L]	Continue [L]	(see above)	Continue
Examination of estimation performance and finalize an initial set of SA models	Develop simulation specification [M]	<ul style="list-style-type: none"> ● Continue discussion about simulation specifications [M] ● Start conducting simulation [M] (intersessionally) 	<ul style="list-style-type: none"> ● Review initial simulation works ● Refine simulation framework 	<ul style="list-style-type: none"> ● Review further simulation works ● Finalize an initial set of SA models (if necessary, continue further evaluation)
Toward development of reference points				
Identify target and limit reference points for stock biomass and fishing mortality	Review intensively RPs report Start investigating reasonable options [H]	<ul style="list-style-type: none"> ● Identify candidate RPs for simulation [H] ● Evaluate candidate RPs [H] (intersessionally) 	Continue discussion and recommend BRPs, if possible [H]	
Toward development of MSE (work formally start in 2020)				
Development of management objectives	Review intensively RPs report [L]			
Definition of performance measures	Review intensively RPs report [L]			
Construction of OMs	See items in age-structured models [L]			
Development of candidate MPs				
Simulation performance tests				
Comparison of MPs and finalize advice				

Note: H, M and L indicate high, medium and low priority, respectively.

CHUB MACKEREL

Year	Tasks	Progress/Comment	Meeting/Activity
2017	<p>Review of Members' national research on stock status and fisheries</p> <p>Establishment of TWG CMSA</p> <p>Development of TORs, Work Plan and Data List</p>	<p>Done</p> <p>Done/Adopted by the Commission</p> <p>TORs are done. Work Plan and Data List are reviewed on the annual basis.</p>	<p>Chub mackerel workshop, 16-17 Feb</p> <p>SC02 meeting (proposal), COM03 meeting</p> <p>Proposal at the 3rd Commission meeting; Intersessional work on the TORs; TWG CMSA meeting, 4-5 Dec</p>
2018	<p>Report outputs by TWG CMSA01</p> <p>Discussion of the framework for the operating model (OM), list of data required for stock assessment (SA)</p>	<p>Protocol of Operating Model Development has been drafted. Some existing models and tools for data simulation have been reviewed.</p>	<p>SC03 meeting, COM04 meeting;</p> <p>Intersessional work and informal meeting of SWG OM on 27 Feb 2019</p>
2019	<p>Present results of the intersessional work on the OM and organize the OM structure/ proposal of SA model candidates/ agreement on the platform of OM (PopSim)</p> <p>Present outputs by TWG to SC</p> <p>Data preparation and data sharing for OM; development and conditioning of OM</p> <p>Describe and review all data for OM/ Show the results of conditioning OM / Setting OM scenarios</p>	<p>Done.</p>	<p>TWG CMSA02, Mar 2019.</p> <p>SC04 meeting, COM05 meeting;</p> <p>Intersessional</p> <p>TWG CMSA03</p>

2020	<p>Generate pseudo data to be fitted to the stock assessment models</p> <p>Present outputs by TWG to SC</p> <p>Compare stock assessment model candidates and choose the best SA model(s) / finalize the data used for the stock assessment /do preliminary assessment and recommendations to the SC</p>		<p>Intersessional</p> <p>SC05 meeting, COM06 meeting;</p> <p>TWG CMSA04</p>
2021	<p>Present outputs by TWG to SC and provide preliminary recommendations</p> <p>Complete stock assessment with the selected SA model(s) and provide recommendations to SC</p>		<p>SC06 meeting, COM07 meeting;</p> <p>TWG CMSA05</p>

Detailed work plan for the operating model development [to be replaced by the flowchart for OM development]

2018

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

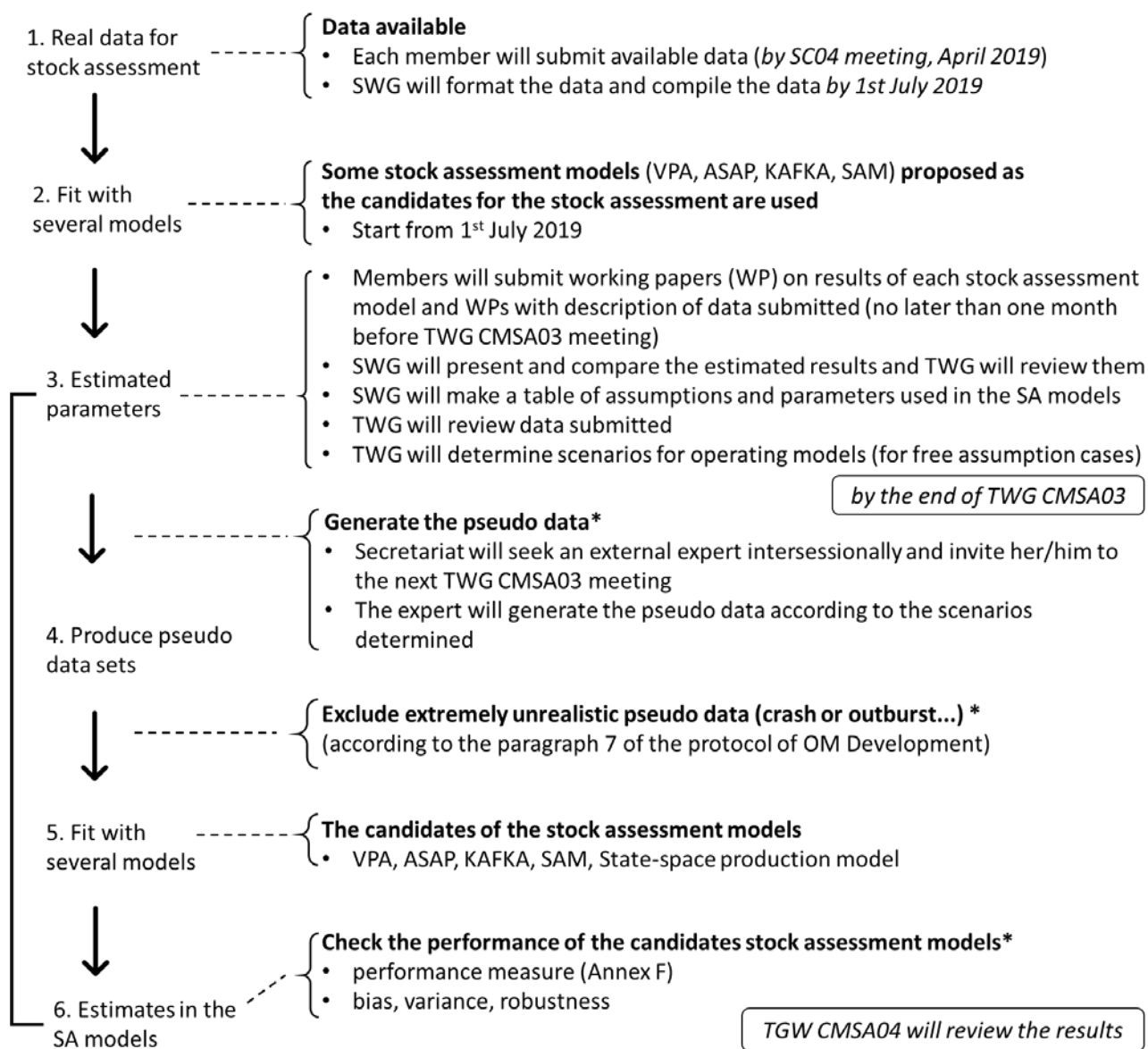
2019

6. Conditioning the OMs on data [intersessional]
7. Presents and compares the results of conditioning [TWG CMSA03]
8. Setting of scenarios of OMs (reference case(s) and sensitivity case(s)) [TWG CMSA03]

2020-2021

9. Generate the pseudo data to be fitted to the stock assessment models
10. Compare stock assessment model candidates according to the pre-determined performance measures and choose the best SA model from the candidates [TWGCMSA04]
11. Evaluate the quality of data and finalize the data used for the stock assessment [TWG CMSA04]
12. Complete stock assessment with the selected SA model(s) and management advice [TGWCMSA05]

Flowchart for the development of the operating model



* By an external expert

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

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

NORTH PACIFIC ARMORHEAD

Year	Tasks	Progress/Comment	Meeting/Activity
2017	<ol style="list-style-type: none"> 1. Adopt Adaptive Management process 2. Develop work plan to implement the Adaptive Management process 3. Assess and monitor the status of the stock 4. Conduct acoustic survey and other affiliated research 	<p>In progress. <i>COM03 requested further work on the Adaptive Management process.</i></p>	<p>SC02 meeting, Apr 2017; COM03 meeting, Jul 2017.</p>
2018	<ol style="list-style-type: none"> 1. Develop harvest control rules to conserve stock 2. Assess and monitor the status of the stock 3. Review data requirements and identify data gaps 4. Conduct affiliated research 	<p>In progress.</p> <p>In progress.</p> <p>In progress.</p>	<p>SSC BF01, Apr 2018.</p> <p>SSC BF01, Apr 2018.</p> <p>SSC BF01, Apr 2018.</p> <p>Data workshop, Nov 2018</p>
2019	<ol style="list-style-type: none"> 1. Improve adaptive management plan and implement harvest control rules 2. Assess and monitor the status of the stock 3. Review data requirements and identify data gaps 4. Conduct acoustic survey and other affiliated research 	<p>In progress.</p> <p>In progress.</p> <p>Done.</p> <p>Japan will conduct survey in 2019.</p>	<p>SSC BF02</p>
2020	<ol style="list-style-type: none"> 1. Review monitoring and survey designs 2. Assess and monitor the status of the stock 3. Conduct acoustic survey and other affiliated research 		<p>SSC BF-ME01</p>

2021	1. Evaluate Adaptive Management process and refine harvest control rules 2. Assess and monitor the status of the stock 3. Conduct acoustic survey and other affiliated research		SSC BF-ME02
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SPLENDID ALFONSINO

Year	Tasks	Progress/Comment	Meeting/Activity
2017	No tasks.		
2018	1. Review monitoring and assessment of the stock 2. Review data requirements and identify data gaps 3. Conduct affiliated research	Done. In progress.	SSC BF01, Apr 2018. SSC BF01, Apr 2018. Data workshop, Nov 2018.
2019	1. Conduct comprehensive stock assessment 2. Continue developing Adaptive Management process	In progress. In progress.	SSC BF02
2020	1. Develop harvest control rules and management advice 2. Adopt Adaptive Management process 3. Assess and monitor the status of the stock		SSC BF-ME01
2021	1. Assess and monitor the status of the stock 2. Evaluate Adaptive Management process and refine harvest control rules 3. Conduct affiliated research		SSC BF-ME02

2. ECOSYSTEM APPROACH TO FISHERIES

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

2019	Map a combined fishing footprint and effort	In progress.	SSC VME04
	Refine the exploratory fishing protocol and consider banning exploratory fishing in VME closed areas	Deferred to future meetings.	
	Development of standardized approach for SAI assessments	In progress.	
	Refine the encounter protocol if necessary	In progress.	
	Develop management objectives for recovering VME sites	Deferred to future meetings.	
	Develop timely reporting and action protocol when VME sites or recovering sites are identified.	In progress; Flowchart of post-encounter measure was agreed.	
	ID guides for VME indicators: 1. finalize the format and collect all images on the designated web drive	In progress; Design and content of the Guide was agreed.	
2. Update the format by the discussion from the SSC and review the image & id with other coral taxonomists.	In progress.	2. Intersessionally	

2020	<p>Apply the standardized approach for SAI assessments and conduct integrated SAI assessment</p> <p>Refine the encounter protocol if necessary</p> <p>ID guides for VME indicators: Complete editing the id guide and test it out by observers and fishers.</p>		SSC BF-ME01
2021	<p>Start discussions on quantitative definition of VME based on observations or modelling</p> <p>Introduce periodic internal review processes for VME management</p> <p>ID guides for VME indicators: Revisit taxonomy according CMM updates and finalize the id guide.</p>		SSC BF-ME02

3. DATA COLLECTION, MANAGEMENT AND SECURITY

DATA STANDARDS

Year	Tasks	Progress/Comment	Meeting/Activity
2017	Finalize data collection templates Pacific saury and continue development for bottom fisheries (trawl, gillnet, longline)	Presented and discussed. Done for Pacific saury. Others in progress.	SSC PS02 & SC02 meetings, Apr 2017. Intersessional work by SWGs.
2018	Develop data collection templates for chub mackerel and squids	In progress.	SSC BF01, SC03 meetings.
2019	Complete data collection templates for bottom fish, chub mackerel and squids	Data collection templates for bottom fish has been completed. [Templates for chub mackerel and squids will be developed when the relevant subsidiary bodies of SC identify data needs.]	SSC BF02, SC04 meetings.
2020	Revision of data collection templates if necessary		
2021	Revision of data collection templates if necessary		

DATA COLLECTION

Year	Tasks	Progress/Comment	Meeting/Activity
2017	Identifying data needs and data gaps	In progress.	SSCs & SC02 meetings, Apr 2017; TWGs CMSA&PSSA meetings, Dec 2017.
2018	Identifying data needs and data gaps; Enhancement of data collection: fisheries, surveys, Observer program	In progress. In progress. <i>Review of the existing observer programs of Members and those of other RFMOs is completed.</i>	VME workshop, Mar 2018, VME&BF Data workshop, Nov 2018. SC03 meeting.
2019	Identifying data needs and data gaps; Enhancement of data collection: fisheries, surveys, Observer program	In progress. <i>Identification of scientific data which can be collected and/or validated by at-sea observers, fishermen, electronic reporting systems and other means for Pacific saury.</i>	Intersessional work. TWG PSSA03, TWG CMSA02, SSC PS04, SC04.
2020	Identifying data needs and data gaps; Enhancement of data collection: fisheries, surveys, Observer program Development of the combined bycatch taxa list and fish ID guide for scientific observers for the northwestern Pacific Ocean		
2021	Identifying data needs and data gaps; Enhancement of data collection: fisheries, surveys, Observer program		

DATA SECURITY

Year	Tasks	Progress/Comment	Meeting/Activity
2017	Information Security Guidelines	In progress. <i>Development of the Information Security Guidelines (ISG) for both SC and TCC.</i> <i>Adoption of the Interim Guidance for Management of Scientific Data Used in Stock Assessments</i>	SC02 meeting, Apr 2017; Intersessional work by the SWG. COM03meeting, Jul 2017.
2018	Prioritization of areas of the Information Security and Management System and development of Information Security and Management regulations	In progress.	SC03 meeting
2019	Adoption of Information Security and Management regulations	Draft Interim Regulations for Management of Scientific Data and Information	SC04 meeting.
2020	Improvement of Information Security and Management regulations if necessary		
2021	Improvement of Information Security and Management regulations if necessary		

Terms of Reference for the Small Scientific Committee on Bottom Fish and Marine Ecosystems (SSC BF-ME)

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.

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

Annex I

**Scientific data which can be collected and/or validated by at-sea observers, fishermen,
electronic reporting systems and other means for Pacific saury**

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

X - data that can ONLY be collected by observers AT SEA;

xx - data that can be collected by fishermen AT SEA;

v - data which are preferably collected by observers but a degree of cover can be achieved by other means (in-port collection, EM, ERS etc);

***** - data which can be collected equally well by other means.

Interim Regulations for Management of Scientific Data and Information

This Interim Regulations are intended to apply while the NPFC develops comprehensive rules and procedures governing the security of, exchange of, access to and dissemination of data 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.

I. Interim Guidance for Management of Scientific Data

1. Objectives

The objectives of this Interim 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 an interim guidance on handling scientific data.

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.

3. Other scientific data, not included in Members' Annual Reports, submitted for use in stock assessments and ecosystem assessments

The Secretariat should not disclose Members' scientific data 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 when working on matters under consideration by the Scientific Committee/SSCs.

If a Member or cooperating non-Member wishes to cite and/or use these data for work that is intended to be conducted or shared outside of the NPFC, such Member or non-Member should consult with the data provider(s) through the Secretariat, stating 1) the data subject to the request, and 2) the purpose for which the data is intended to be used. The Secretariat should immediately notify the data provider(s) of the request. The data provider(s) should inform the Secretariat within 30 calendar days whether to accept or reject the request. If the data provider(s) reject the request, the data provider(s) should state the reason(s) for the rejection. If the data provider(s) accept the request, the data provider(s) may request an agreed-upon credit line in any subsequently-created product. Those who cited/used data should not distribute the data 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 (SCC, SC, Commission). At the conclusion of the discussions of the group and after summary is complete, the discussion text and documents will be archived by the Secretariat but not maintained on the website except for a summary made by the group facilitator/chair.

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.

NPFC–PICES Framework for Enhanced Scientific Collaboration in the North Pacific**Executive Summary**

The North Pacific Fisheries Commission (NPFC) and the North Pacific Marine Science Organisation (PICES) are inter-governmental organisations with overlapping geographical areas and common scientific interests in the sub-Arctic regions of the North Pacific Ocean. The joint PICES-NPFC Study Group for Scientific Cooperation in the North Pacific Ocean (PICES-NPFC SG) developed a framework that strives to enhance collaboration between the two organisations.

This Framework identified three broad areas of joint interest to PICES and the NPFC on which progress could be made over the next five years. These areas were (i) support for stock assessment for priority species; (ii) vulnerable marine ecosystems; and (iii) ecosystem approach to fisheries. The first two areas were ranked highest for both PICES and NPFC, and the third area was ranked lower. There were other areas that were discussed, but it was recommended not to pursue these areas due to being a lower priority when the framework was developed or they were not aligned with the organisation's research plans and priorities. Some areas (e.g., climate change) were incorporated into the three high priority areas above. As areas of interest and priorities change over time, the joint areas for collaboration may be updated.

The framework identifies various mechanisms for implementing enhanced collaboration between PICES and NPFC including workshops and joint working groups as the key ones in the near term, but also theme sessions at PICES annual meetings, representation at meetings and/or workshops, and coordination of science plans.

Following approval and implementation from both organisations, routine monitoring of the progress of activities will be completed jointly by the Secretariats of PICES and NPFC and reported to the PICES Science Board and the NPFC Scientific Committee on an annual basis during their respective annual meetings.

1.0 Background

The North Pacific Fisheries Commission (NPFC) and the North Pacific Marine Science Organisation (PICES) are inter-governmental organisations with overlapping geographical areas and common scientific interests in the sub-Arctic regions of the North Pacific Ocean.

NPFC is a Regional Fisheries Management Organisation (RFMO) which came into force on 19 July 2015 after ratification of the Convention on the Conservation and Management of the High Seas

Fisheries Resources in the North Pacific Ocean. The objective of the Convention is to ensure the long-term conservation and sustainable use of the fisheries resources in the convention area (Figure 1) while protecting the marine ecosystems of the North Pacific Ocean in which those resources occur. The fishery resources covered by the Convention are all fish, molluscs, crustaceans and other marine species caught by fishing vessels within the Convention area, excluding (i) sedentary species insofar as they are subject to the sovereign rights of coastal states, and indicator species of vulnerable marine ecosystems as listed in, or adopted pursuant to the NPFC Convention, (ii) catadromous species, (iii) marine mammals, marine reptiles, and seabirds, and (iv) other marine species already covered by pre-existing international fisheries management instruments within the area of competence of such instruments. The Commission has several committees that provide information and advice to the Commission for decisions, and is supported by a Secretariat. These committees include the Scientific Committee, the Technical and Compliance Committee, and the Finance and Administrative Committee.

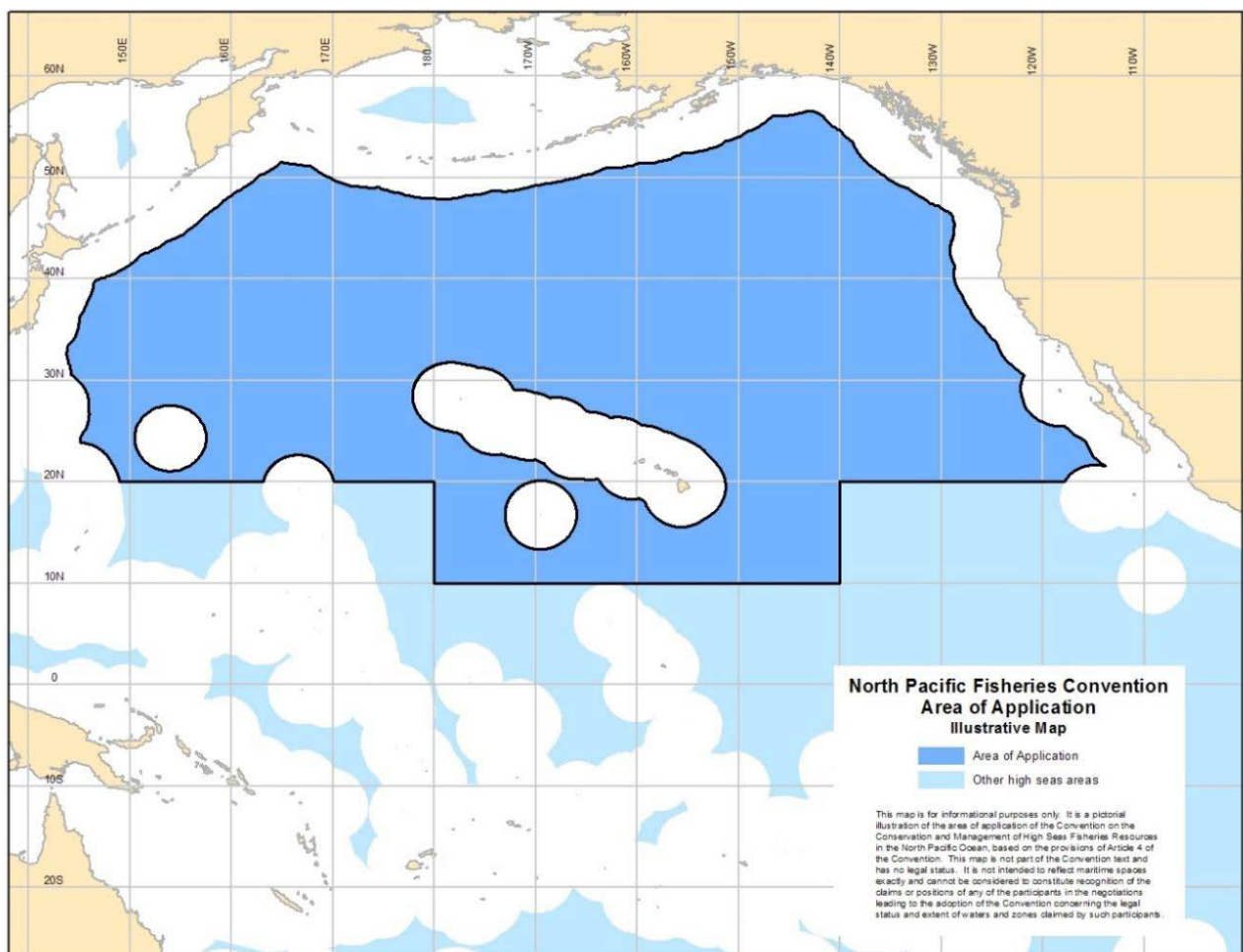


Figure 1: Illustrative Map of the NPFC Convention Area

PICES was established in 1992 to:

- 1) to promote and coordinate marine scientific research in order to advance scientific knowledge of the area concerned and of its living resources, including but not necessarily limited to research with respect to the ocean environment and its interactions with land and atmosphere, its role in and response to global weather and climate change, its flora, fauna and ecosystems, its uses and resources, and impacts upon it from human activities;
- 2) to promote the collection and exchange of information and data related to marine scientific research in the area concerned.

The Organization receives recommendations on the science program from the Science Board, which is supported by a number of permanent scientific and technical committees, along with an assemblage of “expert groups”

The PICES Convention Area is defines as “the temperate and sub-Arctic region of the North Pacific Ocean and its adjacent seas, especially northward from 30 degrees North Latitude, hereinafter referred to as the "area concerned". Activities of the Organization, for scientific reasons, may extend farther southward in the North Pacific Ocean.”

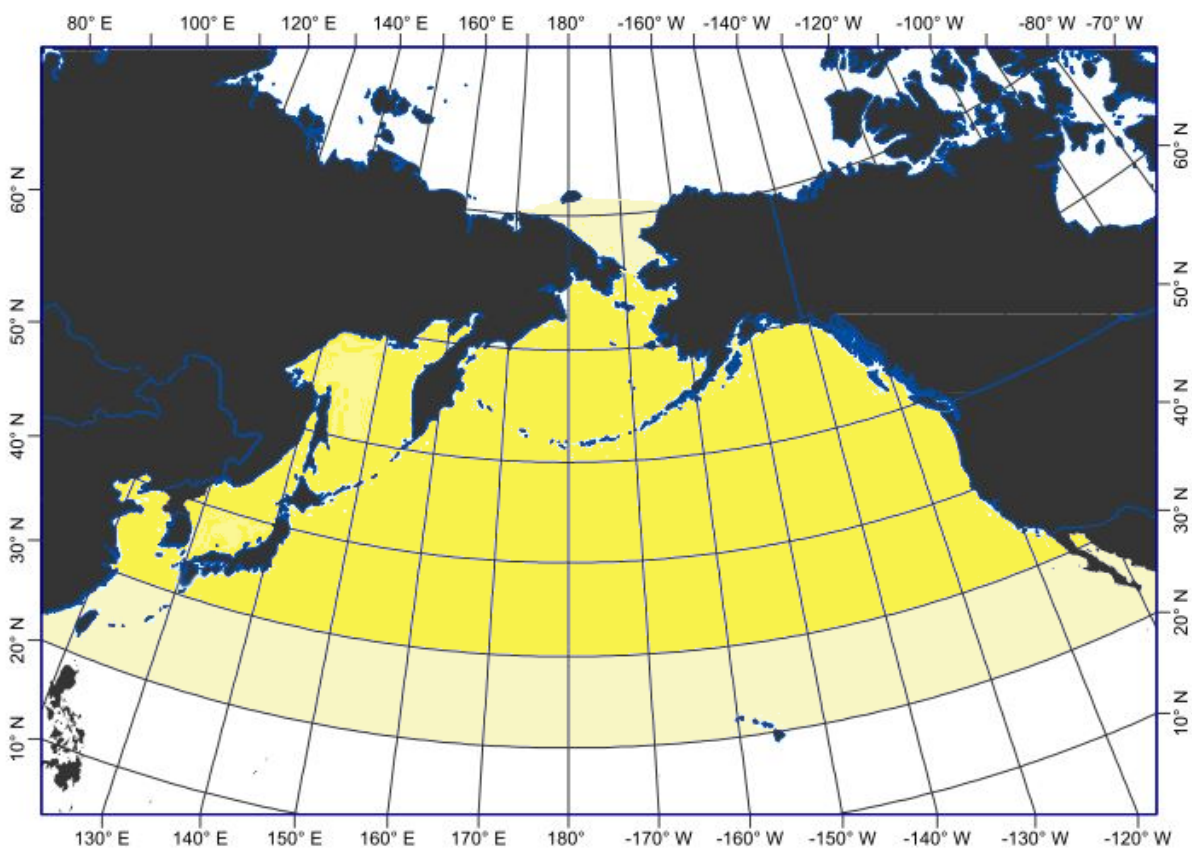


Figure 2: Illustrative Map of the PICES Convention Area

The present PICES members are Canada, Japan, People's Republic of China, Republic of Korea, the Russian Federation, and the United States of America, which are also members of NPFC (note: Chinese Taipei and Vanuatu are also members of NPFC).

