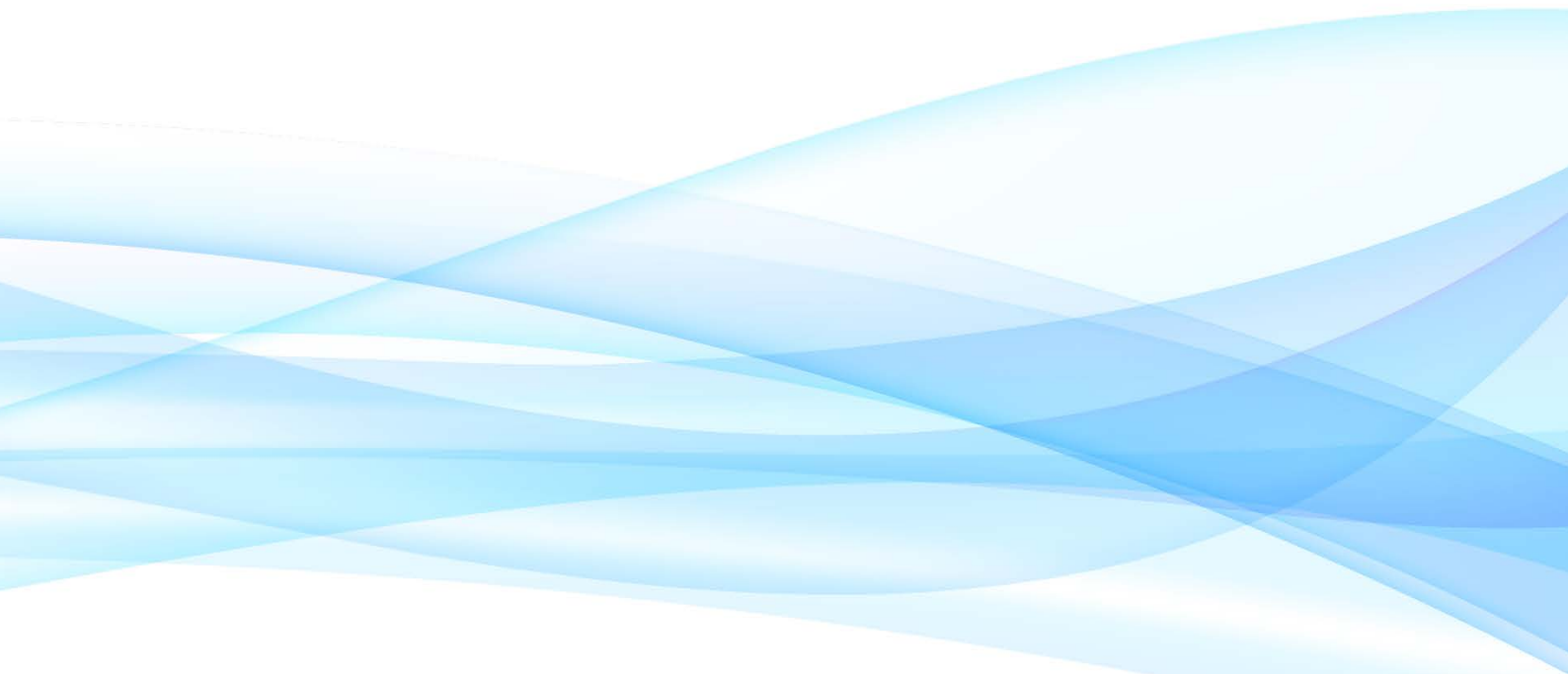




North Pacific Fisheries Commission

# Yearbook 2025

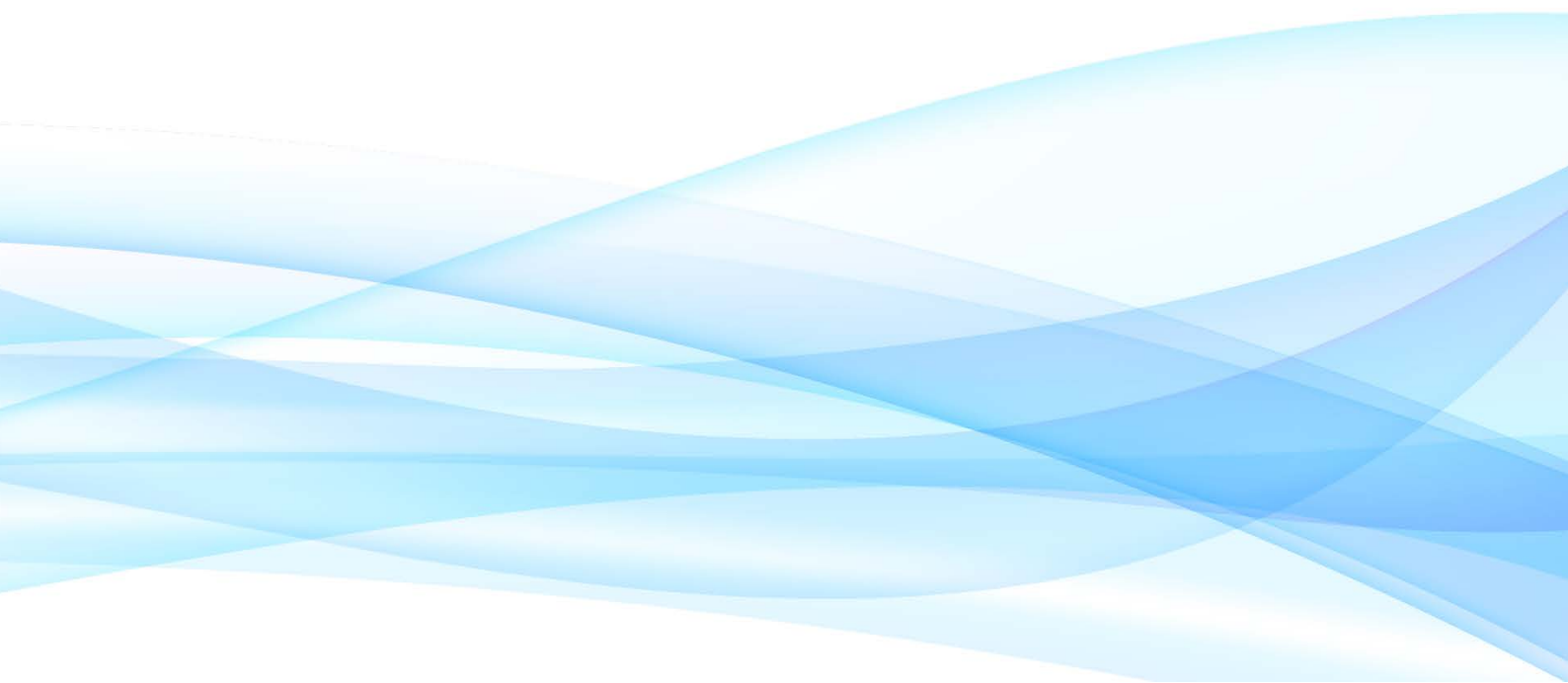






**North Pacific Fisheries Commission**

# **Yearbook 2025**



Edited by:

Shinnosuke KATO (Consultant)

Yume KAWAI (Seconded)

Published by:

North Pacific Fisheries Commission

2nd Floor Hakuyo Hall

Tokyo University of Marine Science and Technology

4-5-7 Konan, Minato-ku, Tokyo

108-8477 JAPAN

TEL +81-3-5479-8717

FAX +81-3-5479-8718

Email [secretariat@npfc.int](mailto:secretariat@npfc.int)

Web [www.npfc.int](http://www.npfc.int)

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# FOREWORD

As the Chair of the North Pacific Fisheries Commission (NPFC), I am honored to present the 2025 Yearbook. This Yearbook covers the events and activities from May 2025 to April 2026 (i.e., meetings after COM09 and up to and including COM10).

I would like to highlight two important developments. The first is that the Conservation and Management Measure (CMM) on the Transshipment Observer Program, adopted at COM09, entered into force on 1 April 2026 with its first observer deployment taking place on 3 April. Along with VMS, vessel registration and high seas boarding and inspection this greatly enhance the NPFC's capacity for monitoring, control and surveillance. Secondly, with funding from the EU, a new database for scientific data has reached the pre-launch phase. The database is to be refined based on feedback from the Members and is expected to be launched in 2027. I am confident that these advancements will enhance the capacity of the NPFC.

Throughout the year, the NPFC has continued to develop its CMMs to achieve the objectives of the Convention. For Pacific saury, it was agreed to reduce the total allowable catch by 5% in 2026, which will support the recovery of the stock. Furthermore, the NPFC adopted two new CMMs related to data and port State measures. The first one establishes minimum standards for the collection, reporting, verification and exchange of data, and sets out the obligations that Members and Cooperating non-Contracting Parties (CNCs) must fulfil. The second CMM prescribes minimum standards for port State measures to fight against IUU fishing. Although these CMMs are not scheduled to enter into force until a later date, they mark an important step in advancing the NPFC's scientific and compliance-related efforts and in further strengthening its conservation and management framework.

Finally, I want to express my sincere appreciation to all Members and Cooperating Non-Contracting Party, invited experts, and observers for their invaluable contribution 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.

Mr. Shingo OTA  
Chair  
North Pacific Fisheries Commission

# ACKNOWLEDGEMENT

Like the Chair, I also would like to congratulate our Members and Cooperating Non-Contracting Party on this publication of the 2025 NPFC Yearbook which incorporates the meetings held after COM09 and up to and including COM10. This record commemorates the Commission's performance drawing from the commitment and contribution from Members and spans more than one calendar year due to a delay in Commission meetings.

The Secretariat looks forward to supporting the Commission in its second decade of work and recognizes the significant milestone of the first 10 years.

There are many people who I wish to appreciate for their hard work in preparation for the meetings. They are the Chair of the Commission, and Chairs of the Scientific Committee, Technical and Compliance Committee, Finance and Administration Committee, Management Strategy Evaluation Small Working Group for Pacific Saury, Small Scientific Committees, Technical Working Group, and intersessional working groups.

My thanks also go to our Rapporteur and Secretariat staff who were enthusiastic, dedicated, and wonderful to work with during the course of Commission meetings and in assisting the Commission and other participants in carrying out the Convention's objectives.

This Yearbook was edited by Mr. Shinnosuke KATO and I very much appreciate his focus on getting this project finished. We welcome comments or suggestions from readers on this Yearbook to improve the quality of this publication in the future.

Dr. Robert Day  
Executive Secretary  
North Pacific Fisheries Commission

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# INTRODUCTION

The North Pacific Fisheries Commission (NPFC) is an inter-governmental organization established by the Convention on the Conservation and Management of 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 while protecting the marine ecosystems of the North Pacific Ocean in which these resources occur. The Convention was adopted on 24th February 2012 and came into force 180 days after receipt of the 4th ratification on 19th July 2015.

The task of the Commission is to achieve its objective by establishing management regimes to ensure the conservation and sustainable use of the fisheries resources of the North Pacific Ocean and its sensitive marine ecosystems. At present, there are nine (9) Members of the NPFC, namely: Canada, China, the European Union (EU), Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, the United States of America, and the Republic of Vanuatu. For this period, Panama is a Cooperating Non-contracting Party (CNCP). The NPFC Secretariat is located in Tokyo, Japan. Dr. Robert Day is the Executive Secretary and has been leading the Secretariat since November 2022.

Fisheries resources covered by the Convention include all the fish, mollusks, 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, including at the moment four families of cold-water corals;
- (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.

Currently the fish species targeted by the NPFC Members include bottom fish stocks and pelagic fish stocks as follows:

- **FISHERY FOR BOTTOM FISH STOCKS:**

In the Northwestern Pacific Ocean, bottom trawl fisheries, bottom gillnet fisheries and bottom longline fisheries have been conducted over the Emperor seamounts by Japan, Korea and Russia. The primary target species of the bottom trawl fisheries have been North Pacific Armorhead

(*Pentaceros wheeleri*), and splendid alfonsino (*Beryx splendens*), and the primary target species of the bottom gillnet fisheries have been splendid alfonsino, oreo (*Allocyttus verrucosus*) and mirror dory (*Zenopsis nebulosa*).

In the Northeastern Pacific Ocean, the seamount long-line fishery began in the 1970's. Four seamount aggregations (Eickelberg Seamounts, Warwick Seamount, Cobb Seamounts, and Brown Bear Seamounts) have been fished by Canada, via longline hook and longline trap gear. The primary target species of both the above fishing gears has been sablefish (*Anoplopoma fimbria*).

- **FISHERY FOR PELAGIC FISH STOCKS:**

Pacific saury (*Cololabis saira*) is one of the major target species in the Convention Area and has been harvested by China, Japan, Korea, Russia, Chinese Taipei and Vanuatu. Most fleets mainly use stick-held dip nets or lift nets (a similar fishing method which uses fishing lamps) to catch Pacific saury. While Japanese and Russian vessels operate mainly within their EEZs, Chinese, Korean, Chinese Taipei and Vanuatu vessels operate mainly in the high seas of the North Pacific. Stock assessment of this species provides the basis for establishing conservation and management measures for the sustainability of the fishery.

A Chub mackerel (*Scomber japonicus*) fishery is also active in the NPFC Convention Area in the Northwestern Pacific Ocean. Similar with Pacific saury, the stock assessment for chub mackerel also determines if current conservation and management measures are effective to continue the sustainable use of these marine resources.

Neon flying squid (*Ommastrephes bartramii*) and Japanese flying squid (*Todarodes pacificus*) are traditionally harvested by squid jigging vessels within the Convention Area.

The Japanese sardine (*Sardinops melanostictus*) fishery has been the largest fishery by volume over the last five years, with increasing catch both in the Member's waters (Japan and Russia) and in the Convention Area (China).

- **NPFC PERSONNEL:**

The personnel of the Secretariat and the Chairman are representatives of the multinational and multicultural nature of the Commission. In this period, the Commission was led by the Chair, Mr. Shingo OTA. The Secretariat was headed by the Executive Secretary, Dr. Robert Day; with the Science Manager, Dr. Aleksandr Zavolokin; the Compliance Manager, Ms. Judy Dwyer; and supported by the Executive Assistant, Ms. Yuko Yoshimura-Takamiya; and the Data Coordinator, Mr. Sungkuk Kang. The Secretariat conducted a recruitment process for Ms. Judy Dwyer's successor, with the new Compliance Manager expected to assume the position in June 2026.

The Secretariat also engaged temporary consultants for a limited period of time to assist the Commission in finance, compliance and science-related activities, and accepted a secondee to bring skills and experience to support the Secretariat and two interns to provide early-career professionals of Members opportunity to gain experience and knowledge in the operations of the Commission.

- **PERIOD OF COVERAGE:**

This publication picks up immediately after the last reported activity of the previous Yearbook (after COM09) and covers key activities and Commission meetings held from the 2<sup>nd</sup> Meeting of the Small Scientific Committee on Neon Flying Squid in July 2025 up to, and including, the 10<sup>th</sup> Commission Meeting in April 2026.

In its efforts to achieve the objective of the Convention, the Commission:

- a. held seven formal scientific committee meetings on fisheries resources covered by the Convention, vulnerable marine ecosystems, and stock assessments, as well as eighteen intersessional meetings of the SC and its subsidiary bodies;
- b. held fifteen small working group meetings on compliance matters;
- c. adopted two new CMMs (Port State Measures, and Standardization for Data Collection );
- d. adopted two standalone CMMs (one for Japanese Sardine, and the other for Neon Flying Squid and Japanese Flying Squid); and
- e. updated four CMMs (Pacific Saury, Chub Mackerel, IUU Vessel list, and Vessel Registration).

In addition, as an observer, the Secretariat participated in a number of international fisheries meetings, including the 32<sup>nd</sup> NPAFC Annual Meeting, the PICES Annual Meeting, and the FAO workshop. The Secretariat also hosted a joint meeting of the Tuna Compliance Network and the Pan Pacific Fisheries Compliance Network at the Secretariat office in Tokyo, and a joint NPFC-FAO workshop in Nagoya. Furthermore, as an in-kind contribution, the Secretariat provided its office for a meeting of the FAO Deep Sea Fisheries Project Steering Committee.

The following pages provide the final approved reports of meetings of the North Pacific Fisheries Commission and its subsidiary bodies. They are provided in chronological order for meetings after COM09 up to and including COM10.

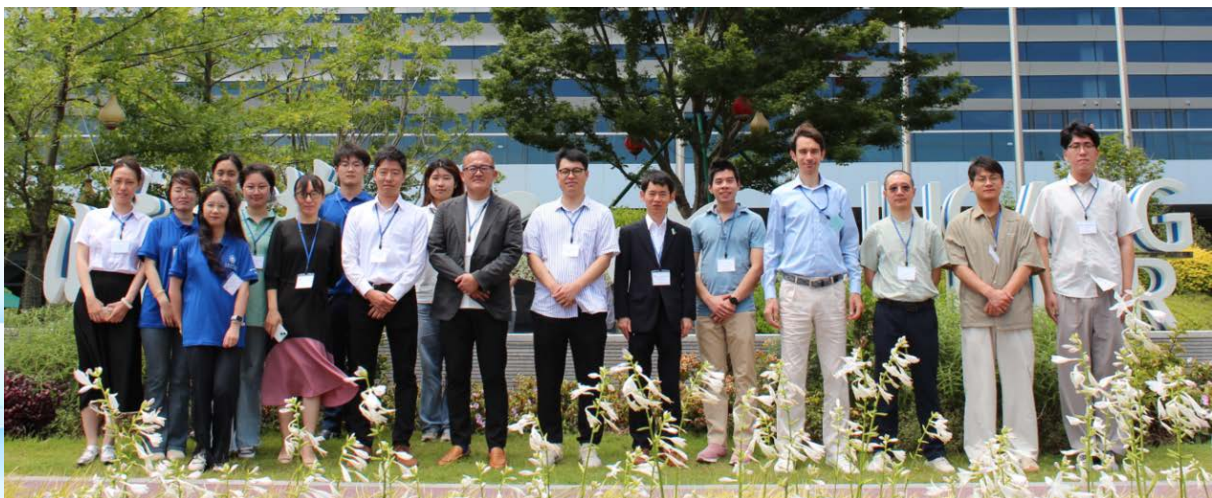


# 2<sup>nd</sup> Meeting of the Small Scientific Committee on Neon Flying Squid

8-10 July 2025

Shanghai, China (Hybrid)

Meeting Report



## **Agenda**

Agenda Item 1. Opening of the Meeting

Agenda Item 2. Adoption of Agenda

Agenda Item 3. Review of previous SSC NFS01 outcomes and intersessional activities

- 3.1 Overview of stock assessment methods and management measures that have been used for squids or other short-lived species
- 3.2 Updates on NFS management strategy simulation work

Agenda Item 4. Updates on Members' fishery status

- 4.1 Member presentations prepared in advance using the provided template

Agenda Item 5. Review of biological information for NFS

- 5.1 Common sampling protocol for collecting NFS age and size data

Agenda Item 6. Review of potential input data for the surplus production model

- 6.1 Historical catch data, including data collection methods and fishery-dependent abundance indices (e.g., nominal/standardized CPUE)
- 6.2 Fishery-independent abundance indices (e.g., scientific surveys)

Agenda Item 7. Stock assessment modelling

- 7.1 Review of any updates and progress on the surplus production models
- 7.2 Discussion of alternative stock assessment approaches
- 7.3 Recommendations for future work

Agenda Item 8. Review of the SSC NFS Work Plan

- 8.1 Climate change related issues
- 8.2 Review and update of the SSC NFS Work Plan
- 8.3 NPFC Performance Review recommendations

Agenda Item 9. Other matters

- 9.1 Species summary for neon flying squid
- 9.2 Observer Program
- 9.3 Invited expert
- 9.4 Election of Chair and vice-Chair
- 9.5 Other

Agenda Item 10. Recommendations to the Scientific Committee

Agenda Item 11. Adoption of Report

Agenda Item 12. Close of the Meeting

## **MEETING REPORT**

### **Agenda Item 1. Opening of the Meeting**

1. The 2<sup>nd</sup> Meeting of the Small Scientific Committee on Neon Flying Squid (SSC NFS02) took place in a hybrid format, with participants attending in-person in Shanghai, China or online via WebEx, and was attended by Members from Canada, China, Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, the United States of America, and the Republic of Vanuatu. The Ocean Foundation and the Pew Charitable Trusts (Pew) attended as observers. An invited expert, Dr. Rujia Bi, participated in the meeting.
2. The meeting was opened by the SSC NFS Vice-Chair, Dr. Bungo Nishizawa (Japan), who led this meeting as the SSC NFS Chair, Dr. Luoliang Xu, was not able to attend the meeting in-person. The Vice-Chair welcomed the participants and thanked China for hosting this meeting.
3. On behalf of China, the host Member, Dr. Libin Dai welcomed in-person participants to Shanghai and online participants to the meeting. Dr. Dai hoped that the meeting would contribute to making meaningful progress on advancing scientific research on neon flying squid (NFS).
4. The Science Manager, Dr. Aleksandr Zavolokin, outlined the procedures for the meeting.
5. Mr. Alex Meyer was selected as rapporteur.

### **Agenda Item 2. Adoption of Agenda**

6. The agenda was adopted (Annex A). The List of Documents and List of Participants are attached (Annexes B, C).

### **Agenda Item 3. Review of previous SSC NFS01 outcomes and intersessional activities**

7. The Vice-Chair provided an overview of the outcomes and recommendations of the 1<sup>st</sup> SSC NFS meeting.
8. The SSC NFS discussed the goals of the SSC NFS02 meeting and agreed that the SSC NFS should aim to agree, if possible, on the input data, such as catch data and catch per unit effort

(CPUE) data, for use in the surplus production model for NFS stock assessment.

9. To help the SSC NFS achieve its goal, Japan requested that Members provide explanations about their available NFS data.
10. The Science Manager reminded the SSC NFS that at the 9<sup>th</sup> Commission meeting, the Commission discussed the prioritization of species for stock assessment and reaffirmed that NFS is a priority species.

### *3.1 Overview of stock assessment methods and management measures that have been used for squids or other short-lived species*

11. The invited expert presented an overview of stock assessment methods and management measures used for squids and other short-lived species (NPFC-2025-SSC NFS02-WP02). The management and assessment of squids and other short-lived species demand approaches that reflect their distinctive biological and ecological characteristics. Traditional methods developed for long-lived species often underestimate the rapid population turnover, recruitment variability, and environmental sensitivity that define short-lived species. However, a diverse toolkit tailored to the data constraints and life-history traits of these species is available, from empirical and survey-based assessments to depletion and production models. Successful stewardship of short-lived resources depends on flexible, adaptive management frameworks that can accommodate uncertainty and respond swiftly to fluctuations in stock status. This includes setting biologically relevant reference points, applying precautionary controls, and maintaining a capacity for in-season adjustments. As environmental change and data limitations persist, further integration of ecosystem considerations and development of rapid assessment methods will be essential to support sustainable exploitation and resilience in these dynamic fisheries.
12. The SSC NFS discussed appropriate stock assessment models for NFS. The SSC NFS recalled that it has agreed to work towards conducting a stock assessment using a surplus production model (SPM) as a first step. The SSC NFS noted that SPMs typically have an annual time step, but that it could be valuable to consider a more frequent time-step given that NFS has a one-year life-span. The SSC NFS noted that Members have shared monthly data at a 1x1 degree resolution, which would support such work. The SSC NFS also noted the invited expert's suggestion to explore variants of SPM, including incorporating more environmental factors that may affect carrying capacity and intrinsic growth rate.

### *3.2 Updates on NFS management strategy simulation work*

13. Dr. Libin Dai (China) presented preliminary NFS management strategy simulation work, using only annual data, that he conducted as part of Scientific Committee (SC) capacity

building (NPFC-2025-SSC NFS02-IP06). He explained that the work was only intended to explore the possibility of developing a management strategy evaluation (MSE) framework for NFS. In collaboration with Blue Matter Science, Dr. Dai developed and conditioned an age-structured OpenMSE operating model for the autumn cohort, developed and compared catch- and effort-based harvest control rules (HCRs), and evaluated management trade-offs using the OpenMSE package. Effort control was more resilient than catch control for the NFS autumn cohort. Monthly data are needed to construct a monthly time-step operating model to make explicit choices about the biological and fishing dynamics during the year. Monthly data are helpful to simulate data on a finer time scale to evaluate in-season management and compare management approaches that use the previous year's data. Currently, it is difficult to see the value of management procedures (MPs) that use the previous year's data for a short-lived species as these data do not have any information about the abundance of the next year's cohort. OpenMSE has multi-stock modeling capability, so it could be used to develop a joint model for the autumn and winter-spring stocks to evaluate combined MPs for NFS.

14. Dr. Dai shared the input files and the code for this work on the NPFC Collaboration Site.
15. The Ocean Foundation supported development of the MSE for NFS and recommended continued support through SC capacity building.

#### Agenda Item 4. Updates on Members' fishery status

##### *4.1 Member presentations prepared in advance using the provided template*

16. Korea presented its NFS fishery status up to 2024 (NPFC-2025-SSC NFS02-IP02). Korea conducted exploratory fishing in the North Pacific Ocean in 2017 (1 vessel), 2021 (1 vessel) and 2022 (2 vessels). In other years, NFS was caught as a bycatch species by hand lines from stick-held dipnet vessels. In 2024, total catch of NFS was 19 MT. Except for during Korean exploratory fishing in 2017, 2021 and 2022, no catch was recorded east of 170°E and all NFS were caught west of 170°E. The number of stick-held dipnet vessels fishing for squid has gradually decreased from 14 in 2016 to 5 in 2024, with only 4 out of 5 operating vessels reporting catch of NFS. Since the NFS are caught only by hand lines, the annual catch fluctuates significantly. In the years when NFS were caught, fishing occurred in August and September, with the highest catch recorded in August.
17. Chinese Taipei presented its NFS fishery status up to 2024 (NPFC-2025-SSC NFS02-IP01 (Rev. 1)). Catch peaked at 9,022 MT in 2004 and was 6.5 MT in 2024. Catch is mainly from the Convention Area west of 170°E. Only six vessels harvested squid in 2024, down from a peak of 91 in 2019. The six vessels operated for a total of seven days from August to October. There was one vessel in the eastern region between 2016 and 2024. The nominal CPUE was 0.93 tons/day in 2024. Nominal CPUE has been higher in the area west of 170°E compared to

the east. The fishing grounds in 2024 were smaller than those in 2023.

18. Japan requested that Korea and Chinese Taipei distinguish between NFS caught using squid jigging and those caught using handlines when reporting NFS catch and effort in their annual summary footprints.
19. Japan presented its NFS fishery status up to 2024 (NPFC-2025-SSC NFS02-IP03). Since the entry into effect of the High Seas Driftnet Fishing Moratorium in 1992, squid jigging has become Japan's main NFS fishery, with more than 99% of NFS caught by squid jigging. The annual catch in recent years has been relatively stable and total catch in 2024 was 4,458 MT. In general, Japanese fishing vessels mainly operate in the Convention Area east of 170°E from May to July. They also operate in Japanese national waters in January and February. In 2024, most of the catch was taken in the Convention Area east of 170°E. There was almost no catch in national waters because fishing vessels operating in national waters in January and February targeted Japanese flying squid. The number of vessels operating in the Convention Area east of 170°E has been stable since 2011 at around 25 vessels. The number of vessels operating in national waters has been decreasing in recent years. Nominal CPUE was 0.4 MT/day in the Convention Area west of 170°E and national waters, and 2.2 MT/day in the Convention Area east of 170°E.
20. China presented its NFS fishery status up to 2024 (NPFC-2025-SSC NFS02-IP04). The annual catch has remained relatively stable in recent years, with a total of 15,842 MT in 2024. Most catches occurred in the Convention Area west of 170°E. China operated 120 vessels in 2024, an increase of 34 compared to 2023. Seasonal catches from May to November showed an initial rise followed by a decline. The accumulated catch increased annually between 2022 and 2024. The nominal CPUE was 1.813 MT/day west of 170°E and 1.798 MT/day east of 170°E in the Convention Area.
21. Vanuatu informed the SSC NFS that it did not conduct its NFS fishery in 2024.
22. Russia informed the SSC NFS that it had no catches of NFS in the Convention Area or in national waters in 2024. Russia explained that for many years it has not caught NFS in the Convention Area but that in the past, NFS has sometimes been taken in national waters mostly as bycatch by Russian vessels.
23. The SSC NFS considered potential updates to the template prepared by the invited expert for presenting Members' fisheries status information (NPFC-2025-SSC NFS02-WP01).
24. The SSC NFS agreed that it would be useful to update the template to enable provision of

catch and effort information by gear, noting that this would enable the estimation of the catchability of different gear types and more precise CPUE standardization.

25. The SSC NFS agreed on the importance of size composition data, noting that this would enable more precise separation of NFS catch data into the winter-spring or autumn cohorts and preparation of cohort-specific catch data, ideally at a monthly, 1x1 degree resolution. However, the SSC NFS also noted that some Members would have difficulty providing size information from recent years or at a more frequent resolution than yearly. The SSC NFS agreed to add slides to the template for presenting yearly size information and a description of the methods for obtaining size composition, as well as similar optional slides for presenting monthly or seasonal size information.
26. The SSC NFS reviewed, revised, and endorsed the template for presenting Members' NFS fisheries status information (available on the [NPFC website](#)).
27. The SSC NFS agreed that the intended purpose of the template is to standardize the way in which Members share their NFS fisheries status information and not to require Members to collect or present information that they do not have or are unable to provide.

*Agenda Item 5. Review of biological information for NFS*

28. Japan presented an estimation of the relationship between size box categories and the mantle length (ML) composition of NFS caught by Japanese squid jigging vessels (NPFC-2025-SSC NFS02-WP04). Japan investigated the relationship between size-box categories and ML of the NFS caught by Japanese squid jigging vessels in the North Pacific Ocean. On-board size measurements of MLs of squid caught by commercial jigging were conducted from May to July in 2012 and 2013, covering eight size-box categories. In total, the MLs of 3,451 individuals were measured. Squid sorted into the 6-10 (no. of individuals per box), 11-15, and 16-20 size-box categories were mostly in the ML class of 35 cm or larger, whereas those in the 41-50 and 51-60 size box categories were in the ML class of 20 cm or smaller. These ML frequency distributions were fitted with a lognormal distribution. Japan suggested that the ML compositions could be used to estimate length distributions of NFS landings, assuming data on the number of boxes by size-box category are available. By combining these results with the threshold size for distinguishing between the autumn and winter-spring cohorts, it would be possible to separate the catch into each cohort.
29. The invited expert suggested that Japan explore the use of a Dirichlet distribution for fitting the ML frequency distributions as this may fit better than a lognormal distribution.
30. China presented a summary of squid jigging surveys conducted between 2021 and 2024 by

R/V Songhang, Shanghai Ocean University's pelagic fishery resources survey vessel (NPFC-2025-SSC NFS02-IP05). Based on the surveys, the predominant squid species in the Northwest Pacific Ocean were found to be NFS, boreal clubhook squid, Boreopacific armhook squid, clubhook squid and luminous flying squid. Except for NFS, the four other squid species were bycatch from squid jigging. Catch data from the surveys were collected and mapped. Basic biological characteristics of NFS, including the ML composition, body weight (BW) composition, ML-BW relationship, sexual maturity composition, and feeding ecology information, were recorded. The R/V Songhang's surveys for NFS will be continually improved going forward, and the fishery-independent biological information from the surveys will be provided to support NFS stock assessment work.

31. China offered to provide a more detailed explanation of its sampling survey design at a future meeting. The SSC NFS welcomed the offer, noting that China's research survey may be able to provide not only biological information but also abundance information.

#### *5.1 Common sampling protocol for collecting NFS age and size data*

32. The SSC NFS encouraged Members to present their size composition information, even if it is only preliminary, as well as a description of the method they used to estimate size composition, to the next SSC NFS meeting to facilitate information sharing and initial discussions towards the development of a common protocol.
33. Chinese Taipei informed the SSC NFS that it has historical size composition data, that it has potential plans to collect such data in the coming year, and that it could provide these data to the SSC NFS. The SSC NFS welcomed the offer.
34. The United States suggested that it would be useful to develop a common, documented methodology for separating NFS catch into the winter-spring or autumn cohorts.
35. The United States suggested that it would be valuable to estimate NFS size-at-age and to collect statolith samples for that purpose.

#### *Agenda Item 6. Review of potential input data for the surplus production model*

##### *6.1 Historical catch data, including data collection methods and fishery-dependent abundance indices (e.g., nominal/standardized CPUE)*

36. The Vice-Chair presented plots of Members' annual catch, effort, and nominal CPUE data for each cohort from the annual summary footprints, as well as plots of the preliminary standardized fisheries-dependent CPUE data for the two cohorts.
37. The SSC NFS reviewed and updated the CPUE standardization protocol (Annex D) to enable

the extraction of seasonally standardized CPUE, if needed.

38. The SSC NFS requested the Chair to develop a template for presenting CPUE standardizations based on the template for Pacific saury and agreed to include this in the CPUE standardization protocol in the future.
39. The SSC NFS encouraged Members to conduct individual Member-specific CPUE standardizations, following the CPUE standardization protocol, separated by gear and cohort. The SSC NFS encouraged Members that catch NFS with different gears to first prioritize conducting a CPUE standardization for squid jigging over other gears. The SSC NFS encouraged Members to separate the cohorts based on size information, if possible, or, if not, based on catch location.
40. The SSC NFS requested Members to share monthly, 1x1 degree catch and effort data from the Convention Area and, if possible, national waters. The SSC NFS requested that the invited expert use the Convention Area data and, if possible, also the national waters data to conduct joint CPUE standardizations for each cohort, separating the cohorts based on catch location, and to share on the NPFC GitHub the R package she used.
41. Korea explained that it only used squid jigging gear as part of exploratory fishing operations conducted in 2017, 2021 and 2022, and that almost no catch was taken east of 170°E (i.e., autumn cohort). Given the limited data, the SSC NFS agreed that conducting a standardized CPUE for the autumn cohort NFS caught by the Korean squid jigging fishery is not a priority. Korea noted that internal discussion is required to determine whether CPUE standardization should be conducted using the currently limited data.
42. Vanuatu explained that it had limited data available and did not think that they would be sufficiently representative for conducting Member-specific CPUE standardization work. However, Vanuatu expressed its intention to share these data for the conducting of the joint CPUE standardization.

## 6.2 Fishery-independent abundance indices (e.g., scientific surveys)

43. Japan presented an updated CPUE standardization for the autumn and winter-spring cohorts of NFS based on Japanese driftnet surveys the Northwest Pacific Ocean from 2001 to 2024 (NPFC-2024-SSC NFS02-WP03). The individuals caught by the driftnets were divided into cohorts based on their ML. Generalized additive models (GAMs) were used to standardize the CPUE, incorporating temporal (year and ten-days), spatial (latitude and longitude), and environmental (sea surface temperature (SST) and lunar illumination) variables. There was large interannual variation in the standardized CPUE for both cohorts, with no clear increasing

or decreasing trends over the years for both cohorts. Japan suggested that this standardized CPUE could serve as a fishery-independent abundance index for future NFS stock assessments.

## Agenda Item 7. Stock assessment modelling

### *7.1 Review of any updates and progress on the surplus production models*

44. Japan presented a preliminary application of the stochastic surplus production model in continuous time (SPiCT) to NFS in the North Pacific (NPFC-2025-SSC NFS02-WP05). Japan applied the SPiCT to the autumn and winter-spring cohorts using the total annual catch of all Members and two abundance indices from the fishery and Japanese driftnet survey. The fishery index was estimated by standardizing the Members' CPUE using a generalized linear mixed model (GLMM) that included year and Member as explanatory variables. The assessment confirmed a weak positive relationship (Pearson's  $r = 0.27$ ) between the fishery and survey indices for the autumn cohort and a strong positive relationship ( $r = 0.57$ ) for the winter-spring cohort. The parameter estimates derived from the autumn cohort assessment using SPiCT were nearly satisfactory with narrow confidence intervals. However, some issues from model diagnostics and retrospective analysis were found. The estimated values in the winter-spring cohort model appeared acceptable. Japan suggested that the utilization of both fishery and survey indices in the SPMs would be a valuable approach for future NFS stock assessments.
45. The invited expert noted that for the fishery-based abundance index, cohort separation was based on catch location, while for the survey-based abundance index, it was based on size composition, making the two indices incomparable. The invited expert suggested that in order to be able to use both indices in a cohort-specific assessment, the same cohort-separation method should be applied to both indices.
46. China expressed its intention to present additional studies exploring the application of Just Another Bayesian Biomass Assessment (JABBA) to NFS at a future meeting. China explained that since the separation of the two cohorts remains unclear, it intends to present preliminary applications of JABBA for cohort-specific assessments, as well as a stock-wide assessment.

### *7.2 Discussion of alternative stock assessment approaches*

47. The SSC NFS reaffirmed that, as a first step, it will prioritize the development of an SPM for NFS stock assessment. The SSC NFS did not hold detailed discussions on alternative stock assessment approaches.

### *7.3 Recommendations for future work*

48. The SSC NFS encouraged Members to conduct hindcasting tests when presenting work on the development of stock assessment models so as to test the prediction ability of models.

49. The SSC NFS noted the importance of environmental impacts and encouraged Members to explore the incorporation of environmental factors that may affect variables such as carrying capacity, intrinsic growth rate, and catchability.
50. The SSC NFS agreed that the following scenarios could be considered for the NFS assessment:
  - a) Cohort-specific assessment (winter-spring and autumn cohorts); and
  - b) Stock-wide assessment (no cohort separation).
51. The SSC NFS agreed that the base case scenario should be selected based on diagnostic results and biological plausibility, among other factors.

#### Agenda Item 8. Review of the SSC NFS Work Plan

##### *8.1 Climate change related issues*

52. The Science Manager reminded the SSC NFS that the Commission has adopted a Resolution on Climate Change, that the Commission has tasked the SC to make climate change a standing agenda item, and that the SC has instructed its subsidiary bodies to do the same.
53. The Science Manager informed the SSC NFS that at SC09, the consultant for the United Nations Food and Agriculture Organization (FAO) consultancy on climate change in the North Pacific presented the results of a literature review aimed at facilitating the incorporation of climate change into the NPFC's work (NPFC-2024-SC09-OP01).

##### *8.2 Review and update of the SSC NFS Work Plan*

54. The SSC NFS reviewed and updated the SSC NFS Work Plan (NPFC-2025-SSC NFS02-WP06 (Rev. 1)).
55. The SSC NFS drafted a timeline of tasks leading up to SSC NFS03 as follows:
  - a) The Chair will reach out to Members by email to review progress in CPUE standardization by Members, joint CPUE analysis, and information on size data in early October 2025.
  - b) Members will update monthly, 1x1 degree catch and effort data for joint CPUE standardization by mid-October 2025.
  - c) The invited expert will share the code developed for joint CPUE standardization on the NPFC GitHub by early November.

##### *8.3 NPFC Performance Review recommendations*

56. The Science Manager explained that the Commission has agreed on a new process for reviewing progress against the Performance Review recommendations as described in NPFC Circular 038-2025. In accordance with this process, the SC Chair has reviewed the progress

on the implementation of recommendations that concern the SC and its subsidiary bodies and submitted her responses to the Commission. Therefore, the SSC NFS does not need to conduct its own review this year. The SC-related recommendations will be further reviewed during the SC10 meeting in December 2025.

## Agenda Item 9. Other matters

### 9.1 *Species summary for neon flying squid*

57. The SSC NFS reviewed and updated the species summary for NFS (NPFC-2025-SSC NFS02-WP07 (Rev. 1)). The SSC NFS recommended that the SC adopt the updated species summary (Annex E).

### 9.2 *Observer Program*

58. The Science Manager reminded the SSC NFS that the Commission previously requested that the SC provide guidance to the Technical and Compliance Committee (TCC) on the scientific aspects of a regional observer program (ROP), that the TCC Chair posed specific questions to the SC and its subsidiary bodies, and that the SC and its subsidiary bodies, including the SSC NFS, provided responses. The Science Manager explained that these responses were provided to the TCC but the Commission considered them to be insufficient and recommended that the SC and the TCC continue to work on this matter. Based on this, the TCC Chair has posed additional questions to the SC and its subsidiary bodies concerning critical data points, current level of confidence in NPFC stock assessments, monitoring of rare events, data for development of management procedures and accounting for potential effects of climate change, and electronic monitoring systems. The Small Working Group on Observer Program will establish a process for answering these questions intersessionally, draft responses, and circulate the responses to the relevant SC subsidiary bodies for review.
59. The SSC NFS requested the Chair to contribute to drafting the responses to the TCC Chair's questions and to coordinate with Members to finalize the responses through correspondence.
60. Regarding the use of electronic monitoring, Pew suggested that it would be useful for the SSC NFS to follow developments related to the use of electronic monitoring systems for jumbo flying squid by the South Pacific Regional Fisheries Management Organisation (SPRFMO).

### 9.3 *Invited expert*

61. The SSC NFS recommended that the SC continue to hire an invited expert in 2026 to support the SSC NFS during its meetings and to conduct other work to support the SSC NFS as appropriate.

### 9.4 *Election of Chair and vice-Chair*

62. The SSC NFS agreed to extend Dr. Luoliang Xu (China) for another two-year term as the SSC NFS Chair.
63. The SSC NFS agreed to extend Dr. Bungo Nishizawa (Japan) for another two-year term as the SSC NFS Vice-Chair.

#### 9.5 Other

64. No other matters were discussed.

#### Agenda Item 10. Recommendations to the Scientific Committee

65. The SSC NFS agreed to:
- (a) endorse the [template](#) for presenting Members' NFS fisheries status information.
  - (b) hold further discussions at its next meeting on how to separate the two NFS cohorts for conducting stock assessments of each.
  - (c) develop a template document for Members' CPUE standardizations.
  - (d) share information on the collection of NFS size/age data by individual Members, if available.
  - (e) submit updated monthly, 1x1 degree catch and effort data up to 2024 for joint CPUE standardization work.
  - (f) task the invited expert to conduct joint CPUE standardizations for each cohort and share on the NPFC GitHub the R package she used.
  - (g) conduct CPUE standardization individually by Members targeting NFS.
  - (h) continue to include climate change as a standing agenda item in future meetings.
  - (i) extend Dr. Luoliang Xu (China) for another two-year term as the SSC NFS Chair.
  - (j) extend Dr. Bungo Nishizawa (Japan) for another two-year term as the SSC NFS Vice-Chair.
  - (k) hold two hybrid or in-person meetings in 2026, for three or four days each, with the dates to be determined at SC10.
66. The SSC NFS recommended that the SC:
- (a) endorse the updated CPUE standardization protocol for NFS (Annex D).
  - (b) adopt the Work Plan of the SSC NFS (NPFC-2024-SSC NFS02-WP06 (Rev. 2)).
  - (c) adopt the updated species summary for neon flying squid (Annex E).
  - (d) continue to hire an invited expert in 2026 to support the SSC NFS during its meetings and conduct other work to support the SSC NFS as appropriate.

#### Agenda Item 11. Adoption of Report

67. The SSC NFS02 Report was adopted by consensus.

Agenda Item 12. Close of the Meeting

68. The SSC NFS Vice-Chair thanked the participants for their meaningful and productive discussions, as well as the Secretariat and the rapporteur for their support.
69. The SSC NFS thanked China for hosting the meeting.
70. The SSC NFS thanked the SSC Vice-Chair for his leadership.
71. The meeting closed at 10:00 on 10 July 2025, Shanghai time.