Following a number of informal conversations between the two organisations, it was recognised that there was an opportunity to share and build upon each organisation's expertise and activities through enhanced collaboration in order to more efficiently and effectively meet work plans and priorities. As a result, the joint PICES-NPFC Study Group for Scientific Cooperation in the North Pacific Ocean (PICES-NPFC SG) was established in 2017 to determine if there were scientific areas of mutual interest on which both organisations can collaborate, and if so, to identify mechanisms to jointly implement activities that produce desired products and outcomes for each organisation.

Membership of the PICES-NPFC SG comprised of Eddy Kennedy (Co-Chair), Yong Chen, Lisha Guan, Changan Xu, Wei Yu, Daisuke Hasegawa, Kazuaki Tadokoro, Eunjung Kim, Todd Miller, and Robin Brown representing PICES, and Vladimir Kulik (Co-Chair), Toshihide Iwasaki, Seok-Gwan Choi, Tatiana Semenova, Chih-Hao Hsieh, Kari Fenske, and Aleksandr Zavolokin representing NPFC.

The PICES-NPFC SG was formed in October 2017, but was delayed in initiating discussions among members. There were some on-line discussions, and progress was provided to the Scientific Committee of the NPFC in April 2018. As well, PICES participated in the NPFC/FAO Workshop on the Protection of Vulnerable Marine Ecosystems in the North Pacific Fisheries Commission Area: applying global experiences to regional assessments that took place from 12-15 March 2018. In this workshop, PICES provided expert input and shared information and experiences that were pertinent to achieving the workshop objectives, such as the usefulness of species distribution models for predicting the occurrence of VMEs which was advanced in PICES WG 32. Also, NPFC contributed to and participated in the PICES International symposium "Understanding Changes in Transitional Areas of the Pacific" which was held in La Paz, Mexico from 24-26 April 2018. An NPFC expert presented recent situations with Pacific saury stock assessment and considered some marine environmental factors which are and could be included in stock assessment models.

The SG met face-to-face at PICES-2018 in Yokohama, Japan to develop a framework for collaboration that included identifying and prioritising areas of joint interest on which to collaborate, as well as various implementation mechanisms for these activities. Most of the members of the PICES-NPFC SG were present at this meeting as well as the following observers: Anya Dunham

(Canada), Janelle Curtis (Canada), Hyewon Moon (Korea), Ric Brodeur (USA) and Jackson Chu (Canada).

The framework was drafted at the face-to-face meeting and the co-chairs presented progress to the PICES Science Board at PICES-2018. The PICES-NPFC SG committed to continue to finalise the report by email correspondence during the Winter 2018/19, and present the Framework to the NPFC Science Committee in April 2019 and the PICES Science Board in May 2019.

1.1 NPFC Science Priorities

The NPFC Scientific Committee provides scientific advice and recommendations to the Commission. The primary functions of the Scientific Committee are to (i) regularly plan, conduct, and review the scientific stock assessments of the relevant fisheries resources in the Convention Area; (ii) assess the impacts of the fishing activities on fisheries resources and species belonging to the same ecosystem or dependant upon or associated with the target stocks; (iii) develop a process to identify VMEs and areas of features where VMEs occur or are likely to occur; (iv) review effectiveness of management measures and make recommendations to meet Convention objectives; and (v) develop rules and standards for the collection and sharing of data on fisheries resources and associated ecosystems.

In response to these functions, the NPFC developed a 2017-2021 Research Plan which outlines priority research themes, including the rationale and more specific areas of work. These theme areas include (i) stock assessments for target fisheries and bycatch species, (ii) ecosystem approach to fisheries, (iii) vulnerable marine ecosystems, and (iv) data collection, management and security.

Accurate stock assessments are critical in helping to ensure the long-term conservation and sustainable use of fisheries resources in the Convention Area. In NPFC, stock assessments for both pelagic fish (e.g., Pacific saury and chub mackerel) and bottom fish (e.g., North Pacific armorhead, and splendid alfonsino) should strive to understand the current status and trends in production of populations of priority species as well as factors that may affect future trends. Areas of work include developing baseline assessments, reaching consensus on data standards used in stock assessments, and developing a standardized method to provide advice to the Commission.

Making progress on adopting an ecosystem approach to fisheries addresses several articles in the Convention. For example, the Convention makes reference to (i) adopting and implementing measures in accordance with the precautionary approach and an ecosystem approach to fisheries, (ii) adopting management strategies for any fisheries resources and for species belonging to the

same ecosystem or dependent upon or associated with the target stocks, and (iii) assessing 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 identified include vulnerable marine ecosystems and understanding ecological interactions among species.

1.2 PICES Science Plan

PICES engages scientists in trans-disciplinary, multi-national collaborations to further collective understanding of the North Pacific's natural systems and enhance ecological and social resilience of marine systems. As part of its vision, PICES aspires to be a leading contributor to global marine science, sought as a valued collaborator to solve current and future management issues as they emerge, and to be recognised as the premier organisation for current research and understanding of North Pacific marine ecosystems. The scientific leadership for the organisation is through the Governing Council and Science Board which are supported by the Secretariat. The scientific work of PICES is conducted primarily by expert groups, which consist of (i) working groups, (ii) study groups with a one to three year duration to achieve the results described in their terms of reference, as well as (iii) advisory panels and (iv) sections which provide longer-lived expert groups to maintain specific expertise within PICES. The Scientific and Technical Committees are responsible for the planning and direction of the major disciplinary themes, and for providing general supervision to the expert groups.

The PICES Strategic Plan (April 2016), outlines six specific goals to meet its vision and advance scientific knowledge. These goals are:

1. Foster collaboration among scientists within PICES and with other multinational organisations, particularly with those that have common goals.
2. Understand the status and trends of marine ecosystems in the North Pacific, and improve assessment of the vulnerability and resilience of these ecosystems to pressures from climate and human activities.
3. Understand and quantify how marine ecosystems respond to natural forcing and human activities.
4. Advance methods and tools (e.g., oceanographic models, ecosystem indicators, etc.) to enable new knowledge and improved advice over seasonal to decadal timescales in support of ecosystem based management.
5. Provide relevant scientific information pertinent to North Pacific ecosystems that is timely and broadly accessible.
6. Engage with early career scientists to sustain a vibrant and cutting edge PICES scientific community.

PICES activities are further guided by its current 10-year integrated research program FUTURE: Forecasting and Understanding Trends Uncertainty and Responses of North Pacific Marine Ecosystems. FUTURE is an integrative science program with a goal to understand and communicate the future of North Pacific ecosystems and the potential impacts from human use. More specifically, the program seeks to understand how marine ecosystems in the North Pacific respond to climate change and human activities, to forecast ecosystems status based on contemporary understanding of how nature functions, and to communicate new insights to its members, governments, stakeholders, and the public.

1.3 Contributions to Other Science Initiatives

Future collaborations between PICES and NPFC would contribute to other international science initiatives. One in particular is the UN Decade of Ocean Science for Sustainable Development. This initiative came into being at the seventy-second session of the United Nations General Assembly (UNGA) within Part XI of the Omnibus Resolution for Oceans and the law of the sea relating to Marine Science. The resolution stated that the UN Decade of Ocean Science for Sustainable Development will be for the 10-year period beginning on 1 January 2021, within existing structures and available resources, and calls upon the Intergovernmental Oceanographic Commission to prepare an implementation plan for the Decade in consultation with Member states, specialized agencies, funds, programmes, and bodies of the United Nations, as well as other intergovernmental organisations, non-governmental organisations and relevant stakeholders. The endorsement by UNGA of the Decade highlights the need and role of ocean science data and information exchange for sustainable development. With the two main goals of (i) generating the scientific knowledge and underpinning infrastructure and partnerships needed for sustainable development of the oceans, and (ii) providing ocean science, data, and information to inform policies for a well-functioning ocean in support of Agenda 2030, this PICES-NPFC Framework for Collaboration is well aligned with contributing to UN Decade of Ocean Science for Sustainable Development. In 2019, there may be relevant regional workshops where both PICES and NPFC can participate to not only support the goals of the Decade but also to advance the areas of scientific collaboration identified in this framework.

2.0 Objectives

The objectives of this framework is to address the Terms of Reference of the PICES-NPFC SG which are:

1. Review the scientific interests and objectives of each organization;

2. Identify potential areas and specific topics for scientific cooperation;
3. Identify potential collaborative methods (such as representation at each other's meetings, holding of joint workshops or symposia, development of a Memorandum of Understanding (MOU) between the organizations or other formal agreements, establishment of joint working groups);
4. Clarify practical steps to advance the cooperative activities identified above;
5. Provide advice on how information produced by PICES can be shared and applied in NPFC;
6. Make a specific proposal to each organization for further consideration.

Specifically for NPFC, some key objectives are to reduce duplication of effort, increase leveraging of time and resources with PICES, and to acquire impartial scientific information and advice to support policy and decision making within the North Pacific Convention area. PICES also share these objectives as well as the objective to be more relevant to Regional Fisheries Management Organisations (RFMOs), such as NPFC, by providing the needed objective scientific advice for decision making. Further, for both organisations, the intent is for productive, mutually beneficial collaborative initiatives, which is to say that the areas for collaboration need to make sense for both organisations. To support the success of this Framework for Enhanced Collaboration, efforts will be focused on areas that are high priority for both organisations to advance over the next five years.

3.0 Scientific Areas of Joint Interest

The PICES-NPFC SG identified several topics of joint interest, but came to consensus on three priority areas that are ranked according to making progress over the next five years. For each area identified, discussions focused on whether each organisation viewed the area to be a priority and the specific interests in the area for each organisation. Determining whether the research area was a priority for future collaborative work involved consideration of several criteria including:

- Aligns with organisation's goals and objectives and existing research plans and priorities
- Potential outputs/benefits from the work area well-defined and relevant
- The timelines for when scientific results and advice are required
- The level of impact and likelihood that the project outputs will be utilised
- Likelihood of success (i.e., are the project objectives likely to be achieved)

Table 1 in the Appendix summarizes all scientific areas for collaborations that were identified, the three areas that were recommended for joint activities, and potential activities that can be implemented over the next five years for each area. Below the three priority areas of joint interest are discussed in more detail.

3.1 Support for Stock Assessments for priority species

Stock assessments for target fisheries and bycatch species have the highest priority among the research areas of the NPFC. There are six fish species and two squid species which were recognized by the Scientific Committee as priority species: Pacific saury (*Cololabis saira*), Chub mackerel (*Scomber japonicus*), Spotted mackerel (*Scomber australasicus*), Japanese sardine (*Sardinops melanostictus*), North Pacific armorhead (*Pentaceros wheeleri*), Splendid alfonsino (*Beryx splendens*), Neon flying squid (*Ommastrephes bartramii*), and Japanese flying squid (*Todarodes pacificus*). The highest priority belongs now to the species with decreasing catch (i.e., Pacific saury and North Pacific armorhead) and increasing catches (i.e., Chub mackerel and Japanese sardine). These species are also relevant for many PICES Committees and Working Groups since these squid and fish species are suspected to be very sensitive to environmental changes, in particular during early life history stages. Given that many of the priority species are short lived and their abundance fluctuates significantly year to year, recruitment rate may not be determined by the number of spawners in any deterministic one-way interaction. Rather, oceanography and climate are suggested to be main drivers not only for distribution patterns at different spatial scales but also for survival success. PICES participants have a long history of developing and validating saury, mackerel, sardine and squid distribution models, collecting ecosystem time series observations (ETSO), and using simulation studies to predict the consequences of changes / variability in key environmental parameters on populations in space and time. Thus, the common question to be resolved is what methodologies are most appropriate to incorporate environmental variables, which may affect stock status and distribution estimates, into stock assessments.

3.2 Vulnerable Marine Ecosystems (VMEs)

Internationally, steps have been taken to protect marine biodiversity of vulnerable marine ecosystems (VMEs). According to the [International Guidelines for the Management of Deep Sea Fisheries in the High Seas](#) (FAO 2009), the criteria for identifying VMEs are: uniqueness or rarity, functional significance of the habitat, fragility, life-history traits that make recovery difficult, and structural complexity. PICES and NPFC share a common objective of promoting marine research that helps ensure the long-term conservation and sustainable use of the fisheries resources while protecting the marine ecosystems in which these resources occur. There are several areas of possible collaboration between NPFC and PICES on VMEs. Focused research topics may include:

- (1) Increasing scientific knowledge of biodiversity associated with known seamounts in the North Pacific, including identification of endemic species and distribution patterns of vulnerable taxa;

- (2) Increasing scientific understanding of the functional relationships within the ecosystem, with a special focus on the complex dependency of fishing resources and benthic species within VMEs;
- (3) Identification of suspected VMEs in the Convention Area through predictive modeling and empirical observations (visual survey tools, fishery-independent data, where possible, or landed bycatch).

These and other research projects on VMEs will (1) contribute towards PICES FUTURE goals to understand how marine ecosystems in the North Pacific respond to climate change and human activities, (2) support decision making regarding significant adverse impacts (SAIs) of bottom fisheries on VMEs, exploratory fisheries and encounter protocol, and (3) aid implementation of NPFC Conservation and Management Measures for bottom fisheries and protection of VMEs in the NW and NE Pacific Ocean.

3.3 Ecosystem Approach to fisheries

The NPFC is willing to adopt, where necessary, conservation and management measures for species belonging to the same ecosystem or dependent upon or associated with the target stocks. Based upon this, the NPFC's Scientific Committee shall assess the impacts of fishing activities on both the targeted fisheries resources as well as species belonging to the same ecosystem or dependent upon or associated with the target stocks. However, to date, with the exception of certain VME studies, no ecosystem considerations have been incorporated within science advice on fisheries. PICES integrates Scientific Programs undertaken by the member nations and affiliates of PICES to understand how marine ecosystems in the North Pacific respond to climate change and human activities, to forecast ecosystem status based on a contemporary understanding of how nature functions. There are four active PICES Working Groups (i.e., (i) Third North Pacific Ecosystem Status Report; (ii) Common Ecosystem Reference Points across PICES Member Countries; (iii) Climate and Ecosystem Predictability; and (iv) Marine Ecosystem Services) which could make a tremendous contribution in providing advice on the state of the art ecosystem modeling techniques and methods to estimate "health" of the North Pacific in particular in the areas where NPFC's priority species occur and co-occur. Realising that there is an endless scope for research direction in this area, the short-term goal for this collaboration would be to develop a research plan to enable ecosystem considerations to be incorporated into a fisheries management approach.

4.0 Collaboration Mechanisms

There are many potential mechanisms for enhancing collaboration and making progress in the priority areas identified in Table 1. Some of these, which have been identified in other Frameworks for joint collaboration with PICES, include:

- Workshops
- Joint working groups
- Theme sessions at PICES annual meetings
- Representation at meetings and/or workshops
- Coordination of science plans

In the short term, the preferred mechanism is workshops as a venue to identify knowledge gaps and discuss opportunities and research needs to address these gaps. From these workshops, further recommendations could be made on joint activities (e.g., joint working groups) to enhance collaboration on specific activities. In addition, the workshop could define a terms of reference for a joint working group.

4.1 Workshops

PICES and NPFC have been co-sponsoring and participating in each other's workshops throughout their mutual history. New and emerging issues often demand innovative and multidisciplinary approaches. The ability to deal with and resolve new concepts is likely to be enhanced by the bringing together of PICES and NPFC expertise in co-sponsored workshops. NPFC held a joint workshop with FAO in March 2018 on *the Protection of Vulnerable Marine Ecosystems in the North Pacific Fisheries Commission Area: applying global experiences to regional assessments* where PICES experts were invited to provide expert input to the discussions. The workshop made recommendations for future work, and these recommendations may be used to establish joint research activities or working groups that can focus on specific objectives. Moreover, there is a joint PICES-NPFC workshop (W11) on *The influence of environmental changes on the potential for species distributional shifts and subsequent consequences for estimating abundance of Pacific saury* to be held at the 2019 PICES Annual Meeting. This workshop was proposed by the PICES-NPFC SG on Enhanced Scientific Collaboration in the North Pacific.

4.2 Joint Working Groups

Joint working groups represent one of the most effective mechanisms for collaboration and cooperation when there is a need to focus on a specific topic with specific deliverables defined by a terms of reference. In general, joint working groups would be formed following one or a series of meetings and/or workshops that are organised on a common theme. Thus, effective planning is a crucial element of successfully establishing a new and productive working group. Typically in PICES, a working group has a typical duration of three years. Under this PICES-NPFC Framework, it is recommended that joint Working Groups can be of any duration that is necessary to complete the Terms of Reference, but not longer than three years, except on a case-by-case basis where extensions are required.

4.3 Theme sessions at PICES annual meetings

Joint topic sessions at PICES annual meetings could be a potential mechanism for collaboration between PICES and NPFC. There are numerous past examples of sessions that PICES has co-convened with other organisations where the benefits of sharing research findings and expertise have been demonstrated, such as joint sessions with ICES (International Council for the Exploration of the Seas), NOWAP (Northwest Pacific Action Plan), and ISC (International Scientific Committee for Tuna and Tuna-like species in the North Pacific Ocean). Convening topics sessions at NPFC Scientific Committee annual meetings is not a mechanism used by NPFC for the review of the science. This is done via Small Scientific Committees (SSCs) and technical working groups focused on specific areas.

4.4 Representation at meetings and/or workshops

Both PICES and NPFC have a history of having representatives from other organisations participate in meeting and workshops where they can report on their organisation's activities of interest. It is recommended that both organisations consider inviting one or more representatives from the other organisation to participate in the Scientific Committee (for NPFC) and Science Board (for PICES) to update the bodies on the research activities ongoing and research priorities for the future. Many of the science experts that participate in the NPFC SSCs and Scientific Committee are also members of PICES expert groups, thus representation within each organisation is already strong.

4.5 Coordination of science plans

To further promote collaboration in many of the activities identified in Table 1, PICES and NPFC could include share elements in their respective science/research plans.

5.0 Monitoring and Reporting

Following the approval and implementation of this framework by the respective bodies of PICES and NPFC (i.e., the Science Board and the Scientific Committee), this Framework will continue for a period of five years at which time it will be reviewed to assess the progress on the areas identified in Table 1, and to identify new areas for collaborations. The review should also assess the collaboration mechanisms by identifying which ones were employed, the utility of those mechanisms in achieving desired results, and identify new mechanisms for future joint collaboration.

On an annual basis, there will be a progress report prepared by the Secretariat for each organisation

that is available for members. This progress report should be common for both, be a summary of all joint activities between PICES and NPFC (including status of each activities and actions required to progress on objectives), and be prepared in collaboration by both Secretariats. Further, this progress report will be presented annually at the PICES Science Board and the NPFC Scientific Committee annual meetings as part of a standing item on their agendas. If modifications / alterations are required to joint activities to enable enhanced productivity and success, these recommendations will be approved by both the PICES SB and/or NPFC SC (via correspondence if necessary).

For any joint activity that is completed, the co-convenors will prepare a summary report of the activity and it will be available for all members of both organisations.

6.0 Other Considerations

When identifying recommendations for activities under the joint areas for scientific collaboration, other considerations need to be evaluated, including costs to the organisations in terms of financial as well as human capital and time. Some recommendations to alleviate these costs include:

- Using existing travel opportunities to established events, such as PICES and NPFC annual meetings. Economic efficiencies are realised even if the duration at a location must be extended by a day or two.
- Utilise on-line correspondence to the maximum extent to achieve deliverables, to prepare for face-to-face meetings, and to finalise reports.
- Minimise the number of annual meetings and create efficiencies within existing meeting as much as possible.

It is recognised that in certain cases where the work effort is intense (e.g., over a three day period) to get the desired result, it is more effective to host a separate meeting with the additional financial and human capital costs, since the ultimate goal is to deliver on an objective. When additional costs are required, additional approvals also are likely required via the Governing Council for PICES and the Commission for NPFC.

TABLE 1: Recommended joint PICES-NPFC research areas and associated rank, interest, potential activities, and priority within next five years

Research Area	PICES Rank	NPFC Rank	PICES Interest	NPFC Interest	Potential Activities	Priority (5 years)
Support for Stock Assessments for priority species - How to include environmental variables that may affect stock status and distribution - Higher order modelling approaches that consider variability of multiple parameters	High	High	Methodologies incorporating multiple variables, such as ecosystem time-series observations under North Pacific Ecosystem Status Reports (NPESR)	Methodologies that can enhance estimation of stock status; provide scientific justification for breaks in time series based on regime shifts in indices; science advice on how to best incorporate available information	Joint workshop at PICES 2019 to identify specific areas on which to focus considering priority areas, data availability, desired outcomes, etc.; Joint WG(s) to address activities identified in the joint workshop; Sharing scientific results when they become available	High
Vulnerable Marine Ecosystems (VMEs)	High	High	Understanding biogenic habitat structure and function and importance to ecosystem services; WGs (e.g., WG 32)	Science support required for analysis of known and suspected VMEs in convention area; Use of SDM and HSM, particularly in unfished areas, to support	FAO-NPFC VME workshop in March 2018, with invited expert support from PICES, identified several recommendations for further science activities to advance assessment	High

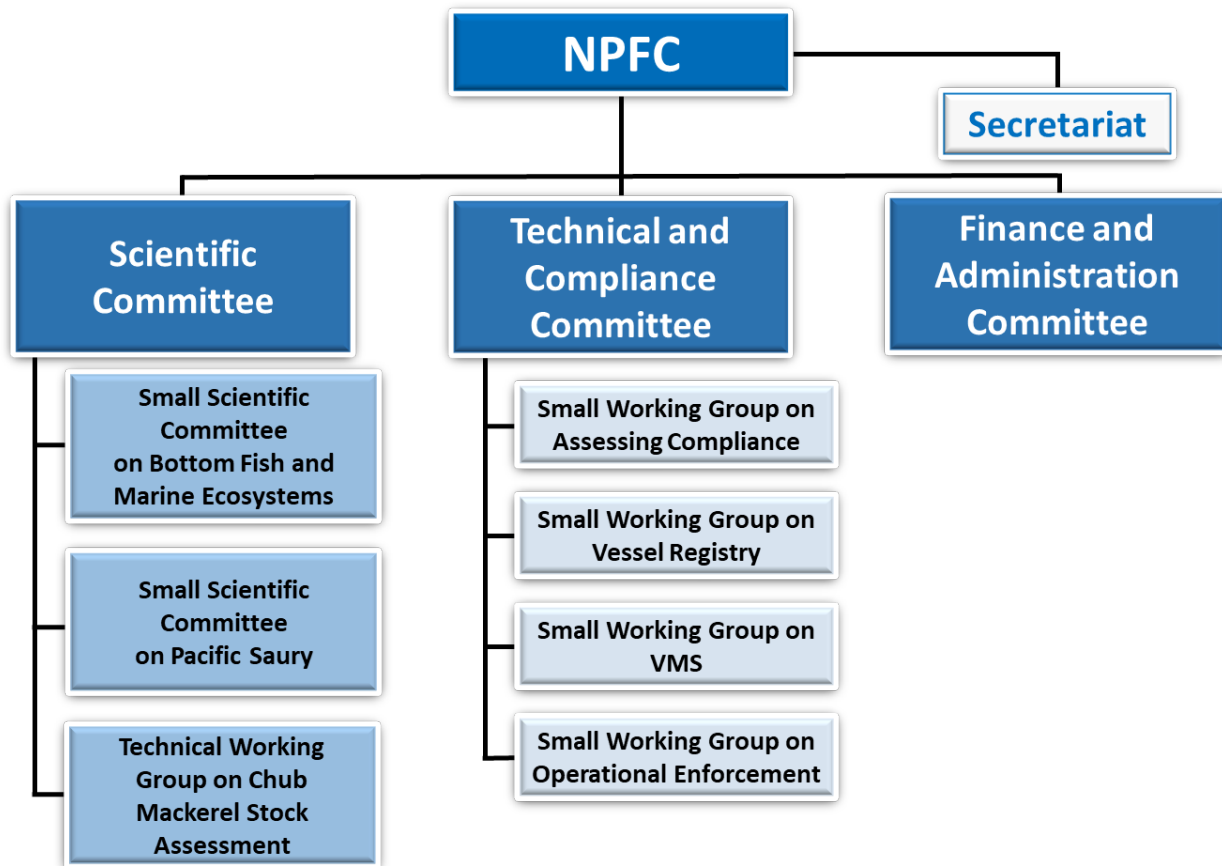
			<p>have completed work in these areas;</p> <p>Have participated in workshops with NPFC; future considerations on biodiversity of seamounts.</p>	<p>identifying where VMEs are located and to aid in identifying potential new areas for fishing;</p> <p>VMEs assessment part of Conservation and Management Measures (CMMs) for bottom fisheries and protection of VMEs;</p> <p>Small Scientific Committee (SSC) established on VMEs.</p>	<p>and analysis of VMEs in the North Pacific;</p> <p>Sharing scientific results when they become available;</p>	
<p>Ecosystem Approach to Fisheries</p> <p>- Scope to be defined but it was agreed to make progress in this area in incremental steps, for example the advice on fishing effort would include target stock status as well as impact of fishing effort on other key stocks, impacts of environmental</p>	Med-high	Med	<p>Incorporate environmental variables and biological linkages within ecosystem models;</p> <p>Effort ongoing on advancing ecosystem models to understand</p>	<p>Commitment to formulate a research plan to enable ecosystem considerations to be incorporated into a fisheries management approach;</p> <p>Support UN and FAO interests and commitments;</p>	<p>Joint workshop or session in 2020 or later to discuss options for advancing this area.</p> <p>Sharing scientific results when they become available;</p>	Medium

<p>variability on future target stock abundance, impacts of management decisions on human systems, etc.</p> <ul style="list-style-type: none"> - There is high potential that activities under “Support for Stock Assessment” will address some of the initial objectives under this area. 			<p>impacts of stressors to ecosystem structure and function rather than assessing stock status;</p>			
<p>Climate change</p> <ul style="list-style-type: none"> - Factors effecting distributional changes of fish stocks due to changes in the environmental parameters including teleconnections with factors outside of the CA of the NPFC such as melting ice - Impact of ocean acidification 	High	Med	<p>Impacts on species / habitats; oceanographic process changes; some activities completed or ongoing (e.g., POC and BIO).</p>	<p>Shifting of fishing areas due to habitat changes; impacts on targeted stocks and distribution; impact of ocean acidification on corals</p>	<p>Ranked medium-high as a priority, but it was decided to incorporate relevant project areas under the other three areas above.</p>	<p>Medium-High</p>
<p>Data management (collection and sharing and security)</p>	High (for sharing scientific	Low	<p>For PICES to provide advice, access to data and products is</p>	<p>Raw data is not accessible to external parties, and only used for the stock</p>	<p>Decided this was not an area where joint work was required. Important to encourage sharing of</p>	

	results)		required (similar to published NPAFC data).	assessments by Members of the NPFC; available data products are accessible on the website depending on the membership in different subsidiary bodies.	scientific results.	
Ocean Acidification (OA)					Decided this was an important consideration but not immediately relevant to NPFC priority fish species. Move area to be considered under VMEs.	
Management Strategy Evaluation (MSE)	Med	Med		NPFC has started activities on the MSE-based management approach for its priority species (BRP/HCR/MSE workshop in March 2019) and it may be something that NPFC would have interest in	Decided this was not an area that would be a priority for joint work over the next 5 years	

				pursuing through collaborative work with PICES, but not in the short term		
Microplastics	Med	Low			Decided this was not an area where joint work was required over the next 5 years	
Human activities pressures and impacts	Med	Med-low		Impacts of spatial management areas on other activities; engagement with other stakeholders	Recognised that the human dimension aspects of work needed to be considered in management actions, but it was decided that this area was not a priority over the next 5 years.	
Enhanced communications					Decided it was not a stand alone area, but needed to be incorporated within all areas for collaboration.	