**Annexes:**

Annex A – Agenda

Annex B – List of Documents

Annex C – List of Participants

Annex D – CPUE standardization protocol for neon flying squid

Annex E – Species summary for neon flying squid

Please refer to the NPFC website for the complete annexes.



# 11th Meeting of the Technical Working Group on Chub Mackerel Stock Assessment

8–10 July 2025

Shanghai, China (Hybrid)

Meeting Report



## **Agenda**

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Agenda Item 3. Overview of the recommendations and outcomes of previous NPFC meetings relevant to chub mackerel

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- 3.2 Intersessional meetings of TWG CMSA

- 3.3 SC09

- 3.4 COM09

- 3.4.1 Tasks from COM09 to TWG CMSA

Agenda Item 4. Members' fishery status and research activities

- 4.1 Bycatch information

Agenda Item 5. Review of results of stock assessment using State-space stock assessment model (SAM)

- 5.1 Review of data used for stock assessment

- 5.2 Confirmation of setting and specification of SAM

- 5.3 Review of stock assessment results

- 5.4 Discussion on base cases and representative cases

Agenda Item 6. Future projections and biological reference points

- 6.1 Confirmation of projection methods and scenarios

- 6.2 Review of projection results

- 6.3 Discussion on contents to be shown in the stock assessment report in response to the tasks from COM09

Agenda Item 7. Stock assessment report

- 7.1 Review of draft executive summary

- 7.1.1 Stock status

- 7.1.2 Management advice

- 7.1.3 Others

- 7.2 Review of draft stock assessment report

- 7.3 Work assignments to finalize the report towards SC10 meeting

Agenda Item 8. Response to the tasks from COM09

8.1 Task #1

8.2 Task #2

Agenda Item 9. Future improvement of input data

9.1 Maturity criterion

Agenda Item 10. Data collection and management

10.1 Data provision templates

10.2 Update on GitHub repository and user manual

10.3 Observer Program

Agenda Item 11. Review of the Work Plan for the TWG CMSA

11.1 Climate change related issues

11.2 Options to minimize the time lag between the terminal year of the stock assessment and the management decisions

11.3 Work Plan of the TWG CMSA

11.4 NPFC Performance Review recommendations

Agenda Item 12. Other matters

12.1 Timeline and intersessional activities before TWG CMSA12

12.2 Species summary

12.3 Invited expert

12.4 Other issues

Agenda Item 13. Recommendations to the Scientific Committee

Agenda Item 14. Adoption of Meeting Report

Agenda Item 15. Close of the Meeting

## **MEETING REPORT**

### **Agenda Item 1. Opening of the Meeting**

1. The 11<sup>th</sup> meeting of the Technical Working Group on Chub Mackerel Stock Assessment (TWG CMSA11) took place in a hybrid format, with participants attending in-person in Shanghai, China or online via WebEx, and was attended by Members from Canada, China, the European Union (EU), Japan, the Russian Federation, and the United States of America. An invited expert, Dr. Joel Rice, participated in the meeting.
2. The meeting was opened by the TWG CMSA Chair, Dr. Kazuhiro Oshima (Japan), who welcomed the participants and thanked China for hosting the meeting.
3. On behalf of China, the host Member, Dr. Luo Yi, Vice President of Shanghai Ocean University, welcomed the participants to Shanghai. Dr. Luo thanked the TWG CMSA for its hard work for the management and conservation of chub mackerel, an important species for many Members. He noted that the TWG CMSA has completed its first chub mackerel stock assessment and that NPFC has set catch limits based on this, which represent an important step forward for the science-based management of chub mackerel. Dr. Luo also explained that Shanghai Ocean University is a core institute in China's high seas fisheries research and strives to contribute to the sustainable management of chub mackerel and other species, including through research surveys by the RV Song Hang. Finally, he expressed his hope for a successful meeting with open discussions and strong collaboration for further enhancing the NPFC's chub mackerel stock assessment.
4. The Science Manager, Dr. Aleksandr Zavolokin, outlined the procedures for the meeting.
5. Mr. Alex Meyer was selected as rapporteur.

### **Agenda Item 2. Adoption of Agenda**

6. The TWG CMSA agreed to add a new agenda item, "9. Future improvement of input data" and a new sub-agenda item, "9.1 Maturity information."
7. The revised agenda was adopted (Annex A). The List of Documents and List of Participants are attached (Annexes B, C).

Agenda Item 3. Overview of the recommendations and outcomes of previous NPFC meetings relevant to chub mackerel

### *3.1 TWG CMSA10*

8. The Chair provided an overview of the outcomes and recommendations of the 10<sup>th</sup> TWG CMSA meeting.

### *3.2 Intersessional meetings of TWG CMSA*

9. The Chair provided an overview of the intersessional meetings of the TWG CMSA held on 25–26 April and 30 May.

### *3.3 SC09*

10. The Science Manager presented the outcomes from the 9<sup>th</sup> Meeting of the Scientific Committee (SC09) of relevance to chub mackerel.

### *3.4 COM09*

11. The Science Manager explained that the Commission adopted a revised Conservation and Management Measure for Chub Mackerel at its 9<sup>th</sup> meeting. He highlighted the revised catch limits, the requirement to record and report all catches including incidental catches of other NPFC species and discards, and a carry-over provision for the EU's catch limit.

#### *3.4.1 Tasks from COM09 to TWG CMSA*

12. The Science Manager explained that the 9<sup>th</sup> Commission meeting assigned the following tasks to the TWG CMSA:
  - a) Task #1: Provision and analysis of gear specific data to explore whether there is a need to protect the immature portion of the stock and advice on options for achieving that, as appropriate. This includes also accessory devices used for fishing purposes, such as FADs, light devices, etc.
  - b) Task #2: Clarification of the correspondence of fishing days and the level of catch in relevant fleets, such as the purse seine fleet.
  - c) Task #3: Based on the next stock assessment, provide projections and associated probabilities, based on constant catch scenarios (e.g. increments of 5.000 mt) or constant F scenarios, aiming at reaching an appropriate MSY proxy (SSB and F) within 5 to 10 years with a probability higher than 50%.
13. The Data Coordinator, Mr. Sungkuk Kang, provided an update on the Chub Mackerel Monthly/Weekly Catch Reporting System, which was developed last year. The new reporting season for 2025 began on 1 June 2025 and will continue until 31 May 2026. During this period, Members are required to report their catch data by gear type on a monthly basis until the

cumulative catch for each gear type reaches 60% of the TAC. Once the catch data for each gear type reaches 60% of the TAC, reporting automatically shifts to a weekly basis. After submission, Members can review their data in the system, disaggregated by gear type. The Secretariat will continue working to enhance the system and welcomes any further feedback from Members.

#### Agenda Item 4. Members' fishery status and research activities

##### 4.1 Bycatch information

14. The TWG CMSA noted the information provided by Canada on Canadian captures of chub mackerel as bycatch in domestic fisheries and research surveys (NPFC-2025-TWG CMSA11-IP03).
15. The EU informed the TWG CMSA that it has not yet begun fishing for chub mackerel in the NPFC Convention Area.
16. China presented a review of its chub mackerel fishery and research activities (NPFC-2025-TWG CMSA11-IP05). In 2024, China operated 103 purse seine vessels and 3 trawl vessels in the Convention Area. The estimated catch in 2024 of chub mackerel and blue mackerel was about 72,000 MT, an increase from 2023. The distribution of chub mackerel in 2024 was similar to that in 2023. Nominal catch per unit effort (CPUE) decreased from 2019 to 2023 but increased slightly in 2024. The proportion of blue mackerel to the total mackerel catch in 2024 was 0.06. The average length of caught individuals was 249.8 mm, slightly larger than in 2023 (235.5 mm). In 2024, the main individuals at age ranged from 1 to 3, similar to other years. The proportion of mature individuals with gonadal development is relatively high in spring and early summer (April to June) and autumn (October to November). China collects and analyzes fishing logbooks every year, collects samples on fishing vessels and in ports, monitors the monthly ratio of chub mackerel and blue mackerel in catch, and conducts monitoring of biological features.
17. China presented bycatch information from its chub mackerel fisheries (NPFC-2025-TWG CMSA11-IP06). The main bycatch species are Japanese sardine and blue mackerel. Other bycatch species include squid, Pacific saury and other pelagic species.
18. Japan presented a review of the recent fishery and stock status of chub mackerel, including bycatch information (NPFC-2025-TWG CMSA11-IP01). Japan's catch comes from large-scale purse seine vessels, small-scale purse seine vessels, set nets, and dip nets and other gears. The majority of the catch is from large-scale purse seine vessels but the share of catch from other gears has been increasing in recent years. In the fishing year 2024 (FY2024), preliminary catch as of February 2025 is approximately 38,800 MT. There is usually substantial catch

between November and March, with catch in November and December tending to be high, but the peak catch has been decreasing. Japan's 2024 summer surface trawl survey showed distribution of age-0 fish between 150°E and 170°E and a small number of age-1+ fish around 160°E. Nominal CPUE in the survey was generally low. Japan's 2024 autumn surface trawl survey was limited and could not be conducted west of 160°E due to adverse weather conditions, but showed broad distribution of chub mackerel offshore, up to 170°E. The egg survey in 2024 shows that the main spawning ground is centered on the Izu Islands. Egg abundance has been low since 2023, which suggests a low level of reproductive events in 2024. In terms of bycatch, Japan extracted catch records that included mackerel catch from large-scale purse seine vessel logbooks and examined the species composition of these catch records. Only the combined total catch of chub mackerel and blue mackerel was recorded. The most commonly caught bycatch species from these vessels is Japanese sardine. The mean ratio of chub mackerel to blue mackerel for 2014–2024 is 83.4%, but the ratio of chub mackerel has been decreasing in recent years.

19. Russia presented a review of its chub mackerel fishery and research activities in 2024 (NPFC-2025-TWG CMSA11-IP04). Russian vessels fished for mackerel in 2024 throughout the year, starting in January, with the exception of February and March. In 2024, the main fishing grounds were in the Japanese exclusive economic zone (EEZ) in January and partially in December, and the Russian EEZ for the rest of the fishing season. Some vessels also fished in the Convention Area in April, May and December. Average CPUE (catch per vessel per day) was high in the winter months, but significantly lower than in 2020–2022. In the summer and the first half of autumn, the CPUE was very low and did not exceed 5 tons per day, only starting to increase in November. The average CPUE in 2024 was significantly lower than in 2023. Like in 2023, 2024 monthly catches were highest during the winter. Catches were minimal in the summer and increased in the autumn as the number of fishing vessels increased. The 2024 catch was 7,200 MT, which was lower than 2023. In terms of research activities, Russian vessels carry out surveys of the Northwest Pacific Ocean, covering both the Russian EEZ and open waters. Surveys are carried out in June–July annually, and in some years a second survey is carried out in August–September. Surveys are carried out in two ways: pelagic trawls and hydroacoustic surveys. In the survey in the first half of summer 2024, the biomass of mackerel in Pacific waters was estimated as 9,130 MT by trawl survey and 364,000 MT by hydroacoustic survey data. In 2025, the mackerel fishery began on 8 May. In May and June, 5 pelagic trawl vessels engaged in the fishery in the Convention Area near the Russian EEZ. The mackerel catch was the lowest in the last 3 years, and the average CPUE was 3.1 tons per vessel-day. Mackerel in the catches was bycatch from the sardine fishery. As of 31 May, the cumulative mackerel catch in 2025 has been 150.5 MT. As of early June, a trawl survey of the epipelagic zone of the northwestern Pacific Ocean is planned but has not yet begun.

20. The TWG CMSA noted the information provided by Russia on bycatch information from its chub mackerel fisheries (NPFC-2025-TWG CMSA11-IP02), which Russia also presented at an intersessional meeting.
21. The EU noted that in recent years, the species catch composition in the Chinese and Russian fisheries has shifted from mackerel being the dominant species to sardine being the dominant species, and suggested that chub mackerel may now be the bycatch species in these fisheries.
22. China presented biological information on chub mackerel from comprehensive surveys conducted by the RV Song Hang in the northwestern Pacific Ocean from 2021 to 2024 (NPFC-2025-TWG CMSA11-WP11). A total of 3,801 chub mackerel samples were collected and preliminary analyses of the length frequency, growth, and sex ratio of chub mackerel in the high seas were conducted. More studies are in progress, e.g., age determination, growth and mortality estimation considering temporal heterogeneity, and spatial distribution considering environmental influence. This ongoing survey could be a potential data source for estimating chub mackerel life history traits and supporting future stock assessments, offering important insights into the population dynamics of chub mackerel in the Convention Area.
23. China presented an updated standardization of CPUE data for chub mackerel caught by the China's lighting purse seine fishery from 2014 to 2024 using a generalized additive model (GAM) (NPFC-2025-TWG CMSA11-WP12). Four groups of independent variables were considered in the CPUE standardization: spatial variables (latitude and longitude), temporal variables (year and month), fishery variables (vessel length) and environmental variables (sea surface temperature (SST) and chlorophyll-a concentration (Chla)).
24. The TWG CMSA encouraged Members to present gear-specific fisheries status and bycatch information for all their fisheries that target or catch chub mackerel.
25. The TWG CMSA requested Members to present bycatch information from all vessels that were targeting chub mackerel in recent years, even if their current target species has changed.

## Agenda Item 5. Review of results of stock assessment using State-space stock assessment model (SAM)

### *5.1 Review of data used for stock assessment*

26. The TWG CMSA noted that Russia had presented its standardization of CPUE data for chub mackerel caught by its trawl fishery from 2016 to 2024 using GAM (NPFC-2025-TWG CMSA11-WP05) at an intersessional meeting of the TWG CMSA and that the TWG CMSA had agreed to use the Russian standardized CPUE as an input for the chub mackerel stock

assessment.

27. Dr. Akihiro Manabe (Japan), one of the TWG CMSA Data Managers, presented the details of the discrepancies between the Annual Summary Footprint and sum of product (SOP) of catch-at-age (CAA) and weight-at-age (WAA) from China, Japan, and Russia and the work done by each Member and the Chair to resolve these discrepancies (NPFC-2025-TWG CMSA11-WP04). China misinterpreted WAA age due to onboard sampling processes and varying sample sizes. This was resolved by refining the data and processing. For Japan, the data aggregation process may have caused discrepancies due to the large number of data sources. There had also been a few minor errors in the calculation process. This was resolved by correcting the calculation. For Russia, calculations were originally conducted only for Russian waters, but catch is also obtained in the Japanese EEZ and the Convention Area. This was resolved by including catches from those areas. These solutions have greatly increased the data quality, and quality control/assurance measures using R and Rmarkdown documentation have also been implemented.
28. The TWG CMSA Data Manager presented a description of the data that the TWG CMSA agreed to use for the base case stock assessment of chub mackerel in the northwestern Pacific Ocean for the 2025 assessment (NPFC-2025-TWG CMSA11-WP03 (Rev.1)). The data consist of CAA, WAA, and maturity-at-age (MAA) since FY1970 with different lengths of temporal data from three Members: China, Japan, and Russia. The paper included the details on each dataset and its derivation, a total of seven standardized abundance indices which are used for stock assessment, natural mortality, and information on the data used for sensitivity scenarios.
29. China noted that age-length key (ALK) information was missing for China and Russia in some years and that the TWG CMSA had decided to apply the ALK for Eastern Japan as a solution. China noted that this created uncertainty in the CAA data for those years and that such uncertainty associated with CAA is not accounted for explicitly in the state-space age-structured (assessment) model (SAM) because CAA is calculated externally and input directly into the model. China suggested that one way to reduce such uncertainty would be to develop a common protocol among Members with a standardized process for deriving ALK.
30. The TWG CMSA Data Manager explained that at a previous meeting, the TWG CMSA had considered a number of potential solutions and had decided to prioritize using an ALK from the same time period as the underlying age composition may vary annually, and that the only such ALKs available for the missing years were the ones for Eastern Japan. He also suggested that as future work, the TWG CMSA could compare the Eastern Japan ALK with the Chinese ALK for years when they were both available and assess the degree of similarity between

them.

31. Russia explained that the majority of its catch for the year in question were in fact taken in the Eastern Japan EEZ.
32. Japan explained that, as part of last year's stock assessment, it had conducted sensitivity analyses regarding the uncertainty in the CAA data and considered three scenarios. The analyses found that this uncertainty was not influential.
33. The EU noted that, while ALK information can contribute to uncertainty in CAA data, a more typical and potentially greater source of uncertainty stems from the sampling procedures and estimation methods from which the ALK is derived. The EU therefore suggested that, as a future step, the TWG CMSA should review the sampling designs and associated methodologies employed by Members to better understand and address these sources of uncertainty.
34. China explained that its WAA data were measured based on samples taken in different months and quarters, with the number of samples differing by month and quarter, and that it had therefore decided to submit quarterly WAA data for the stock assessment. China noted that the TWG CMSA Data Manager had converted these quarterly WAA data into yearly data using a simple mean for the stock assessment. China suggested that a simple mean may be misleading due to the different monthly/quarterly sample sizes and offered to submit its own yearly WAA, which it believed would be more representative, going forward.
35. China questioned the biological plausibility of some of the Members' combined quarterly WAA data. Specifically, China noted some instances where the WAA for a younger age class was higher than that of an older age class.
36. The TWG CMSA Data Managers pointed out that the methodology on aggregating WAA from Members is based on the agreement by the TWG CMSA in the previous meetings. The TWG CMSA Data Manager also pointed out that individuals caught by Russia or in the Western Japanese EEZ tend to be heavier than those caught by China or in the Eastern Japanese EEZ and suggested that the datapoints identified by China could have occurred in quarters where the proportion of the former was higher.
37. The TWG CMSA noted that the same issue was not evident in the yearly WAA data but acknowledged that this issue may need to be examined further.

## *5.2 Confirmation of setting and specification of SAM*

38. The TWG CMSA reviewed and confirmed the setting and specification of SAM which were developed during the previous intersessional meeting. A table of setting and specification of SAM will be attached to the stock assessment report.

### *5.3 Review of stock assessment results*

39. Japan presented a provisional stock assessment for chub mackerel in the Northwest Pacific Ocean in 2024 using SAM (NPFC-2025-TWG CMSA11-WP06). Two candidate base case scenarios were considered. The difference between the two base case scenarios is exclusion or inclusion of the latest (2024) abundance indices. The two scenarios showed almost identical population dynamics. Stock levels were historically high in the 1970s, declined in the 1980s, remained at fairly low levels from the 1990s to the early 2000s, gradually recovered in the late 2000s and increased rapidly after the occurrence of the strong year-class in 2013. However, after peaking in 2017 and 2018 in the scenarios without and with the latest abundance indices, respectively, the stock levels rapidly dropped again. In 2023, the spawning stock biomass (SSB) was only 16% of the respective peak levels. Neither the peak in 2017 (without the latest indices) nor that in 2018 (with the latest indices) reached the stock levels observed in the 1970s. No serious problems were found in the model diagnostics. However, the retrospective analysis showed positive patterns in total biomass and recruitment, and there is room for further improvement on these issues for future. These patterns were smaller when the latest indices were included in the model. While the estimated population dynamics were generally consistent with the base case in the previous stock assessment, the total biomass, SSB, and recruitment in the most recent years were revised downward considerably by the inclusion of the 2023 indices, which were not included in the base case of the previous stock assessment.
40. The EU noted the occurrence of a strong recruitment year-class in 2018 that did not subsequently result in a correspondingly strong annual catch. The EU suggested that the TWG CMSA should investigate the reason for the disappearance of this year-class and discuss how to handle the uncertainty of future strong recruitment events that may not be reflected in the catch at expected levels.
41. Japan suggested that if such a strong recruitment year-class were to occur again in the future, it could include a pessimistic scenario, similar to what occurred to the 2018 year-class, as part of the future projections.
42. Japan presented a study investigating the increased retrospective pattern in the 2025 provisional chub mackerel stock assessment in the Northwest Pacific Ocean (NPFC-2025-TWG CMSA11-WP08). Retrospective patterns quantified by Mohn's rho for stock biomass and recruitment over the five-year retrospective analysis increased compared to the values in the previous year's assessment. The primary factor was found to be that all index values for

2023 were lower than the predicted values of the model without 2023 indices, leading to a downward revision of recent stock biomass and recruitment when including the 2023 indices. The one-year shift in the reference period used to calculate Mohn's rho also contributed to the increase in the values. In contrast, changes in the stock assessment model settings had little effect. It was also found that revisions to catch-at-age data prior to 2022 contributed to a reduction of Mohn's rho. The presence of retrospective patterns does not necessarily mean estimation bias; but sometimes the addition of new data to stock assessments results in revised estimates of key parameters which can be perceived as retrospective patterns. Japan recommended that the latest available abundance indices be included in the chub mackerel stock assessment to mitigate future shifts in abundance estimates that would inevitably occur if the latest data were excluded.

43. Japan presented sensitivity analyses that were conducted to examine the impacts of observation uncertainty and model uncertainty in the 2025 stock assessment of chub mackerel in the Northwest Pacific Ocean (NPFC-2025-TWG CMSA11-WP07). The analyses showed that the assumptions of biological parameters that are necessary to use the 2024 fishing year abundance indices do not greatly affect stock abundance estimates. They also showed that models with the 2024 indices had higher prediction skill than models without the 2024 indices. Japan suggested using the most recent abundance indices in the stock assessment, considering the robustness and predictability. The analyses also suggested that process errors for age-1 and older fish and nonlinearity for age-0 and age-1 indices substantially change stock dynamics such as the strength of the 2013 year-class, but these models exhibited bad model performance with respect to fit, prediction skill, and robustness. Maximum sustainable yield (MSY) reference points were highly sensitive to the choices of data, biological parameters, and stock-recruitment relationship. This highlights the difficulty of using the MSY reference points, and it may be appropriate to use more robust quantities based on historical SSB estimates as interim and empirical reference points, such as median or quartiles.

#### *5.4 Discussion on base cases and representative cases*

44. The TWG CMSA agreed to use the scenario proposed by Japan that included the latest (2024) abundance indices as the base case.
45. The EU emphasized the need to explore the feasibility of changing the timing of the TWG CMSA's meetings and stock assessments so that the most recent year's catch data can also be included in future stock assessments.

### *Agenda Item 6. Future projections and biological reference points*

#### *6.1 Confirmation of projection methods and scenarios*

46. The TWG CMSA reviewed the projection methods and scenarios as part of its review of the

projection results under agenda item 6.2 below.

## *6.2 Review of projection results*

47. Japan presented biological reference points and future projections in the 2025 stock assessment for chub mackerel in the Northwest Pacific Ocean (NPFC-2025-TWG CMSA11-WP09). The estimated  $SSB_{MSY}$  was highly sensitive to input data and model configurations, and estimated values were consistently higher than the current stock abundance. Japan proposed using the first to third quartiles of historical SSB as interim reference points, which might be used for short- or long-term target and limit, and future probabilities calculated over these empirical reference points as well as the MSY-based ones. Stochastic future projections showed that, under constant-catch scenarios, unless the annual total catch is kept below 60,000–70,000 tons, there is less than a 90% probability of maintaining SSB above the first quartile, and less than 60% probability of reaching the median five years later (in the 2031 fishing year). Under constant-F scenarios, fishing pressure must be  $F_{50\%SPR}$  (about 70,000 tons catch in the 2026 fishing year) or lower to achieve the median SSB with a probability exceeding 50% after five years. Considering the projection results that indicate the stock continuing to decline under the current fishing pressure (16-17% SPR) as long as the body weight and maturity rate remain at the current low level, it is necessary to substantially reduce fishing pressure in order to avoid further decline and facilitate stock recovery. Japan also argued that the development of harvest control rule and target and limit reference points is urgently needed for the long-term sustainable management of this stock.
48. China considered the third quartile (75<sup>th</sup> percentile) of estimated historical SSB to be unrealistically high for an interim target reference point (TRP) as, by definition, this is a level of SSB that the stock did not reach in 75% of the years in the historical period, and the productivity of the stock has declined in recent years.
49. Japan pointed out that historical fishing mortality in the past was much higher than the current expected level and believed that the third quartile could realistically be attained.
50. The EU noted that SSB reached the third quartile of historical levels in some recent years and that the third quartile was lower than all  $SSB_{MSY}$  estimations presented by Japan. The EU questioned whether a TRP lower than the third quartile would be sufficiently precautionary.
51. The TWG CMSA discussed alternative levels of estimated historical SSB as candidate interim TRPs, in particular 50<sup>th</sup> percentile (median), which corresponds approximately to 20% of  $SSB_0$  in recent years (2016–2023), and 70<sup>th</sup> percentile, which corresponds approximately to 40% of  $SSB_0$  in recent years (2016–2023).

52. The EU and Japan expressed concern about proposing the 50<sup>th</sup> percentile of the estimated historical SSB as a candidate TRP given the underlying uncertainty in the model.
53. The TWG CMSA agreed to use the following two reference levels to evaluate future harvest scenarios for the discussion of the Commission. Those reference levels may be considered as candidate interim TRPs but caution is warranted given, on one hand, the uncertainty inherited in the chub mackerel stock assessment model and their relatively low level against theoretical  $SSB_{MSY}$ , while on the other, unfavorable biological conditions in recent years, which may make it difficult for the stock to recover to those levels in a timely manner.
  - a) 50<sup>th</sup> percentile of the estimated historical SSB (1970–2023)
  - b) 70<sup>th</sup> percentile of the estimated historical SSB (1970–2023)
54. The TWG CMSA recommended that the SC recommend 25<sup>th</sup> percentile of estimated historical SSB as a limit reference point to the Commission.
55. The TWG CMSA also explored the development of an MSY proxy based on recent unfished spawning biomass per recruit ( $SPR_0$ ), based on a suggestion by the invited expert. The TWG CMSA encouraged the invited expert to continue to develop this work.
56. The TWG CMSA noted that the stock has experienced large changes in biological parameters, particularly a decrease in MAA, which are highly influential on the abundance of the stock. The TWG CMSA encouraged Members to work collaboratively to further refine their estimation of MAA.

### *6.3 Discussion on contents to be shown in the stock assessment report in response to the tasks from COM09*

57. The TWG CMSA addressed task#3 from COM09. Results can be seen in the Executive Summary and the stock assessment report.

## **Agenda Item 7. Stock assessment report**

### *7.1 Review of draft executive summary*

58. The TWG CMSA drafted the executive summary of the chub mackerel stock assessment report (Annex D).

#### *7.1.1 Stock status*

59. See the executive summary of the chub mackerel stock assessment report (Annex D).

#### *7.1.2 Management advice*

60. See the executive summary of the chub mackerel stock assessment report (Annex D).

### 7.1.3 Others

61. No other matters were discussed.

### 7.2 Review of draft stock assessment report

### 7.3 Work assignments to finalize the report towards SC10 meeting

62. The TWG CMSA agreed to work intersessionally to finalize the stock assessment report and submit it to the SC10 meeting. See Annex E for a detailed timeline.

## Agenda Item 8. Response to the tasks from COM09

### 8.1 Task #1

63. As a first step for responding to task #1 from the Commission, the TWG CMSA agreed to calculate and compare the relative exploitation rates of immature and mature chub mackerel and to present the results to SC10.
64. The TWG CMSA noted that the estimates of fishing mortality for immature fish are lower than those for mature fish according to the stock assessment results. However, the TWG CMSA also noted that the estimates for older age classes may be subject to various uncertainties based on the assumptions in the model. As future work, the TWG CMSA agreed to evaluate the potential uncertainty in the stock assessment model's estimates of fishing mortality at older ages to enable a more accurate comparison of relative fishing mortality between younger and older fish.
65. The EU noted that the exploitation rates of immature and mature fish, while might provide some insight, can't be used as a stand-alone metric to determine if specific gears disproportionally catch immature fish. That is because SAM is estimating F-at-age and selectivity for all gears combined, considering the input data are aggregated over all Members and fleets. Therefore, any gear specific selectivity is masked. In addition, although the estimates indicate relatively lower F for immature fish ( $F_{0-3}$ ), the F estimates at older ages ( $F_{4-6+}$ ) are uncertain due to model assumptions and potentially the plus group absorbing unexplained variability in the observed data, such as discrepancies in catch-at-age or survey indices. This makes direct comparisons between age groups difficult. The EU suggests that gear specific data are provided to be able to effectively respond to the COMs task #1.
66. The TWG CMSA noted that the proportion of mature fish per age appears to have changed, particularly in the case of age-2 and 3 fish, which used to contribute substantial spawning potential to the population but no longer do so. As future work, the TWG CMSA agreed to conduct further studies to investigate if this is in fact occurring, including the possibility that

there may have been a physiological change in spawning behavior that is not being captured by the current egg survey.

## *8.2 Task #2*

67. As a first step for responding to task #2 from the Commission, the TWG CMSA agreed to prepare a description of how each Member defines and calculates “fishing day” and to present this information to SC10, and, in the longer-term, to work towards a common methodology for defining and calculating “fishing day.”
68. The TWG CMSA agreed to prepare a paper with its responses to the tasks from the Commission and to submit it to SC10.

## *Agenda Item 9. Future improvement of input data*

### *9.1 Maturity information*

69. Japan presented a review of its gonad index (KG) based maturity criterion for female chub mackerel of the Pacific stock (NPFC-2025-TWG CMSA11-WP10). Japan has been using KG as a maturity criterion, with KG=3 as a sign of maturity. It reviewed this criterion by estimating maturity probability curves based on KG and gonadosomatic index (GSI) using chub mackerel collected in 2013–2023, determining the maturity probability at KG=3, and comparing the annual changes in the threshold values for maturity based on KG and GSI. Japan found that KG=3 is a good indicator to extract only matured fish. However, this strict criterion labeled many individuals in early stages of yolk accumulation as immature. The 50% maturity KG showed a lower trend during 2019–2022 than during 2014–2018, whereas the 50% maturity GSI exhibited a relatively stable trend. Hence, Japan considered GSI to be a more appropriate maturity criterion. The 50% maturity GSI ranged from 1.6–1.8 in 2014–2023 and was 1.6 in the 2013–2023 integrated version. Japan suggested that using 50% maturity, notably GSI of 1.6, as the maturity criterion would be more appropriate and improve MAA data for future stock assessments, while noting that KG=3 nevertheless accurately designates maturation.
70. China asked Japan whether MAA submitted by Japan is based on KG=3. Japan answered that Japanese MAA is estimated by observation of catch composition in the spawning ground, but also using KG=3 as reference.
71. China presented an analysis of its identification method for gonadal maturity and MAA calculation methods for chub mackerel (NPFC-2025-TWG CMSA11-WP13). China determined the maturity based on visual inspection, tried the method proposed by Japan, and conducted a comparison. China concluded that the maturity of chub mackerel in the Convention Area should generally be lower than that of individuals in the Japanese EEZ.

72. Japan suggested that China aggregate its data across years, sort them on a monthly basis, and try to identify any monthly patterns in the GSI distribution.
73. Japan suggested to exchange information such as seasonal and regional trends in GSI and the proportion of mature individuals to support collaborative work on better understanding chub mackerel maturity.
74. The TWG CMSA agreed to hold an intersessional workshop among interested Members to work collaboratively to standardize the maturity criterion for chub mackerel.
75. Subject to the workshop agreeing on a standardized maturity criterion for chub mackerel, the TWG CMSA requested Members to use this criterion when determining maturity and preparing their MAA data for the data preparatory meeting (TWG CMSA12).
76. The TWG CMSA noted that in the longer-term, it would also be useful to work on the following:
  - a) investigate the different reproductive biology observed in the Convention Area and the Japanese EEZ.
  - b) standardize the method used for estimating maturity ogives.
  - c) standardize the aging method.

## Agenda Item 10. Data collection and management

### *10.1 Data provision templates*

77. Ms. Karolina Molla Gazi (EU), the Lead of the Small Working Group on Data (SWG Data), provided an update on the development of the data provision templates. She explained that SWG Data is still working intersessionally to update the templates but they would not be significantly changed. She also explained that the new template for chub mackerel data would include lists for maturity scale and the corresponding maturity stage and encouraged Members to share information on which scale and corresponding stage they use.

### *10.2 Update on GitHub repository and user manual*

78. The Data Coordinator provided an update on the GitHub repository and user manual. He explained that the SC has previously expressed its preference for the NPFC to obtain a GitHub Team Plan account as a non-profit organization, which offers higher data storage and transmission bandwidth, and that the NPFC has received approval for such an account on 10 July 2025. Currently, 8 Members, invited experts, and the Secretariat are registered as users within the GitHub Team plan. The Repository is structured around the TWG CMSA, the Small Scientific Committee on Bottom Fish and Marine Ecosystems (SSC BF-ME), and the Small

Scientific Committee on Neon Flying Squid (SSC NFS). The user manual is available on the NPFC website (<https://www.npfc.int/git-repository-user-manual>). This manual can be continuously enhanced based on Members' feedback.

### *10.3 Observer Program*

79. The Science Manager reminded the TWG CMSA that the Commission previously requested that the SC provide guidance to the Technical and Compliance Committee (TCC) on the scientific aspects of a regional observer program (ROP), that the TCC Chair posed specific questions to the SC and its subsidiary bodies, and that the SC and its subsidiary bodies, including the TWG CMSA, provided responses. The Science Manager explained that these responses were provided to the TCC but the Commission considered them to be insufficient and recommended that the SC and the TCC continue to work on this matter. Based on this, the TCC Chair has posed additional questions to the SC and its subsidiary bodies concerning critical data points, current level of confidence in NPFC stock assessments, monitoring of rare events, data for development of management procedures and accounting for potential effects of climate change, and electronic monitoring systems. The Small Working Group on Observer Program will establish a process for answering these questions intersessionally, draft responses, and circulate the responses to the relevant SC subsidiary bodies for review.

## *Agenda Item 11. Review of the Work Plan for the TWG CMSA*

### *11.1 Climate change related issues*

80. No papers were submitted under this agenda item.

### *11.2 Options to minimize the time lag between the terminal year of the stock assessment and the management decisions*

81. The TWG CMSA discussed changing the timing of its data preparatory and stock assessment meetings with the aim of minimizing the time lag between the terminal year of the stock assessment and the management decisions. The TWG CMSA recognized the value of changing the timing but noted that there were practical difficulties that needed further discussion. The TWG CMSA agreed to discuss this matter further in the intersessional period. A timetable was suggested to complete the stock assessment with data up to the most recent fishing year by the December SC meeting, and the TWG CMSA agreed to hold discussions before the next SC meeting about whether this would be possible.

### *11.3 Work Plan of the TWG CMSA*

82. The TWG CMSA reviewed and updated the Work Plan of the TWG CMSA (NPFC-2025-TWG CMSA11-WP01).

### *11.4 NPFC Performance Review recommendations*

83. The Science Manager explained that the Commission has developed a new process for reviewing progress against the Performance Review recommendations as described in NPFC Circular 038-2025. In accordance with this process, the SC Chair has reviewed the progress on the implementation of recommendations that concern the SC and its subsidiary bodies and submitted her responses to the Commission. Therefore, the TWG CMSA does not need to conduct its own review this year. The SC-related recommendations will be further reviewed during the SC10 meeting in December 2025.

Agenda Item 12. Other matters

*12.1 Timeline and intersessional activities before TWG CMSA12*

84. The TWG CMSA drafted a timeline of tasks leading up to TWG CMSA12 (Annex E).
85. The TWG CMSA agreed to tentatively schedule the 12th TWG CMSA meeting for 24–27 February 2026, subject to intersessional discussion by the TWG CMSA and direction from SC10. A draft agenda for TWG CMSA12 will be circulated after SC10 determines a meeting schedule for the TWG CMSA.

*12.2 Species summary*

86. The TWG CMSA reviewed and updated the species summary for chub mackerel (NPFC-2025-TWG CMSA11-WP02 (Rev. 1)). The TWG CMSA recommended that the SC adopt the updated species summary (Annex F).

*12.3 Invited expert*

87. The TWG CMSA recommended that the SC continue to hire an invited expert in 2026.

*12.4 Other issues*

88. No other matters were discussed.

Agenda Item 13. Recommendations to the Scientific Committee

89. The TWG CMSA agreed to:
- a) hold an informal intersessional workshop among interested Members to work collaboratively to standardize the maturity criterion for chub mackerel.
  - b) discuss intersessionally changing the timing of TWG CMSA data preparatory and stock assessment meetings with the aim of minimizing the time lag between the terminal year of the stock assessment and the management decisions.
  - c) tentatively schedule the next TWG CMSA meeting for 24-27 February 2026, subject to intersessional discussion by the TWG CMSA and direction from SC10.
  - d) continue to work intersessionally in accordance with the agreed timeline (Annex E).

90. The TWG CMSA recommended that the SC:
- a) endorse the stock assessment executive summary (Annex D) and stock assessment report (to be submitted to SC intersessionally).
  - b) recommend the following reference levels to the Commission:
    - i. 50<sup>th</sup> percentile of the estimated historical SSB (1970–2023)
    - ii. 70<sup>th</sup> percentile of the estimated historical SSB (1970–2023)
  - c) recommend the 25<sup>th</sup> percentile of estimated historical SSB as a limit reference point to the Commission.
  - d) adopt the Work Plan of the TWG CMSA (NPFC-2025-TWG CMSA11-WP01).
  - e) adopt the updated species summary for chub mackerel (Annex F).
  - f) continue to hire an invited expert to support the TWG CMSA in 2026.
  - g) consider changing the meeting schedule for the TWG CMSA, subject to intersessional discussion by the TWG CMSA.

Agenda Item 14. Adoption of Meeting Report

91. The report was adopted by consensus.

Agenda Item 15. Close of the Meeting

92. The Chair thanked the participants for their cooperation and constructive discussions.

93. The meeting closed at 15:45 on 18 July 2025, Shanghai time.

**ANNEXES:**

Annex A – Agenda

Annex B – List of Documents

Annex C – List of Participants

Annex D – Executive summary of the stock assessment of chub mackerel

Annex E – Timeline and intersessional activities before the TWG CMSA12 meeting

Annex F – Species summary for chub mackerel

Please refer to the NPFC website for the complete annexes.

# 15<sup>th</sup> Meeting of the Small Scientific Committee on Pacific Saury

1-4 September 2025  
Virtual  
Meeting Report



## **Agenda**

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Agenda Item 2. Adoption of Agenda

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3.3 COM09

3.3.1 CMM 2025-08 for Pacific Saury

3.3.2 Others

Agenda Item 4. Review of the Terms of References of the SSC PS and existing protocols

4.1 Terms of References of the SSC PS

4.2 CPUE Standardization Protocol

4.3 Stock Assessment Protocol

Agenda Item 5. Member's fishery status including 2025 target fisheries and bycatch

Agenda Item 6. Fishery-independent abundance indices

6.1 Review of results of abundance estimation including 2025 Japanese biomass survey

6.2 Review of plans of future biomass surveys

6.3 Recommendations for future work

Agenda Item 7. Fishery-dependent abundance indices

7.1 Review of Members' standardized CPUEs up to 2024

7.2 Review of joint CPUE

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Agenda Item 8. Biological information on Pacific saury

8.1 Review of any updates and progress

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Agenda Item 9. Stock assessment using "provisional base models" (BSSPM)

9.1 Review and update of the existing specification

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Agenda Item 10. New stock assessment models

10.1 Review of the outcomes of WG NSAM02 meeting

10.2 Review of any progress on new stock assessment models

10.2.1 Stock Synthesis 3 (SS3)

10.2.2 State-space age-structured model

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Agenda Item 11. Toward development of management procedures (MPs) as a mid-term goal

11.1 Work plan and progress in SWG MSE PS06

11.2 Other

Agenda Item 12. Other matters

12.1 Data provision templates

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12.3 Draft agenda, priority issues and timeline for next meeting

12.4 Other

Agenda Item 13. Adoption of Report

Agenda Item 14. Close of the Meeting

## MEETING REPORT

### Agenda Item 1. Opening of the Meeting

1. The 15<sup>th</sup> Meeting of the Small Scientific Committee on Pacific Saury (SSC PS15) took place as a virtual meeting via WebEx, and was attended by Members from Canada, China, Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, and the Republic of Vanuatu. The Ocean Foundation and the Pew Charitable Trusts attended as observers. Dr. Quang Huynh participated as an invited expert.
2. The meeting was opened by Dr. Toshihide Kitakado (Japan), the SSC PS Chair, who welcomed the participants.
3. The Science Manager, Dr. Aleksandr Zavolokin, outlined the procedures for the meeting.
4. Mr. Alex Meyer was selected as rapporteur.

### Agenda Item 2. Adoption of Agenda

5. The agenda was adopted (Annex A). The List of Documents and List of Participants are attached (Annexes B, C).

### Agenda Item 3. Overview of the outcomes of previous NPFC meetings

#### 3.1 SSC PS14 and SC09

6. The Chair presented the outcomes and recommendations from the SSC PS14 meeting and the 9<sup>th</sup> meeting of the Scientific Committee (SC09).

#### 3.2 SWG MSE PS06

7. The Chair presented the outcomes and recommendations from the 6<sup>th</sup> meeting of the joint SC-TCC-COM Small Working Group on Management Strategy Evaluation for Pacific saury (SWG MSE PS06).

#### 3.3 COM09

##### 3.3.1 CMM 2025-08 for Pacific Saury

8. The Science Manager explained that the Commission adopted a revised Conservation and Management Measure (CMM) for Pacific Saury at its 9<sup>th</sup> Meeting. He highlighted the

revisions to the catch management section of the CMM, including changes to catch limits and updated reporting requirements.

9. China pointed out that changes in management measures, particularly the option for Members to adopt an overall catch limit instead of an Olympic fishery and the addition of paragraph 10c to the CMM at COM09, have resulted in changes in some Members' fishing strategies, which may influence the catch per unit effort (CPUE) standardization for Members' fisheries.

### 3.3.2 Others

10. The Science Manager highlighted that the Commission continued to discuss the establishment of a Regional Observer Program and that this would be discussed further by the SSC PS under agenda item 12.2.

## Agenda Item 4. Review of the Terms of References of the SSC PS and existing protocols

### 4.1 Terms of References of the SSC PS

11. The SSC PS reviewed the Terms of References (ToR) of the SSC PS and determined that no revisions are currently necessary.

### 4.2 CPUE Standardization Protocol

12. The SSC PS reviewed the CPUE Standardization Protocol and determined that no revisions are currently necessary.

### 4.3 Stock Assessment Protocol

13. The SSC PS reviewed the Stock Assessment Protocol and determined that no revisions are currently necessary.

## Agenda Item 5. Member's fishery status including 2025 target fisheries and bycatch

14. Canada presented Pacific saury catch information (NPFC-2025-SSC PS15-IP02). Canada does not have a commercial fishery targeting Pacific saury, but occasionally takes Pacific saury as bycatch and in research surveys. In 2024, 87 individuals were caught by Canadian surveys. Canada has started taking length-weight measurements of Pacific saury from its surveys and can make these data available to other Members.
15. China presented its Pacific saury fisheries status (NPFC-2025-SSC PS15-IP03). Total catch in 2024 was 40,503 MT, after bottoming out in 2021. In 2025, total catch up to 20 August has been 19,959 MT and a total of 49 vessels have been operating, a decrease of 10 from 2024. As of 20 August, nominal CPUE has been 10 MT/vessel/day in 2025. Standardized effort was 4,671 vessel days in 2024. The fishing grounds in 2025 have moved to the north in August compared to 2024. A yearly comparison of body length compositions has been conducted

from 2014 to 2024, and larger fish seem to have been caught in 2025 compared to 2024 based on size box compositions.