North Pacific Fisheries Commission structure including proposed revision by the Scientific Committee



North Pacific Fisheries Commission
4th Meeting of the Technical and Compliance Committee

11-13 July 2019
Tokyo, Japan

REPORT

Agenda Item 1. Opening of Meeting

1. The 4th Meeting of the Technical and Compliance Committee (TCC) took place in Tokyo, Japan on 11-13 July 2019, and was attended by Members from Canada, China, Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, the United States of America, and Vanuatu. The meeting was opened by Dr. Robert Day (Canada) who served as the TCC Chair.

Agenda Item 2. Appointment of Rapporteur

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

Agenda Item 3. Admission of Observers

3. The Chair listed approved observers present. The meeting was attended by the European Union, Panama, the North Pacific Anadromous Fish Commission (NPAFC), Global Fishing Watch, the Organization for Regional and Inter-regional Studies of Waseda University of Japan and the Pew Charitable Trusts. The observers were admitted without objection.

Agenda Item 4. Adoption of Agenda

4. The TCC agreed to discuss Agenda Item 7.2.1 in conjunction with Agenda Items 9.2 and 9.3, and Agenda Item 7.2.3.b.i) in conjunction with Agenda Item 9.1.
5. The revised provisional agenda was adopted (Annex A). The List of Documents and Participants List are attached (Annexes B, C).

Agenda Item 5. Chair's Reflections

6. The Chair summarized the progress and pending tasks of the TCC, based on its work plan. To date, the TCC has transitioned to an electronic reporting and vessel registry system, developed an Interim Vessel Register, established four Small Working Groups (SWGs) for advancing the various work streams of the TCC, and developed and implemented high seas boarding and

inspections (HSBIs). The Commission has adopted nine CMMs which all have a component of compliance. As for pending tasks, the TCC is presenting a draft CMM for a regional VMS at this meeting and needs to agree on a plan for implementing the regional vessel monitoring system (VMS), review and complete the development of a compliance monitoring system (CMS), develop an observer program and consider updating the interim transshipment scheme. As with other regional fisheries management organizations consideration could also be given to the potential need for port state measures, and further develop data management and security measures.

Agenda Item 6. Review of MCS-related Issues from SC

6.1 Observer Program

7. The Secretariat presented an update on the work of the Scientific Committee (SC) towards the development of a science observer program. The SC has reviewed the existing observer programs of NPFC Members and the observer programs of other RFMOs. Based on this it has considered the need for NPFC science observer programs for priority species.

6.2 Other Issues from SC

8. The Secretariat explained that the SC has identified two issues that may require the attention of the TCC:

- (a) Changes proposed by the SC to CMMs 2018-05 and 2017-06
- (b) The SC noted that the reporting of information on the number of vessels licensed to fish each priority species may also facilitate the work of the TCC.

Agenda Item 7. Progress Report on TCC Work Plan

7.1 Brief Overview of North Pacific Fisheries

9. The Secretariat presented a brief overview of the NPFC fisheries addressing each fishery (NPFC-2019-TCC04-IP01 (Rev 1)) as well as a brief overview of the work of the four SWGs and considerations for TCC. It was noted that all Members complied with the requirement for no increase in authorized fishing vessels. The bottom fisheries appear to remain in the current state where no high recruitment has been seen to date. Catches in the Pacific saury and chub mackerel fisheries appear to have increased from 2017. Catches increased with reduced effort for Japanese sardines. The squid fishery attracted little effort in 2018.

10. Japan emphasized the need for the NPFC to design and implement a monitoring and control system for at-sea transshipment activities, noting that approximately 85% of the fish harvested in the NPFC Convention Area is transshipped. Japan pointed out that the NPFC is behind other RFMOs in this regard and suggested that this issue be given priority in the TCC's work in the coming year.

7.2 SWG Lead and Co-Lead Updates from intersessional work on the TCC Work Plan 2018-2019

7.2.1 SWG VMS

11. Japan provided an update on the intersessional work of the SWG VMS, which was tasked with proposing a regional VMS and the hiring of a consultant (Collecte Localisation Satellites (CLS)) by the Secretariat to develop a detailed regional VMS design and implementation plan.
12. Japan presented the policy issues that needed to be considered when developing the regional VMS (NPFC-2019-TCC04-IP06). Japan proposed that the SWG VMS could address the technical issues itself, based on the TCC's recommendations on the policy issues.

a. Regional VMS Design and Implementation Plan

13. CLS presented a summary of the consultancy for the development and implementation of the NPFC Regional VMS (NPFC-2019-TCC04-IP02). In terms of the design, CLS has identified minimum technical requirements, made recommendations in relation to the various elements, and estimated indicative costs. As for implementation, CLS provided advice on the specifications that need to be determined by the TCC.
14. Japan provided an update on the work of the SWG VMS to draft text for a CMM on VMS.
15. Canada presented an overview of the draft NPFC Data-Sharing and Data-Security Protocols for VMS Messages as proposed by the SWG VMS (NPFC-2019-TCC04-WP04).

7.2.2 SWG Vessel Registry

a. Fishing Effort Indicators

16. The Secretariat provided an update on the work to address fishing effort indicators by the SWG on Vessel Registry (SWG VR), noting that this was an uncompleted task and hence ongoing for the intersessional period.
17. The TCC urged all Members to ensure that their data reporting is complete.
18. The TCC noted that the number of active vessels may be a better indicator of effort than the number of authorized vessels, which is the current measure in CMM 2017-07 for Chub Mackerel and CMM 2017-08 for Pacific Saury. However, it was noted by one Member that this was not really a compliance issue and should be a subject for discussion at the Commission and not TCC.

Recommendation: That the Commission task TCC, working with SC, to develop advice on effort indicators, including for CMMs 2017-07 and 2017-08, that would effectively control fishing effort.

b. Member use of the online Vessel Registry

19. The Secretariat provided a review on the use of and changes to the online Vessel Registry. All but one Member is currently using the online Vessel Registry.

c. Vessel Marking and IMO Number – Implementation Status

20. The Secretariat reminded Members that all vessel information requirements in the Annex of CMM2018-01, including the International Maritime Organization (IMO) number which will come into force on 1 January 2020, are mandatory, and encouraged all Members to update and complete the information for their vessels on the vessel registers.

d. Fishing Gear Coding

21. The Secretariat reminded the TCC that at TCC03 it was pointed out that a number of important fishing gear types used in the NPFC Convention Area are not included in the Food and Agriculture Organization's (FAO's) International Standard Statistical Classification of Fishing Gear (ISSCFG). Based on this, the Secretariat submitted a request to the FAO that such gear be included in the ISSCFG. The FAO has since added jiggers and stick-held dip nets.
22. The TCC suggested that it could update the NPFC fishing gear list, aligning it with the FAO ISSCFG as much as possible and adding any missing gear. The NPFC could then submit the updated list to the FAO for use in the FAO's next update to the ISSCFG.

Recommendation: That the Commission task the TCC with updating the NPFC fishing gear list and aligning it, to the extent possible, with FAO.

e. Interim Register – Paragraph 18 of CMM 2018-01

23. The Secretariat noted that, in accordance with Paragraph 18 of CMM 2018-01 on Information Requirements for Vessel Registration, the Interim Register for non-Member Carrier Vessels shall expire 60 days after the Annual Regular Session of the Commission in 2019 unless the Commission decides otherwise at its Commission Meeting in 2019.
24. The Secretariat presented a summary of the responses from Members with their assessments of the NPFC Interim Vessel Register (NPFC-2019-TCC04-WP01). China and Chinese Taipei responded requesting the extension of the Interim Vessel Register.

25. The TCC discussed the Interim Vessel Register and, taking into account Panama's application for CNCP status, considered three options: that the Interim Vessel Register be extended for three years, that it be extended until the end of the current fishing season, or that it be allowed to expire as defined in the current CMM. There was no consensus on this matter in TCC04.
26. The Secretariat reported that it had sent two letters to the flag States of non-Member Carrier vessels in August and again in October 2018 to note the proposed expiration of the Interim Non-Member Carrier Vessel Register to encourage them to become Cooperating non-Contracting Parties (CNCPs) as tasked by the Commission. The Secretariat reported that it has received an application from Panama for CNCP status and an inquiry from Liberia indicating its interest in applying for CNCP status.
27. The TCC considered Panama's application under Agenda Item 8.1.2.
28. Regarding Liberia's indication of interest, the Secretariat explained the process and sought advice from Members as to whether to pursue this interest by Liberia intersessionally or await their possible proposal for the next TCC meeting.
29. The Members recommended that Liberia follow the Rules of Procedure and that any application would be considered at TCC05/COM06.
30. Japan pointed out that, other than Panama and Liberia, no other non-Member carriers have responded to the letters from the Secretariat.

f. Member and non-Member carrier vessels and chartering of fishing vessels

31. The Secretariat explained the lack of clarity regarding who was responsible for vessels under charter arrangements, noting that this issue has not yet been addressed by the TCC.
32. The TCC noted the issue and agreed to consider it further at a future meeting.

Recommendation: That the Commission task the TCC with providing clear advice for TCC05/COM06 regarding responsibility for vessels under charter arrangements.

33. The United States noted that Article 94 of the United Nations Convention of the Law of the Sea, which states that a flag State has exclusive jurisdiction and control over its fishing vessels on the high seas, is relevant to determining responsibility.

g. Transshipment Monitoring Scheme

34. The Pew Charitable Trusts presented research on the use of AIS for analyzing fish carrier activity in 2016 in the area of overlap between the NPFC Convention Area and the Western and Central Pacific Fisheries Convention Area (NPFC-2019-TCC04-OP02).
35. Global Fishing Watch presented research on the use of AIS data and remote sensing techniques to monitor fishing activities in the NPFC Convention Area (NPFC-2019-TCC04-OP01).
36. The Secretariat presented a review of the possible approaches for monitoring “vessels of interest,” including for transshipment (NPFC-2019-TCC04-IP05).

h. Vessel Registry process issues:

- i) Listing of approved vessels vs. previously authorized vessels*
 - ii) Authorization periods and notification requirements (back-dating / forward-dating)*
 - iii) Vessel Nomenclature*
 - iv) Incomplete registration data vis-à-vis Annex A to CMM 2018-01*
37. The Secretariat presented a summary of the current status of the Vessel Registry (NPFC-2019-TCC04-IP03).
 38. The TCC noted the issues identified by the Secretariat and agreed they needed further consideration.

Recommendation: That the Commission task the TCC with addressing the outstanding issues related to the Vessel Registry identified by the Secretariat for TCC05 and COM06.

i. Direct Entry and Refinements

39. The Secretariat provided information related to direct entry of vessel information by Members into the vessel registry system.

Recommendation: That the Commission encourage Members to make full use of the direct online system for registering their fishing vessels and ensure that all data required in Annex A of CMM 2018-01 are included.

j. Vessel Data Sharing with the Food and Agricultural Organization (FAO) Global Record

40. The Secretariat provided information related to the possible sharing of information with the FAO.

Recommendation: That the Commission task TCC to consider this opportunity and provide advice at TCC05/COM06.

7.2.3 SWG Assessing Compliance

a. Electronic Annual Reporting System

41. The Secretariat provided an update on the status of the development of the Electronic Annual Reporting System and explained that the system should make Members' annual reporting work more efficient.

Recommendation: That the Commission endorse the continued work of the Secretariat to develop the Electronic Annual Reporting System.

b. Compliance Monitoring Scheme

i) CMS Plan

42. The United States provided an update on the work of the SWG on Assessing Compliance (SWG AC) to develop the NPFC CMS.

c. NPFC Sustainable Use and Conservation Handbook

43. Canada provided an update on the work to develop the NPFC Sustainable Use and Conservation Handbook and suggested that a draft could be prepared intersessionally and presented to the next TCC meeting.

Recommendation: That the Commission endorse the continued work of the TCC to complete a draft NPFC Sustainable Use and Conservation Handbook for consideration at TCC05/COM06.

7.2.4 SWG Operational Enforcement

a. High Seas Boarding and Inspection

i) Implementation Plan Status

44. The United States provided an update on HSBI implementation. Three Japanese patrol vessels, one US Coast Guard vessel, and three Chinese Taipei patrol vessels have been registered and authorized to conduct HSBI. Two Russian Coast Guard vessels have been registered and will be authorized to conduct HSBI at the end of August 2019. Members have been meeting the requirements for inspector and boarding crew training, notifications to the fishing fleets and the translated questionnaires for HSBI boarding questions. The SWG for Operation Enforcement (SWG OE) has also discussed and proposed a standardized violation case package.

ii) Operational Updates

45. The United States, as SWG OE co-lead, noted that Japan has conducted three HSBI in which no violations were found. The US has conducted three HSBI, in which one serious violation was found (CMM2017-09, Paragraph 38(a)).

46. During the discussion of the operational updates, the TCC also noted that four carrier vessels were removed from the NPFC Approved Vessel List upon the request of China, after notification from the Secretariat and Panama.
47. Japan reported that, in the course of conducting HSBI, its vessels sighted two Chinese-flagged vessels fishing for Pacific saury without NPFC registration. In the subsequent interviews with the captains of the vessels, it was discovered that these vessels have been doing so for several years. The two vessels have since been registered with the NPFC. Japan will consult with China and may propose their inclusion on the IUU vessel list at the next TCC meeting.
48. China gave a brief introduction of institutional reforms of the China Coast Guard (CCG). It also presented a typical CCG investigation of a high-seas illegal fishing case. China explained that it plans to register two vessels for conducting HSBI in the NPFC Convention Area and presented its proposed patrol plan for the coming year.

iii) Standard Violation Case Package

49. The United States, as SWG OE co-lead, provided an update on the work of the SWG OE to develop the Standard Violation Case Package (Annex D). The SWG OE has developed abbreviated case package requirements, in the case that no violation is found and additional requirements in the case that a violation is found. The SWG will continue to make amendments based on operations and lessons learned.

iv) NPAFC Request on Bycatch

50. The United States explained that the NPAFC has made a request to the NPFC to share salmon bycatch or retention information, based on the Memorandum of Cooperation signed between the NPFC and the NPAFC (NPFC-2019-TCC04-WP02). As the NPFC does not yet have a regional observer program, the NPAFC has suggested that the collection and reporting of such information could be conducted as part of HSBI.
51. The TCC considered the request and determined that Members may consider, on a voluntary basis, to report significant encounters of salmon during inspection to the SWG OE, noting that anadromous fish are not NPFC species. The SWG OE will discuss on a case-by-case basis and, based on consensus, determine what information may be provided to the NPAFC to support its interest in understanding the extent and significance of salmon bycatch/presence in the overlapping convention area, solely for the purpose of scientific research. No change to the boarding form is recommended.

Recommendation: That the Commission encourage Members, on a voluntary basis, to report significant encounters of salmon during inspection to the SWG OE, which will discuss any report on a case-by-case basis. Based on consensus, the SWG OE will determine what information may be provided to the NPAFC.

b. Review of Operations

52. The TCC reviewed operations and encouraged Members to participate in HSBI and to continue to work effectively together to implement the HSBI scheme.

Recommendation: That the Commission encourage all Members to continue to participate fully in the ongoing development and implementation of the HSBI scheme.

Agenda Item 8. Review of Current CMMs

8.1 CMM 2018-01 – Vessel Registry

53. The Secretariat explained that Paragraph n) of the Annex of CMM 2018-01 requires Members to provide full length side-view, color photographs of the vessel showing full length of vessel and vessel name and markings for the Vessel Registry. However, photographs received from Members are not always consistent with the above requirement. The Secretariat therefore requested the TCC to consider whether or not Paragraph n) should be modified.

54. The TCC considered the issue and agreed that, in the interest of reducing additional workload, it is not necessary to modify Paragraph n). The TCC encouraged Members to submit photographs that meet the requirements stipulated in Paragraph n) going forward.

8.1.1 Interim Register

55. The TCC discussed the approaching expiration of the Interim Register and there was no consensus on this issue in TCC04.

8.1.2 CNCP Status – Panama

56. The Secretariat explained the status of Panama's application to the NPFC for CNCP status (NPFC-2019-TCC04-OP03-4; NPFC-2019-TCC04-IP05).

57. Panama expressed its gratitude for the NPFC's consideration of its request for CNCP status. Panama explained that it has 43 vessels navigating the waters of NPFC as carrier vessels, mostly engaged in transshipment. Panama recognized the importance of cooperating with NPFC for the conservation and sustainability of marine resources in the Convention Area, and expressed its willingness to do so, including by reporting information regarding its transshipment activities.

58. The TCC considered Panama's request based on the criteria stipulated in Paragraph 10.6 of the NPFC Rules of Procedure.

Recommendation: That the Commission approve the application from Panama for CNCP status for a period of two years as stipulated in Rule 10.11 of the Rules of Procedure.

8.2 CMM 2017-02 – IUU

8.2.1 Recommendation for Provisional IUU Vessel List to the Commission

59. The TCC reviewed the Current IUU Vessel List (NPFC-2019-TCC04-WP07).

60. Japan explained that it has collected AIS tracking data for the IUU vessels proposed for inclusion in the IUU Vessel List for 2019 that suggested that the vessels were operating based from ports in China (NPFC-2019-TCC04-IP07). Japan stressed the need to further strengthen control over nationals undertaking illegal fishing activity.

61. The TCC reviewed and endorsed the IUU vessel list for 2019 (NPFC-2019-TCC04-WP08 (Rev 1)) as the Provisional IUU vessel list. Two of the vessels on the list were identified as using the same names as Chinese-legally-authorized vessels. During discussions on how to address the inclusion of the names of these two vessels in the list, Members emphasized the need to protect the interests of the legitimate fishing vessels as well as the need to include as much information as possible on future IUU vessel lists to facilitate the sharing of information with other RFMOs and to make such information searchable as part of databases. TCC suggested further discussion to develop a standard to address the issue of suspected IUU vessels using the same name as legally authorized fishing vessels.

Recommendation: That the Commission adopt the NPFC Provisional IUU Vessel List (Annex E).

Recommendation: The TCC requested that the Commission hold further discussion to develop a standard to address the issues of suspected IUU vessels using the same name as legally authorized fishing vessels, database searchability and information sharing.

8.2.2 Amendment of the CMM to include the approved decision proposed to add the 'CMM and Paragraph of the violation' to the IUU list requirements, summary activities and sightings

62. Canada proposed revisions to CMM 2017-02 to add "CMM and Paragraph of the violation" to the IUU list requirements, summary activities and sightings, as approved by the 2018 meeting of the Commission (NPFC-2019-TCC04-WP09). The TCC endorsed the revisions.

Recommendation: That the Commission adopt the revised CMM2017-02 as CMM 2019-02 (Annex F).

8.3 CMM 2016-03 – Interim Transshipment Procedures

63. The TCC discussed the CMM and noted its interim nature and the interest to consider reviewing and updating it.

Recommendation: That the Commission task the TCC to develop a more robust Conservation and Management Measure for Transshipment as a priority issue in the Work Plan for 2020.

8.4 CMM 2016-04 – Vessels with No Nationality

64. No amendments were proposed.

8.5 CMM 2018-05 – Bottom Fisheries and VME Protection NW Pacific Ocean

65. No amendments were proposed, other than those proposed by the SC for consideration by the Commission.

8.6 CMM 2017-06 – Bottom Fisheries and VME Protection NE Pacific Ocean

66. No amendments were proposed, other than those proposed by the SC for consideration by the Commission.

8.7 CMM 2018-07 – Chub Mackerel

67. No amendments were proposed, with the TCC noting that Japan has submitted a proposed amendment to the CMM for consideration by the Commission.

8.8 CMM 2018-08 – Pacific saury

68. No amendments were proposed, with the TCC noting that Japan has submitted a proposed amendment to the CMM for consideration by the Commission.

8.9 CMM 2017-09 – High Seas Boarding and Inspection

69. No amendments were proposed.

Agenda Item 9. New MCS-related CMMs and Issues

9.1 Conservation and Management Measure on the Compliance Monitoring System

70. The TCC continued to draft the text for a CMM on CMS but was unable to reach a consensus (NPFC2019-TCC04-WP03 (Rev. 2)).

Recommendation: That the Commission consider an NPFC Compliance Monitoring Scheme, taking into account the progress made at TCC in NPFC-2019-TCC04-WP03 (Rev. 2) and noting the desire of some Members to conduct a feasibility study.

9.2 Conservation and Management Measure for the Vessel Monitoring System

9.3 Data Sharing and Data-Security Protocols for the Vessel Monitoring System (VMS) Messages

71. The TCC continued to draft the text for a CMM on VMS but was unable to reach a consensus (NPFC2019-TCC04-WP05 (Rev. 3)).

Recommendation: That the Commission consider adopting the proposed regional VMS framework, taking into account the progress made at TCC and with recognition that some issues will require further discussion at the Commission. Some policy issues that may require further refinement intersessionally are VMS data access and use as outlined in Paragraph 15 of NPFC2019-TCC04-WP05 (Rev. 3) and the data-sharing and data-security protocols of NPFC2019-TCC04-WP04, as well as guidance on minimum standards for mobile transmitting units (MTU) as an annex of WP05.

Agenda Item 10. Data management and security

10.1 Data Collection, Compilation and Exchange Interim Guidelines

72. Canada provided an update on work to develop the NPFC Data Collection, Compilation and Exchange Interim Guidelines that had been undertaken with the United States and noted that a draft could be prepared intersessionally and presented to the next TCC meeting.

Recommendation: That the Commission endorse the continued work of the TCC to complete the draft NPFC Data Collection, Compilation and Exchange Interim Guidelines for consideration at TCC05/COM06.

10.2 Data Management and Reporting

a. Annual Reporting Format

73. The Annual Reporting Format was discussed under Agenda Item 7.2.3.

10.3 Plans for IT 2019 Fiscal Year

74. The Secretariat presented a summary of the current status of the electronic systems that have been developed (direct entry vessel and interim vessel registers, record of meetings and documents, meeting registration, SWG collaboration sites, IUU vessel record display, and Member and public display of core data for HSBI), or are under development (e-annual report, data warehouse, e-HSBI-events module, e-IUU vessel listing module, e-CMS, VMS, mapping) as detailed in NPFC-2019-TCC04-IP04.

Agenda Item 11. Compliance Work Plan and Priorities

11.1 Update Compliance Work Plan – priorities, projects, and budgets

75. The Chair provided an update on the Work Plan and recognized that budgetary considerations would need to be considered in light of the Commission decisions on key outstanding TCC issues such as VMS and CMS.
76. The Chair also highlighted that ongoing work already tasked by the Commission will continue, as well as new Work Plan elements from this year's recommendations once the Commission has made its decision.

Agenda Item 12. Other Matters

12.1 Selection of next Chair and Vice-Chair

77. The TCC recognized the value in having the current Chair (Dr. Robert Day; Canada) and Vice-Chair (Ms. Hee-Yeon Lee; Korea) continue to serve in their positions for one more term of two years, noting the provision of Paragraph 4 of Article 6 of the Convention and Rule 12.2 of the Rules of Procedure. The TCC recommended that the TCC Terms of Reference reflect this change to allow three consecutive terms of two years per term for a total of six years.

Recommendation: That the Commission extend the terms of the current Chair and Vice-Chair.

Recommendation: That the Commission endorse the TCC's proposal to allow TCC Chairs and Vice-Chairs to serve for a maximum three terms of two years per term, and that the TCC Terms of Reference be updated, taking into account Paragraph 4 of Article 6 of the Convention (Annex I).

Agenda Item 13. Recommendations to the Commission.

78. The TCC recommended the following to the Commission:

(Agenda Item 7)

- a. That the Commission task the TCC, working with the SC, to develop advice on effort indicators, including for CMMs 2017-07 and 2017-08, that would effectively control fishing effort.
- b. That the Commission task the TCC with updating the NPFC fishing gear list and aligning it, to the extent possible, with FAO.
- c. That the Commission task the TCC with providing clear advice for TCC05/COM06 regarding responsibility for vessels under charter arrangements.
- d. That the Commission task the TCC with addressing the outstanding issues related to the Vessel Registry identified by the Secretariat for TCC05 and COM06.
- e. That the Commission encourage Members to make full use of the direct online system for registering their fishing vessels and ensure that all data required in Annex A of CMM 2018-01 are included.
- f. That the Commission task TCC to consider the opportunity to share information with the FAO Global Record and provide advice at TCC05/COM06.

- g. That the Commission endorse the continued work of the Secretariat to develop the Electronic Annual Reporting System.
- h. That the Commission endorse the continued work of the TCC to complete a draft NPFC Sustainable Use and Conservation Handbook for consideration at TCC05/COM06.
- i. That the Commission encourage Members, on a voluntary basis, to report significant encounters of salmon during inspection to the SWG OE, which will discuss any report on a case-by-case basis. Based on consensus, the SWG OE will determine what information may be provided to the NPAFC.
- j. That the Commission encourage all Members to continue to participate fully in the ongoing development and implementation of the HSBI scheme.