16. China also provided additional comments. China highlighted the negative socio-economic impacts on its fishing industry as a result of the decreasing TAC. China also explained that its fishing vessels have observed better conditions than what is suggested by the NPFC's stock assessment and that they have expressed concern about the accuracy of the assessment. In particular, fishing vessels have observed larger-sized fish being caught recently, including in June and July of 2025. Furthermore, fishing grounds have continued to shift northward in recent years. China emphasized the need to develop a more complex model that can account for seasonal and annual variation in spatio-temporal distribution for the full Pacific saury MSE.
17. In terms of bycatch, China explained that Pacific saury is taken as bycatch in its mackerel fishery and that it would provide further details at SSC PS16.
18. Japan presented its Pacific saury fisheries status (NPFC-2025-SSC PS15-IP04). Landings and nominal CPUE in 2024 were 38,695 MT and 1.05 MT/haul, respectively, slightly higher than in 2023, but remain at low levels. In 2020–2024, relative accumulated catch reached 50% by mid-October and 98% by mid-November. The highest seasonal catch in 2024 was at the end of October, at 9,559 MT. By month, catch in October was the largest at 44%. Standardized effort was 77,365 hauls in 2024, the second highest level in the last 5 years. The fishing grounds in August and September were mainly formed in the high seas, but after October, the main fishing grounds moved to the Japanese exclusive economic zone (EEZ). The percentage of age-1 fish in catch was 87.7%, the third highest since 2000, but mean body length was the smallest. The 2025 fishing season started on 10 August. 95 fishing vessels were registered, 2 fewer than in 2024.
19. Japan shared further observations, noting that individuals caught so far this year have been larger and fatter than previous years, and that the fishing grounds have shifted northwards.
20. Regarding bycatch, Japan explained that the level of Pacific saury bycatch from other fisheries is low and is reported in Japan's annual report. Bycatch of other species in the stick-held dip net Pacific saury fishery is rare.
21. Korea presented its Pacific saury fisheries status (NPFC-2025-SSC PS15-IP07). Annual catch decreased continuously from 2018 to 2023, but it has increased slightly since 2024. As of July 2025, the annual catch has reached 1,818 MT, about 29% higher than the same period in 2024. 14 to 10 stick-held dip net vessels operated from 2015 to 2022 each year. Their number has decreased gradually since then due to the continued low level of Pacific saury catch. In 2025,

4 fishing vessels are in operation compared with 5 vessels in 2024. Nominal CPUE in 2024 was 4.95 MT/vessel/day, an increase from 2023. The standardized effort was 2,230 days in 2024, a significant increase from 2023. Fishing operations have taken place between 145°E and 170°E in recent years. Fishing operations in June and July 2025 shifted southward compared to 2023 and 2024. In 2024, the fork-length (FL) range was 25–33 cm, with a mean value of 28.4 cm. It was lowest in June (27.7) and highest in September (28.7). From 2008 to 2025, the mean FL ranged from 26 to 29 cm, and no significant annual trend was observed. In terms of size box composition (S: 18–30 cm; M: 23–33 cm; L: 27–34 cm; 2L: 29–34 cm (fork length)), in 2025, the M ratio was dominant in June, while the L ratio was dominant in July, compared with the S and M ratios being dominant for the same months in 2024. Annually, the L ratio used to be dominant until 2016, but the M ratio has been dominant since then.

22. Korea confirmed that Pacific saury is not taken as bycatch in its other fisheries.
23. Vanuatu presented its Pacific saury fisheries status (NPFC-2025-SSC PS15-IP08). Total annual catch peaked at 8,231 MT in 2018, before dropping to a historical low in 2022. As of the end of August, total catch in 2025 has been 1,001 MT. The number of operating vessels was 4 from 2015 to 2021 and was 3 in 2022. Only 2 vessels were active in 2023 and 2024. So far in 2025, 4 vessels are active. An annual comparison of accumulated catch shows a trend of abundance increasing from August. By mid-August 2025, catch has already exceeded that of past years, indicating a faster and earlier accumulation rate. An annual comparison of the relative seasonal catch shows that there are usually two peaks in the fishing season. In 2024, the peaks were around late September and late October. In 2025, the first peak appeared in mid-August, showing a shift in seasonal pattern. Nominal CPUE so far in 2025 has been 1.4 MT/haul or 9.1 MT/day. Generally, the main fishing grounds begin in the east early in the season, before shifting to the west. In 2025, fishing grounds were further to the east and the north. Looking at the size box compositions (S: less than 6 pcs/kg; 1: 6–9 pcs/kg; 2: 10–12 pcs/kg; 3: 13–15 pcs/kg; 4: 15–18 pcs/kg; 5: more than 19 pcs/kg), caught individuals have generally been larger in 2025. The proportion of bycatch, comprising sardines and mackerel, in the Pacific saury fishery is very low compared to Pacific saury catch.
24. Chinese Taipei presented its Pacific saury fisheries status (NPFC-2025-SSC PS15-IP09). The historical catch reached its highest in 2014. The catch in 2024 was 69,486 MT. 70 vessels conducted fishing activities in 2024. In 2025, accumulated catch by the end of July was 16,015 MT, which was more than that of the same period in 2024 (7,030 MT). The nominal CPUE during the period of June to July is about 2.44 MT/haul in 2025, compared to 1.68 MT/haul and 2.32 MT/haul for the equivalent period in 2024 and 2023, respectively. In 2025, the fishing grounds have been further to the south and west. Looking at monthly size box composition (S: less than 6 pcs/kg; 1: 6–9 pcs/kg; 2: 10–12 pcs/kg; 3: 13–15 pcs/kg; 4: 15–18 pcs/kg; 5:

more than 19 pcs/kg), in 2025, size 3 was dominant in June, while size 1 and 2 were dominant in July. As of the end of July, bycatch accounted for 0.003% of the total catch and comprised mostly sardine.

25. Russia informed the SSC PS that one vessel has begun fishing operations in search of Pacific saury but that no catch has been taken before September in 2025. Russia explained that the latest available information about its fisheries status was presented at SSC PS14 (NPFC-2024-SSC PS14-IP09) and that it would provide any updates as necessary at SSC PS16.
26. The Science Manager presented the cumulative catch of Pacific saury in the Convention Area as of mid-August in 2020, 2021, 2022, 2023, 2024, and 2025. The cumulative catch in 2025 is approximately 62,267 MT compared to 34,760 MT in 2024, 36,487 MT in 2023, 14,342 MT in 2022, 23,701 MT in 2021, and 9,875 MT in 2020. There have also been changes in some Members' seasonal fishing operation dynamics.
27. The SSC PS noted that Members' recent fisheries-dependent information suggests that Pacific saury fishing conditions may generally be improving in 2025, as indicated by increased total catch, catch-per-unit-of-effort and increased size of catch.
28. The compiled data on Pacific saury catches in the northwestern Pacific Ocean from 1950 to 2024 are available in NPFC-2025-SSC PS15-WP07 (Rev. 1).

#### Agenda Item 6. Fishery-independent abundance indices

##### *6.1 Review of results of abundance estimation including 2025 Japanese biomass survey*

29. Japan presented a report of its 2025 biomass survey (NPFC-2025-SSC PS15-IP05). The Japanese biomass survey was conducted with two research vessels, both using the same type of trawl (NST-99). The survey was conducted at 136 stations from 1 June to 8 July and covered the area from 143°E to 165°W. A total of 51,608 individuals were caught in the survey. Pacific saury occurred between 147°E and 165°W. The age-1 fish were mainly distributed between 167°E and 175°E. Comparing the surveys in 2024 and 2025, the abundance of age-1 fish in the survey area decreased west of 160°E in 2025, and Pacific saury was more abundant around the date line in 2025.
30. Japan presented the Japanese survey biomass index of Pacific saury up to 2025 using the Vector Autoregressive Spatio-temporal (VAST) model (NPFC-2025-SSC PS15-WP01). Japan applied the VAST model to Japanese fishery-independent survey data to predict the Pacific saury distribution and estimate the biomass index from 2003 to 2025. The estimated biomass index from the selected VAST model with minimum Akaike information criterion (AIC) indicated similar year trends with the index from a design-based approach. In 2020, the

estimated biomass index dropped to the lowest level historically since 2003. It subsequently recovered but remains lower than the historical average in 2025. The retrospective analysis indicated that the biomass index estimates derived from the VAST model would be robust to data updates. Japan recommended using the estimated biomass indices in the stock assessments

31. China noted that the center of distribution for age-0 and age-1 fish has shifted to the east and north and that there may be larger fish that are now outside the usual survey area. China suggested that this may support the application of dome-shaped selectivity when developing the new stock assessment models.
32. At the suggestion of the SSC PS, Japan conducted analyses to test the robustness of its VAST model to the assumption of sea surface temperature (SST). Japan concluded that SST had little influence on the biomass indices estimated by the model.
33. The SSC PS noted that for age-1 fish, the estimated SST effect appeared to predict higher biomass at lower SSTs, which appeared to be an anomaly when compared to observed data. Japan explained that in low SST, the frequency of encounters tends to be low but the density of the schools encountered tends to be high, and that when the relationship between SST and encounter probability and the relationship between SST and density are considered simultaneously, the density in the northern areas is generally predicted to be low.
34. The SSC PS agreed to use the Japanese survey biomass index of Pacific saury up to 2025 using the VAST model as an input for the stock assessment.
35. The SSC PS thanked Japan for continuing to conduct its biomass survey and for presenting the associated analyses in a timely manner each year.

#### *6.2 Review of plans of future biomass surveys*

36. Japan informed the SSC PS that it plans to conduct its biomass survey with the usual method in 2026.

#### *6.3 Recommendations for future work*

37. The SSC PS suggested that Japan consider conducting additional analyses to further refine the estimate of catchability in the Japanese biomass survey.
38. Canada suggested that it would be valuable to add some more sampling stations above and below the transect lines, even if only to a partial extent, for calibration of the unsampled areas and assisting the VAST model's prediction in previous years. Japan agreed that this would

enhance the coverage of the survey but pointed out that it would be difficult to implement due to time and effort constraints.

39. Canada suggested that Japan explore setting prediction resolution of the VAST model to 1 km x 1 km rather than at the knots. Canada explained that this would not change the outcome but might show a finer granularity on the map, which might provide useful new insights. Canada offered to follow-up with Japan about conducting this work in the intersessional period.

#### Agenda Item 7. Fishery-dependent abundance indices

##### *7.1 Review of Members' standardized CPUEs up to 2024*

40. Japan presented a standardization of CPUE data for Pacific saury from 1994 to 2024 using GLM (NPFC-2025-SSC PS15-WP02). Japan recommended using the standardized CPUE derived from GLM as an input for the stock assessment.
41. The SSC PS agreed to use Japan's standardized CPUE derived from GLM as an input for the stock assessment.
42. Japan presented a progress report on the application of the VAST model in CPUE standardization for the Japanese fishery of Pacific saury (NPFC-2025-SSC PS15-WP03). The standardized CPUE derived from the selected VAST model with minimum AIC indicated similar year trends with that derived from the conventional method with the GLM. Evaluations of the impacts of the shortened fishing season revealed that the year trends of standardized CPUE from the VAST model were at least robust to missing data at the late stage of the Japanese fishing season.
43. Chinese Taipei presented a standardization of CPUE data for Pacific saury from 2001 to 2024 using GLM on the assumption of lognormal distribution of errors (NPFC-2025-SSC PS15-WP04). The analysis employed two approaches: a non-divided period approach and a two-divided period approach. Chinese Taipei recommended using the standardized CPUE derived from GLM with the two-divided period approach as an input for the stock assessment, as this approach accounted for the impact of fishing efficiency changes due to the significant replacement of older fishing vessels with new ones.
44. The SSC PS noted that Chinese Taipei's CPUE standardization included month-year interactions as variables but that there were no data in November 2024. At the suggestion of the SSC PS, Chinese Taipei conducted further analyses to evaluate the impact of excluding November from the prediction of standardized CPUE. Chinese Taipei concluded that its CPUE standardization is robust to the lack of November 2024 data.

45. The SSC PS agreed to use Chinese Taipei's standardized CPUE derived from GLM using the two-divided period approach as an input for the stock assessment.
46. China presented a standardization of CPUE data for Pacific saury from 2013 to 2024 using GLM and generalized additive model (GAM) on the assumption of lognormal distribution of errors (NPFC-2025-SSC PS15-WP05). China recommended using the standardized CPUE derived from GAM as an input for the stock assessment.
47. The SSC PS agreed to use China's standardized CPUE derived from GAM as an input for the stock assessment.
48. Korea presented a standardization of CPUE data for Pacific saury from 2001 to 2024 using GLM (NPFC-2025-SSC PS15-WP06). Korea recommended using the standardized CPUE derived from GLM as input for the stock assessment.
49. The SSC PS agreed to use Korea's standardized CPUE derived from GLM as an input for the stock assessment.
50. Russia presented a standardization of CPUE data for Pacific saury from 1994 to 2024 using a GLM (NPFC-2025-SSC PS15-WP08). Russia recommended using the standardized CPUE derived from GLM as input for the stock assessment.
51. The SSC PS agreed to use Russia's standardized CPUE derived from GLM as an input for the stock assessment.

## *7.2 Review of joint CPUE*

52. Chinese Taipei presented a joint CPUE standardization of Pacific saury in the Northwestern Pacific Ocean from 1994 to 2024 using a spatio-temporal modelling approach, specifically, the R package sdmTMB (NPFC-2025-SSC PS15-WP10 (Rev. 1)). Chinese Taipei evaluated the feasibility of using sdmTMB as an alternative to the VAST model for CPUE standardization of Pacific saury. A comparison of the outputs using data through 2023 found that sdmTMB produced results consistent with previous VAST assessments, while offering greater transparency and reproducibility. Based on this, Chinese Taipei updated the joint CPUE index through 2024 using sdmTMB. The updated standardized CPUE index indicated pronounced fluctuations over time, lower levels in recent years compared to the mid-1990s, and a slight increase in 2023–2024. Chinese Taipei recommended using the joint CPUE standardization derived from sdmTMB as an input for the stock assessment.
53. The SSC PS agreed to use the standardized joint CPUE derived from sdmTMB as an input for

the stock assessment.

54. Canada suggested that Chinese Taipei explore the use of a barrier mesh for sdmTMB, which would be unlikely to change the trend but may eliminate or minimize the large residuals on the western side of the map, where there are few data points.
55. The finalized table of abundance indices is attached to the report as Annex D. A plot of Members' standardized CPUEs is attached to the report as Annex E.

### *7.3 Recommendations for future work*

56. The SSC PS encouraged Members to explore the use of spatio-temporal modeling (e.g. using VAST or sdmTMB) for conducting their CPUE standardizations to account for differences in spatial and/or temporal coverage over time.
57. The SSC PS suggested that Japan share their code for their CPUE standardization using the VAST model in NPFC-2025-SSC PS15-WP03.
58. The SSC PS encouraged Members to investigate whether changes in the management measures under the Pacific saury CMM may have affected fisheries operations and consequently CPUE.

## **Agenda Item 8. Biological information on Pacific saury**

### *8.1 Review of any updates and progress*

59. No updates were provided.

### *8.2 Recommendations for future work*

60. The SSC PS encouraged Members to share any updated information about the biology or ecology of Pacific saury at future meetings.

## **Agenda Item 9. Stock assessment using “provisional base models” (BSSPM)**

### *9.1 Review and update of the existing specification*

61. China presented its observations on Pacific saury stock assessments and management measures implemented to date (NPFC-2025-SSC PS15-IP11). China noted that the annual BSSPM assessment has indicated that stock size has been increasing since 2020 but the stock status has deteriorated over the years. China believed that either the HCR does not work well or, more likely, the HCR is working and the stock is recovering as expected or even faster, as signals and indicators in 2025 suggest, but the BSSPM failed to accurately estimate the stock status and provide correct management advice due to unforeseen technical issues (i.e., retrospective pattern/scaling problems). China encouraged the SSC PS to continue tackling

these technical issues but expressed difficulty endorsing the BSSPM assessment results if the issues persist, as the results would not reflect reality. Given the limited time and capacity, China suggested allocating more time to developing a seasonal age-structured stock synthesis (SS3) model, which is biologically more realistic than production models. China also recommended that the SSC and SC initiate a peer review process as soon as possible for the Pacific saury stock assessments to ensure quality control.

62. Japan pointed out that although the stock may be showing some signs of recovery, it has not yet recovered to an adequate level and that the retrospective analysis suggests the existence of overestimation tendency in the current model, which can also explain the situation China pointed out. Japan agreed that the SSC PS should continue working on improving its assessments, including further refining the BSSPM and developing the SS3 model.
63. Canada did not think there was a serious discrepancy between observations of a modest recovery in the state of the stock and the BSSPM assessment results given the input data from the 2024 & 2025 surveys and 2023 & 2024 CPUEs. Canada also pointed out that the scaling issues in the BSSPM mostly appear in the early period of the assessed years when there were no survey data and less CPUE data.
64. Chinese Taipei suggested that the SSC PS could tackle some of the issues with the BSSPM by incorporating more diagnostics, such as hindcasting and predictive checks. Chinese Taipei also suggested that it would be useful to explore more robust reference points than  $B_{MSY}$ .
65. The SSC PS agreed to maintain the framework of the existing specification of the stock assessment using BSSPM and to include an additional year of data for all indices to be finalized at SSC PS16 (Annex F).

## *9.2 Recommendations for future work*

66. The SSC PS agreed to continue to further improve the BSSPM, including refining the current settings and conducting additional diagnostics.
67. The SSC PS agreed to compare the stock assessment results using the BSSPM against the results using the SS3 model, if it is ready, at SSC PS16, to adopt results from the model that performs better, and to develop management advice accordingly.

## **Agenda Item 10. New stock assessment models**

### *10.1 Review of the outcomes of WG NSAM02 meeting*

68. The Working Group on New Stock Assessment Models for Pacific Saury (WG NSAM) Lead, Dr. Libin Dai, presented the outcomes of the first and second WG NSAM meetings in 2025

(NPFC-2025-SSC PS15-IP10). He explained that the seasonal SS models that WG NSAM is developing are able to model the fishery and population dynamics of Pacific saury more plausibly than annual models. Model diagnostics (retrospective analysis, hindcasting) indicated the model cannot be used for projection at this stage. However, improving the fit to the Japanese survey in recent years might solve these problems. Several hypotheses were developed to explain the trend of fishery mean size during recent years, and it will be important to decide which are most likely. The base and sensitivity scenarios will likely be revision of models presented at the WG NSAM02 meeting, based on diagnostic results and biological plausibility.

69. The individual WG NSAM meeting summaries are available in NPFC-2025-SSC PS15-RP01 & RP02.
70. The SSC PS agreed to change the name of WG NSAM to the Small Working Group on New Stock Assessment Models for Pacific Saury (SWG NSAM), as was proposed at the WG NSAM02 meeting.

#### *10.2 Review of any progress on new stock assessment models*

71. Japan presented a description of the Japanese fisheries-independent survey and the Pacific saury length composition data collected from the survey (NPFC-2025-SSC PS15-IP01 & IP06). Japan explained that, as requested by WG NSAM, it has prepared these length composition data and shared them on the [NPFC Collaboration site](#) for WG NSAM's work to develop an SS3 age-structured assessment model. Japan also presented a simple analysis showing trends in mean size over time for age-0 and age-1 fish based on these data. Japan also presented a simple analysis showing mean body length over time for age-0 and age-1 fish based on these data. The mean body length of age-1 fish has declined in recent years, consistent with the hypothesis that the decline in mean length of exploited fish reflects poorer growth conditions.
72. The SSC PS noted that there was no clear pattern for age-0 fish but that this may be due to greater natural variability in the body length of age-0 fish, which are still growing and include multiple seasonal cohorts, and sampling variability.

##### *10.2.1 Stock Synthesis 3 (SS3)*

73. The invited expert presented the results of various diagnostic tests he conducted to assess the SS3 model being developed by WG NSAM (NPFC-2025-SSC PS15-WP09). He conducted a jitter analysis, Bayesian MCMC analysis, likelihood profiling, retrospective analysis, and hindcasting. These tests suggested that the model cannot reliably estimate stock size unless there is prior information on the catchability coefficient for Age 1 fish for the Japanese

biomass survey and that WG NSAM should consider developing this prior. There is also a need to develop appropriate reference points to use for any potential total allowable catch (TAC) advice. The invited expert plans to conduct further analyses using various sensitivity scenarios identified in WG NSAM once the models have been updated with new data.

74. The invited expert presented a preliminary comparison of SS3 with the BSSPM, while noting that the two models are not directly comparable (NPFC-2025-SSC PS15-IP12). The two models are of the same order of magnitude. Biomass is much more variable in the age-structured model due to the short lifespan of Pacific saury and the seasonal time step. A comparison of the maximum value of F-at-age showed similar trends between the two models, especially in the later years, when size composition and CPUE data are available.
75. Japan stated that the challenges the BSSPM assessment faces, including the lack of predictability, is widely recognized within NPFC including the commissioners and the expectations for the new age structured model to address these challenges is high. However, despite the great progress made in the WG NSAM to date, it still struggles to accurately characterize the dynamics of the stock and Japan has concerns whether even the new model can deal with the “predictability” issue in a satisfactory manner given the short-lived and recruitment (i.e. environment)-driven nature of the Pacific saury stock.