(Agenda Item 8)

- k. That the Commission approve the application from Panama for CNCP status for a period of two years as stipulated in Rule 10.11 of the Rules of Procedure.
- l. That the Commission adopt the NPFC Provisional IUU Vessel List (Annex E).
- m. The TCC requested that the Commission hold further discussion to develop a standard to address the issues of suspected IUU vessels using the same name as legally authorized fishing vessels, database searchability and information sharing.
- n. That the Commission adopt the revised CMM2017-02 as CMM 2019-02 (Annex F).
- o. That the Commission task the TCC to develop a more robust Conservation and Management Measure for Transshipment as a priority issue in the Work Plan for 2020.

(Agenda Item 9)

- p. That the Commission consider an NPFC Compliance Monitoring Scheme, taking into account the progress made at TCC in NPFC-2019-TCC04-WP03 (Rev. 2) and noting the desire of some Members to conduct a feasibility study.
- q. That the Commission consider adopting the proposed regional VMS framework, taking into account the progress made at TCC and with recognition that some issues will require further discussion at the Commission. Some policy issues that may require further refinement intersessionally are VMS data access and use as outlined in Paragraph 15 of NPFC2019-TCC04-WP05 (Rev. 3) and the data-sharing and data-security protocols of NPFC2019-TCC04-WP04, as well as guidance on minimum standards for mobile transmitting units (MTU) as an annex of WP05.

(Agenda Item 10)

- r. That the Commission endorse the continued work of the TCC to complete the draft NPFC Data Collection, Compilation and Exchange Interim Guidelines for consideration at TCC05/COM06.

(Agenda Item 12)

- s. That the Commission extend the terms of the current Chair and Vice-Chair.

- t. That the Commission endorse the TCC's proposal to allow TCC Chairs and Vice-Chairs to serve for a maximum three terms, and that the TCC Terms of reference be updated, taking into account Paragraph 4 of Article 6 of the Convention (Annex I).

(Agenda Item 14)

- u. That the Commission consider having the TCC SWG meetings occur as face-to-face meetings, and streamlining the four SWGs into two (policy/planning and operational enforcement)
- v. That TCC05 occur over three days in conjunction with COM06 (location and date TBD).

Agenda Item 14. Next Meeting

79. The TCC discussed the increasing compliance-related workload of the NPFC, the limitations of virtual meetings, the benefits of holding a face-to-face meeting further in advance of the annual Commission meeting, and the benefits of streamlining the SWGs into two bodies (policy/planning and operational enforcement). The TCC recognized the need for further discussion on the optimal format for advancing the work of the TCC and its subsidiary bodies, including the associated budgetary requirements.

Recommendation: That the Commission consider having the TCC SWG meetings occur as face-to-face meetings and streamlining the four SWGs into two (policy/planning and operational enforcement).

Recommendation: That TCC05 occur over three days in conjunction with COM06 (location and date TBD).

Agenda Item 15. Adoption of the Report

80. The report was adopted by consensus.

Agenda Item 16. Close of the Meeting

81. The TCC meeting closed at 18:40 on 13 July 2019.

ANNEXES

Annex A – Agenda

Annex B – List of Documents

Annex C – List of Participants

Annex D – NPFC Case Package Preparation

Annex E – Provisional NPFC IUU Vessel List for 2019

Annex F – 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

Annex G – Conservation and Management Measure on the Compliance Monitoring Scheme

Annex H – Conservation and Management Measure for the Vessel Monitoring System

Annex I – Technical and Compliance Committee Terms of Reference

North Pacific Fisheries Commission
4th Meeting of the Technical and Compliance Committee
11 – 13 July 2018
Tokyo, Japan

Agenda

Agenda Item 1. Opening of the Meeting

Agenda Item 2. Appointment of Rapporteur

Agenda Item 3. Admission of Observers

Agenda Item 4. Adoption of Agenda

CURRENT STATUS

Agenda Item 5. Chair's Reflections

Agenda Item 6. Review of MCS related issues from SC

6.1 Observer Program

6.2 Other Issues from SC

Agenda Item 7. Progress Report on TCC Work Plan

7.1 Brief Overview of North Pacific Fisheries

7.2 SWG Lead and Co-Lead Updates from intersessional work on the TCC Work Plan 2018-2019

7.2.1 SWG VMS

a. Regional VMS Design and Implementation Plan

b. NPFC-2019-TCC04-WP05 CMM for VMS

c. NPFC-2019-TCC04-WP04 Data-Sharing and Data-Security Protocols for Vessel Monitoring System (VMS) Messages – Canada

7.2.2 SWG Vessel Registry

a. Fishing Effort Indicators

b. Member use of the online Vessel Registry

c. Vessel Marking and IMO Number – Implementation Status

- d. Fishing Gear Coding
 - e. Interim Registry – Paragraph 18 of CMM 2018-01
 - f. Member and non-Member carrier vessels and chartering of fishing vessels
 - g. Transshipment Monitoring Scheme
 - h. Vessel Registry process issues:
 - i) Listing of active vs. non-active registered vessels
 - ii) Authorization periods and notification requirements
 - iii) Vessel Nomenclature
 - iv) Other Data Elements Required
 - i. Direct Entry and Refinements
 - j. Vessel Data Sharing with the Food and Agricultural Organization (FAO) Global Record
- 7.2.3 SWG Assessing Compliance
- a. Electronic Annual Reporting System
 - b. Compliance Monitoring Scheme
 - i) CMS Plan – NPFC-2019-TCC04-WP03 CMM on CMS – USA
 - c. NPFC Sustainable Use and Conservation Handbook
- 7.2.4 SWG Operational Enforcement
- a. High Seas Boarding and Inspection
 - i) Implementation Plan Status
 - ii) Operational Updates
 - iii) Standard Violation Case Package
 - iv) NPAFC Request on Bycatch
 - b. Review of Operations

TECHNICAL ISSUES & OPPORTUNITIES TO ENHANCE MCS

Agenda Item 8. Review of Current CMMs

8.1 CMM 2018-01 – Vessel Registry

8.1.1 Interim Registry

8.1.2 CNCP Status – Panama

8.2 CMM 2017-02 – IUU

8.2.1 Recommendation for Provisional IUU Vessel List to the Commission

8.2.2 Amendment of the CMM to include the approved decision proposed to add the ‘CMM and Paragraph of the violation’ to the IUU list requirements, summary activities and sightings. – Canada

8.3 CMM 2016-03 – Interim Transshipment Procedures

8.4 CMM 2016-04 – Vessels with No Nationality

8.5 CMM 2018-05 – Bottom Fisheries and VME Protection NW Pacific Ocean

- 8.6 CMM 2017-06 – Bottom Fisheries and VME Protection NE Pacific Ocean
- 8.7 CMM 2018-07 – Chub Mackerel
- 8.8 CMM 2018-08 – Pacific saury
- 8.9 CMM 2017-09 – High Seas Boarding and Inspection

Agenda Item 9. New MCS-related CMMs and Issues

- 9.1 NPFC-2019-TCC04-WP03 CMM on CMS – USA
- 9.2 NPFC-2019-TCC04-WP05 CMM for VMS
- 9.3 NPFC-2019-TCC04-WP04 Data-Sharing and Data-Security Protocols for Vessel Monitoring System (VMS) Messages – Canada

Agenda Item 10. Data management and security

- 10.1 Data Collection, Compilation and Exchange Interim Guidelines
- 10.2 Data Management and Reporting
 - a. Annual Reporting Format
- 10.3 Plans for IT 2019 Fiscal Year

FUTURE STRATEGY

Agenda Item 11. Compliance Work Plan and Priorities

- 11.1 Update Compliance Work Plan – priorities, projects, and budgets

Agenda Item 12. Other Matters

- 12.1 Selection of next Chair and Vice-Chair

Agenda Item 13. Recommendations to the Commission

Agenda Item 14. Next Meeting

Agenda Item 15. Adoption of the Report

Agenda Item 16. Close of the Meeting

List of Documents

MEETING INFORMATION PAPERS

Document Number	Title
NPFC-2019-COM05-MIP01	Details for the 4 th Technical and Compliance Committee, 3 rd Finance and Administration Committee and 5 th Commission Meetings
NPFC-2019-TCC04-MIP02 (Rev 1)	Provisional Agenda
NPFC-2019-TCC04-MIP03 (Rev 1)	Provisional Annotated Agenda
NPFC-2019-TCC04-MIP04 (Rev 3)	Indicative Schedule

WORKING PAPERS

Document Number	Title
NPFC-2019-TCC04-WP01	Interim Register CMM 2018-01 Paragraph 18
NPFC-2019-TCC04-WP02	NPAFC Request for NPFC Inspectors Action with Respect to Salmon Monitoring During NPFC HSBI Operations
NPFC-2019-TCC04-WP03 (Rev 2)	Conservation and Management Measure for a Compliance Monitoring Scheme
NPFC-2019-TCC04-WP04	Data-Sharing and Data-Security Protocols for Vessel Monitoring System (VMS) Messages
NPFC-2019-TCC04-WP05 (Rev 3)	Conservation and Management Measure for a Regional Vessel Monitoring System
NPFC-2019-TCC04-WP06	Introduction CMM for VMS and NPFC Data Sharing and Data Security Protocols
NPFC-2019-TCC04-WP07	Current NPFC IUU Vessel List
NPFC-2019-TCC04-WP08 (Rev 1)	Draft NPFC IUU Vessel List for 2019
NPFC-2019-TCC04-WP09	Proposed amendment to CMM to Establish a List of IUU Vessels
NPFC-2019-TCC04-WP10	Provisional NPFC IUU Vessel List for 2019

INFORMATION PAPERS

Document Number	Title
NPFC-2019-TCC04-IP01 (Rev 1)	Fisheries Overview

NPFC-2019-TCC04-IP02	CLS Consultancy Reports on Regional VMS Design and Implementation
NPFC-2019-TCC04-IP03	Vessel Registry
NPFC-2019-TCC04-IP04	E-Systems active and under development
NPFC-2019-TCC04-IP05	Executive Secretary Response to Panama's Request for CNCP Status
NPFC-2019-TCC04-IP06	NPFC CMM on VMS Policy Issues
NPFC-2019-TCC04-IP07	AIS Tracks of Six Vessels on Draft NPFC IUU Vessel List for 2019
NPFC-2019-TCC04-IP08	Observer program

OBSERVER PAPERS

Document Number	Title
NPFC-2019-TCC04-OP01	Global Fishing Watch-ANCORS Developing a shared understanding of fishing activity in the NPFC using AIS data and remote sensing techniques
NPFC-2019-TCC04- OP02 (Rev 1)	PEW Charitable Trusts Paper on the USE of AIS to Analyse Carrier Activity in 2016
NPFC-2019-TCC04- OP03	Panama's Request for CNCP Status in NPFC
NPFC-2019-TCC04- OP04	Further Response from Panama for CNCP Status

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NPFC Case Package Preparation

No potential violations found:

- Submitted to flag state and Commission within 72 hours:
 - NPFC Boarding Inspection Form

Potential violation:

- Case package submitted to flag state and Commission within 72 hours:
 - Standardized USCG/NPFC Coversheet, with one (1) picture of the vessel
 - NPFC Boarding Inspection Form
 - Lead Inspector statement
 - Optional:
 - Subordinate Inspector statements (only if they apply to or were the only observer of the potential violation)
 - GPS verification form (only if within five (5) nautical miles of an EEZ or other boundary)
 - Print of the NPFC Inspection Vessel Details from the NPFC website
 - Print (if available) of the vessel from the NPFC list of registered vessels
 - Only those photos depicting the potential violation
 - Photos of the master's passport/credentials
 - Photos of the fishing licenses/documents
 - Photo log

All law enforcement cases should include:

- Photos of the vessel from all eight (8) angles (port, starboard, bow, stern and 4 quarters)
- Photos of the master's AND crews' passports/credentials
- Photos of the fishing licenses/documents
- Scanned copies of all paper documents incl case package/NPFC form

Case Package Submission

- Scan entire package and submit to the flag state within seventy-two (72) hours of boarding completion.

Provisional NPFC IUU Vessel List 2019

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 List	i. CMM & para of violation	j. Summary of activities
1	LU RONG SHUI 158 (鲁荣水158)	Unknown	Not known	Not known	Not known	Not known		CMM 2017-02 para 3. a	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 4126888540

g. Photographs



2	Unknown(*) (For Commission consideration)	Unknown – raised flag of China	Not known	Not known	Not known	Not known		CMM 2017-02 para 3. a	<p>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.</p> <p>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.</p>
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g. Photographs



Associated Documents

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>)

(*) This vessel indicated its name as “Zhou Yu 808 (舟漁 808)” when sighted.

3	Unknown(*)	Unknown – raised flag of China	Not known	Not known	Not known	Not known		CMM 2017-02 para 3. a	<p>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.</p> <p>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.</p>
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g. Photographs



Associated Documents

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>)

(*) This vessel indicated its name as “Zhou Yu 809 (舟漁 809)” when sighted.

4	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	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 MMSI 412356488) was operating and running away when the Japanese patrol vessel approached.
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g. Photographs



5	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 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 MMSI 412365486) was operating and running away when the Japanese patrol vessel
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g. Photographs



6	ZHEXIANG YU 23029	Unknown – raised flag of China	Not known	Not known	Not known	Not known		CMM 2017-02 para 3. a 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. MMSI 412123526
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g. Photographs



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

Abstract:

This submission from Canada is to address the Commission decision in 2018 to include the CMM number and paragraph of the violation in the NPFC IUU Vessel List. The amendment to the CMM was not completed last year, hence this is to formalize the Commission decision, summarize activities and record sightings of the vessel.

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 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 in subsequently, 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, as well as any new suitably documented information regarding this list, including intersessional amendments, 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. 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 paras 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 paras 14 and 15, recommend to the Commission which, if any, vessels should be removed from the current NPFC IUU Vessel List.
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.

Modification of 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; and
 - b. 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
 - c. 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
 - d. 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.
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 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.
34. A Member/CNCP with information indicating a change of name and/or an International Radio Call Sign (IRCS) 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 and, after verification^{*}, update the current NPFC IUU Vessel List on the NPFC website to reflect such information.

* If the Secretariat, after reasonable efforts, is unable to verify the information submitted by the Member/CNCP the vessel name or identifying number will not be updated.

Review

35. This Conservation and Management Measure shall be subject to review and, as appropriate, revision by the TCC and acceptance by the Commission.

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 measures	

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	

**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.

**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 calls for 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 have undertaken 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;

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 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 relation to alleged violations by their flagged vessels or nationals, not to assess compliance by individual vessels or persons.
2. The CMS is designed to:
 - a. Identify non-compliance by Members and CNCs with their obligations under the Convention and CMMs;
 - b. Identify areas in which technical assistance or capacity building may be needed to assist Members or CNCs to attain compliance;
 - c. Identify trends in compliance, including aspects of CMMs which may require amendment for effective implementation;
 - d. Determine responses to non-compliance by Members or CNCs; and,
 - e. Monitor and verify 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' 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 national laws or to take more stringent measures in accordance with its national laws, consistent with that Member's or CNC's international obligations.
6. The compliance assessment period shall be the previous calendar year.
7. The Commission, with the assistance of TCC, shall determine responses to non-compliance in accordance with Annex I.

III. Draft Compliance Report

8. Prior to TCC, the Secretariat shall compile information received from Members and CNCs including through their Annual Reports, any data collections of the Commission (e.g., reports from observers, Vessel Monitoring Systems, High Seas Boarding and Inspections, high seas transshipments), and, where appropriate, any other relevant information relating to the performance of NPFC CMMs available to the Secretariat, and shall prepare a Draft Compliance Report. The Draft Compliance Report shall:
 - a. Present all available information relating to each Member's or CNC's implementation of each obligation arising from the Convention or CMMs;

- b. Report on any compliance issues that were identified from the previous year's Final Compliance Report (i.e., Resolved Non-Compliance, Non-Compliant, or Flag State Investigation) and any corrective actions reported by the Member or CNCP; and,
 - c. Identify the potential areas of non-compliance for each Member and CNCP and, as appropriate, request any follow-up information relating to the previous year's compliance issues.
9. No later than 60 days before the TCC meeting, the Secretariat shall provide each Member and CNCP its section of the Draft Compliance Report.
 10. No later than 35 days before the TCC meeting, each Member and CNCP shall provide additional information on its section of the Draft Compliance Report to the Secretariat. This information shall, as appropriate:
 - a. Provide information, clarifications, amendments, or corrections necessary to address the potential compliance issues identified or respond to any request for additional information;
 - b. Propose future 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; and,
 - d. Identify any technical assistance or capacity building needed.
 11. The Secretariat shall compile a revised Draft Compliance Report containing all information provided pursuant to paragraph 10 above.
 12. No later than 15 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. For instances of non-compliance identified in Annex II as having an associated automatic response, the Secretariat shall automatically assign the appropriate status and response. Members and CNCPs may request review of automatically assigned statuses and responses when the Draft Compliance Report is considered by TCC.

IV. Provisional Compliance Report

13. TCC shall consider the Draft Compliance Report and any additional, readily verifiable information provided by Members, CNCPs, and the Commission, and, where appropriate, by non-governmental organizations or other organizations concerned with matters relevant to the implementation of the Convention.
14. TCC shall develop a Provisional Compliance Report, which shall include a compliance assessment for each Member or CNCP obligation and identify response(s) to non-compliance, in accordance with Annex I. For an issue of non-compliance assigned an automatic response in accordance Annex II, TCC may consider additional responses as warranted, consistent with Annex I.
15. Each compliance assessment shall be decided by consensus. If consensus cannot be reached, the Provisional Compliance Report shall indicate majority and minority views.

A Member or CNCP may not block agreement on its own compliance assessment.

16. The Provisional Compliance Report shall also include an Executive Summary with recommendations regarding, as appropriate:
 - a. Proposals to address compliance trends, and amend or improve existing CMMs;
 - b. Identified obstacles to implementation, including recommendations for capacity building assistance; and,
 - c. Revisions to the obligations to be assessed identified in Annex II.
17. TCC shall forward the Provisional Compliance Report to the Commission for consideration at the annual meeting.

V. Final Compliance Report

18. The Commission shall consider the Provisional Compliance Report recommended by TCC and adopt a Final Compliance Report.
19. The Final Compliance Report shall include:
 - a. A final compliance status for each Member and CNCP against each assessed obligation;
 - b. All responses to be taken to address instances of non-compliance; and,
 - c. An Executive Summary addressing the issues listed in paragraph 16.
20. 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 a status of 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

21. The Draft and Provisional Compliance Reports, and all associated documentation, shall constitute non-public domain data, but the Final Compliance Report and the executive summary shall be public domain data.

VII. Identification of Compliance Measures to be Assessed

22. Annex II includes the list of obligations to be assessed as part of the CMS. Annex II will be reviewed annually and may be amended, as appropriate, taking into account factors such as:
 - a. The needs and priorities of the Commission;
 - b. Evidence of high percentages of non-compliance or repeated non-compliance with a particular obligation;
 - c. The risks posed by non-compliance to achievement of the objectives of the Convention; and,
 - d. Whether sufficient verifiable information is available to determine compliance.

VIII. Review of this Conservation Measure

23. The TCC shall review the compliance monitoring scheme one year after adoption and

modify based on the outcome of the implementation of this measure. [Thereafter, review will take place every two years].

ANNEXES

- Annex I – Compliance Status Table
- Annex II – Obligations to be Assessed

Compliance Status Table

Annex I

Compliance Status	Criteria	Potential Responses
Compliant	Member or CNCP fully compliant with obligation	None
Delayed Submission	Member or CNCP rectified 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	Non-compliance with obligation identified in Annex II that does not meet the criteria of Delayed Submission or Flag State Investigation	<ol style="list-style-type: none"> 1) Member or CNCP to rectify non-compliance and include in its Annual Report all actions taken, 2) Application of automatic response, as applicable (Annex II), and 3) Consideration of further responses.
Not Assessed	Ambiguity of relevant obligation	Review and potentially amend relevant provision(s)
Flag State Investigation	Currently undergoing investigation	<ol style="list-style-type: none"> 1) 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), and 2) Member or CNCP to report progress in its Annual Report

Obligations to be Assessed

Annex II

Obligation to be Assessed	Automatic response for inclusion in the Draft Compliance Report
CMM 2018-05 Bottom Fisheries and VMEs in the NW Pacific	
CMM 2018-05 08	No automatic response has been assigned at this time.
CMM 2018-08 Pacific Saury	
CMM 2018-08 01	No automatic response has been assigned at this time.

CONSERVATION AND MANAGEMENT MEASURE ON THE VESSEL MONITORING SYSTEM (VMS)

The North Pacific Fisheries Commission (NPFC),

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.
- (b) “Fishing activities” means the activities established under Article 1 (i) of the Convention.
- (e) “Fisheries monitoring centre (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 to conduct inspections in the Convention Area for species covered by the NPFC [, has inspectors and inspection platforms and is planning for or actively undertaking surveillance in the Convention Area or is directly engaged in supporting a Member authorized to conduct such inspections].
- (h) “Manually report” means the transmission via any alternative means of the date/time, current geographical position (latitude and longitude) course and speed 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 Member and CNCP fishing vessels carrying out fishing activities in the Convention Area [and to all fishing vessels included on the NPFC Interim Register of

non-Member Carrier Vessels].

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)

5. Member, CNCP [and relevant non-Member¹] flagged fishing vessels [engaged in fishing activities] [authorized for fishing activities and located] [authorized in accordance with the CMM-XX] in the Convention Area shall be equipped with an MTU that complies with the guidance on minimum standards for MTUs contained in Annex I.
6. Each Member, CNCP [and relevant non-Member] shall ensure that MTUs are installed on their flagged fishing vessels in accordance with relevant domestic legal obligations, procedures and conditions.
7. [Members, CNCPs [and relevant non-Member flagged carrier vessels] are required to provide accurate VMS data to the Secretariat via their Member's FMC, in accordance with this CMM.]

VMS data transmission requirements

8. Each Member, CNCP [and relevant non-Member] shall ensure that its flagged vessels undertaking fishing activities in the Convention Area transmit VMS data every [hour] to their FMC.
9. [Without prejudice to its responsibilities as a flag Member, a CNCP or non-Member may require its fishing vessels to transmit VMS data directly to the Secretariat.]
10. [Each Member, CNCP and [relevant non-Member] 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 centres (FMCs)

11. Each Member, CNCP [and relevant non-Member] shall ensure that their FMC can automatically receive VMS data [and transmit VMS data to the Secretariat]. [Each Member, CNCP [and relevant non-Member] shall ensure that their FMC can generate messages for entry to and exit from the Convention Area.]
12. [Each Member, CNCP [and relevant non-Member] shall ensure that VMS data transmitted to the Secretariat is accurate and includes the following codes as appropriate:
 - (a) "ENT", VMS data transmitted upon entering the Convention Area;
 - (b) "POS", every subsequent VMS data transmitted from within the Convention Area;

¹ A relevant non-Member is a State with vessels included on the NPFC Interim Register of non-Member Carrier Vessels.

(c) “EXI”, VMS data transmitted upon exiting the Convention Area.

(d) “MAN”, VMS data transmitted in the event of a defective MTU from within the Convention Area;]

13. Each Member, Cooperating non-Contracting Party [and relevant non-Member] 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

14. 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.
15. [The Secretariat shall provide VMS data:
- (a) [Automatically] to any Member who has an inspection presence in the Convention Area;
 - or
 - (b) upon request from a Member to support search and rescue (SAR) and maritime safety activities.]
16. VMS data may be accessed and used for the purposes included in this measure or for any other purposes as agreed by the Commission. VMS data shall only be accessed and used in accordance with NPFC’s Data-Sharing and Data-Security Protocols for Vessel Monitoring System (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 to the FMC, the VMS data of the fishing vessel every [four hours], by other available means of communication.
18. Without prejudice to its responsibilities as a flag Member or CNCP, a Member, non-Contracting Party [or non-Member] 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 Flag 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 I or is repaired and is able to transmit VMS data.

21. If a flag Member or CNCP finds that an MTU has failed to transmit VMS data for twelve hours, the Flag Member or CNCP will notify the fishing vessel master, owner or authorized representative of this. If this 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.

Review

22. 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 I

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 unauthorised 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 metres.
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 tamper-proof physical enclosure.
12. The MTU must have:
 - (a) all components sealed by the manufacturer; or
 - (b) official seals², 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, cooperating non-Contracting Parties and relevant non-Members 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.

² Official seals or other mechanisms must be of such a type to indicate whether the MTU has been accessed or tampered with.

NORTH PACIFIC FISHERIES COMMISSION
TECHNICAL AND COMPLIANCE COMMITTEE
TERMS OF REFERENCE
(Revision NPFC-2019-COM05)

Context

Article 7(3b) of the Convention states that the Commission shall “adopt a plan of work and terms of reference for the Scientific Committee, for the Technical and Compliance Committee and, as necessary, for other subsidiary bodies.”

Article 11 of the Convention states that the functions of the “Technical and Compliance Committee” shall be to:

- (a) Monitor and review compliance with conservation and management measures adopted by the Commission and make recommendations to the Commission as may be necessary; and
- (b) Review the implementation of cooperative measures for monitoring, control, surveillance and enforcement adopted by the Commission and make recommendations to the Commission as may be necessary.

Purpose

The Technical and Compliance Committee should provide a forum for consultation and cooperation among Members of the Commission with respect to the evaluation and exchange of compliance information relating to the fisheries of the Convention Area, and to encourage and promote cooperation among the Members.

Functions

In accordance with Article 11(4) of the Convention, when carrying out its functions the Technical and Compliance Committee shall:

- (a) Provide a forum for exchange of information concerning the means by which Members of the Commission are implementing the conservation and management measures adopted by the Commission in the Convention Area and complementary measures in adjacent waters as appropriate;

- (b) Provide a forum for the exchange of information on enforcement, including enforcement efforts, strategies and plans;
- (c) Receive and review reports from each Member of the Commission relating to measures that the Member has taken to monitor, investigate and penalize violations of provisions of this Convention and measures adopted pursuant to this Convention;
- (d) Report to the Commission its findings or conclusions on the extent of compliance with conservation and management measures;
- (e) Make recommendations to the Commission on matters relating to monitoring, control, surveillance and enforcement;
- (f) Develop rules and procedures governing the use of data and other information for monitoring, control and surveillance purposes; and
- (g) Consider and/or investigate any other matters as may be referred to it by the Commission.

Structure

1. Membership and Representation

TCC shall be composed of Members of the Commission. Members are encouraged to identify a point of contact to facilitate the operations of the Committee. Chosen focal point Members must have expertise in fisheries management or compliance. Representation and official contacts should be consistent with Rule 1 in the Commission's Rules of Procedure. Invitation and participation of non-members in the meetings and other activities of the Committee are subject to relevant provisions in Rule 9 of the Rules of Procedure.

2. Chair and Vice-Chair

i. Selection and Term

The Chair and Vice-Chair of the TCC will be selected by consensus in accordance with relevant provisions of the Convention and the Rules of Procedure of the Commission, unless the Commission decides otherwise.

The Chair and Vice-Chair will be selected for a period of two years and shall be eligible for reelection but shall not serve for more than three successive terms of two years in the same capacity.

ii. Duties of the Chair

- Coordinate the meeting schedule and agenda preparation
- Chair Committee meetings as well as prepare reports of the meetings;
- Foster constructive and active dialogue at Committee meetings;
- Coordinate the development of specific deliverables identified in the Committee's functions, as per Article 11 in the Convention;
- Liaise with the Commission Chair, SC Chair, and other relevant international organizations as appropriate to enhance the quality of activities;
- Represent or designate a competent person to represent the Committee to participate, as appropriate, in various regional and international meetings and fora; and,
- Invite, as appropriate, non-members to contribute to the Committee's meeting agendas and activities.

3. Meetings

Consistent with Article 11 in the Convention, the TC Committee shall meet, unless the Commission otherwise decides, at least once every two years, and prior to the regular meeting of the Commission.

4. Sub-Committees or Working Groups

Consistent with Article 6 in the Convention, the Committee may establish working groups and may seek external advice in accordance with any guidance provided by the Commission.

Agendas and Meeting Conduct

The TC Committee will endeavour to develop agendas and conduct its meetings in a manner that is consistent with Rule 5 in the Commission's Rules of Procedure.

Recommendations

Recommendations of TCC will be adopted in a manner that is consistent with Article 8 of the Convention and Rule 2 in the NPFC Rules of Procedure. Consistent with Article 8, as a general rule, the Committee shall strive to make its recommendations by consensus.

Language

In accordance with Rule 7 in the Rules of Procedure, English shall be the working language of the Committee. Any other language may be used on condition that persons doing so will provide interpreters.

Records and Reports

In accordance with Article 6(2) in the Convention, after each meeting, the Committee will provide a report on its work to the Commission that includes, where appropriate, advice and recommendations to the Commission.

As per Article 11(3) in the Convention, the Committee shall make every effort to adopt its reports by consensus. If every effort to achieve consensus has failed, the report shall indicate the majority and minority views and may include the differing views of the representatives of the Members on all or any part of the report.

These Terms of Reference are subject to approval by the Commission. They may be revised by the Committee based on consensus and subsequent approval by the Commission.

North Pacific Fisheries Commission
3rd Meeting of the Finance and Administration Committee

15 July 2019
Tokyo, Japan

REPORT

Agenda Item 1. Opening of the Meeting

1. The 3rd Meeting of the Finance and Administration Committee (FAC) took place in Tokyo, Japan on 15 July 2019, and was attended by Members from Canada, China, Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, the United States of America, and Vanuatu. The European Union and the Pew Charitable Trusts attended as observers. The meeting was opened by Dr. Bai Li (China) 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 Chair proposed the addition of a new agenda item, 6.4, on 360-degree performance review. The FAC endorsed the proposal.
4. The Chair reviewed the recommendations from FAC02 and explained the agenda items and meeting documents under which these would be addressed.
5. The revised agenda was adopted (Annex A). The List of Documents and Participants List are attached (Annexes B, C).

Agenda Item 4. Financial Statement

4.1 Financial Statement from 2018 and 2019 to date

4.2 Status of Member Contributions

4.3 Status of Other Funds

- *Working Capital Fund*
- *Special Project Fund*
- *Voluntary Contribution*

6. The Executive Secretary, Dr. Dae-Yeon Moon, reported on the income and expenses in 2018, expenses to date in 2019, the status of Member contributions, and the status of the other funds, including the Working Capital Fund, the Special Project Fund and Voluntary Contribution (NPFC-2019-FAC03-IP01; NPFC-2019-FAC03-WP01).
7. The FAC expressed its appreciation for the voluntary contribution provided by the United States for the participation of independent experts in the meetings of the Technical Working Group for Pacific Saury Stock Assessment and the Biological Reference Point/Harvest Control Rule/Management Strategy Evaluation Workshop. The FAC recognized the value of having independent experts also participate in future stock-assessment related meetings.
8. The FAC noted that although there was a surplus in the budget for 2019, it would be prudent to keep the overall budgetary contribution at a similar level in 2020-2022 so as to maintain the robustness of the NPFC and its Secretariat.

Agenda Item 5. Secretariat's Work Plan 2019; Budget Estimates for 2020-2022

9. The Executive Secretary reported on the implementation of the Secretariat's Work Plan 2018 (NPFC-2019-FAC03-IP02).
10. The Executive Secretary presented the Secretariat's Work Plan for 2019 (NPFC-2019-FAC03-WP02). The FAC reviewed and revised the work plan.

Recommendation: That the Commission adopt the revised work plan for 2019 (Annex D).

11. The Executive Secretary presented the adjusted budget for 2019 and the budget estimates for 2020-2022 (NPFC-2019-FAC03-WP01 (Rev. 2)) for the review of the FAC. The FAC endorsed the adjusted budget for 2019 and the proposed budget for 2020, and considered the estimated budgets for 2021 and 2022.

Recommendation: That the Commission adopt the adjusted budget for 2019 and the proposed budget for 2020 (Annex E).

Agenda Item 6. Administration Matters

6.1 Review of Special Projects from SC and TCC

12. The Executive Secretary explained that no special projects have been proposed thus far.

6.2 NPFC Secondment and Intern for 2019

13. The Executive Secretary explained that the Secretariat has opened the applications for the 2019-2020 NPFC Internship Program and presented five candidates for the consideration of the FAC (NPFC-2019-FAC03-WP03).

Recommendation: That the Commission hire three interns for the 2019 NPFC Internship Program and select the top three candidates based on the ranking in NPFC-2019-FAC03-WP03.

6.3 Amendments to Administrative Compendium

14. The Executive Secretary presented proposed amendments to Regulation 8.2 of the Staff Regulations to avoid a situation in which the intended benefits for staff dependents in the case of mortality of the staff member are negated by customary Japanese practice in relation to accommodation contracts (NPFC-2019-FAC03-WP04). The FAC considered and modified the proposed amendments.

Recommendation: That the Commission adopt the proposed amendments to Regulation 8.2 of the Staff Regulations (Annex F).

6.4 360-Degree Performance Review

15. The Executive Secretary presented the draft plan for implementing a 360-degree performance review (NPFC-2019-FAC03-WP05). The FAC reviewed and revised the draft plan.

Recommendation: That the Commission adopt the plan for implementing a 360-degree performance review (Annex G) and task the Secretariat with implementing the review from January 2020 onwards.

Agenda Item 7. Other Matters

16. No other matters were discussed.

Agenda Item 8. Recommendations to the Commission

17. The FAC recommended the following to the Commission:

(Agenda Item 5)

(a) That the Commission adopt the revised work plan for 2019 (Annex D).

(b) That the Commission adopt the adjusted budget for 2019 and the proposed budget for 2020 (Annex E).

(Agenda Item 6)

(c) That the Commission hire three interns for the 2019-2020 NPFC Internship Program and select the top three candidates based on the ranking in NPFC-2019-FAC03-WP03.

(d) That the Commission adopt the proposed amendments to Regulation 8.2 of the Staff Regulations (Annex F).

(e) That the Commission adopt the plan for implementing a 360-degree performance review (Annex G) and task the Secretariat with implementing the review from January 2020 onwards.

(Agenda Item 9)

(f) That the Commission provide guidance in determining the date and location of the next

FAC meeting.

Agenda Item 9. Next Meeting

18. **Recommendation:** That the Commission provide guidance in determining the date and location of the next FAC meeting.

Agenda Item 10. Adoption of the Report

19. The report was adopted by consensus.

Agenda Item 11. Close of the Meeting

20. The FAC meeting closed at 16:27 on 15 July 2019.

ANNEXES

Annex A – Agenda

Annex B – List of Documents

Annex C – List of Participants

Annex D – Secretariat’s Work Plan for 2019

Annex E – Draft Commission Budgets, 2019-2022

Annex F – Proposed Amendment to Staff Regulations

Annex G – Plan to implement a 360-degree Performance Review

North Pacific Fisheries Commission
3rd Meeting of the Finance and Administration Committee
15 July 2019
Tokyo, Japan

Agenda

Agenda Item 1. Opening of the Meeting

Agenda Item 2. Appointment of Rapporteur

Agenda Item 3. Adoption of Agenda

Agenda Item 4. Financial Statement

4.1 Financial Statement from 2018 and 2019 to date

4.2 Status of Member Contributions

4.3 Status of Other Funds

- Working Capital Fund

- Special Project Fund

- Voluntary Contribution

Agenda Item 5. Secretariat's Work Plan 2019; Budget Estimates for 2020-2022

Agenda Item 6. Administration Matters

6.1 Review of Special Projects from SC and TCC

6.2 NPFC Secondment and Intern for 2019

6.3 Amendments to Administrative Compendium

6.4 360-degree Performance Review

Agenda Item 7. Other matters

Agenda Item 8. Recommendations to the Commission

Agenda Item 9. Next meeting

Agenda Item 10. Adoption of the Report

Agenda Item 11. Close of the Meeting

List of Documents

MEETING INFORMATION PAPERS

Document Number	Title
NPFC-2019-COM05-MIP01	Details for the 4 th Technical and Compliance Committee, 3 rd Finance and Administration Committee and 5 th Commission Meetings
NPFC-2019-FAC03-MIP02 (Rev 1)	Provisional Agenda
NPFC-2019-FAC03-MIP03	Provisional Annotated Agenda
NPFC-2019- FAC03-MIP04 (Rev 1)	Indicative Schedule

WORKING PAPERS

Document Number	Title
NPFC-2019- FAC03-WP01 (Rev 2)	Draft Commission Budgets, 2019-2022
NPFC-2019- FAC03-WP02 (Rev 1)	Secretariat Work Plan 2019
NPFC-2019- FAC03-WP03	2019 NPFC internship Program
NPFC-2019- FAC03-WP04 (Rev 1)	Proposed Amendment To Staff Regulations
NPFC-2019- FAC03-WP05 (Rev 1)	Plan to implement a 360-degree Performance Review

INFORMATION PAPERS

Document Number	Title
NPFC-2019- FAC03-IP01	Auditor Report 2018
NPFC-2019- FAC03-IP02	Implementation of the Secretariat's Work Plan 2018

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SECRETARIAT WORK PLAN 2019

ABSTRACT

This paper addresses a work plan for 2019 fiscal year for four key areas based on the Secretariat's Work Plan 2016-2019 presented at the 2nd Commission meeting*;

- (a) Coordination of scientific activities of the Commission;
- (b) Coordination of compliance activities and operational reporting to the Commission;
- (c) Data management and security;
- (d) Provision of finance and administration services to support the Commission in the execution of management work plan

* It should be noted that the Secretariat work planning exercise is hampered by the timing of the subsidiary meetings. Only the Scientific Committee has met and endorsed its work plan for 2019. The Finance and Administration Committee has not met so only reports and proposed budgets can be presented at this time. The Technical and Compliance Committee has not met so compliance specific activities in 2019 have not yet been established by TCC consequently the list of Secretariat-intended activities in this sector is only tentative.

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 2019 financial year.

I. Coordination of scientific activities of the Commission

The Secretariat coordinates the scientific activities of the Commission including:

- a. Implementation and revision, when necessary, of the Scientific Committee Five-Year Work Plan 2017-2021 for each Priority Area:
 - Stock assessments for target fisheries and bycatch species
 - Ecosystem approach to fisheries
 - Data collection, management and security
(refer to Annex G of the 4th SC Report for details).
- b. Assisting Members to develop a VME identification field guide
- c. Assisting Members to develop a GIS database for the spatial management of bottom fisheries and VMEs.
- d. Assisting Members to develop joint spatial/temporal map of Members' catch and effort on Pacific saury
- e. Coordinating a meeting of the Small Scientific Committee (SSC PS05) to be held in Japan in November 2019.
- f. Coordinating a meeting of the Technical Working Group on Chub Mackerel Stock

- Assessment (TWG CMSA03) to be held in Japan in Jan-Feb 2020.
- g. Coordinating meetings of the SC and SSCs to be held in Vanuatu in April 2020.
 - h. Assisting Members in identifying data gaps which can be fulfilled by an observer program.
 - i. Assisting Members to invite expert (s);
 - to develop an operating model for chub mackerel stock assessment
 - to provide advice at the SSC PS05 meeting
 - j. Promoting cooperation with NPAFC including macro-scale multinational survey in the North Pacific through NPAFC-PICES Workshop to be held in Canada in October 2019
 - k. Coordinating an international course for NPFC observers for VME indicator taxa to be held in 2020
 - l. Assisting Members in standardization of bycatch species list and fish species identification guides
 - m. Coordinating scientific projects to be conducted during 2019 and 2020.
 - n. Coordinating intersessional activities of the SC and its subsidiary bodies as specified in the SC Work Plan.

#	Project	Time	Rough estimation of required funds
1	VME taxa identification guide	2017-2020	<i>2019 FY: No funds required. 2020: 1.1mil JPY</i>
2.1	GIS database/module as a part of NPFC database management system	2018-2019	<i>2019 FY: 0.55 mil JPY (~5,000USD)</i>
2.2	Joint spatial/temporal map of Members' catch and effort on Pacific saury	2018-	<i>2019 FY: 0.55 mln JPY (~5,000USD)</i>
3	Pacific saury stock assessment meeting (meeting costs)	Every year, 2017-2021	SSC PS05 meeting, Nov 2019 (4 days), Japan <i>2.2mln JPY (20,000USD)</i>
4	Chub mackerel stock assessment meeting (meeting costs)	Every year	Jan-Feb 2020 (4 days), Japan <i>2.2mln JPY (20,000USD)</i>
5	Expert to review Pacific saury stock assessment (consultant fee and travel cost)	TBD later	<i>2019 FY: No funds required.</i>
6	Observer Program	2018-	Identify data gaps which can be fulfilled by an observer program. <i>2019 FY: No funds required.</i>
7	Promotion of cooperation with NPAFC including macro-scale multinational survey in the North Pacific in 2021	2021	<i>NPAFC-PICES Workshop (Victoria, Canada, October 2019). 2019 0.3mln JPY. Dr Chris Rooper will represent the NPFC and Science Manager will attend as a convener.</i>
8	Invited expert for the development of the operating model for chub mackerel stock assessment (consultant fee and travel cost)	2020	Select and contract an expert. <i>2019 FY: 1,1mln JPY (10,000USD)</i>
9	Invited expert to stock assessment meetings of Pacific saury	2019-	<i>2019 FY: 1.1mln JPY (10,000USD) for two meetings.</i>

	(consultant fee and travel cost)		
10	International Course for NPFC observers for VME indicator taxa (consultant fees and travel costs for two lecturers, meeting costs)	2020	3-4 days. <i>2019 FY: No funds required.</i> <i>2020 FY: 1,65mln JPY (15,000USD).</i>
11	Standardization of bycatch species list and fish species identification guides (translation of the existing fish ID guide from Japan to additional languages)	2019-2020	<i>2019 FY: No funds required.</i> <i>2020 FY: 1.1mln JPY (10,000USD).</i>
12	Joint PICES-NPFC workshop (W11) on the influence of environmental changes on the potential for species distributional shifts and subsequent consequences for estimating abundance of Pacific saury	2019	<i>2019 FY: 0.3mln JPY (travel costs of invited expert (Dr. Bai Li) who will represent NPFC)</i>

II. Coordination of compliance activities of the Commission

* Note that compliance specific activities in 2019 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 streamlining of the SWGs into two, one for Operations and the second for Policy and Monitoring to address the following;
 - Second VMS study completed on design with Members being asked to approve a tender for the final regional VMS implementation
 - Refinements to the Vessel Registry and all Members appointing a Vessel Registry manager and entering data online
 - Compliance Monitoring Scheme in final development stages with intent for implementation in 2020
 - HSBI scheme in full operation
- b. Review of existing CMMs for revision and consideration of new CMMs, if any, from Members;
- c. Maintain the vessel register and interim non-member carrier vessel register for Members, if approved for extension, and assistance to new CNCPs as they join the Commission.
- d. Preparing the e-IUU vessel system, setting up an e-CMS, e-annual report system, and development of the data warehouse to assist the Commission in the analysis of the data, and more.
- e. Coordinate the e- IUU vessel listing process from data submitted by Members.
- f. Address VMS and other electronic monitoring systems to assess compliance as directed by the Commission.
- g. Conduct a study towards the establishment of robust transshipment measures.
- h. Other tasking to be set at the 4th TCC and 5th Commission meetings in July 2019.

III. Data management and security

The data management system is the core for the storage of data and the analyses of scientific and compliance operations of the Commission, consequently, significant effort is being placed

on the development of this system. The intent of the NPFC Database is to provide a secure, user-friendly, accessible, and reliable database for all scientific and compliance needs of the Commission, one that is fully integrated with other data modules of the Commission so as to continually support Members' efforts to provide appropriate and timely management advice to the Commission.

- a. Based on the discussions during the SSC VME and BF Meetings held in April 2019, Members will collaborate with the Secretariat to develop a GIS database for the spatial management of bottom fisheries and VMEs.
- b. Continuously from last year, the Secretariat will assist a Small Working Group to develop joint spatial/temporal map of Members' catch and effort on Pacific saury which are plotted over a monthly period of time from 1994 to present, with the corresponding Sea Surface Temperature (SST).
- c. The Secretariat will maintain and improve the High Seas and Boarding Inspection Page to assist the Commission in moving forward and implementing HSBI operations to meet the requirement of Members who conduct HSBI.
- d. To facilitate the automation and streamline the process of submitting the annual reports by Members, the Electronic Annual Report is now available in the UAT environment and Members are asked to appoint their official Submission Manager responsible for submitting the annual report. Each Submission Manager will be given the proper credentials and will be asked to test the system in the test site.
- e. To assist Members in registering their delegation to all official meetings, the new Meeting Management System was released via the NPFC website. The designation of a Group Administrator by each Member simplifies the user registration process and is instrumental in confirming the identity of a participant at the NPFC meeting. The system will be upgraded based on the feedback from users.
- f. The Secretariat commissioned a Japanese IT company to develop a small-scale HR and administration system in order to assist the daily operations of the Secretariat and will assist this company to improve the HR system for effective operation of the Secretariat.

IV. 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 the Secretariat's work plan 2016-2019, the Secretariat highlights the following as major financial activities for 2019:

- a. Drafting a four-year budget plan 2019-2022 for approval at the 5th Commission meeting;
 - Adjustment of the 2019 budget expenditures based on actual expenditures during 2018, and development of a proposed 2020 budget and budget forecast for 2021 and 2022;
- b. Submission of the external Auditor's Report for the Commission's 2018 financial affairs

2. Provision of administrative services to the Commission and its subsidiary bodies

1) Host Commission meetings

The Secretariat assists Members to host Commission meetings, subsidiary body meetings and workshops and working group meetings.

- a. Scientific Meetings (15-26 April 2019, Jeju, Korea)
- b. Annual Meetings (11-18 July 2019, Tokyo, Japan)
 - 4th Technical and Compliance Committee (TCC), 11-13 July
 - 3rd Finance and Administration Committee (FAC), 15 July
 - 5th Annual Session of the Commission, 16-18 July
- c. Workshops and Technical Working Group meetings
 - SSC PS05 (November 2019, Japan)
 - TWG CMSA03 (Jan-Feb 2020, Japan)
- d. Compliance SWGs/Workshops to take place during the intersessional period, exact date shall be decided by the Commission.

2) Maintenance of NPFC Website and development of web-based systems

The Secretariat launched a number of web-based tools under the npfc.int domain name and it is now up and running. The Secretariat will upgrade the website based on feedback from users and maintain the web-based tools developed to date.

- Vessel Registry Direct Entry System (<https://www.npfc.int/compliance/vessels>)
- NPFC Collaboration Site (<https://collaboration.npfc.int/>)
- NPFC Geoserver (<http://gis.npfc.int/geoserver/web/>)

3) Cooperation with other organizations

The Secretariat currently liaises with other organizations including RFMOs by attending meetings for information sharing and for developing other joint or reciprocal activities of mutual interest. In 2019, the meetings attended and scheduled to be represented by Secretariat staff are as follows:

Meeting	Date and place	Purpose	Expected outcomes

UN BBNJ	1) 25 Mar- 5 Apr, USA (attended 2 nd wk) 2) 19-30 Aug, USA (will attend 2 nd wk) 3) early 2020, USA (will attend 2 nd wk)	1) ES attended to support the development of the BBNJ legislation in a manner that recognizes and includes the appropriate role for deep-sea RFMOs and does not undermine current legal instruments for these RFMOs 2) and 3) CM to attend the second week of each meeting	Assist Members and cooperate with other RFMOs in this exercise: three sessions are to take place (2 in 2019 and last in 2020), which result in an internationally legally binding instrument for the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction.
Global Ocean Governance (travel support by organizer)	8-10 May, Korea	ES invited to contribute to Conference “Global Ocean Governance and the Contributions of International Organization”	Introduction of NPFC to the participants and liaison with international organizations for networking for future cooperation
NPAFC Annual Meeting	13-17 May, USA	Chair of the Commission and ES attended the signing ceremony of Memorandum of Cooperation between NPFC and NPAFC which took place during the annual meeting of NPAFC	Facilitation of cooperation with NPAFC based on formal arrangement (MOC) in the areas of common interest: Compliance and Science
Global Record and Port State Measure Working Group on Information Exchange	13-17 May, Korea	CM attended fifth Meeting of Global Record Working Group (GRWG5) and second Meeting of the PSMA Technical Working Group on Information Exchange (TWG-IE2)	Learning global exercise in port state measures to fight against IUU fishing activities and linkage with other RFMOs and international organizations to implement PSMA
NAFO Scientific Council (travel support by FAO)	31 May - 13 June, Canada	SM invited to attend NAFO Scientific Council as part of capacity building to be sponsored by FAO ABNJ Project	Learning scientific progress of NAFO on deep sea fisheries resources, sharing experience with NAFO Secretariat and communication with NAFO for possible cooperation between the two organizations
IPHC Performance Review (travel support by IPHC)	1) 4-6 June, USA 2) 8-10 Oct, Canada	CM invited to contribute as a panel member to the second Performance Review of the International Pacific Halibut Commission (IPHC)	Learning the performance review of an RFMO with a view to applying it to our performance review to be considered by our Members in the near future
SPRFMO Scientific Committee	7-12 October, Cuba	SM to attend Scientific Committee of SPRFMO to discuss potential areas of cooperation and scientific progress of SPRFMO in assessment of pelagic and bottom fish.	Formal discussion on the scientific aspects of cooperation to develop a MOU arrangement, in response to the invitation from the SPRFMO, between NPFC and SPRFMO.
PICES Annual meeting+WS	16-27 October, Canada	SM to attend annual meeting of PICES and workshops organized by NPFC (Pacific saury) and NPAFC (large-scale survey in the NP)	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.

WCPFC Annual Meeting	5-11 December, Popua New Guinea	ES to attend annual meeting of WCPFC to discuss issues of common interest especially compliance issues	Facilitation of cooperation between NPFC and WCPFC through the development of a formal relationship
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*shaded meetings have already been represented by NPFC staff

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. Joint multinational research survey in the North Pacific planned in 2021 under the International Year of Salmon project of NPAFC to collect new data on species of NPFC's interests. The SC nominated Dr. Chris Rooper to represent the NPFC at the NPAFC-PICES workshop to develop an integrated research program of the large-scale multinational survey in the North Pacific.
- b. NPFC-PICES Study Group has completed a framework for scientific cooperation between NPFC and PICES in the North Pacific. The framework will be presented to the Commission at its meeting in July.
- c. Development of MOU between NPFC and SPRFMO as proposed by the Executive Secretary of SPRFMO (Circular 033-2019 of 1 May 2019).
- d. Development of MOU between NPFC and WCPFC to cooperate in the areas of mutual interest especially for compliance to stop IUU fishing activities in the Convention Area
- e. Cooperation for compliance purposes to be determined by TCC and the Commission, e.g., NPAFC for air surveillance and HSBI for salmon bycatch, USCG for HSBI, All members for VMS and HSBI

4) Enhancing public awareness

The Secretariat will enhance public awareness through various means:

- a. Update NPFC brochures for display at the Secretariat office for visitors
- 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. Publication of the NPFC Yearbook to entail activities of the Commission for 2019
- f. Receive visitors from international organizations, local government, embassies, and universities

5) 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 2018 fiscal year: staff performance review by Executive Secretary, a performance review of the Executive

Secretary by the Commission. A summary of the performance reviews will be provided to the Commission at the Heads of Delegations meeting; a 360-degree performance review will be considered by Members as a supplementary evaluation of the Secretariat staff. Submit 2020 annual performance review for the Secretariat Staff by 31 March 2020

- b. Use contractual services to assist the Secretariat work
- c. Manage interns from Members for up to six-month period, through advertisement and selection guidelines set by the Commission, after consideration and approval by the Commission.

Timeline for Commission’s activities and budget estimate in 2019 financial year

Activity	2019 fiscal year												Budget (JPY)
	2019 Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2020 Jan	Feb	Mar	
Science													10mil
Compliance													12.2mil
Data													8.3mil
Meetings	SC04			TCC/FAC/COM				PSSA		CMSA			6.0mil
Website													1.3mil
Cooperation		GOGC PSMA NPAFC	NAFO IPHC			BBNJ		SPRFMO PICES		WCPFC	BBNJ		6.8mil+*
Public													1 mil
Human													19.5mil

DRAFT COMMISSION BUDGETS, 2019-2022

Abstract:

The NPFC Secretariat submits this paper for the consideration of the Commission to report on: a) income and expenditures, b) adjusted budget for 2019, proposed 2020 budget and indicative budgets for 2021-2022 in accordance with the NPFC Financial Regulations, and c) Member contributions for 2019-2020.

During the 2018 fiscal year, total income recognized was JPY 157,271,402 and total expenses spent was JPY 114,300,598, leaving JPY 42,970,804 as the Commission surplus which was mainly due to lower expenses on personnel cost, contractual services, MCS costs as well as some unspent scientific funds which have been transferred to the Special Project Fund for future NPFC projects.