#### *10.2.2 State-space age-structured model*

76. Japan informed the SSC PS that it had no updates to provide but that it will continue its work to further develop a state-space stock assessment model (SAM) for Pacific saury and present its work to the SSC PS at the appropriate timing.

#### *10.3 Recommendations for future work*

77. The SSC PS made suggestions for further improvements to the SS3 model and additional diagnostics to be conducted, including setting of a uniform distribution for  $q$  from 0 to 1 (or a proxy because SS3 allows to assume prior for logarithm of  $q$ ) for the survey catchability, as has been used in the provisional BSSPM assessment; ASPM diagnostics; and some other retrospective analyses for B-ratio and other MSY-related quantities in addition to the biomass level. The SSC PS requested that the invited expert continue to develop and refine the SS3 model and encouraged Members to support the invited expert in his work.
78. The SSC PS noted that the WG NSAM will hold another meeting ahead of SSC PS16, at which it plans to update the SS3 model specification for all case scenarios, identify base and sensitivity cases, and draft a stock assessment report and recommendations for review at SSC PS16. As a lower priority, WG NSAM will also try to incorporate environmental covariates in key population/fishery processes.

Agenda Item 11. Toward development of management procedures (MPs) as a mid-term goal

*11.1 Work plan and progress in SWG MSE PS06*

79. The Chair summarized the work done to date to complete the development of an interim HCR and previous discussions by the SWG MSE PS on the mid-term goal of developing a full management procedure (MP).
80. The SSC PS noted that the current schedule for the development of a full MP in the comprehensive MSE process may be overly ambitious in light of resource constraints and the existing heavy workload, including the ongoing development of the SS3 models, which will serve as the basis for conditioning the operating models in the MSE simulation and potentially as the estimation model in the MP itself. The SSC PS agreed to discuss the MP work and its schedule further at SSC PS16 after first completing the upcoming stock assessment.

*11.2 Other*

81. No other points were raised.

Agenda Item 12. Other matters

*12.1 Data provision templates*

82. The Science Manager provided an update on the development of the data provision templates. He explained that the Small Working Group on Data (SWG Data) is working intersessionally to finalize the templates. SWG Data Members and Chairs of SC subsidiary groups are invited to provide final comments and suggestions.

*12.2 Observer Program*

83. The Science Manager reminded the SSC PS that the Commission previously requested that the SC provide guidance to the Technical and Compliance Committee (TCC) on the scientific aspects of a regional observer program (ROP), that the TCC Chair posed specific questions to the SC and its subsidiary bodies, and that the SC and its subsidiary bodies, including the SSC PS, provided responses. The Science Manager explained that these responses were provided to the TCC but the Commission considered them to be insufficient and recommended that the SC and the TCC continue to work on this matter. Based on this, the TCC Chair has posed additional questions to the SC and its subsidiary bodies concerning critical data points, current level of confidence in NPFC stock assessments, monitoring of rare events, data for development of management procedures and accounting for potential effects of climate change, and electronic monitoring systems. The Small Working Group on Observer Program held a virtual meeting to answer the questions in July 2025. Based on the outcomes of this meeting, the SC Chair drafted a working paper outlining responses to the questions and circulated it to Members for review.

### *12.3 Draft agenda, priority issues and timeline for next meeting*

84. The SSC PS outlined an agenda and timeline for SSC PS16. An updated timeline with a list of expected documents will be circulated to SSC PS Members shortly after the meeting.
85. The SSC PS noted that as the stock condition improves, there is a disconnect and time lag between observations on the fishing grounds and model updates. The SSC PS noted that it is desirable to find a process that would allow the inclusion of the most recent catch and CPUE in the assessment (either BSSPM or SS3) and reduction of the time lag between the data availability and the TAC calculation from the assessment.
86. Canada suggested that one option would be to update and approve the assessment early in the calendar year (e.g., February) using the most recent data, which would allow the most recent information to be available to the Commission. Canada noted that the timing would not allow the SC to review and approve the Pacific saury assessment, but suggested that, given the identical makeup of the SSC PS and SC participants, perhaps the approval of the Pacific saury assessment could be done in a February SWG MSE PS meeting prior to submission to the Commission. In addition, the data preparatory meeting, which is currently held in autumn, could be shifted to December and held in conjunction with the SC meeting.
87. Some concerns were raised with submitting the Pacific saury assessment directly to the SWG MSE PS and bypassing the SC, which is the NPFC's highest-level scientific body, whereas the SWG MSE PS is a body for consolidating scientific advice and facilitating dialog between scientists and managers.
88. The SSC PS agreed to discuss this matter further at SSC PS16.

### *12.4 Other*

89. No other matters were discussed.

### **Agenda Item 13. Adoption of Meeting Report**

90. The report was adopted by consensus.

### **Agenda Item 14. Close of the Meeting**

91. The Chair thanked the participants for their constructive discussions, the invited expert for his hard work, the Vice-Chair for his support, and the Secretariat and Rapporteur for their assistance.
92. The meeting closed at 10:55 on 4 September 2025, Tokyo time.

**Annexes:**

Annex A – Agenda

Annex B – List of Documents

Annex C – List of Participants

Annex D – Updated total catch, CPUE standardizations and biomass estimates for the stock assessment of Pacific saury

Annex E – Time series of Members' standardized CPUE and joint standardized CPUE from 1980-2024 and Japanese survey index from 2003-2025

Annex F – Specifications of the BSSPM

Please refer to the NPFC website for the complete annexes.

# 6<sup>th</sup> Meeting of the Small Scientific Committee on Bottom Fish and Marine Ecosystems

8–10 December 2025  
Nagoya, Japan (Hybrid)  
Meeting Report



## **Agenda**

Agenda Item 1. Opening of the Meeting

Agenda Item 2. Adoption of Agenda

Agenda Item 3. Overview of the outcomes of previous NPFC meetings

3.1 SSC BFME05

3.2 COM09

3.2.1 CMMs 2025-05 and 2025-06

3.2.2 Requests from COM09

Agenda Item 4. Stock assessment and scientific advice on the management of North Pacific armorhead (NPA)

4.1 Review of Members fishing statistics for NPA in 2024

4.2 NPA monitoring survey and Adaptive Management Procedure (AMP)

4.2.1 Review of the results from 2025 monitoring survey

4.3 Review of Members' research and joint research activities on NPA

4.3.1 Ongoing research activities on NPA

4.3.2 Future and planned research activities by Members on NPA in 2026

Agenda Item 5. Stock assessment and scientific advice on the management of splendid alfonsino (SA)

5.1 Review of Members fishing statistics for SA in 2024

5.2 Review of Members' research and joint research activities on SA

5.2.1 Ongoing research activities on SA

5.2.2 Future and planned research activities by Members on SA in 2026

Agenda Item 6. Stock assessment and scientific advice on the management of sablefish

6.1 Review of Members fishing statistics for sablefish in 2024

6.2 Review of Members' research and joint research activities on sablefish

6.2.1 Updated stock status for sablefish (Canada and USA)

6.2.2 Sablefish species summary document update and review

6.2.3 Proposed method for developing harvest control rule for sablefish in CA

6.2.4 Other research activities on sablefish

6.2.5 Future and planned research activities by Members on sablefish in 2026

Agenda Item 7. Skilfish in the NPFC Convention Area

- 7.1 Updated catch and effort for skilfish in 2024
- 7.2 Skilfish species summary document update and review

Agenda Item 8. Progress on data-limited approaches to assessment of NPA and SA

8.1 Update from SWG NPA-SA

- 8.1.1 Depletion analysis of NPA catch and update on IBM approach
- 8.1.2 Standardized CPUE for SA
- 8.1.3 Review of biological data collection
- 8.1.4 Review of results of integrated model for SA
- 8.1.5 Review of stock status for SA
- 8.1.6 Literature review of results on the effects of climate change on SA and NPA
- 8.1.7 NPA species summary document update and review
- 8.1.8 SA species summary document update and review

Agenda Item 9. Summary slides for Sablefish, NPA, SA and Skilfish

- 9.1 Draft, review and discuss draft slides on priority bottom fish species for presentation to Commission

Agenda Item 10. Assessment and scientific advice on the management of Vulnerable Marine Ecosystems (VME)

10.1 Review of Members' research and joint research activities on VME

- 10.1.1 Update on surveys and modeling of VME distribution in the NE Pacific
- 10.1.2 Surveys of VME in the Emperor Seamounts in 2025
- 10.1.3 Other research activities on VMEs
- 10.1.4 Future and planned research activities by Members on VMEs in 2026

10.2 Review of intersessional activities of the SWG VME

- 10.2.1 Update on the development of gear and taxon specific encounter thresholds for VME indicator taxa in the NPFC Convention Area
- 10.2.2 Update on progress on data analysis of shared VME indicator data and directions on future joint data analyses (Objectives 2b, 2c and 3)
- 10.2.3 Proposals for revisions to VME indicator species list or nomenclature
- 10.2.4 Proposals for updates to definitions of VME
- 10.2.5 Update on progress on standardizing an approach to defining SAI
- 10.2.6 Literature review of connectivity, recruitment and recovery of VME taxa

10.3 Management of VME and SAI

- 10.3.1 Updated impact assessment for Japan bottom fish fisheries
- 10.3.2 Updated impact assessment for Canada bottom fish fisheries
- 10.3.3 Other updated impact assessments
- 10.3.4 Other recommendations for CMM

Agenda Item 11. Ecosystem considerations

11.1. Summary of FAO Ecosystem Based Fisheries Management Symposium in March 2025

11.2 Preliminary ecosystem indicators and framework for communication to SC

Agenda Item 12. Data collection and reporting

12.1 Review of the adequacy of the current observer program for the BFME

12.2 Review of the template for collection of scientific observer data

12.3 Update on the work of SWG Data as it pertains to BFME

Agenda Item 13. 5-Year (2025-2029) Rolling Work Plan

13.1 North Pacific armorhead

13.2 Splendid alfonsino

13.3 Sablefish

13.4 Vulnerable marine ecosystems

13.5 Other ecosystem components

Agenda Item 14. Review of CMMs 2025-05 and 2025-06 for bottom fisheries and protection of vulnerable marine ecosystems and CMM 2019-10 for sablefish

Agenda Item 15. Climate change impacts on bottom fisheries and VME

15.1 Discussion of potential impacts of climate change and potential research and advice that the SSC BFME should address

Agenda Item 16. Other matters

16.1 Inter-sessional work and priority issues for next meeting

16.2 Update on PICES WG47 Seamount Ecology and newly proposed PICES WG

16.3 Selection of Chair for SSC BFME

16.4 Other issues

Agenda Item 17. Recommendations to the Scientific Committee

Agenda Item 18. Next meeting

Agenda Item 19. Adoption of the Report

Agenda Item 20. Close of the Meeting

## MEETING REPORT

### Agenda Item 1. Opening of the Meeting

1. The 6<sup>th</sup> Meeting of the Small Scientific Committee on Bottom Fish and Marine Ecosystems (SSC BF-ME06) was held in a hybrid format, with participants attending in-person in Nagoya, Japan, or online via WebEx, on 8–10 December 2025. The meeting was attended by Members from Canada, China, Japan, the Republic of Korea, the Russian Federation, and the United States of America (USA). The Deep Sea Conservation Coalition (DSCC), the International Council for the Exploration of the Sea (ICES) and the Pew Charitable Trusts (Pew) attended as observers. Dr. Maite Pons and Dr. Ricardo Amoroso participated as invited experts.
2. The meeting was opened by the SSC BF-ME Chair, Dr. Chris Rooper (Canada).
3. Japan thanked the participants for coming to Nagoya and expressed its pleasure to be hosting the meeting. Japan also welcomed participants joining the meeting online. Japan noted the importance of the SSC BF-ME's scheduled work, including developing stock assessments for North Pacific armorhead (NPA), splendid alfonsino (SA), and sablefish, identification of vulnerable marine ecosystems (VMEs), and the updating of impact assessments, for providing strong scientific advice and supporting sustainable management of marine resources.
4. The Science Manager, Dr. Aleksandr Zavolokin, outlined the meeting procedures and logistics.
5. Mr. Alex Meyer was selected as rapporteur.

### Agenda Item 2. Adoption of Agenda

6. The SSC BF-ME agreed to change agenda item 10.3.4 from “Other Proposals related to CMM 2025-05” to “Other recommendations for CMM.”
7. The agenda was adopted as revised (Annex A). The List of Documents and List of Participants are attached (Annexes B, C).

### Agenda Item 3. Overview of the outcomes of previous NPFC meetings

#### 3.1 SSC BFME05

8. The Chair summarized the discussions and outcomes of the SSC BF-ME05 meeting.

### 3.2 COM09

9. The Science Manager presented the outcomes from the 9<sup>th</sup> Commission meeting (COM09) that concern the SSC BF-ME.

#### 3.2.1 CMMs 2025-05 and 2025-06

10. The Science Manager outlined the revisions made to Conservation and Management Measure (CMM) 2025-05 for Bottom Fisheries and Protection of VMEs in the Northwestern (NW) Pacific Ocean and CMM 2025-06 for Bottom Fisheries and Protection of VMEs in the Northeastern (NE) Pacific Ocean.

#### 3.2.2 Requests from COM09

11. The Science Manager informed the SSC BF-ME that the Commission requested the SC to consider the frequency of stock assessments, including the possibility of conducting benchmark assessments less frequently with updates in between, and to explore the potential benefits of a peer review system.
12. The Science Manager reminded the SSC BF-ME that CMM 2023-14 on Sharks requires Members to report all shark catches as part of their Annual Reports and that the deadline for the submission of the next Annual Report is 15 January 2026.

Agenda Item 4. Stock assessment and scientific advice on the management of North Pacific armorhead (NPA)

#### 4.1 Review of Members fishing statistics for NPA in 2024

13. The Science Manager presented the fishing catch and effort statistics for NPA including the latest available data for 2024. Total catch in 2024 was around 46 MT. 1 Japanese trawl and 1 Japanese gillnet vessel were in operation catching NPA and SA in the Convention Area.

#### 4.2 NPA monitoring survey and Adaptive Management Procedure (AMP)

##### 4.2.1 Review of the results from 2025 monitoring survey

14. The Science Manager presented the results of the monitoring survey for NPA in the Emperor Seamounts in 2025 (NPFC-2025-SSC BFME06-IP01). The fishing vessel Kaiyo Maru No.51 conducted four trawl hauls for at least one hour each in Koko Seamount from March to June 2025. The criteria for high recruitment were not met.

#### 4.3 Review of Members' research and joint research activities on NPA

##### 4.3.1 Ongoing research activities on NPA

15. No ongoing activities were presented.

#### *4.3.2 Future and planned research activities by Members on NPA in 2026*

16. No future or planned activities were presented.

#### *Agenda Item 5. Stock assessment and scientific advice on the management of splendid alfonsino (SA)*

##### *5.1 Review of Members fishing statistics for SA in 2024*

17. The Science Manager presented the fishing catch and effort statistics for SA including the latest available data for 2024. Total catch in 2024 was around 1,573 MT. 1 Japanese trawl and 1 Japanese gillnet vessel were in operation catching NPA and SA in the Convention Area.

##### *5.2 Review of Members' research and joint research activities on SA*

###### *5.2.1 Ongoing research activities on SA*

18. No ongoing activities were presented.

###### *5.2.2 Future and planned research activities by Members on SA in 2026*

19. Japan informed the SSC BF-ME that it intends to conduct research on the possibility of sex change occurring in SA in response to a paper observing this characteristic in the Atlantic SA population.

#### *Agenda Item 6. Stock assessment and scientific advice on the management of sablefish*

##### *6.1 Review of Members fishing statistics for sablefish in 2024*

20. Canada informed the SSC BF-ME that no Canadian vessels have fished for sablefish in the Convention Area since 2020.

##### *6.2 Review of Members' research and joint research activities on sablefish*

###### *6.2.1 Updated stock status for sablefish (Canada and USA)*

21. Canada presented a brief update, jointly prepared with the United States, on sablefish status in the eastern North Pacific, including the NPFC Convention Area (NPFC-2025-SSC BFME06-WP06). Domestic sablefish stock assessments are conducted in three regions: Alaska (age-structured model, annual), Canada (management strategy evaluation (MSE) with age-structured operating model (OM), ~3–5-year cycle), and US West Coast (age-structured model, ~3–5-year cycle). The most recent assessments all indicate that the sablefish stock is healthy and not subject to overfishing. In all three regions, the stock is well above the upper stock reference point. In the Convention Area, there has been no fishery catch or effort since 2020.
22. The SSC BF-ME developed a stock status summary for sablefish, as shown in Annex D, and recommended that the SC Chair present the information in the summary to the Commission.

#### 6.2.2 Sablefish species summary document update and review

23. The SSC BF-ME reviewed the updated species summary of sablefish (NPFC-2025-SSC BFME06-WP02).
24. The SSC BF-ME recommended that the SC adopt the updated species summary of sablefish (Annex E).
25. The SSC BF-ME reviewed the updated species summary of blackspotted and rougheye rockfishes (NPFC-2025-SSC BFME06-WP03).
26. The SSC BF-ME recommended that the SC adopt the updated species summary of blackspotted and rougheye rockfishes (Annex F).

#### 6.2.3 Proposed method for developing harvest control rule for sablefish in CA

27. Canada presented a proposed analysis of potential harvest control rule (HCR) for sablefish in the Convention Area (NPFC-2025-SSC BFME06-IP03). Canada proposed developing a simple effort-limitation decision rule based on the following equation:

$$E_{TARGET} = \frac{F_{TARGET}}{q}$$

where the target (or limit) fishing effort  $E_{TARGET}$  would be fixed most years or revised occasionally as new information arises,  $F_{TARGET}$  is a target fishing mortality rate that could, at first, be derived based on  $F_{MSY}$  estimates for the coastal Alaska and British Columbia stock assessment and perhaps revised based on information specific to each seamount, and  $q$  is a trap catchability that could be estimated similarly based on a combination of British Columbia coastal stock assessment and local information. Canada intends to estimate the components of the equation for the Cobb seamount chain to derive a potential HCR for sablefish trap fisheries. The rule can also be tested via simulation to evaluate robustness to variation in coastal abundances and vessel-specific catchability.

28. Pew expressed support for the work being conducted by Canada to potentially develop an HCR for sablefish. Pew suggested that Canada also consider the potential impact of climate change and other ecosystem factors on sablefish, pointing out that preliminary research suggests that the stock is moving westward into the Convention Area.

#### 6.2.4 Other research activities on sablefish

29. Canada shared examples of ongoing research activities on sablefish including work on a spatially explicit research-based assessment model, exploration of time-varying and density-dependent growth, analysis of potential North Pacific Fishery Management Council actions to

allow small sablefish release, estimation of transboundary movement rates and abundance exchange, development of bottom-contacting estimates for sablefish longline trap and hook fishing gear on seafloor habitats in British Columbia, and a VME MSE process using S’Gaan Kinghlas-Bowie data.

#### *6.2.5 Future and planned research activities by Members on sablefish in 2026*

30. Canada shared examples of future and planned research activities, including integrating climate-linkages to early life history stages, investigation into the prevalence and determinants of skipped spawning, development of an electronic tagging database and use in spatial modeling, evaluation of management procedures with mortality caps on sub-legal sablefish, and updated investigation into potential environmental drivers of sablefish recruitment and growth in British Columbia.

### **Agenda Item 7. Skilfish in the NPFC Convention Area**

#### *7.1 Updated catch and effort for skilfish in 2024*

31. The SSC BF-ME noted that no Members have targeted skilfish in the Convention Area after 2021 and that all reported catches of skilfish were bycatch in fisheries targeting other species.

#### *7.2 Skilfish species summary document update and review*

32. The SSC BF-ME reviewed the updated species summary of skilfish (NPFC-2025-SSC BFME06-WP20).
33. The SSC BF-ME recommended that the SC adopt the updated species summary of skilfish (Annex G).

### **Agenda Item 8. Progress on data-limited approaches to assessment of NPA and SA**

#### *8.1 Update from SWG NPA-SA*

34. The SWG NPA-SA Lead, Dr. Kota Sawada (Japan), presented a summary of the intersessional progress made by the SWG NPA-SA on the tasks it was assigned by SSC BF-ME05 (NPFC-2025-SSC BFME06-WP12). Further details are described in Agenda Items 8.1.1–8.1.6 below.
35. The SWG NPA-SA Lead explained that, besides the SWG’s assigned tasks, two of its members, Dr. Kota Sawada and Mr. Satoi Arai (Japan), participated in the 14<sup>th</sup> Workshop on the Development of Quantitative Assessment Methodologies based on Life-history traits, exploitation characteristics, and other relevant parameters for data-limited stocks (ICES WKLIFE XIV) in Horta, Portugal. Dr. Sawada and Mr. Arai received travel support from the United Nations Food and Agriculture Organization (FAO) Deep-Sea Fisheries Project and they gave presentations on NPA and SA assessments in the NPFC. Dr. Sawada and Mr. Arai gave a report to the SWG on their participation in the workshop and shared the suggestions

they received from the workshop participants. The SWG noted these suggestions, including a fatness-based model as opposed to length- or age-based models for NPA, application of surplus production models in continuous-time (SPiCT) and the possibility of protandrous hermaphroditism (i.e. male-to-female sex change) for SA.