The 2019 budget was adjusted based on actual expenses incurred during the 2018 fiscal year, which results in decreased expenses by about 3.6% compared to the adopted budget last year. Data Management, MCS costs and Office Equipment reflect increased cost due to delayed website management for data and information on compliance and science, delayed consultancy to implement a regional VMS system and expansion of the Secretariat office, respectively, while Science Support and Meeting Costs decreased.

The budget amount proposed for 2020 is about JPY 149mil, a slight decrease from the 2019 adjusted budget, reflecting decreased operational cost, but will be adjusted next year as the Commission may recommend additional projects including Fisheries Monitoring Center and NPFC Performance Review.

The indicative budgets for 2021-2022 remain similar to the proposed 2020 budget, but will be reviewed annually, to accommodate the needs of the Commission to obtain the objectives of the Convention and possible recruitment of new Secretariat staff to meet the requirements of the Commission.

NPFC BUDGET 2019-2022 DETAIL

Objective:

Submit to the Commission the income and expenses tables for 2018, budget adjustment for 2019 and proposed budget for 2020 and budget forecasts for 2021-2022, and calculation of future contributions in accordance with the proposed budgets.

Note: The Budget is in Japanese Yen (JPY) as per the Financial Regulations Paragraph 4 and Convention Article 12. The accounting entries that arose in United States dollars are also recorded in Japanese Yen, applying daily exchange rates provided by the local bank hosting NPFC accounts in Tokyo. The financial year shall be the period from 1 April through 31 March of the following year.

Introduction:

A. Statement of Income and Expenditures:

Income and Expenses Statement

From the 2018 Financial Statement (Auditor's Report, NPFC-2019-FAC03-IP01), the State of Income and Expenditure for the year ending 31 March 2019 (2018 fiscal year) is as follows:

State of Income and Expenditure (General Fund) the Year ending 31 March 2019

Item	Actual 2018 (JPY)	Budget Appropriations 2018 (JPY)
Income		
Members' Contributions*	157,271,402	157,271,403
Miscellaneous Income	0	0
Total Income	157,271,402	157,271,403
Expenditure		
Personnel Costs	73,461,427	83,384,468
Other Service Costs	40,839,171	73,886,935
Total Expenditure	114,300,598	157,271,403
Commission Surplus	42,970,804	0

* including outstanding contribution of the USA

Income

Member contributions are a primary source of income of the Commission and shall be paid by 31 March 2019, the end date of the financial year 2018. As of 31 March 2019, seven Members have paid their full 2018 contributions and one Member contribution of JPY 9,504,889 was paid on 8 April 2019. According to the Commission's Financial Regulations 14, outstanding contributions by the end of the financial year are considered one year in arrears and currently there are no Members who are two full years in arrears.

Status of Members' contributions 2018, JPY (as of 31 March 2019)

Member	Adopted	Contribution Received	Outstanding
Canada	8,482,889	8,482,889 (11 June 2018)	0
China	38,251,613	38,251,613 (17 August 2018)	0
Japan	44,000,000	22,000,000 (18 January 2019) 22,000,000 (28 February 2019)	0
Korea	9,214,813	9,214,813 (01 March 2019)	0
Russia	7,062,216	7,062,216 (27 December 2018)	0
Chinese Taipei	34,062,560	34,062,560 (26 July 2018)	0
USA	9,504,889	0	9,504,889*
Vanuatu	6,692,422	6,692,422 (16 Jan 2019)	0
Total	157,271,403	147,766,514	9,504,889

*paid on 08 April 2019

The total 2018 income recognized was JPY 157,271,403.

Expenses

By the end of the fiscal year, JPY 114,300,598 had been spent, which accounts for about 72.7% of the total income. The under-expenditure was mainly due to lower expenses on personnel cost and other service costs. Please refer to the budget table of Annex A for details of budgeted and actual expenditures for the 2018 fiscal year.

1) Personnel Costs

This budget category includes salaries, benefits and allowances of all staff members. The amount charged to this category was JPY 73,461,427 representing expenditures of 11.9% less

than the appropriated budget. The lower expenditure was due to lower expenses on personal social security and education fee with decreased number of dependents to be supported.

2) Other Service Costs

This budget category includes general operational costs, of which staff's duty travel, contractual services, data management, MCS, Science support, meeting costs are the main components of this category. The amount charged to this category was JPY 40,839,171, representing expenditures of 44.7% less than the appropriated budget. The lower expenditure was mainly due to no or less expenditures in NPFC internship program, a legal advisor consultancy, part-time consultants to assist the Secretariat's works, the aforementioned delays in the Regional VMS consultancy, and the cancellation of the CMS consultancy in favour of the USA taking the lead role to develop the CMS internally. Voluntary contributions from the USA and financial support by the FAO ABNJ program for the NPFC/FAO VME Workshop held in March 2018 also contributed to this substantial saving from the operational cost.

In accordance with recommendations adopted by the FAC02, the Secretariat presents the consolidated overview of expenses of Other Service Costs incurred in 2018.

Consolidated expenses of Other Service Costs

Other Service Costs	Expenditures*
Science	18,451,028
Compliance	4,677,538
Administration	12,121,984
Total	35,250,550

*Expenses from Duty Travel, Contractual Services, Data Management, MCS Costs, Meeting Costs/Workshops, and Science Support were allocated to the relevant Committee taking into account the purpose.

Consolidated expenses for the compliance was low due to outstanding payment of HSBI preparation cost and delayed VMS consultancy, which were reflected in the 2019 budget. Expenses for the science have partly been covered by other than regular Members contribution sources such as the US voluntary contribution for Pacific saury stock assessment and a co-sponsorship of the VME workshop by FAO.

Voluntary Contributions

In accordance with the NPFC Financial Regulations 26, NPFC can accept the voluntary contribution from Members and non-Members if it is consistent with the policies, aims and activities of the Commission. During the 2018 fiscal year, NPFC received voluntary contributions of USD 40,000 (JPY 4,462,800) from the USA to support external independent experts to contribute to Pacific saury stock assessment. This voluntary contribution comprises payment for one external expert who attended the TWG PSSA03 in November 2018 and PSSA04 held in March 2019, and three experts invited for the BRH/HCR/MSE WS held in March 2019. Funded activities expensed JPY 3,440,440, leaving JPY 1,022,360 as the balance as of 31 March 2019.

Status of Voluntary Contributions as of 31 March 2019

Income	2018, JPY
Contribution from the USA	4,462,800 (USD 40,000)
Total income	4,462,800
Expenditures	3,440,440
Total Expenditures	3,440,440
Fund balance	1,022,360

Commission Surplus

For the 2018 fiscal year the Commission surplus was JPY 42,970,804 which was transferred to the Working Capital Fund and the Special Project Fund in accordance with Financial Regulations and decisions adopted by the Commission.

B. The Adjusted Budget for 2019, Proposed Budget for 2020 and Budget Forecasts for 2021-2022

Adjusted budget for 2019

At the 4th Commission meeting last year, the 2019 budget was adopted, but it was adjusted based on actual expenses incurred during the 2018 fiscal year, which resulted in decreased expenses by about 3.6% compared to the adopted budget last year. The adjusted budget reflects lowered social security of the Secretariat staff and education fee of staff's dependents, and increased repatriation allowance as savings to prepare for future separation of professional staff. In operating cost, Data Management, MCS costs and Office Equipment reflect increased expenses due to delayed website management for data and information on compliance and science, delayed consultancy to implement a regional VMS system and expansion of the Secretariat office, respectively, while Science Support and Meeting Costs decreased to some extent from the 2019 figure adopted last year.

Proposed budget for 2020 and estimated budgets for 2021-2022

The proposed budget for 2020 is a slight decrease from the 2019 budget and the proposed budget forecasts remain similar level for the years 2021 and 2022, but they will be reviewed annually with possible adjustment of operational and personnel expenses as the Commission grows and expands its work areas in science and compliance. Increased costs may be covered by the Working Capital Fund and Special Projects Fund to which unspent funds from annual budgets have been transferred.

The budget is addressed in two parts; Personnel and Other Service Costs.

General notes:

- Operational costs for 2020-2022 remained at a similar level of the 2019 budget, a possibility of increase to accommodate projects including Fisheries Monitoring Center and NPFC Performance Review to be considered by the Commission.

- Personnel costs were kept at a similar level of the current staff with a slight salary increment based on annual performance review and possible adjustment following decisions by Members in response to recommendations from the Salary Consultancy of 2017. Recruiting new staff including a Finance Coordinator also is pending subject to decisions by Members considering future needs of the Commission.

Detailed notes:

Part 1 – Personnel Costs

The main components of the Part 1 budget are to support the Secretariat staff currently being hired in two classes – as of April 2019 three professional staff and two general service staff - and includes expenses for staff salary, social security and insurance, staff allowances, training and education fee.

- The salary level that is presented here is to tentatively reflect 3% increment from the 2019 figure and shall be adjusted in accordance with: - annual performance reviews to be concluded during June each year and possible adjustment to be considered by the Commission on the recommendations from the above noted Salary Consultancy with regard to staff salary levels considering professional experience, and cost of living, etc. consistent with the UN salary scale. Extra budget required to supplement the current salary levels is expected to be transferred from the Working Capital Fund which can be used to offset expenditures from time to time in accordance with Financial Regulations and endorsed by the Commission.
- Part-time clerical assistance for meeting preparation and other special events remained the same throughout the years.
- Social Security & Insurance and Pension Costs reflect annual increment of Staff salary.
- Travel expenses (economy class airfare only) to the staff member's home country for three internationally recruited staff members shall be paid initially after 18 months of service then thereafter at two-year intervals.
- Expenses for the items Staff Allowances – Repatriation, on separation from service, a staff member shall be entitled to repatriation allowance consistent with United Nations' practice, including economy class airfares, payment of removal costs and allowance. The proposed budget intends to save money to prepare for future separation of staff and unspent budget shall be carried over to the Working Capital Fund under the category of repatriation allowance.
- Expenses for the Accommodation subsidy was based on the actual expenses incurred in 2018, with a possibility of a slight increase if the contract is renewed at two-year intervals.
- Education fees support the education of three dependents of Professional staff.

Part 2 – Other Service Costs

This is the operational component of the Commission, namely office administrative costs, contractual services, equipment and furniture and key activity components, including: data management, MCS/compliance costs; those for scientific studies and activities, data collection and analyses; costs of meetings and workshops in support of science and compliance activities; and duty travel.

- Office Equipment & Furniture reflects actual expenses incurred in 2018.
- Office supplies remained a similar level to 2018 expense and remain constant throughout the years.
- Contractual services cover the remuneration of NPFC interns starting from 2018 financial year (JPY 2.4mil), consultancies including a legal advisor (JPY 4.0mil), consultants to assist the Secretariat works for finance and administration (JPY 8.0mil) and special projects to be developed. It also includes the hiring of a professional rapporteur for Commission meetings (SC, TCC, FAC and Commission meetings cost about JPY 4.0mil). For 2020, it includes NPFC Performance Review (JPY 6.6mil) if decided by the Commission.
- Database Management mainly covers management and upgrade of the website (JPY 5.0 mil) and human resources and administration system (1.5mil). It also includes tasks related to spatial management for VME and fisheries for priority species, e-reporting system, preparatory work to evolve into a Data Center for compiling, processing, managing and security of all data received from Members for Science and Compliance purposes.
- MCS costs include establishing Compliance Monitoring Scheme (JPY 1.3 mil), HSBI and other MCS tools (JPY 3.4 mil), hosting a face to face SWG meeting (JPY 2.2 mil), and development of other compliance tools to stop IUU fishing. For 2021-2022, it includes the Fisheries Monitoring Center development (estimated at about JPY16.8 Million by CLS in the consultancy – *these additional funds are not in the 2022 budget and are proposed to come from the WCF as noted below*).
- Meeting and workshop costs were based on average meeting costs for hosting NPFC meetings in 2018 including the Commission meeting, associated Subsidiary Body meetings and workshops (both Scientific and Compliance). It also covers travel costs of the experts invited to attend NPFC meetings as approved by the Commission.
- Expenses for Science Support reflects 5-year science plan adopted by the Scientific Committee, including data management, stock assessments of priority species, VME taxa id guide development, observer program, and other scientific activities as agreed by the Scientific Committee and its subsidiary bodies (NPFC-2019-SC04-Final Report).

Working Capital Fund and Special Project Fund

- As suggested by the external auditor, the Working Capital Fund shall be kept between JPY 40-50 mil to provide at least six months of operational cost to the Commission without any inputs.
- Due to savings from the 2018 fiscal year, current balance of the Working Capital Fund is about JPY 100 mil and remains the same level throughout the years.
- The excess of WCF shall be used for the expenses to conduct additional projects to be decided by the Commission including a Fisheries Monitoring Center to implement a regional VMS system and hiring additional staff including a Finance Coordinator, Assistant Managers to support Science and Compliance and IT Manager.

c) Members' Contributions 2019-2020

In accordance with Paragraph 12 of the NPFC Financial Regulations, Members' contributions are calculated by the following formula:

- (a) 35 percent of the budget shall be divided equally among members of the Commission;
- (b) 55 percent of the budget shall be divided proportionally among members of the Commission based on the three-year average, ending one year before the year of the annual dues, of the total catches by weight in the Convention Area of the species covered by the Convention; and
- (c) 10 percent of the budget shall be divided proportionally among members of the Commission based on each member's Gross Domestic Product (GDP) per capita.

<http://www.imf.org/external/pubs/ft/weo/2018/01/weodata/>

Members' Contributions for 2019 for Part (b) of the formula were based on average catches for years 2015, 2016, and 2017 inclusive, and have been adjusted due to final catch data available after 2018 Commission meeting. The Part (b) Contributions for 2020 include the final and preliminary data for the years 2016, 2017 and 2018 and shall be adjusted in 2020 according to final catch reports. The assessed contributions of Members for the years 2019-2020 were attached as Annex B.

Attached for consideration are the following:

- Annex A Budget with the first page being a summary of projected budget needs by categories, followed by the detailed budget format.
- Annex B Table of Contributions for Members for 2019-2020 noting that Japan's contribution remains stable at JPY 44,000,000/year at this time.

Budget 2019-2022 (Summary)

	Year 2018 Adopted	Year 2018 Actual	Year 2019 Adopted	Year 2019 Adjusted	Year 2020 Proposed	Year 2021 Estimated	Year 2022 Estimated
Staff Salary and Temporary Service	56,446,556	56,140,104	58,102,643	56,446,556	58,102,643	59,808,414	61,565,359
Personnel social security and benefits	20,073,240	15,162,521	22,119,400	18,953,920	19,216,305	19,486,561	19,764,925
Professional Development and education	6,864,672	2,158,802	6,864,672	4,000,000	4,000,000	4,000,000	4,000,000
Office costs	6,218,000	5,203,568	6,218,000	7,230,800	6,218,000	6,218,000	6,218,000
Science*	24,080,143	18,451,028	20,399,943	20,399,943	20,399,943	20,399,943	20,399,943
Compliance*	13,588,766	4,677,538	16,839,966	16,839,966	16,839,966	16,839,966	16,839,966
Administration*	28,928,571	12,121,984	25,850,931	26,806,131	23,311,331	23,311,331	23,311,331
Others	1,071,455	385,054	875,848	948,720	948,720	948,720	948,720
To/from Working Capital Fund	0	0	0	0	0	0	0
To/From Special Projects Fund	0	0	0	5,645,367	8,234,495	6,258,468	4,223,159
TOTAL	157,271,403	114,300,599	157,271,403	157,271,403	157,271,403	157,271,403	157,271,403
Working Capital Fund (cumulative)	60,909,508	99,904,536	60,909,508	99,904,536	99,904,536	99,904,536	99,904,536
Special Project Fund (cumulative)	20,176,776	24,152,552	20,176,776	29,797,919	38,032,414	44,290,882	48,514,041
Voluntary Contribution	0	1,022,360		1,022,360			

*Consolidated expenses for Science and Compliance by incorporating expenses from Duty Travel, Contractual Services, Data Management, MCS costs, Meeting Costs, and Science Support

Budget 2019-2022 (Details)

	Year 2018 Adopted	Year 2018 Actual	Year 2019 Adopted	Year 2019 Adjusted	Year 2020 Proposed	Year 2021 Estimated	Year 2022 Estimated
Items	Cost (JPY)	Cost (JPY)	Cost (JPY)	Cost (JPY)	Cost (JPY)	Cost (JPY)	Cost (JPY)
1. PERSONNEL COSTS							
1.1 Executive Secretary	17,594,653	17,594,652	18,122,493	17,594,653	18,122,493	18,666,168	19,226,153
1.2 Professional Category Position 1	12,329,677	12,329,676	12,699,567	12,329,677	12,699,567	13,080,554	13,472,971
1.3 Professional Category Position 2	12,213,360	12,213,360	12,579,760	12,213,360	12,579,760	12,957,153	13,345,867
1.4 General Services Category 1	6,660,726	6,660,732	6,860,547	6,660,726	6,860,547	7,066,363	7,278,354
1.5 General Services Category 2	6,404,540	6,404,544	6,596,676	6,404,540	6,596,676	6,794,576	6,998,414
1.6 General Services Category 3	-	-	-	-	-	-	-
1.7 Temporary Services	1,243,600	937,140	1,243,600	1,243,600	1,243,600	1,243,600	1,243,600
1.8 (a) Social Security & Insurance	11,565,480	7,618,428	11,565,480	8,000,000	8,240,000	8,487,200	8,741,816
1.8 (b) Pension Costs							
1.9 Overtime	746,160	494,074	746,160	746,160	768,545	791,601	815,349
1.10 (a) Staff Allowances - Home Leave	300,000	237,019	746,160	746,160	746,160	746,160	746,160
1.10 (b) Staff Allowances - Relocation	-	-	1,100,000	0	0	0	0
1.10 (C) Staff Allowances - Repatriation	-	-	500,000	2,000,000	2,000,000	2,000,000	2,000,000
1.10 (d) Staff Allowances - Accommodation Subsidy	7,461,600	6,813,000	7,461,600	7,461,600	7,461,600	7,461,600	7,461,600
1.11 Professional Development / Training	1,641,552	558,061	1,641,552	1,000,000	1,000,000	1,000,000	1,000,000
1.12 Education Fee	5,223,120	1,600,741	5,223,120	3,000,000	3,000,000	3,000,000	3,000,000
1.13 Separation	-	-	-	-	-	-	-

Allowances								
2. OTHER SERVICE COSTS								
2.1 Office Equipment & Furniture	2,487,200	2,186,446	2,487,200	3,500,000	2,487,200	2,487,200	2,487,200	2,487,200
2.2 Office Supplies	1,243,600	1,186,550	1,243,600	1,243,600	1,243,600	1,243,600	1,243,600	1,243,600
2.3 Rentals	-	-	-	-				
2.4 Communications	994,880	434,841	994,880	994,880	994,880	994,880	994,880	994,880
2.5 Printing	1,492,320	1,395,731	1,492,320	1,492,320	1,492,320	1,492,320	1,492,320	1,492,320
2.6 Duty Travel	6,839,800	6,777,419	6,839,800	6,839,800	6,839,800	6,839,800	6,839,800	6,839,800
2.7 Auditing	746,160	745,200	870,520	870,520	870,520	870,520	870,520	870,520
2.8 Contractual Services	23,218,000	8,895,320	19,587,000	19,587,000	19,587,000	19,587,000	19,587,000	19,587,000
2.9 Database Management	6,591,000	5,139,453	6,591,000	8,300,000	8,300,000	8,300,000	8,300,000	8,300,000
2.10 MCS Costs	8,705,200	416,298	8,705,200	12,200,000	8,705,200	8,705,200	8,705,200	8,705,200
2.11 Meeting Costs & Workshops	7,461,600	4,435,636	7,461,600	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000
2.12 Science Support	12,787,000	8,811,224	12,787,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000
2.13 Staff Recruitment & Hiring	248,720	30,000	248,720	248,720	248,720	248,720	248,720	248,720
2.14 To / From Working Capital Fund	0	0	0	0	0	0	0	0
2.14 bis To/From Special Project Fund	0	0	0	5,645,367	8,234,495	6,258,468	4,223,159	
2.15 Representation Expenses	248,720	248,438	248,720	248,720	248,720	248,720	248,720	248,720
2.16 Miscellaneous	822,735	136,616	627,128	700,000	700,000	700,000	700,000	700,000
TOTAL	157,271,403	114,300,599	157,271,403	157,271,403	157,271,403	157,271,403	157,271,403	157,271,403
Working Capital Fund (cumulative)	60,909,508	99,904,536	60,909,508	99,904,536	99,904,536	99,904,536	99,904,536	99,904,536
Special Project Fund (cumulative)	20,176,776	24,152,552	20,176,776	29,797,919	38,032,414	44,290,882	48,514,041	
Voluntary Contribution	0	1,022,360		1,022,360				

Explanations for budget items:

1.1-1.5 Staff Salary

Salary for five Secretariat Staff (ES, CM, SM, EA, DC) remains the same as 2018 and subject to change according to annual performance review and consideration by the Commission following the salary consultancy. Increased costs may be covered by the Working Capital Fund.

1.7 Temporary Services

Part-time clerical assistance for meeting preparation and other special events.

1.8 (a) Social Security + Insurance, and 1.8 (b) Pension Costs

Group Pension, group medical insurance, group long term disability, employment insurance (local staff only), etc. Local staff joins social security and insurance provided by local offices.

1.9 Overtime

Overtime work for General Service and Temporary Service categories. Professional Staff are not eligible to receive overtime pay.

1.10 (a) Staff Allowances - Home leave

After 18 months of employment, according to 7.12 in Staff Regulations, and two-year intervals thereafter the Commission shall pay travel expenses (economy airfare only) to staff member's home country on annual leave for staff members and their dependents.

1.10 (c) Staff Allowances – Repatriation

In accordance with Staff Regulations 10.4, on separation from service, a staff member shall be entitled to repatriation allowance consistent with United Nations' practice, including economy class airfares, payment of removal costs and allowance. The proposed budget intends to save money to prepare for future separation of staff and unspent budget shall be carried over to the Working Capital Fund under the category of repatriation allowance.

1.10 (d) Accommodation subsidy

The allowance is based on the actual contracts and set at maximum JPY 240,000 per month. The Commission shall reimburse 75% of actual expenses within the cap set above.

1.11 Professional Development / Training

Includes language learning and other training for Secretariat staff to pursue capacity building.

1.12 Education fee

The education allowance entitlement for Professional staff member is a maximum of JPY 2,000,000 per annum per dependent child. The Commission shall reimburse 75% of actual expenses within the cap set above. The education allowance shall be reviewed every three (3) years.

2.1 Office equipment + Furniture

Equipment and furniture costs for staff members and in case of its breakage. In the 2019 fiscal year, the budget reflects the cost for the expansion

of the Secretariat office to accommodate a VMS room and increased number of workers including interns and secondment.

2.2 Office supplies

Includes general expenditures for normal functioning of the Secretariat.

2.4 Communications

Includes estimated costs of telephone, fax, internet, postage and courier services.

2.5 Printing

Based on actual cost in 2018. Includes brochures, yearbook and other publications for meetings and public awareness.

2.6 Duty travel

Based on actual cost in 2018. Includes travel expenses to attend Commission regular meetings and workshops, FAO, UN-BBNJ and other RFMO meetings.

2.7 Auditing

Hiring an external auditor.

2.8 Contractual services

Hiring part-time specialists and consultants to assist in the Secretariat works for finance and administration; and for Special Projects to be developed by the Commission. Hiring of a professional rapporteur for Commission meetings. It also includes supporting two interns every year from 2018 onward.

2.9 Database management

Establishing the Commission's database management system. Database Management mainly covers management and upgrade of the website and human resources and administration system, and tasks related to managing and security of all data received from Members for Science and Compliance purposes.

2.10 MCS costs

MCS costs for the second phase of NPFC VMS development, TCC online vessel entry and other tools for implementing CMMs for compliance. It also includes a face to face SWG meeting to be held annually.

2.11 Meeting costs & Workshops

Based on average meeting costs for hosting NPFC meetings in 2018. Includes costs for holding Commission meetings, associated Subsidiary Body meetings, and workshops. It also covers travel costs of the experts invited to attend NPFC meetings as approved by the Commission.

2.12 Science Support

Support science projects including data management system, stock assessments, workshops, observer program, external expert support and other scientific activities. In 2019, it includes hosting Pacific saury (SSC PS05) and chub mackerel meetings (TWG CMSA03), as well as invited experts to the SSC PS and TWG CMSA meetings and travel costs for NPFC representatives to a PICES annual meeting.

2.13 Staff recruitment + hiring

Based on estimated costs associated with travel expenses of candidates for the Finance coordinator position in 2018 and possible recruitment of existing positions in 2019 and 2020, noting the end of contracts for three professional staff in 2019 and 2020 with the possibility of re-election.

2.14 Working Capital Fund

It is suggested that the Working Capital Fund will be kept between JPY 40-50 mil to provide at least 5 months of NPFC normal functioning without any inputs.

2.14 bis Special Project Fund

Established to support special projects both in science and compliance not covered by the general fund.

2.15 Representation expenses

Expenses for the hospitality of the Commission and Secretariat.

2.16 Miscellaneous

Expenses not covered elsewhere.

Annex B

Member contributions 2019

Member¥Rule	a)	b)	c)	Fixed Contribution	Total	%
Canada	5,663,570	5,964	2,775,220		8,444,754	5
China	5,663,570	37,904,732	572,057		44,140,360	28
Korea	5,663,570	1,499,773	1,903,037		9,066,381	6
Russia	5,663,570	619,419	650,290		6,933,279	4
Chinese Taipei	5,663,570	21,307,531	1,516,345		28,487,446	18
USA	5,663,570	0	3,712,575		9,376,145	6
Vanuatu	5,663,570	961,851	197,617		6,823,038	4
Japan				44,000,000	44,000,000	28
Total	39,644,991	62,299,272	11,327,140	44,000,000	157,271,403	100

a) 35 % of the budget shall be divided equally among members of the Commission except Japan;

b) 55 % of the budget shall be divided proportionally among members of the Commission based on the three-year average, 2015-2017, of the total catches by weight in the Convention Area of the species covered by the Convention; and

*catches for 2015-2017 have been updated according to Members' Annual Report.

c) 10 % of the budget shall be divided proportionally among members of the Commission based on each member's Gross Domestic Product (GDP) per capita in 2018.

<http://www.imf.org/external/pubs/ft/weo/2018/01/weodata/>

Member contributions 2020

Member¥Rule	a)	b)	c)	Fixed Contribution	Total	%
Canada	5,663,570	7,215	2,775,220		8,446,004	5
China	5,663,570	37,625,594	572,057		43,861,221	28
Korea	5,663,570	2,131,843	1,903,037		9,698,450	6
Russia	5,663,570	603,684	650,290		6,917,544	4
Chinese Taipei	5,663,570	20,962,592	1,516,345		28,142,506	18
USA	5,663,570	0	3,712,575		9,376,145	6
Vanuatu	5,663,570	968,344	197,617		6,829,531	4
Japan				44,000,000	44,000,000	28
Total	39,644,991	62,299,272	11,327,140	44,000,000	157,271,403	100

a) 35 % of the budget shall be divided equally among members of the Commission except Japan;

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<http://www.imf.org/external/pubs/ft/weo/2018/01/weodata/>

*Total contribution remains the same throughout the years.

PROPOSED AMENDMENT TO STAFF REGULATIONS
REGULATION 8
SOCIAL SECURITY

Background:

This rule addresses the social benefits for NPFC staff including pension and insurance, however four paragraphs deal with benefits for staff dependents in the case of mortality of the staff member. The intent is to make the repatriation of the body and dependents to their home base as smooth as possible. Unfortunately, the laws and accommodation contracts of Japan have a negative impact on the positive intent of these rules.

Issue:

Regulation 8.2 states:

8.2 In the event of death of a staff member following illness or surgery not resulting from an accident covered by the appropriate insurance, the right to salary and other corresponding benefits shall cease on the day on which death occurs, unless the deceased leaves dependents, in which case these shall be entitled to mortality allowances and return travel and removal expenses to country of origin or former residence at the expense of the Commission.

And further, Regulation 8.4 states:

8.4 The above mortality allowance for death shall be calculated in accordance with the following scale:

<u>Years of Service</u>	<u>Months of Net Base Pay Salary</u>
<u>Following Death</u>	
Less than 3 years	3 months
3 years and more, but less than 7 years	4 months
7 years and more, but less than 9 years	5 months
9 years and more	6 months

Unfortunately, the laws of Japan and the accommodation contracts in almost all cases require the individual renting accommodation to give three months' notice of termination of contract or payment in lieu. In essence if a staff Member suffers a mortality in the first term of their four-year contract and in accordance with 8.2, all salary and benefits cease on the date of the mortality, the major portion, if not all of the mortality allowance is taken by the accommodation owner for termination of the accommodation contract, this placing an undue hardship on the grieving family, and negating the intended benefit.

Proposal:

The proposal is to amend the wording of Regulation 8.2 to the following:

- 8.2 In the event of death of a staff member following illness or surgery not resulting from an accident covered by the appropriate insurance, the right to salary and other corresponding benefits shall cease on the day on which death occurs, unless the deceased:
- a. leaves dependents, in which case these shall be entitled to mortality allowances and return travel and removal expenses to country of origin or former residence at the expense of the Commission; and/or
 - b. has a defined termination period in the accommodation contract which extends beyond the date of mortality, whereupon the normal accommodation allowance for the staff member would continue to be paid by the Commission, for the rest of the defined termination period, but no longer than three (3) months at the maximum of 75% of the rent or JPY 240,000 whichever is less.

Plan to implement a 360-degree Performance Review

Secretariat

Abstract

This paper presents a draft plan to implement a 360-degree performance review of the NFPC Secretariat staff for consideration by Members.

Introduction

In accordance with NPFC Staff Regulations 5.3, performance review of all staff members including Executive Secretary has been conducted with the steps set by the Executive Secretary for past years. The results of this exercise have been presented at the Heads of Delegations meeting held prior to the annual Commission meeting. The Finance and Administration Committee at its second meeting held in July 2018 recommended that the Commission task the Secretariat to develop a plan for implementing a 360-degree performance review involving mutual performance reviews among secretariat staff as soon as is practical, no later than the 3rd FAC meeting.

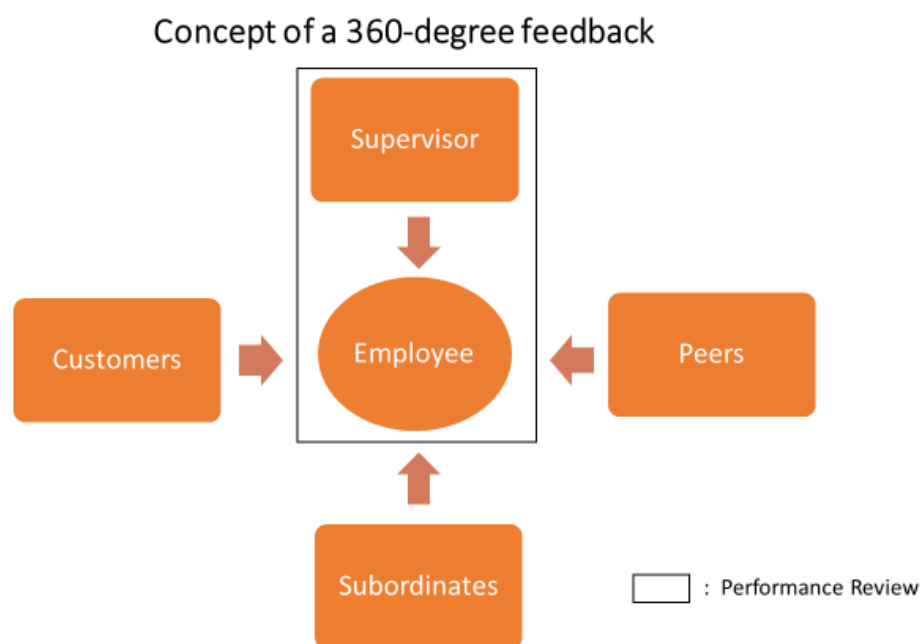
Therefore, this paper is to present the Secretariat's plan to implement a 360-degree Performance Review and seek guidance from Members regarding this plan.

What is 360-degree Performance Review?

A 360-degree Performance Review or 360-degree feedback (also known as multi-rater feedback, multi-source feedback, or multi-source assessment) is a process through which feedback from a number of stakeholders, including immediate supervisors, peers, subordinates as well as a self-evaluation by the employee themselves is gathered. Such feedback can also include, when relevant, feedback from external sources who interact with the employee, such as customers and suppliers or other interested stakeholders. A 360-degree feedback provides people with information about the influence of their action on others. Organizations are increasingly using 360-degree feedback as a part of their leadership development process.

It is, however, generally perceived that the purpose of this process intends not to identify, address or fix non-performing employees, but to help the organization and its individual employees reach

their full potential. There are pros and cons in conducting this appraisal, but there are many companies and organizations introducing this process as part of evaluation system with a hope that it provides a positive work environment and effect on the development of employees in various aspects, including leadership in the case of supervisors. They may also be used as part of an employee development program, separate from the formal review process. Good feedback allows employees to better understand how others view their work, helps supervisors identify skills on which employees needs additional training, and can be considered by supervisors as they complete Performance Reviews.



Traditional performance review vs 360-degree feedback

Traditional performance review and a 360-degree feedback are two different evaluative processes with different purposes and outcomes. The first one is a performance evaluation tool and the other is development tool for employees. Therefore, their objectives are completely different. The first process is used to measure an employee’s contribution and productivity to determine salary increases, promotion or other rewards. The employee's overall performance and salary level relative to position responsibilities are evaluated to determine whether a salary increase is warranted. In contrast, the latter process is a development tool designed to identify an employee’s skills, competencies and behaviours for the purposes of continuous improvement, and to improve leadership in the case of supervisors. The most successful managers and leaders become more effective by learning from feedback. A manager or supervisor is rated on a range of leadership competencies by people with whom he or she has a work or business relationship - Self, boss, peer,

subordinates, customers, and even family members.

Under current NPFC Staff Regulations 5.3, the regular Performance Reviews for all staff members shall be completed by the Executive Secretary on an annual basis and the annual performance review of the Executive Secretary shall be completed by the Commission. Therefore, it is suggested that the use of the regular performance review process continues as a regular compensation process as addressed in the Staff Regulation, while a 360-degree feedback shall be introduced to enhance development of employees and to compliment the current performance review for the employee. It is, however, envisaged that the results of a 360-degree feedback would be used for development only, or alternately, it could be incorporated into performance rating and remuneration/promotion with a proper system to be introduced upon decision by Members in the future.

Points to consider for starting 360-degree feedback

There are a few points to consider when determining if NPFC is ready to introduce 360-degree feedback:

First, a 360-degree feedback is good for measuring competencies, including areas like communication, innovation, and decision-making. This approach intends to enhance performance of each employee only and not to replace the current annual performance review. If it is intended to replace current evaluation, then it contradicts the Staff Regulations 5.3 and 5.4 stating that Performance reviews shall be completed for all staff members by the Executive Secretary on an annual basis. This requires amendment of the Staff Regulation to accommodate such a 360-degree feedback as a regular Performance Review for the Secretariat Staff including Executive Secretary.

Second, 360-degree feedback requires all stakeholders to be involved in evaluation of each employee for fair and transparent evaluation and it would be good practice to get opinions from as many different stakeholders as possible. It is, however, critical to ensure that selected evaluators have regular interaction with the employee being evaluated and can provide accurate and frank feedback as to performance. Possible evaluators to be considered for NPFC Staff include all NPFC staff (4 excluding the staff being evaluated), selected Member delegates (8 members), Chairs with whom the Staff member interacts and others suggested by Members (1 or 2 maximum).

Third, there is an issue of confidentiality which may impact the accuracy of evaluation. Anonymity is at the core of 360-degree feedback such that the responder can provide honest inputs with the objective of helping the employee. To guarantee confidentiality, it is very important to decide who will receive the feedback and who will deliver the feedback to the employee who is being evaluated. To secure confidentiality of evaluators, it is suggested that a third party such as

one of the HODs or the Chair of the Commission would task to distribute the questionnaire to the evaluators, collect and compile the outcomes of the evaluation from each evaluator and after analyses provide results of evaluation to each employee as a feedback.

Description of Process

The below is a suggested process for a 360-degree feedback:

1) Planning: The Secretariat shall communicate with all stakeholders on the purpose, process of 360-degree feedback and how feedback will be gathered and utilized.

2) Selecting evaluators: This is one of the most important steps as we will need to choose enough feedback providers to ensure that the data is comprehensive and relevant. Considering small size of the NPFC Secretariat with 5 staff including Executive Secretary, we may consider to include other persons whom have some form of working relationship with the employee being evaluated, such as Member delegations, Chairs, consultants hired by the Secretariat or service providers relevant to NPFC works. It is suggested that at a preliminary stage, number of evaluators shall be limited to a maximum of 10 including 4 staff members.

3) Preparation of questionnaires: The Secretariat shall draft questionnaires and distribute to all evaluators selected. The questionnaires shall be completed anonymously to ensure confidentiality. It is important to note that it is to assess the behavior, team working and communication skills and not an assessment of knowledge or practical skills. The responders can provide written comments to supplement their ratings if needed.

Topics the 360-degree feedback questionnaires might cover will be as follows. The questions should focus on areas important to NPFC.

- Communication skills
- Attitude to staff
- Team player and leadership skills
- Reliability and punctuality
- Overall professional competence
- Honesty (ethics) and integrity
- Work-related skills
- Interpersonal relations
- Leadership ability
- Future potential

4) Collection of questionnaires: Once all of the evaluators have completed their questionnaires, the questionnaires shall be collected by the person who shall keep confidentiality of this process. Tentatively we can consider the Chair of the Commission or one of HODs to collect and compile all results of these questionnaires.

5) Analyses of questionnaires and feedback: This is the last step of the feedback process. All NPFC staff shall receive a summary report which has combined counts of ratings from all questionnaires distributed. The staff only sees the report that evaluated itself and will not see the individual responses as these will be anonymized.

The 360-degree feedback is complex and challenging process, and this process is entirely new to the NPFC. Consequently, the Commission can consider to conduct a pilot program with a small number of participants perhaps among the Secretariat staff at an initial stage. After evaluation of preliminary stage of the impact and effectiveness, we can improve the process before rolling out the process at a full scale by inviting more stakeholders. Alternatively, the Commission may consider to outsource the whole process to customize a 360-degree feedback process for the NPFC.

Timeline of 360-degree Feedback Process

- Consultancy for the development of 360-degree Performance Review: Sep 2019
- Consultancy report circulated to Members: by Oct 2019
- Feedback from Members: by Nov 2019
- Revised 360-degree Performance Review submitted to Members: by Dec 2019
- Implementation: from Jan 2020 onward

**CONSERVATION AND MANAGEMENT MEASURE ON INFORMATION
REQUIREMENTS FOR VESSEL REGISTRATION**

The North Pacific Fisheries Commission (NPFC),

Recalling Article 4 of the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas of 24 November 1993 that stipulates to maintain a record of fishing vessels entitled to fly its flag and authorized to be used for fishing on the high seas, and to take such measures as may be necessary to ensure that all such fishing vessels are entered in that record,

Recognizing Article 7, paragraph 2 (d) of the Convention regarding the establishment of appropriate cooperative mechanisms for effective monitoring, control and surveillance to ensure enforcement of the conservation and management measures adopted by the Commission including mechanisms to prevent, deter and eliminate IUU fishing,

Reaffirming that Article 13, paragraph 1 of the Convention that members of the Commission or Cooperating non-Contracting Parties shall take necessary measures to ensure that fishing vessels entitled to fly its 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,

Also reaffirming that Article 13, paragraph 2 of the Convention that no members or Cooperating non-Contracting Parties of the Commission shall allow any fishing vessel entitled to fly its flag to be used for fishing activities in the Convention Area unless it has been authorized to do so by the appropriate authority or authorities of that member of the Commission or Cooperating non-Contracting Parties. Each member of the Commission, or Cooperating non-Contracting Parties, shall authorize the use of vessels entitled to fly its flag in the Convention Area only where it is able to exercise effectively its responsibilities in respect of those vessels under this Convention, the 1982 Convention and the 1995 Agreement,

Also recognizing that members of the Commission or Cooperating non-Contracting Parties have the need to conduct transshipment with carrier vessels that are flagged to Commission members, Cooperating non-Contracting Parties and non-members,

Noting the decision by the IMO Assembly in its 30th session to expand eligibility for IMO numbers to fishing vessels less than 100 gross tons down to a size limit of 12 meters in length overall authorized to operate outside waters under national jurisdiction of the flag State to assist in identifying and tracking fishing vessels and to tackle illegal, unreported and unregulated fishing,

Adopts the following conservation and management measures in accordance with Article 7, Article 13, paragraph 8 and Article 15 of the Convention:

NPFC Vessel Registry

For the purpose of the effective implementation of the Convention, each Commission member or Cooperating non-Contracting Party shall:

1. Maintain a record of fishing vessels entitled to fly its flag and authorized to be used for fishing activities in the Convention Area in accordance with the information requirements in the Annex.
2. Update pertinent information required from paragraph 1 in the NPFC Vessel Registry established under Article 13, paragraph 10 of the Convention, noting that vessel submissions which do not include the initial data elements as indicated in the Annex will not be accepted by the database.
3. Promptly update the NPFC Vessel Registry with:
 - (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:
 - (i) the voluntary relinquishment of the fishing authorization 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.
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.

Vessel Marking

5. 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 *FAO Standard Specifications for the Marking and Identification of Fishing Vessels*, 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.

NPFC Interim Register of non-Member¹ Carrier Vessels

6. The Commission hereby establishes an Interim Register of non-members (the "Interim Register"), applicable from 2017 to 2019.
7. Commission Members or Cooperating non-Contracting Parties may use non-member Carrier vessels that are included by the Commission on the Interim Register in the Convention Area to receive transshipments of fisheries resources caught in the Convention Area and from fishing vessels flying the flag of Commission members or Cooperating non-Contracting Parties.
8. Any Commission member or Cooperating non-Contracting Party may at any time enter, in electronic format if possible, the details of any non-member carrier vessels that it wishes to be included on the Interim Register including the information requirements in the Annex and the written undertaking of the owner, operator and Master noted in paragraph 10.

¹ For the purpose of this CMM, non-Members mean those states that are not Commission members or Cooperating non-Contracting Parties

9. The Commission member or Cooperating non-Contracting Parties entering vessels identified in paragraph 8 on the Interim Register shall attest that the vessel or vessels being recommended are not vessels:
 - (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;
 - (b) that are currently listed on any of the IUU vessel lists adopted by regional fishery management organizations (RFMOs);
 - (c) that were removed from the Interim Register pursuant to paragraph 16 within one year.
10. It shall be a condition for inclusion on the Interim Register that the owner or manager/operator of the vessel provides a written undertaking, addressed to the Commission, that the owner, manager/operator and master of the carrier vessel will fully comply with all applicable decisions of the Commission, including conservation and management measures. Any reference in Commission decisions to member-flagged vessels shall be construed to include non-member flagged-vessels for the purposes of these written undertakings.
11. It is the responsibility of the owner or manager/operator to ensure that any such undertaking is compliant with domestic laws of its flag State.
12. The Secretariat shall post on the Commission website a list of all the applicable conservation and management measures and other applicable Commission decisions that the written undertaking must cover. It shall be a condition for inclusion on the Interim Register that the owner, manager/operator or master of the carrier vessel, through the Commission member or Cooperating non-Contracting Parties so authorizing the vessel to be on the Interim Register, promptly enter any changes to the information provided under paragraph 8.
13. Failure by the owner, manager/operator or master of a vessel on the Register to fully comply with applicable decisions of the Commission, including conservation and management measures, shall constitute an appropriate basis for placement of such vessel on the Commission's Draft IUU Vessel List in accordance with the relevant conservation and management measure for establishing the NPFC IUU Vessel list.
14. The Commission member or Cooperating non-Contracting Parties listing the non-member carrier vessel on the Interim Register shall also be responsible for the providing the information of that vessel in accordance with these conservation and management measures.
15. As soon as possible after entry of complete information under paragraphs 8 and 10 by a Commission member or Cooperating non-Contracting Parties for a non-member carrier vessel on the Interim Register, the Member or CNCP shall notify the flag State and provide an opportunity for the flag State to convey its position for the inclusion of its vessel on the Interim Registry.
16. The Commission shall, on a regular basis, monitor the IUU vessel lists maintained by RFMOs. At any time that a vessel on the Interim Register is also on one of those IUU vessel lists, the Secretariat shall:
 - (a) notify the Commission member, Cooperating non-Contracting Parties and the owner of the vessel of its finding and that the vessel will be removed from the Interim Register, effective 30 days from the date of the notice; and

- (b) 30 days from the notice given under sub-paragraph (a), remove the vessel from the Register.
17. The Commission shall monitor the performance of the vessels on the Interim Register with respect to the written undertakings submitted under paragraph 10. If at any time a Commission member or Cooperating non-Contracting Party finds evidence that the owner, manager/operator or master of a vessel on the Register has failed to fully discharge those undertakings:
- (a) the Commission member or Cooperating non-Contracting Party shall immediately submit such evidence to the Secretariat;
 - (b) the Secretariat will immediately circulate such evidence to the Commission members or Cooperating non-Contracting Parties;
 - (c) the Commission shall review the evidence and decide whether or not to remove the vessel from the Interim Register. If the Commission is to next meet between 14 and 60 days after the circulation made under paragraph 16(b), such decision shall be made in the next session of the Commission, otherwise it shall be made in accordance with the Commission Rules of Procedure as they relate to inter-sessional decision-making;
 - (d) if the Commission decides to remove a vessel from the Interim Register, the Secretariat will notify the owner of the vessel of the decision within 7 days and remove the vessel from the Register 60 days after the Commission's decision.
 - (e) The Executive Secretary shall advise all Commission members or Cooperating non-Contracting Parties and the flag State of the completion of action taken under paragraph 17 (d).
18. The Interim Register has been extended and shall expire on 31 August 2020 unless the Commission decides otherwise at its Commission Meeting in 2020. The Interim Register shall only be used by non-Members who are not CNCPs

General

19. Commission members and Cooperating non-Contracting Parties shall ensure they have maintained the NPFC Vessel Registry and the Interim Register of the vessels based on the information provided to it pursuant to the above paragraphs 1-17 and make the record publicly available as appropriate and subject to any legal confidentiality regulations of the individual Commission member and Cooperating non-Contracting Party.
20. Each Commission member and Cooperating non-Contracting Party entering vessels on the NPFC Vessel Registry or the Interim Register shall enter the required data for its vessels or vessels listed on the Interim Registry immediately after it has so authorized the vessel to conduct fishing activities and shall not authorize the vessel to conduct such fishing activities in the NPFC Convention Area until the vessel has been accepted by the database.
21. The Commission shall also provide to any member of the Commission or Cooperating non-Contracting Parties, upon request, information about any vessel entered on the Commission record that is not otherwise publicly available, as appropriate.
22. This CMM shall replace the NPFC CMM 2018-01.

Vessel Information Requirements

The following are the data information to be provided to the Commission for the vessel registry.

- a) Name of fishing vessel*;
- b) Previous name(s) of fishing vessel (where applicable);
- c) Registration number*;
- d) Previous registration number(s) (where applicable);
- e) Port of Registry;
- f) Previous port(s) of registry (where applicable);
- g) IMO number *;
To allow the necessary time for members of the Commission or Cooperating non-Contracting Parties to obtain an IMO number for eligible vessels that do not already have one, this point of this Annex on IMO number is effective as of 1 January 2020. As of this date, members of the Commission should, to the extent possible, ensure that all their fishing vessels that are registered on the NPFC Record of fishing vessels have IMO numbers issued to them. This point of this Annex on IMO number does not apply to vessels which are not eligible to receive IMO numbers.
- h) Name and address of owner or owners*;
- i) Name* and citizenship of master;
- j) Previous flag (if any);
- k) International Radio Call Sign (IRCS)* (where applicable);
- l) Maritime Mobile Service Identity (MMSI) (where applicable);
- m) Vessel communication types and numbers including, when available, any satellite-based telephony or data services/devices;
- n) Full length side views color photographs of the vessel showing full length of vessel and vessel name and markings*. Provision of additional photographs showing bow and stern view are encouraged;
- o) Where*(Country/Member) and when built (Year);
- p) Type of vessel*, as specified in standard abbreviations under the current FAO International Standard Statistical Classification of Fishery Vessels by Vessel Types (ISSCFV);
- q) Normal crew complement;
- r) Type of fishing method or methods, as specified in standard abbreviations under the current FAO International Standard Statistical Classification of Fishing Gear (ISSCFG);
- s) Length*, including type of length* and unit of measurement*;
- t) Depth, including type of depth and unit of measurement;
- u) Beam*, including type of beam* and unit of measurement*;
- v) Gross register tonnage*, or gross tonnage* (specify which);
- w) Power of main engine or engines, including unit of measurement;
- x) The nature of the authorization to fish granted by the flag State, such as type or method of fisheries authorized and main target species and Authorized Periods*;
- y) Fish hold capacity, in cubic meters;
- z) Freezer type and capacity, including unit of measurement.

*Asterisk denotes initial data elements.

Initial data elements are required to start fishing activities.

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 in subsequently, 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, as well as any new suitably documented information regarding this list, including intersessional amendments, 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. 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 paras 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 paras 14 and 15, recommend to the Commission which, if any, vessels should be removed from the current NPFC IUU Vessel List.
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.

Modification of 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; and

- b. 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
 - c. 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
 - d. 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.
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 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.
34. A Member/CNCP with information indicating a change of name and/or an International Radio Call Sign (IRCS) 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 and, after verification*, update the current NPFC IUU Vessel List on the NPFC website to reflect such information.

* If the Secretariat, after reasonable efforts, is unable to verify the information submitted by the Member/CNCP the vessel name or identifying number will not be updated.

Review

35. This Conservation and Management Measure shall be subject to review and, as appropriate, revision by the TCC and acceptance by the Commission.

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 measures	

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	

**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.

**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: *Alcyonacea*, *Antipatharia*, *Gorgonacea*, and *Scleractinia* 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 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 2 nautical miles, so that

additional encounters with VMEs are unlikely. All such encounters, including the location and the species in question, shall be reported to the Secretariat as soon as possible, who shall notify the other Members of the Commission so that appropriate measures can be adopted in respect of the relevant site. It is agreed that the cold water corals include: *Alcyonacea*, *Antipatharia*, *Gorgonacea*, and *Scleractinia*.

- H. 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).
- I. Ensure that the distance between the footrope of the gill net and sea floor is greater than 70 cm.
- J. Apply a bottom fisheries closure from November to December.
- K. Limit annual catch of North Pacific armorhead to 15,000 tons for Japan.
- L. 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.
- M. In years when strong recruitment of North Pacific armorhead is not detected (Annex 6), the Commission encourages Japan to limit the annual catch of North Pacific armorhead by vessels flying its flag to 500 tons, and encourages Korea to limit the annual catch of North Pacific armorhead by vessels flying its flag to 200 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.
- N. Notwithstanding subparagraph K, when a strong recruitment of North Pacific armorhead is detected through the monitoring surveys as specified in 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. 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.

- O. Catch in the monitoring surveys shall not be included in the catch limits specified in paragraphs M and N but shall be reported to the Secretariat.
- 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.

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 para 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. Collection 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 Interim Data Handling and Data Sharing Protocol. To support assessments of the fisheries and refinement of conservation and management measures, Members of the Commission are to provide update 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.

(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.

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.

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

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.

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.

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.

- (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.

(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 (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 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).

**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.

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.

**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.

Implementation of the Adaptive Management for North Pacific armorhead (in 2019 and 2020)

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 two (2) monitoring blocks of Koko (South eastern) and Kammu (North western) seamounts.

Monitoring blocks

Survey Gear	Seamount	Latitude	Longitude	Fig. No.	Remarks
Trawl	Koko (South eastern)	34°51' N -35°04' N	171°49' E -172°00' E	Fig. 1	Except for the closed area set in paragraph 4.H, CMM 2019-05
Trawl	Kammu (North western)	32°10' N -32°21' N	172°44' E -172°57' E	Fig. 2	

Fig. 1

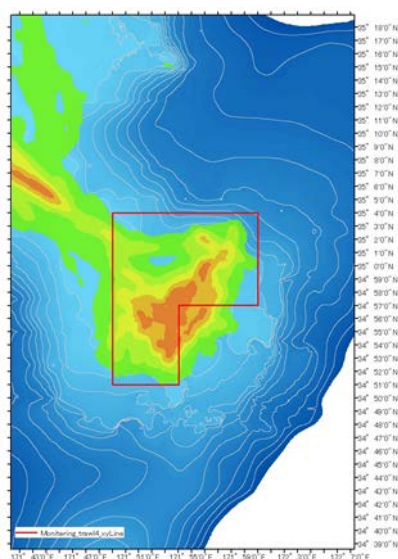
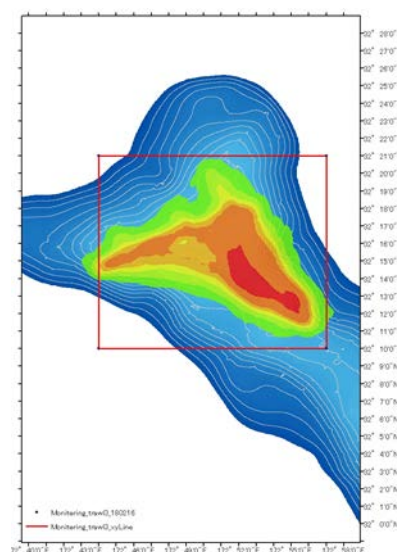


Fig. 2



(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 in the same monitoring block. The base schedule for monitoring surveys is shown in the table below. In total, sixteen (16) monitoring surveys will be conducted each year. The base schedule may be revised during the year subject to prior notification to the Executive Secretary.