#### *8.1.1 Depletion analysis of NPA catch and update on IBM approach*

36. The SWG NPA-SA Lead explained that in 2024, the SWG NPA-SA completed data sharing for depletion analysis. In 2025, in response to the request from the invited experts, the SWG shared additional data. Using the shared data, the invited experts conducted a depletion analysis for NPA.
37. Dr. Pons presented a depletion analysis for NPA in the Southern Emperor-Northern Hawaiian Ridge seamounts using data from 2010 to 2024 (NPFC-2025-SSC BFME06-WP18). Average CPUE declined with increasing cumulative catch, reflecting localized depletion of NPA aggregations as fishing progressed. Simple and mixed-effects regression models produced consistent results. The depletion models indicate that NPA is currently subject to high exploitation rates. The low biomass estimated in recent years aligns with the low catches observed over the past decade, suggesting that the stock may be in poor condition, or that a regime shift leading to low recruitment has occurred. Changing targeting could be a limitation for the analysis. Based on the Japanese data, which have information of intended target species, NPA has not been a target of the fishery since 2020. If catchability changed through time, CPUE may no longer be a proportional index of local abundance and estimates could be biased.
38. The SWG NPA-SA Lead explained that based on the depletion analysis, the SWG NPA-SA concluded that:
  - a) No strong recruitment was detected in the recent years (since 2013), consistent with the result of monitoring surveys.
  - b) Stock status remains low.
  - c) Harvest rate is likely to be high.
  - d) The current analysis has some caveats including:
    - i. the possible effect of target shift from NPA to SA,
    - ii. uncertainty in the estimation of the timing (seasonality) of recruitment,
    - iii. estimates of harvest rates  $>1$  in some years and seamounts, and
    - iv. potential bias caused by the removal of zero-catch operations from the data.
39. The SWG NPA-SA Lead explained that based on the depletion analysis, the SWG NPA-SA provided the following advice:
  - (a) Keep monitoring possible recruitment events, and try to avoid high harvest rate for recruited fish, as specified in the current CMM 2025-05, paragraphs 4.M and L.

(b) Reduce the harvest rate as much as possible when the recruitment is weak, while recognizing the voluntary avoidance of targeting NPA by Japanese fishers.

40. The SWG NPA-SA Lead explained that as a future task, the SWG NPA-SA agreed to continue improving the analysis by expanding the model to incorporate entire time series (“seamount integrated depletion method”), using fatness information to estimate recruitment, and finding ways to incorporate zero-catch operations and targeting.
41. The SWG NPA-SA Lead explained that the SWG made no progress on individual-based modeling (IBM) in 2025 as it agreed to focus on depletion analysis and put lower priority on the IBM approach.
42. The SSC BF-ME developed a stock status summary for NPA, as shown in Annex D, and recommended that the SC Chair present the information in the summary to the Commission.

#### *8.1.2 Standardized CPUE for SA*

43. The SWG NPA-SA Lead explained that the SWG NPA-SA reviewed work conducted by Japan to standardize the CPUE of SA. Japan’s first analysis was conducted using the R package glmmTMB. Japan then conducted an analysis using the R package sdmTMB following the SWG NPA-SA’s advice.
44. Japan presented initial estimates of standardized CPUE for SA in the Emperor Seamounts, with records from 2010 to 2024 by the bottom trawl and bottom gillnet fisheries (NPFC-2025-BFME06-WP13). Japan analyzed trawl and gillnet data separately due to differences in effort methodology and fishing history. For statistical analysis, it employed a delta-gamma model utilizing the sdmTMB package to compare CPUE over time. Although the sdmTMB delta-gamma model seemed to fit the data well according to quantile-quantile plot, due to ongoing issues with coding, Japan was unable to calculate the index values and associated uncertainty necessary for integrated modeling. Additionally, the gillnet standard error for the binomial component for several years was unusually large; this is likely the result of low sample size and few instances of zero-catch hauls in those years and will need to be addressed going forward. More work is necessary to further optimize the model and produce index values, so the current results are strictly preliminary.
45. The SSC BF-ME encouraged Japan to continue to develop this work, including exploring the use of additional covariates or the use of month as a proxy for some of the covariates, and exploring other possible model distributions.

#### *8.1.3 Review of biological data collection*

46. The SWG NPA-SA Lead explained that the SWG NPA-SA reviewed preliminary annual age-length keys for SA presented by Japan as a potential input for integrated modeling.

#### *8.1.4 Review of results of integrated model for SA*

47. The SWG NPA-SA Lead explained that the SWG NPA-SA reviewed the invited experts' initial run of the integrated model for SA with Stock Synthesis (SS3) using length composition data and nominal CPUE data provided by Japan, previously estimated life history parameters, and annual catch information of SA in the Convention Area. The initial run was aimed at testing feasibility, not at providing reliable estimate or advice. The SWG NPA-SA confirmed that the results should not be considered to reflect stock status until further analyses are conducted. The SWG NPA-SA reviewed the results and recommended continuing development of the integrated model using SS3, while noting that the assumption on selectivity could be improved.
48. Dr. Amoroso presented preliminary SS3 results for SA (NPFC-2025-SSC BFME06-WP16). The work was conducted as a diagnostic phase needed to prepare a defensible, fully tuned SS3 model. The model framework itself is functioning correctly and capable of accommodating the available data streams. However, several key elements are still missing before a defensible assessment can be completed. First, the standardized abundance indices are essential for informing absolute and relative trends in stock size. Second, the exploratory runs demonstrate high sensitivity to biological parameters, including natural mortality, growth, maturity, and selectivity formulations. Finally, even a very crude abundance index that spans for a longer period of time would substantially improve historical reconstruction and reduce reliance on strong assumptions. To allow subsequent SS3 runs to move from diagnostic exploration toward a robust, defensible stock assessment, the following critical steps are required: 1. integrating the standardized CPUE indices, 2. exploring sensitivities to biological parameters, and 3. improving historical reconstruction through any additional information that can be brought into the model.
49. The SSC BF-ME encouraged the invited experts to continue developing the model and Members to identify potential sources of historical data that could help inform the model.

#### *8.1.5 Review of stock status for SA*

50. The SSC BF-ME developed a stock status summary for SA under agenda item 9.

#### *8.1.6 Literature review of results on the effects of climate change on SA and NPA*

51. The SWG NPA-SA Lead explained that:
- (a) The SWG NPA-SA reviewed the overview presented by Dr. Joel Rice entitled "Incorporating Climate Change into the North Pacific Fisheries Commission Framework

- A summary for the SWG NPA-SA Meeting,” which was supported by the FAO Deep-sea Fisheries project.
- (b) The SWG NPA-SA recognized the importance of research on climate change impacts on bottom fish but agreed to focus on the ongoing works for NPA and SA assessments at this stage.
- (c) The SWG NPA-SA agreed to continue monitoring key population parameters and collecting data on age, growth and maturity for future analyses, including climate change effects.
- (d) Canada informed participants that it plans to draft a list of climate-change indicators for the SSC BF-ME06.
- (e) The USA introduced a relevant preprint article (Champagnat et al. 2025).

#### *8.1.7 NPA species summary document update and review*

- 52. The SWG NPA-SA Lead explained that the SWG had prepared an updated species summary of NPA (NPFC-2025-SSC BFME06-WP04).
- 53. The SSC BF-ME reviewed the updated species summary of NPA and recommended that the SC adopt the updated species summary (Annex H).

#### *8.1.8 SA species summary document update and review*

- 54. The SWG NPA-SA Lead explained that the SWG had prepared an updated species summary of SA (NPFC-2025-SSC BFME06-WP05).
- 55. The SSC BF-ME reviewed the updated species summary of SA and recommended that the SC adopt the updated species summary (Annex I).

### **Agenda Item 9. Summary slides for Sablefish, NPA, SA and Skilfish**

#### *9.1 Draft, review and discuss draft slides on priority bottom fish species for presentation to Commission*

- 56. The SSC BF-ME developed stock status summary slides for sablefish, NPA and SA, as shown in Annex D, and recommended that the SC Chair present the information in the summary to the Commission.
- 57. Canada and the United States called for more precautionary management of NPA, including a potential closure of the trawl fishery, to reverse the apparent trends in biomass, CPUE, and harvest rate.
- 58. Japan did not think there was sufficient scientific evidence to justify stronger new measures at this stage.

59. The DSCC and Pew expressed their support for the NPFC's ongoing research on NPA and SA. However, on the basis of the obligations in the NPFC Convention, the United Nations Fish Stocks Agreement (UNFSA), and the United Nations General Assembly (UNGA) Resolutions, they urged the SSC BF-ME to recommend the closure of the NPA and SA fisheries until the scientific uncertainties in the stock assessment process can be overcome and the stocks are firmly on the path to being rebuilt.
60. The SSC BF-ME expressed its appreciation for the hard work done by the invited experts to advance the stock assessments of NPA and SA, which will support the SC in developing and providing defensible advice for the Commission.

Agenda Item 10. Assessment and scientific advice on the management of Vulnerable Marine Ecosystems (VME)

*10.1 Review of Members' research and joint research activities on VME*

*10.1.1 Update on surveys and modeling of VME distribution in the NE Pacific*

61. Canada presented an updated identification of VMEs on Cobb Seamount in the Northeast Pacific Ocean based on visual data that includes pennatulaceans as VME indicator taxa (NPFC-2025-SSC BFME06-WP14), building on work presented previously in NPFC-2023-SSC BFME04-WP13. Canada re-calculated the VME indicator taxa density threshold by including pennatulaceans, which the Commission added to the list of NPFC VME indicator taxa in 2024. The updated threshold was 0.58 VME indicator taxa colonies m<sup>-2</sup>. Canada then applied this updated threshold to visual data from autonomous underwater vehicle (AUV) transects on Cobb Seamount and identified three new areas as VMEs, each approximately 50 m<sup>2</sup>.
62. Canada presented an updated identification of potential VMEs on the Cobb-Eickelberg seamount chain based on predictive modelling that includes pennatulaceans as VME indicator taxa (NPFC-2025-SSC BFME06-WP09). Canada re-calculated the VME indicator taxa density threshold by including pennatulaceans, which the Commission added to the list of NPFC VME indicator taxa in 2024. The updated threshold was 0.58 VME indicator taxa colonies m<sup>-2</sup>. The methods predicted that potential VMEs are present on all seamounts in the Cobb-Eickelberg seamount chain. Canada welcomed comments and suggestions from Members and Observers on its proposed methodology to identify areas likely to be VMEs.
63. Canada presented updated information (NPFC-2025-SSC BFME06-IP05) from the Joint Canada-USA International Seamount Survey (JCUISS). In 2022 and 2024 ~two-week surveys using an underwater stereo camera were undertaken at 5 seamounts in the Cobb Seamount Chain. Data were collected at 77 transects in 2022 and 58 transects in 2024. Analyses of these

data have shown that deep-sea corals are widespread at relatively low densities across all the seamounts examined and especially at depths below 400 m where the majority of the sampling occurred. Preliminary species distribution models have been developed for coral and sponge taxonomic groups based on these data.

#### *10.1.2 Surveys of VME in the Emperor Seamounts in 2025*

64. Japan presented a report of its sea-floor visual survey in the Emperor Seamount area in 2025 (NPFC-2025-SSC BFME06-IP09). The objectives of the survey were to identify the extent of VME indicator taxa communities (Suiko Seamount and Yuryaku Seamount), to collect information on the distribution of cold-water corals and other communities in northern areas that have continued to be fished since 2023 (North Koko Seamount), and to resurvey past survey sites in areas closed to fishing (C-H Seamount). At Suiko Seamount, Japan has clarified the potential VME range. At Yuryaku Seamount, Japan concluded that there is likely no further northern extension of VME indicator taxa communities. At North Koko Seamount, Japan continued collecting distribution information. At C-H Seamount, Japan found increased density of corals and other benthos for some sites and saw no changes at sites previously found to have low or no coral and benthos. Japan plans to resurvey the remaining C-H Seamount sites next summer.

#### *10.1.3 Other research activities on VMEs*

65. The DSCC presented a paper (NPFC-2025-SSC BFME06-OP04) suggesting that the NPFC recognize new quantitative scientific evidence for SAIs from visual surveys of Koko Seamount in the NPFC Convention Area based on research conducted by Biede et al. (2025; <https://doi.org/10.1016/j.marenvres.2025.107587>). The study compared visual evidence of fishing, trawl scars and anthropogenically sourced debris to the abundance, diversity, and ecosystem function of benthic megafauna. It found that that megafaunal abundance, diversity, and metrics of ecosystem function were significantly negatively correlated with increased visual evidence of fishing.
66. The SSC BF-ME noted the potential value of assessing the risk of ongoing SAIs on the Emperor Seamounts by integrating some of the methods presented in NPFC-2025-SSC BFME06-OP04 and information about currently ongoing fisheries in the area. The SSC BF-ME encouraged interested Members to hold intersessional discussions on this matter and to share the outcomes of those discussions at SSC BF-ME07.

#### *10.1.4 Future and planned research activities by Members on VMEs in 2026*

67. Japan informed the SSC BF-ME that it plans to conduct similar surveys of VME in the Emperor Seamounts in 2026.

68. Canada informed the SSC BF-ME that it plans to continue to conduct its ongoing data analysis and modeling work.

#### *10.2 Review of intersessional activities of the SWG VME*

69. The SWG VME Lead, Dr. Chris Rooper (Canada), presented a report of the SWG VME's activities in the 2025 operational year (NPFC-2025-SSC BFME06-WP15). Summaries of the 1<sup>st</sup> and 2<sup>nd</sup> intersessional meetings of the SWG VME are available in NPFC-2025-SSC BFME06-RP01 & RP02. Further details are described in Agenda Items 10.2.1–10.2.6 below.

##### *10.2.1 Update on the development of gear and taxon specific encounter thresholds for VME indicator taxa in the NPFC Convention Area*

70. The SWG VME Lead explained that Japan and Korea continued to work on alternative methods to define an encounter threshold that is taxon and gear specific using their catch data and that Japan presented an update to the SWG VME.
71. Japan presented a comparison of Japanese and Korean data on bycatch of VME indicator taxa (NPFC-2025-SSC BFME06-WP10). Japan explained that, at SSC BF-ME05, it had applied a data-based method to refine the gear-/taxa-specific bycatch thresholds but could not obtain plausible results. To solve the problem of model uncertainty due to the data limitations, the SSC BF-ME and the SC recommended that Japan incorporate Korean bycatch data. Japan compared the compositions and distributions of Japanese and Korean bycatch data and found that these data may have different distributional patterns, which may make it difficult to treat these data as comparable. Data refinement and/or clarification of the cause of the data discrepancy might be required before putting the data together. However, this work will likely be difficult at this stage. The problem of the spatial mismatch of survey data and bycatch data also remains.
72. The SSC BF-ME encouraged Japan, Korea, and any other interested Members to continue to work on this issue.

##### *10.2.2 Update on progress on data analysis of shared VME indicator data and directions on future joint data analyses (Objectives 2b, 2c and 3)*

73. The SWG VME Lead explained that:
- All the observation data from Members was compiled for mapping in 2024.
  - The presence and absence mapping of VME indicator taxa (Objective 1) was updated to include new data from a 2024 research survey in the Cobb Seamount Chain.
  - Densities of VME indicator taxa were mapped throughout the Emperor and Cobb Seamount chains.
  - A new analysis shows the kernel density maps indicating observed “hotspots” for each

VME indicator taxa and seamount where sufficient data was available to make the estimate (Objective 2c).

- e) The VME model validation exercise (Objective 2b) was updated with new data from 2022 and 2024 and a new model for gorgonians in the Emperor Seamount Chain.
- f) Although the SWG VME did not undertake work to develop new species distribution models for VME indicator taxa using the data and to highlight areas where surveys should be conducted (Objective 3) in 2025 as a group exercise, Canada has developed new models that utilize the shared data from the Cobb Seamount Chain and for the past few years Japan has been using the shared data (particularly the data shared by the USA) to help prioritize areas for underwater camera surveys.

- 74. The SWG VME Lead presented the SWG VME's work to map VME presence and absence observations in the Convention Area (NPFC-2025-SSC BFME06-WP07). There were 14,220 observations including both transect and point data from Members. The SWG VME mapped the distribution of the presence of VME indicator taxa for each of the seamounts in the Emperor Seamount Chain and the Cobb Seamount Chain. It also produced a series of figures depicting each of the 17 seamounts with observations.
- 75. The SWG VME Lead presented updated maps of VME density observations and kernel density estimation in the Convention Area (NPFC-2025-SSC BFME06-WP08). There were 4,090 observations including both transect and point data from Members. The SWG VME mapped the distribution of density of VME indicator taxa for each of the 17 seamounts in the Emperor Seamount Chain and the Cobb Seamount Chain with observations. The SWG VME also estimated kernel density based on these densities. For some taxa-Member combinations there were no data available. For example, Japan did not have any records for sea whips and pens in its submitted data. Therefore, the figures for some seamounts, such as for C-H Seamount, where only Japanese data were available, have no presence or absence records for these VME indicator taxa.

#### *10.2.3 Proposals for revisions to VME indicator species list or nomenclature*

- 76. There were no proposals for revisions to the VME indicator species list or nomenclature.

#### *10.2.4 Proposals for updates to definitions of VME*

- 77. The SWG VME Lead explained that no new methods for identifying VME were proposed by Members for discussion during the two meetings of the SWG VME. However, the Observers suggested that Members try the method for identifying VME from imagery presented in NPFC-2023-SSC BFME04-IP01.
- 78. The DSCC presented a paper suggesting that the NPFC endorse two additional approaches to

identifying VMEs in the Convention Area (NPFC-2025-SSC BFME06-OP02). One approach is a consensus method for using imagery data to identify VMEs, as described in Baco et al., (2023; <https://doi.org/10.7717/peerj.16024>) and as previously presented in NPFC-2023-SSC BFME04-IP01. The other approach is the use of species distribution models to identify locations of VMEs likely to occur for reef-forming scleractinian corals, as described in Tong et al., (2023; <https://doi.org/10.3389/fmars.2023.1217851>).

79. The SSC BF-ME encouraged Members who are planning VME surveys to consider the potential VME locations predicted by species distribution models as one of the factors for prioritizing survey sites.
80. The SSC BF-ME noted the usefulness of the method in Baco et al. (2023) as a tool for identifying areas likely to be VMEs and prioritizing areas for further investigation.

#### *10.2.5 Update on progress on standardizing an approach to defining SAI*

81. Canada presented an update on the SWG VME's progress on standardizing an approach to defining SAI (NPFC-2025-SSC BFME06-IP04). Japan and Canada have independently developed similar approaches to assessing the risk of SAIs to VMEs. Both approaches assess the relative risk of SAIs by evaluating the overlap between the distribution of fishing activity and VMEs. The SWG VME has identified some data requirements for several of the steps in the NPFC's flow chart for assessing and managing the risk of an SAI in the Convention Area.

#### *10.2.6 Literature review of connectivity, recruitment and recovery of VME taxa*

82. The SWG VME Lead explained that the SWG VME made no progress on conducting a draft literature review on connectivity and suggested that this work might be conducted in 2026. The SWG VME noted that this activity could potentially be conducted in cooperation with a new North Pacific Marine Science Organization (PICES) Working Group on Seamount Connectivity.

#### *10.3 Management of VME and SAI*

83. The SWG VME Lead explained that the SWG VME suggested that the SSC BF-ME discuss the holding of a workshop on VME and SAI that would follow up on the 2018 VME workshop.
84. The SSC BF-ME recognized the value of holding a follow-up workshop related to VME and SAI, while noting the need to set a focused scope for the workshop and avoid overlap with ongoing discussions at the SWG VME. The SSC BF-ME also noted that the workshop may be organized in cooperation with the Deep-sea Fisheries project and PICES.

##### *10.3.1 Updated impact assessment for Japan bottom fish fisheries*

85. Japan presented an updated assessment of the potential impacts of Japanese bottom fisheries on VMEs within fished seamounts of the Emperor Seamounts region (NPFC-2025-SSC BFME06-WP11), as well as an updated report on the identification of VMEs and the assessment of impacts caused by individual fishing activities on VMEs or marine species (NPFC-2025-SSC BFME06-WP17). In total, 942 locations were precisely assessed for the risk of SAI by overlapping the fine-scale spatial distribution of trawl/gillnet fishing operations. The majority of these locations were classified as low-risk as the VME indicator taxa are of low abundance or not comprising an ecosystem, and/or fishing intensity was low. This implies that the distribution of the main fishing grounds and the dense patches of VME indicator taxa were spatially segregated within the fished seamounts. Although the spatial overlap of VME indicator taxa and fishing operations was generally limited, some locations were identified as likely to be potential VMEs. Japan's assessments indicate the difficulty of identifying VMEs without visual images, underpinning the fundamental importance of ground truth confirmations to identify true VMEs. Japan newly identified the following potential VMEs: (1) Keratoisidid gorgonian patches with small dendrophylliid scleractinians in the southeastern part of Koko Seamount, (2) Keratoisidid and primnoid gorgonian patches in the center of Suiko Seamount, and (3) diverse gorgonian reefs in the southeastern part of Yuryaku Seamount. Apart from these newly identified potential VME sites, Japan's updated assessments indicated that the distribution of the main fishing grounds and the dense patches of VME indicator taxa were generally spatially segregated within the fished seamounts, thus the recent fishing activities are unlikely to cause significant impacts on VMEs or surrounding organisms in most of the fishing ground.
86. The SSC BF-ME offered some technical suggestions on the work presented by Japan and encouraged Japan to present updated papers to SSC BF-ME07 and SC11.

#### *10.3.2 Updated impact assessment for Canada bottom fish fisheries*

87. Canada presented a preliminary updated impact assessment for its sablefish fishery (NPFC-2025-SSC BFME06-WP19). The current Canadian seamount fishery does not appear to pose a conservation concern. Based on domestic stock assessments, the sablefish population is sustainable at current harvest rates. There is minimal bycatch of other species in the fishery. The impact on VME at current (2017–2020) levels appears to be sustainable given the relative benthic status results. Canada explained that it plans to continue to update and improve the assessment and present the updated assessment at SSC BF-ME07 and SC11.