Schedule for the Monitoring survey			
		Monitoring block in Koko (South eastern)	Monitoring block in Kammu (North western)
March	First half	○	○
	Latter half	○	○
April	First half	○	○
	Latter half	○	○
May	First half	○	○
	Latter half	○	○
June	First half	○	○
	Latter half	○	○

(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 in each of the two (2) monitoring blocks.

- 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.

**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 orders: *Alcyonacea*, *Antipatharia*, *Gorgonacea*, and *Scleractinia* 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, cold water corals or other indicator species as identified by the SC that exceed 50Kg 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 2 nautical miles, so that additional encounters with VMEs are unlikely. All such encounters, including the location and the species in question, shall be reported to the Secretariat as soon as possible, who shall notify the other Members of the Commission so that appropriate measures can be adopted in respect of the relevant site. It is agreed that the cold water corals include: *Alcyonacea*, *Antipatharia*, *Gorgonacea*, and *Scleractinia*, 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.

- 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.
9. 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.

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.

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

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. 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.

(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.

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 (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, 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).

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).

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.

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.

**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.

CONSERVATION AND MANAGEMENT MEASURE ON THE VESSEL MONITORING SYSTEM (VMS)

The North Pacific Fisheries Commission (NPFC),

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.
- (b) “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, CNCP or [Relevant non-Member], 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 Procedure to conduct inspections and is planning for or actively engaged in 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) course and speed 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, CNCP or [Relevant non-Member] 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)

5. Each Member, CNCP and [Relevant non-Member] 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 I.
6. Each Member, CNCP and [Relevant non-Member] shall ensure that MTUs are installed on their flagged fishing vessels.

VMS data transmission requirements

7. Each Member, CNCP and [Relevant non-Member] shall ensure its authorized NPFC vessels provide accurate VMS data to the Secretariat via its FMC, in accordance with this CMM.
8. All Members, CNCP and [Relevant non-Members] 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. Where domestic legislation prevents compliance with paragraph 8 above, a Member, CNCP or [Relevant non-Member]'s flagged vessel may transmit its position no longer than every four hours. This provision shall expire in July 31, 2020.
10. A Member, a CNCP or [Relevant non-Member] may require its fishing vessels to transmit VMS data directly to the Secretariat.
11. Each Member, CNCP and [Relevant non-Member] 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)

12. Each Member, CNCP and [Relevant non-Member] shall ensure that their FMC can automatically receive VMS data and transmit VMS data to the Secretariat.
13. Each Member, CNCP and [Relevant non-Member] 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

14. 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.
15. Subject to the development of appropriate procedures by April 1, 2020 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 and Security

16. Subject to NPFC's Data-Sharing and Data-Security Protocols for Vessel Monitoring System (VMS) Data, 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.

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, CNCP or [Relevant non-Member] 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. Where domestic legislation prevents compliance with paragraph 18 above, a Member, CNCP or [Relevant non-Member] shall require an MTU that fails to transmit VMS data in accordance with this measure, be repaired within 60 days. This provision shall expire July 31, 2020.
21. If the fishing vessel returns to port following an MTU VMS data transmission failure, the Member, CNCP or [Relevant non-Member] 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 I or is repaired and is able to transmit VMS data.

22. If a Member or CNCP or [Relevant non-Member] finds that an MTU has failed to transmit VMS data for twelve hours, the Member or CNCP or [Relevant non-Member] shall immediately notify the fishing vessel master, owner or authorized representative of this failure. If a failure to transmit occurs more than two times within a period of one year, the flag Member or CNCP or [Relevant non-Member] 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.

Review

23. 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.

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 metres.
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 tamper-proof 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, cooperating non-Contracting Parties and [Relevant non-Members] to the Secretariat or made available upon request.

¹ Official seals or other mechanisms must be of such a type to indicate whether the MTU has been accessed or tampered with.

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.

**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 calls for 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 have undertaken 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;

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

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 relation to alleged violations by their flagged vessels or nationals, not to assess compliance by individual vessels or persons.

2. The CMS is designed to:
 - a. Identify non-compliance by Members and CNCs with their obligations under the Convention and CMMs;
 - b. Identify areas in which technical assistance or capacity building may be needed to assist Members or CNCs to attain compliance;
 - c. Identify trends in compliance, including aspects of CMMs which may require amendment for effective implementation;
 - d. Determine responses to non-compliance by Members or CNCs; and,
 - e. Monitor and verify 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' 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. The compliance assessment period shall be the previous calendar year.
7. The Commission, with the assistance of TCC, shall determine responses to non-compliance in accordance with Annex I.

III. Draft Compliance Report

8. Prior to TCC, the Secretariat shall compile information received from Members and CNCs including through their Annual Reports, any data collections of the Commission (e.g., reports from observers, Vessel Monitoring Systems, High Seas Boarding and Inspections, high seas transshipments), and, where appropriate, any other relevant information relating to the performance of NPFC CMMs available to the Secretariat, and shall prepare a Draft Compliance Report. The Draft Compliance Report shall:

- a. Present all available information relating to each Member's or CNCP's implementation of each obligation arising from the Convention or CMMs;
 - b. Report on any compliance issues that were identified from the previous year's Final Compliance Report (i.e., Resolved Non-Compliance, Non-Compliant, or Flag State Investigation) and any corrective actions reported by the Member or CNCP; and,
 - c. Identify the potential areas of non-compliance for each Member and CNCP and, as appropriate, request any follow-up information relating to the previous year's compliance issues.
9. No later than 60 days before the TCC meeting, the Secretariat shall provide each Member and CNCP its section of the Draft Compliance Report.
 10. No later than 35 days before the TCC meeting, each Member and CNCP shall provide additional information on its section of the Draft Compliance Report to the Secretariat. This information shall, as appropriate:
 - a. Provide information, clarifications, amendments, or corrections necessary to address the potential compliance issues identified or respond to any request for additional information;
 - b. Propose future 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; and,
 - d. Identify any technical assistance or capacity building needed.
 11. The Secretariat shall compile a revised Draft Compliance Report containing all information provided pursuant to paragraph 10 above.
 12. No later than 15 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. For instances of non-compliance identified in Annex II as having an associated automatic response, the Secretariat shall automatically assign the appropriate status and response. Members and CNCPs may request review of automatically assigned statuses and responses when the Draft Compliance Report is considered by TCC.

IV. Provisional Compliance Report

13. TCC shall consider the Draft Compliance Report and any additional, readily verifiable information provided by Members, CNCPs, and the Commission, and, where appropriate, by non-governmental organizations or other organizations concerned with matters relevant to the implementation of the Convention.
14. TCC shall develop a Provisional Compliance Report, which shall include a compliance

assessment for each Member or CNCP obligation and identify response(s) to non-compliance, in accordance with Annex I. For an issue of non-compliance assigned an automatic response in accordance Annex II, TCC may consider additional responses as warranted, consistent with Annex I.

15. Each compliance assessment shall be decided by consensus. If consensus cannot be reached, the Provisional Compliance Report shall indicate majority and minority views. A Member or CNCP may not block agreement on its own compliance assessment.
16. The Provisional Compliance Report shall also include an Executive Summary with recommendations regarding, as appropriate:
 - a. Proposals to address compliance trends, and amend or improve existing CMMs;
 - b. Identified obstacles to implementation, including recommendations for capacity building assistance; and,
 - c. Revisions to the obligations to be assessed identified in Annex II.
17. TCC shall forward the Provisional Compliance Report to the Commission for consideration at the annual meeting.

V. Final Compliance Report

18. The Commission shall consider the Provisional Compliance Report recommended by TCC and adopt a Final Compliance Report.
19. The Final Compliance Report shall include:
 - a. A final compliance status for each Member and CNCP against each assessed obligation;
 - b. All responses to be taken to address instances of non-compliance; and,
 - c. An Executive Summary addressing the issues listed in paragraph 16.
20. 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 a status of 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

21. The Draft and Provisional Compliance Reports, and all associated documentation, shall constitute non-public domain data, but the Final Compliance Report and the executive summary shall be public domain data.

VII. Identification of Compliance Measures to be Assessed

22. Annex II includes the list of obligations to be assessed as part of the CMS. Annex II will be reviewed annually and may be amended, as appropriate, taking into account factors such as:

- a. The needs and priorities of the Commission;
- b. Evidence of high percentages of non-compliance or repeated non-compliance with a particular obligation;
- c. The risks posed by non-compliance to achievement of the objectives of the Convention; and,
- d. Whether sufficient verifiable information is available to determine compliance.

VIII. Review of this Conservation Measure

23. This conservation and management measure shall expire three years after its entry into force.
24. Prior to expiration, the Commission should consider adopting a lasting compliance monitoring scheme.

ANNEXES

- Annex I – Compliance Status Table
- Annex II – Obligations to be Assessed

Compliance Status Table

Compliance Status	Criteria	Potential Responses
Compliant	Member or CNCP fully compliant with obligation	None
Delayed Submission	Member or CNCP rectified 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	Non-compliance with obligation identified in Annex II that does not meet the criteria of Delayed Submission or Flag State Investigation	<ol style="list-style-type: none"> 1) Member or CNCP to rectify non-compliance and include in its Annual Report all actions taken, 2) Application of automatic response, as applicable (Annex II), and 3) Consideration of further responses.
Not Assessed	Ambiguity of relevant obligation	Review and potentially amend relevant provision(s)
Flag State Investigation	Currently undergoing investigation	<ol style="list-style-type: none"> 1) 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), and 2) Member or CNCP to report progress in its Annual Report

Obligations to be Assessed

Obligation to be Assessed	Automatic response for inclusion in the Draft Compliance Report
CMM 2018-05 Bottom Fisheries and VMEs in the NW Pacific	
CMM 2018-05 08	No automatic response has been assigned at this time.
CMM 2018-08 Pacific Saury	
CMM 2018-08 01	No automatic response has been assigned at this time.
CMM 2018-08 02	No automatic response has been assigned at this time.

NPFC IUU VESSEL LIST FOR 2019

(Entered into force 29 November 2019)

Commission Members adopted the attached NPFC IUU List at the Fifth Commission Meeting concluded on 18 July 2019.

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 List	i. Summary of activities
1	LIAO YUAN YU 071	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	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



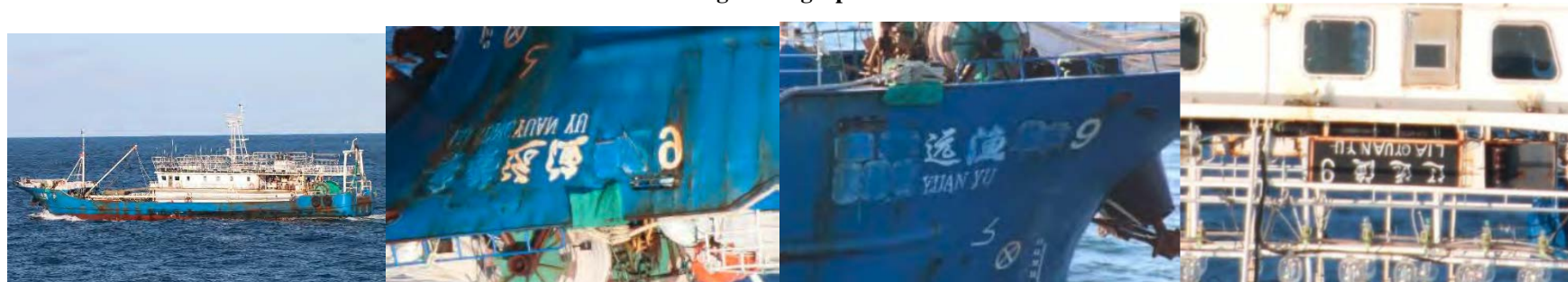
2	LIAO YUAN YU 072	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	It was seen at 42°18.7'N, 153°27.9'E on 23 Aug and at 42°9.2'N, 151°16.4'E on 11 Oct 2016. Vessel name was hidden by paint. (Port displayed on the vessel: Shidao; Vessel type; Lighted lift net vessel; Tonnage: 800t)
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g. Photographs



3	LIAO YUAN YU 9	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	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)
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g. Photographs



4	ZHOU YU 651	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	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)
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g. Photographs



5	ZHOU YU 652	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	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
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g. Photographs



6	ZHOU YU 653	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	<p>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)</p> <p>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.</p>
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g. Photographs



7	ZHOU YU 656	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	<p>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.</p> <p>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</p>
g. Photographs (No Photographs Available)								

8	ZHOU YU 657	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	<p>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)</p>
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g. Photographs



9	ZHOU YU 658	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	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; Vessel type: Lighted lift net vessel; Tonnage: 600t)
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g. Photographs



10	ZHOU YU 659	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	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)
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g. Photographs



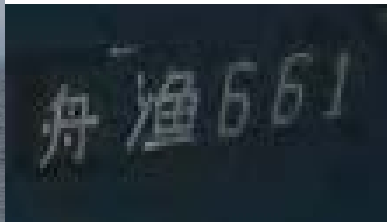
11	ZHOU YU 660	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	<p>It was seen in the Japanese EEZ on 10 May 2016 and in NPFC area multiple times from May to Sep 2016. On 10 May the vessel showed Korean flag but changed the Korean to Japanese flag when the Japanese patrol vessel approached.</p> <p>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)</p>
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g. Photographs



12	ZHOU YU 661	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	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)
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g. Photographs



13	HAI DA 705	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	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)
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g. Photographs



14	LU RONG YU 1189	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	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
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g. Photographs



15	ZHE LING YU LENG 90055	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	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
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g. Photographs



16	ZHE LING YU LENG 905	Unknown	Not known	Not known	Not known	Not known	29 Aug. 2017	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
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g. Photographs (No Photographs Available)

17	LU RONG YUAN YU 101	unknown	Not known	Not known	Not known	Not known	13 Nov. 2017	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
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g. Photographs



18	LU RONG YUAN YU 102	unknown	Not known	Not known	Not known	Not known	13 Nov. 2017	<p>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</p>
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g. Photographs



19	LU RONG YUAN YU 103	unknown	Not known	Not known	Not known	Not known	13 Nov. 2017	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
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g. Photographs



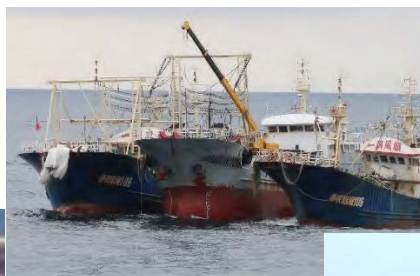
20	LU RONG YUAN YU 105	unknown	Not known	Not known	Not known	Not known	13 Nov. 2017	While LU RONG YUAN YU 105 is registered as one light PS vessel in the NPFC list, the identical name with different vessel types were seen. LU RONG YUAN YU 105 with lift net type was seen at 42°27'N, 152° 5.8'E on 11 Oct 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
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g. Photographs



21	LU RONG YUAN YU 106	Unknown	Not known	Not known	Not known	Not known	13 Nov. 2017	<p>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</p>
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g. Photographs



22	LU RONG YUAN YU 108	Unknown	Not known	Not known	Not known	Not known	13 Nov. 2017	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
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g. Photographs



23	LU RONG YUAN YU 109	Unknown	Not known	Not known	Not known	Not known	13 Nov. 2017	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
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g. Photographs



24.	LU RONG●YU 612	Unknown	Not known	Not known	Not known	Not known	19 Aug 2018	<p>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.</p> <p>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.</p> <p>The tonnage 651 t was derived from the information of “Lu Long Yuan Yu 108” in the current IUU vessel list.</p> <p>Ref: NPFC-2018-TCC03-WP04</p>
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g. Photographs



25.	LU RONG YUAN YU 787	Unknown	Not known	Not known	Not known	Not known	19 Aug 2018	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
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g. Photographs



26.	LU RONG YUAN YU YUN 958	Unknown	Not known	Not known	Not known	Not known	19 Aug 2018	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
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g. Photographs



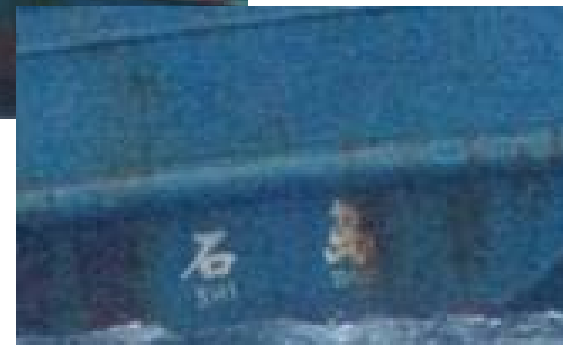
27.	LU RONG YUAN YU 797	Unknown	Not known	Not known	Not known	Not known	19 Aug 2018	A Japanese patrol aircraft sighted this fishing vessel in the Convention area was operating at 42°7.1'N, 151°40.9'E on July 7 2017. China flag was raised and "CHINA" was painted on the vessel side (see the photo). MMSI is 412327980. Ref: NPFC-2018-TCC03-WP04
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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 List	i. CMM & para of violation	j. Summary of activities
28	LU RONG SHUI 158 (鲁荣水158)	Unknown	Not known	Not known	Not known	Not known		CMM 2017-02 para 3. a	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 4126888540

g. Photographs



29	Unknown(*)	Unknown – raised flag of China	Not known	Not known	Not known	Not known		CMM 2017-02 para 3. a	<p>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.</p> <p>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.</p>
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g. Photographs



Associated Documents

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>)

(*) This vessel indicated its name as “Zhou Yu 808 (舟漁 808)” when sighted.

30	Unknown(*)	Unknown – raised flag of China	Not known	Not known	Not known	Not known		CMM 2017-02 para 3. a	<p>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.</p> <p>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.</p>
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g. Photographs



Associated Documents

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>)

(*) This vessel indicated its name as “Zhou Yu 809 (舟漁 809)” when sighted.

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	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 MMSI 412356488) was operating and running away when the Japanese patrol vessel approached.
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g. Photographs



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	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 MMSI 412365486) was operating and running away when the Japanese patrol vessel
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g. Photographs



33	ZHEXIANG YU 23029	Unknown – raised flag of China	Not known	Not known	Not known	Not known		CMM 2017-02 para 3. a	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. MMSI 412123526
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g. Photographs



**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;

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. 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. 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.
4. 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

¹ Paragraph 3 applies to Russia and Japan.

the Convention.

5. 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.
6. 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.
7. 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.
8. The SC and its subsidiary TWG CMSA will complete the stock assessment of chub mackerel as soon as possible 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.
9. After chub mackerel stock assessment 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 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.
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.
11. This CMM is an amendment of the NPFC CMM 2018-07.

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;

Recognizing that Small Scientific Committee (SSC) on Pacific Saury and the Scientific Committee (SC) in 2019 provided consensus stock assessment results, including Maximum Sustainable Yield (MSY) and relevant reference quantities, and recommended that “the Commission: (h) Consider further management measures for avoiding an increasing trend in the exploitation rate of Pacific saury to sustain biomass”;

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

¹ Paragraph 2 applies to Russia and Japan

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.

[CATCH MANAGEMENT]

4. Members of the Commission agree, having regard to the advice of the Scientific Committee, that the catches of Pacific saury in 2020 in the entire area (the Convention Area and the areas under their jurisdiction adjacent to the Convention Area) should not exceed 556,250 metric tons².
5. In 2020 the total allowable catch (TAC) of Pacific saury in the Convention Area shall be limited to 330,000 metric tons.
6. Members of the Commission shall consider allocation of the TAC in the Convention Area among Members at the Commission meeting in 2020.
7. As a provisional measure until the Commission decides allocation of the TAC, each Member of the Commission shall ensure that the total catch of Pacific saury by the fishing vessels entitled to fly its flag in 2020 will not exceed its reported catch in 2018 on the expectation that the total catch in the Convention Area will not exceed 330,000 metric tons.
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. The Executive Secretary shall make available the compiled catch of Pacific saury in the Convention Area on the Commission's website without delay.
9. Members fishing for Pacific saury in areas of their jurisdiction³ 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.
10. In 2020 and afterwards, the Commission shall review and revise, as appropriate, specific figures in paragraphs 4 and 5 based on the advice and recommendations from the SC.

² 556,250 metric tons is estimated based on Table 1 of Executive Summary of TWG PSSA 04-Final Report ; $2,225,000(2018 \text{ biomass}) * 0.25(Fmsy)$

³ Paragraph 9 applies to Russia and Japan

[OTHER MEASURES]

11. 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.
12. Members of the Commission shall ensure that fishing vessels flying its flag operating in the Convention Area to fish Pacific saury be equipped with an operational vessel monitoring system that is activated at all times.
13. 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.
14. In order to protect juvenile fish, Members of the Commission are encouraged to take measures for fishing vessels flying their flags to refrain from fishing for Pacific saury in the areas east of 170E 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.
15. The SC and its subsidiary SSC on Pacific Saury shall work to provide the Commission with a consensus stock assessment result and scientific guidance necessary for the development of harvest control rules for Pacific saury sufficient to prevent a declining trend of the stock.
16. This CMM shall in no case be a basis for any future CMM for Pacific saury.
17. This CMM replaces CMM 2018-08 and will be reviewed on a regular basis.

**CONSERVATION AND MANAGEMENT MEASURE FOR JAPANESE
SARDINE AND JAPANESE FLYING SQUID**

The North Pacific Fisheries Commission (NPFC),

Recalling that six pelagic species – Pacific saury, Chub mackerel, Spotted mackerel, Japanese sardine, Neon flying squid, and Japanese flying squid – are identified as priority species;

Also recalling that the NPFC has adopted the CCMs 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 and Japanese flying squid (hereinafter referred to as “the two 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 two

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 two 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 two 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 two 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 provide their data on the two 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.
7. 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 two Pelagic Species.

¹ Paragraph 3 applies to Russia and Japan.

8. After a stock assessment for any of the two 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 two 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.
9. 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.

**CONSERVATION AND MANAGEMENT MEASURE
FOR SABLEFISH IN THE NORTHEASTERN PACIFIC OCEAN**

The North Pacific Fisheries Commission (NPFC),

Recalling relevant international law as reflected in the United Nations Convention on the Law of the Sea of 10 December 1982, 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 and the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas of 24 November 1993 and taking into account the Code of Conduct for Responsible Fisheries adopted by the Conference of the Food and Agriculture Organization of the United Nations (“FAO”) at its 28th session on 31 October 1995 as well as the International Guidelines for the Management of Deep-Sea Fisheries in the High Seas adopted by FAO on 29 August 2008;

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;

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;

Noting that the existing high seas seamount Sablefish fishery is being conducted by Canada following a precautionary approach with set effort controls in accordance with the conservation and

management measure (CMM) 2017-06 for Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northeastern Pacific Ocean;

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 and a determination that those activities would not have significant adverse impacts (SAI) on vulnerable marine ecosystems (VME), or ensuring that those activities are managed to prevent those impacts or are not authorized to proceed;

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;

Recognizing that the scope of management measures outlined in CMM 2017-06 applies to the management of bottom fisheries in the Northeastern Pacific Ocean;

Recognizing the documented historical catch in NPFC Annual Reports of Sablefish in the Northeastern Pacific Ocean by Canada, managed in accordance with CMM 2017-06 and compatible domestic management measures;

Recognizing the need expressed in CMM 2017-06 to develop and implement other permanent management arrangements to govern these and other fisheries in the Northeastern Pacific Ocean;

Recognizing that the Commission is to strive to adopt conservation and management measures to prevent SAI on marine species or any VME;

Recognizing the detrimental impacts of lost, abandoned and otherwise discarded fishing gear on the conservation and sustainable use of fisheries and the ecosystems they depend on, and the need for global action to address this issue;

Adopts the following conservation and management measure in accordance with Article 7 of the Convention:

1. This CMM shall apply to the eastern part of the Convention Area as defined in CMM 2017-06.
2. Members of the Commission with current harvest of sablefish in the eastern part of the

Convention Area shall refrain from expansion of their fishery in this area from the existing historical level.

3. Members with historical but no current harvest of sablefish in the eastern part of the Convention Area may only expand their fishery in this area in the context of the relevant NPFC Convention provisions, as appropriate including but not limited to Article 3, paragraph (h).
4. Development of new fishing activity for the sablefish fishery in the eastern part of the Convention Area by Members not referenced in paragraph 5 without documented historical catch for sablefish in this area shall be determined in accordance with, but not limited to, as appropriate, Article 3, paragraph (h) and Article 7, subparagraphs 1(g) and (h) of the Convention.
5. Members referenced in paragraph 2 and Members fishing for Sablefish in areas of their jurisdiction that are adjacent to the eastern part of the Convention Area shall adhere to the exploratory fishing protocol as set out in Annex 1 of CMM 2017-06 for Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northeastern Pacific Ocean when considering new and exploratory bottom fishing activities in the Convention Area.

Fishing Gear

6. Longline gear and longline trap gear are permitted to be used.
7. Members of the Commission shall ensure that fishing vessels flying their flag operating in the eastern part of the Convention Area to fish sablefish are to be equipped with an operational vessel monitoring system that is activated at all times.
8. All vessels authorized to fish sablefish in the eastern part of the Convention Area shall have 100% observer coverage.
9. Recognizing ongoing processes to address marine pollution in other fora, including at the International Maritime Organization, Members are encouraged to report lost fishing gear as soon as possible to the Secretariat, and retrieve any lost gear encountered by their vessels if safety is not compromised.
10. Proposed fishing activities involving the use of trawl fishing gear or other gear types not in use at the time of the adoption of this CMM in the eastern part of the Convention Area will be subject to the requirements of the Convention and relevant CMMs, as appropriate, including

for new and exploratory fishery protocol in the Northeastern Pacific Ocean as per CMM 2017-06.

11. This CMM shall not be a precedent to hinder Members referenced in paragraph 2, at the time of the adoption of this CMM, to develop new or exploratory Sablefish fisheries in the eastern part of the Convention Area subject to the requirements of CMM on Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northeastern Pacific Ocean.