#### *10.3.3 Other updated impact assessments*

88. The DSCC presented a paper with suggestions for improvements to the draft template and updated procedures for conducting impact assessments of bottom fisheries in the NPFC Convention Area (NPFC-2025-SSC BFME06-OP03). The suggestions are based on relevant

commitments in UNGA Resolutions, and related legal obligations contained in the UNFSA, the United Nations Convention on the Law of the Sea, the NPFC Convention and CMMs 2025-05 and 2025-06.

89. Canada agreed with a subset of the recommendations and suggested that Members consider updating the template accordingly before the next round of assessments.
90. The SSC BF-ME noted that Members are currently in the process of finalizing their updated impact assessments and suggested that as part of this process, Members could discuss potential future modifications to the impact assessments template through the SWG VME.

#### *10.3.4 Other recommendations for CMM*

91. Pew and the DSCC presented a joint scientists' letter to NPFC Members regarding the Emperor Seamount Chain (NPFC-2025-SSC BFME06-OP01). In the letter, the 105 undersigned scientists from 22 countries, including experts from NPFC Members, reiterated their call for the NPFC to take steps towards greater protection of the Emperor Seamount Chain and NW Hawaiian Ridge, and recommend a precautionary, bottom fishing moratorium based on the best available science and understanding of the long-term impacts in the region.
92. Canada expressed support for the spirit of the letter and the call for stronger measures to ensure that bottom fishing does not cause further SAIs on VMEs.
93. Korea expressed its intention that it won't resume bottom fishing in the Emperor Seamounts until the NPA monitoring survey finds clear evidence of strong recruitment. Korea also recognized the need to take strong concrete actions to ensure greater protection of the NPA stock and VMEs, and stated that, to that end, it is planning a research expedition to the Emperor Seamounts in 2027, the details of which it would present under agenda item 16.4.

### **Agenda Item 11. Ecosystem considerations**

#### *11.1 Summary of FAO Ecosystem Based Fisheries Management Symposium in March 2025*

94. The Chair reported on his attendance of the FAO Symposium on Applying the Ecosystem Approach to Fisheries Management (EAFM) in Areas Beyond National Jurisdiction (ABNJ) and shared the key messages from the symposium (NPFC-2025-SSC BFME06-IP06). Collecting data on all catch and other impacts is a weak spot for most regional fisheries management organizations (RFMOs) and prevents advancement of EAFM in some cases. It is important to make a start. Taking the initial steps toward EAFM, even if minor, can help to build capacity and interest in implementation of more developed steps. Such symposia offer great opportunities for meeting and sharing ideas with scientists from other RFMOs.

95. Pew suggested that the NPFC conduct an updated review of its CMMs, utilizing the Secretariat's previous UN ICSP15 Submission, against the FAO EAFM implementation monitoring tool.
96. Canada noted that the Convention calls on Members to understand the effects of fishing activities not only on target species but also on species belonging to the same ecosystem or dependent upon or associated with the target stocks. Canada noted that Members are already collecting related information and encouraged the Commission to task Members with sharing this information with the Commission to facilitate the relevant analyses.
97. The SSC BF-ME noted that Members generally did not object to sharing such information but that they could not agree to sharing the information without a clearer understanding of the purpose of the data-sharing and the scope of the data to be shared. The SSC BF-ME tasked the Chair to draft terms of reference (ToR) outlining the purpose for sharing such data. The SSC BF-ME agreed to review the ToR and discuss this matter further in the intersessional period.

#### *11.2 Preliminary ecosystem indicators and framework for communication to SC*

98. Canada presented an overview of potential approaches to include ecosystem indicators in the advice process for the NPFC as a first step moving towards an ecosystem approach to fisheries management (NPFC-2025-SSC BFME06-IP07). Canada shared two examples, one from Pacific Herring in British Columbia, Canada and one for Sablefish in Alaska. Both examples highlight different ways to visualize ecosystem indicators and also present these indicators to managers and other scientists so that they are considered when applying or recommending management actions for fisheries. Canada suggested that the SSC BF-ME conduct analysis and work towards reporting of environmental indicators in a similar fashion to the two examples and that these indicators could be presented to the SC as auxiliary information and ecosystem context to inform management decisions.

### **Agenda Item 12. Data collection and reporting**

#### *12.1 Review of the adequacy of the current observer program for the BFME*

99. Canada encouraged Members to compile and analyze data to understand the impact of bottom fishing activities on wider ecosystem and associated species.
100. The DSCC supported Canada's suggestion.

#### *12.2 Review of the template for collection of scientific observer data*

101. The SSC BF-ME did not suggest any amendments to the template for the collection of scientific observer data.

### *12.3 Update on the work of SWG Data as it pertains to BFME*

102. On behalf of the SWG Data Lead, the Data Coordinator, Mr. Sungkuk Kang, provided an update on the work of SWG Data. SWG Data has completed the finalization of the harmonized scientific data framework, including standardized terminology and templates for the seven core scientific data types: Biological Estimates – Raw; Biological Estimates – Age Composition; Biological Estimates – Length Composition; Biological Estimates – Maturity Ogive; Catch and Effort – Processed; Catch and Effort – CPUE; and Catch by Species – Ratio. SWG Data also reviewed the confidentiality rules, validation requirements, and the submission workflow to ensure that the system aligns with the operational needs of the SSC BF-ME and other subsidiary bodies. At this stage, the NPFC Scientific Data Repository supports the seven core fisheries data types. Other BFME datasets, such as VME information, benthic survey data, annual footprint summaries, and model outputs, may continue to be managed through existing channels until additional data types are defined and implemented in future development phases. The prototype structure of the Scientific Data Management System has been completed, and internal testing will begin shortly. This provides the SSC BF-ME with a consistent and transparent foundation for biological and catch-related data used in stock assessments and ecosystem analyses.

### *Agenda Item 13. 5-Year (2025-2029) Rolling Work Plan*

#### *13.1 North Pacific armorhead*

#### *13.2 Splendid alfonsino*

#### *13.3 Sablefish*

#### *13.4 Vulnerable marine ecosystems*

#### *13.5 Other ecosystem components*

103. The SSC BF-ME reviewed, revised and endorsed the 2025–2029 SSC BF-ME 5-Year Rolling Work Plan (NPFC-2025-SSC BFME05-WP01 (Rev. 1)).

### *Agenda Item 14. Review of CMMs 2025-05 and 2025-06 for bottom fisheries and protection of vulnerable marine ecosystems and CMM 2019-10 for sablefish*

104. There were no proposals for revisions to CMMs.

### *Agenda Item 15. Climate change impacts on bottom fisheries and VME*

#### *15.1 Discussion of potential impacts of climate change and potential research and advice that the SSC BFME should address*

105. The SSC BF-ME noted that the SWG NPA-SA reviewed the work presented by the FAO Consultant, Dr. Joel Rice, on incorporating climate change into the NPFC framework and recognized the importance of research on climate change impacts on bottom fish but agreed to focus on the ongoing works for NPA and SA assessments at this stage. The SWG NPA-SA

also agreed to continue monitoring key population parameters and collecting data on age, growth and maturity for future analyses, including climate change effects.

#### Agenda Item 16. Other matters

##### *16.1 Inter-sessional work and priority issues for next meeting*

##### 106. The SSC BF-ME agreed to:

- a) Task the SWG NPA-SA to:
  - i. Improve depletion model for NPA
    - a) Expansion of the model to incorporate entire time series of catch and CPUE
  - ii. Keep developing integrated model using Stock Synthesis for SA
    - a) Finalize CPUE standardization
    - b) Look at options for extending the time series using logbooks and other sources
    - c) Work to improve biological information for SA
    - d) Conduct sensitivity analyses on important processes and parameters
  - iii. Update species summaries for SA and NPA
  - iv. Conduct a literature review on climate change for SA and NPA (lower priority)
- b) Task the SWG VME to:
  - i. Continue working on visual data objectives on agreed ToR from SSC BF-ME04 (Objective 3)
    - a) Develop new species distribution (presence/absence and abundance) models for VME taxa on all seamounts
    - b) Consolidate other potential data sources and clarify gaps and deficiencies in VME data
  - ii. Finalize fishing impacts assessments
    - a) Consider and discuss potential revisions to the template, particularly reflecting on the suggested additions presented at SSC BF-ME06, and present recommendations for future template changes at SSC BF-ME07 if possible
  - iii. Consider ToR and objectives for a workshop on VME and SAI that would follow up on the 2018 VME workshop
  - iv. Continue working on encounter protocol thresholds using Japanese and Korean data (lower priority)
  - v. Consider and explore other methods for identifying VME
    - a) Discuss development of criteria for each of the branch points on the VME identification with visual imagery flow chart
    - b) Explore ideas about using species distribution models to predict likely VME

##### *16.2 Update on PICES WG47 Seamount Ecology and newly proposed PICES WG*

107. The Co-Chair of the PICES Working Group 47 (WG-47) on Ecology of Seamounts, Dr. Janelle Curtis, informed the SSC BF-ME that WG-47 prepared and submitted its final report

and the report was endorsed by the PICES Governing Council. One of the endorsed recommendations in the final report was to establish a new working group focused on seamount deepwater connectivity.

108. The Chair of the new PICES Working Group 56 (WG-56) on Seamount Connectivity, Dr. Don Kobayashi, provided an update on WG-56's planned activities. The goal of WG-56 is 1) assembling existing information pertaining to reproductive biology of deep ecosystem species, and 2) prior modeling efforts and flow fields on and around seamounts, and to use this knowledge to apply deep sea connectivity modeling with initial focus on Emperor Seamount ecosystems. WG-56 will leverage information and expertise from the recently completed WG-47 on Ecology of Seamounts and will address data gaps identified by WG-47, the NPFC, and other entities involved in managing and conserving seamount ecosystems.

#### *16.3 Selection of Chair for SSC BFME*

109. The SSC BF-ME re-elected Dr. Chris Rooper (Canada) to serve as its Chair.

110. The SSC BF-ME elected Dr. Yumiko Osawa (Japan) as Lead of the SWG VME.

#### *16.4 Other issues*

111. The United States presented its plans for a study on the population and community structure of black, canary, and yellowtail rockfishes at Cobb Seamount (NPFC-2025-SSC BFME06-IP08). The United States explained that at higher ages, females of these species disappear from the catch, and it intends to investigate whether this is because the females are simply not being caught or whether they are in fact dead, and the potential reasons for either scenario. The United States will apply three approaches to conduct this study: a combined visual and acoustic survey, hook and line sampling for age structure and genetics, and satellite tagging to monitor movement.
112. Korea presented its plans for a research expedition to the Emperor Seamount Chain and Northwestern Hawaiian Ridge in 2027 (NPFC-2025-SSC BFME06-IP02). The expedition is intended to study marine biodiversity and help identify potential VMEs, as well as climate change impacts. It also aims to collect oceanographic data, observations of marine litter (including abandoned, lost, or otherwise discarded fishing gear), eDNA samples, and observations of encounters with vulnerable species. The data collected will support RFMOs in assessing the risks and sustainability of current and future fisheries in the Emperor Seamount region.

#### Agenda Item 17. Recommendations to the Scientific Committee

113. The SSC BF-ME agreed to:

- a) Assign the tasks described in paragraph 106 to the SWG NPA-SA and SWG VME
- b) Update species summaries for sablefish, blackspotted and rougheye rockfishes, and skilfish
- c) Elect Dr. Chris Rooper as Chair of the SSC BF-ME and elect Dr. Yumiko Osawa as Lead of the SWG VME

114. The SSC BF-ME recommended the following to the SC:

- a) Adopt the updated species summaries of sablefish (Annex E), blackspotted and rougheye rockfishes (Annex F), skilfish (Annex G), NPA (Annex H), and SA (Annex I).
- b) Continue to hire an external expert(s) to support the work of the SWG NPA-SA.
- c) Request the SC Chair to present the information in the stock status summaries for sablefish, NPA, and SA (Annex D) to the Commission.
- d) Endorse the updated 2025–2029 SSC BF-ME 5-Year Rolling Work Plan (NPFC-2025-SSC BFME06-WP01 (Rev. 1)).

Agenda Item 18. Next meeting

115. The SSC BF-ME recommended holding a 2.5-day meeting of the SSC BF-ME in 2026 and requested the guidance of the SC and Commission for determining the date, format and location of the meeting.

Agenda Item 19. Adoption of Meeting Report

116. The report was adopted by consensus.

Agenda Item 20. Close of the Meeting

117. The Chair thanked the SSC BF-ME for its cooperation and constructive discussions.

118. The meeting closed at 12:45 on 10 December 2025, Nagoya time.

## **Annexes:**

Annex A – Agenda

Annex B – List of Documents

Annex C – List of Participants

Annex D – Stock Status Summary Slides for Sablefish, NPA and SA

Annex E – Species Summary for Sablefish

Annex F – Species Summary for Blackspotted and Rougheye Rockfishes

Annex G – Species Summary for Skilfish

Annex H – Species Summary for North Pacific Armorhead

Annex I – Species Summary for Splendid Alfonsino

Please refer to the NPFC website for the complete annexes.

# 16<sup>th</sup> Meeting of the Small Scientific Committee on Pacific Saury

11–14 December 2025  
Nagoya, Japan (Hybrid)  
Meeting Report



## **Agenda**

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4.1 Terms of References of the SSC PS

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4.3 Stock Assessment Protocol

Agenda Item 5. Member's fishery status including 2025 fishery

5.1 Report from Members including bycatch

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Agenda Item 6. Fishery-independent abundance indices

6.1 Any information including survey plans in 2026

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Agenda Item 7. Fishery-dependent abundance indices

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Agenda Item 8. Stock assessment using "provisional base models" (BSSPM)

8.1 Review of results

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Agenda Item 9. Biological information on Pacific saury

Agenda Item 10. New stock assessment models

10.1 Review of progress in SWG NSAM

10.2 Works toward finalization of new stock assessment models

10.3 Recommendations for future work

Agenda Item 11. Progress on development and evaluation of a management procedure as a mid-term task

11.1 Conditioning of operating models (OMs)

11.2 Types of management procedures (MPs)

11.3 Suggestion to SWG MSE PS07 on timeline and technical matters

Agenda Item 12. Development of recommendations to improve conservation and management of Pacific saury stock

12.1 Application of the adopted HCR

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### Agenda Item 13. Review of the Work Plan of the SSC PS

13.1 Climate related issues

13.2 Work Plan of the SSC PS

### Agenda Item 14. Other matters

14.1 Observer Program

14.2 Pacific saury species summary update

14.3 Draft agenda, priority issues and timeline for next meeting

14.4 Invited expert

14.5 Selection of Chair and vice-Chair for SSC PS

14.6 Other

### Agenda Item 15. Consolidated recommendations to the Scientific Committee

### Agenda Item 16. Adoption of Report

### Agenda Item 17. Close of the Meeting

## MEETING REPORT

### Agenda Item 1. Opening of the Meeting

1. The 16<sup>th</sup> Meeting of the Small Scientific Committee on Pacific Saury (SSC PS16) was held in a hybrid format, with participants attending in-person in Nagoya, Japan, or online via WebEx, on 11–14 December 2025. The meeting was attended by Members from Canada, China, Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, the United States of America, and the Republic of Vanuatu. The Ocean Foundation and the Pew Charitable Trusts attended as observers. Dr. Quang Huynh participated as an invited expert.
2. The meeting was opened by Dr. Toshihide Kitakado (Japan), the SSC PS Chair, who welcomed the participants.
3. Japan welcomed the in-person participants to Nagoya and the participants joining online. Japan noted that the meeting would focus on reviewing the latest Pacific saury stock assessments and leverage the participants' expertise and experience to formulate clear scientific advice for the Commission. Japan expressed its appreciation for the SSC PS's hard work and cooperation to date and looked forward to constructive discussions and positive outcomes.
4. The Science Manager, Dr. Aleksandr Zavolokin, outlined the meeting procedures and logistics.
5. Mr. Alex Meyer was selected as rapporteur.

### Agenda Item 2. Adoption of Agenda

6. The SSC PS agreed to change agenda item 12.1 from "Application of the adopted HCR to set a TAC in 2026" to "Application of the adopted HCR."
7. The agenda was adopted as revised (Annex A). The List of Documents and List of Participants are attached (Annexes B, C).

### Agenda Item 3. Overview of the outcomes of previous NPFC meetings

#### 3.1 SSC PS15

8. The Chair presented the outcomes and recommendations from the SSC PS15 meeting.

Agenda Item 4. Review of the Terms of References of the SSC PS and existing protocols

*4.1 Terms of References of the SSC PS*

9. The SSC PS reviewed the Terms of References (ToR) of the SSC PS and determined that no revisions are currently necessary.

*4.2 CPUE Standardization Protocol*

10. The SSC PS reviewed the Catch Per Unit Effort (CPUE) Standardization Protocol and determined that no revisions are currently necessary.

*4.3 Stock Assessment Protocol*

11. The SSC PS reviewed the Stock Assessment Protocol and determined that no revisions are currently necessary.

Agenda Item 5. Member's fishery status including 2025 fishery

*5.1 Report from Members including bycatch*

12. China presented its Pacific saury fisheries status (NPFC-2025-SSC PS16-IP04). Total catch in 2024 was 40,503 MT, after bottoming out in 2021. In 2025, total catch up to 7 October has been 30,523 MT and a total of 49 vessels have been operating, a decrease of 10 from 2024. From 2023 to 2025, China's fishing seasons were shortened due to the catch limit being nearly exhausted. As of 20 October, nominal CPUE has been 11.37 MT/vessel/day in 2025. Standardized effort was 4,671 vessel days in 2024. Compared to 2024, the fishing grounds in 2025 have moved further south in June and July, then further north in August and September. A yearly comparison of body length compositions has been conducted from 2014 to 2024, and larger fish seem to have been caught in 2025 compared to 2024 based on size box compositions. In terms of bycatch, 16.78 MT of squid was caught in the Chinese Pacific saury stick-held dip net fishery, and 13.26 MT of Pacific saury was caught in the Chinese mackerel fisheries.
13. China also highlighted the importance of feedback from managers and stakeholders, such as at-sea observations of stock condition. China informed the SSC PS that Chinese fishers have taken catches of large fish early in the fishing season unlike previous years and that they have observed fewer parasites compared to previous years. China also shared that many Chinese fishers have disagreed with the NPFC's Pacific saury stock assessment results and consider them to be unrealistic. China encouraged other Members to also share feedback from managers and stakeholders when presenting their fisheries status information in the future.
14. Chinese Taipei presented its Pacific saury fisheries status (NPFC-2025-SSC PS16-IP01 (Rev. 2)). The historical catch reached its highest in 2014. The catch in 2024 was 69,486 MT. 75

vessels conducted fishing activities in 2025. Accumulated catch was 61,292 MT by the end of the 2025 fishing season, which ended in September when the catch limit was reached. The nominal CPUE during the period of June to September is about 2.88 MT/haul in 2025, compared to 1.68 MT/haul and 2.32 MT/haul for the equivalent period in 2024 and 2023, respectively. Compared with the fishing activities distribution in 2024, the fishing grounds in 2025 were observed to be distributed between 42°N and 50°N. Looking at monthly size box composition (S: less than 7 pcs/kg; 1: 7–9 pcs/kg; 2: 10–12 pcs/kg; 3: 13–15 pcs/kg; 4: 16–18 pcs/kg; 5: more than 19 pcs/kg), in 2025, size 3 was dominant in June, while size 1 and 2 were dominant from July to September. By the end of the fishing season, bycatch accounted for 0.00008% of the total catch and comprised mostly sardine.

15. The SSC PS suggested that in future, Chinese Taipei present a time-series plot of size box or length composition, which would help visualize any potential interannual patterns in Pacific saury catch length.
16. Korea presented its Pacific saury fisheries status (NPFC-2025-SSC PS16-IP05). Annual catch decreased continuously from 2018 to 2023, but it has increased slightly since 2024, reaching 5,909 MT in 2025. The number of Korean stick-held dipnet vessels has decreased gradually and only five were in operation in 2024 and 2025 due to the continued low level of Pacific saury catch. Nominal CPUE in 2025 was 6.4 MT/vessel/day, a slight increase from 2024. The standardized effort in 2025 (1,163 days) was nearly the same as in 2024, and both years showed an increase relative to 2023. Fishing operations have taken place around 145–170°E longitude and around 40–50°N latitude in 2023–2025. In 2025, the fork length (FL) ranged from 21 to 33 cm (mean 29.0 cm). The mean values were higher than those of the previous year across all months. From 2008 to 2025, the mean FL ranged from 26 to 29 cm. Although not statistically significant, there has been a slight increasing trend in the mean FL from 2023 to recent years. In terms of size box composition (S: 18–30 cm; M: 23–33 cm; L: 27–34 cm; 2L: 29–34 cm (FL)), the L ratio was dominant until 2016, while the M ratio has been dominant since then. Unusually for other years, the 2L size was reported in 2025. As for bycatch, in 2025, Korea had no bycatch of Pacific saury from other fisheries as there were no other Korean fisheries in the Convention Area. There was also no reported bycatch of other species in Korea's Pacific saury fishery from 2023 to 2025.
17. Russia presented its Pacific saury fisheries status (NPFC-2025-SSC PS16-IP07). The annual catch increased from 51 MT (from 1 fishing vessel) in 2023 to 814 MT in 2024 (from 2 fishing vessels) in the Convention Area. As of 6 November, catch in 2025 was 733 MT. Two Russian vessels operated in 2025. Accumulated catch and relative accumulated catch were low. Seasonal trends were not identified due to the low catch level. Nominal CPUE has increased from 2023 to 2025. Standardized effort remained low but increased from 2023 to 2024.

Compared to 2024, the 2025 fishing grounds have moved further to the south and west in the latter part of the fishing season. In terms of body length, no data are available for 2024 but more small fish were observed in 2025 compared to 2023.

18. Vanuatu presented its Pacific saury fisheries status (NPFC-2025-SSC PS16-IP06). Total annual catch peaked at 8,231 MT in 2018, before dropping to a historical low in 2022. Total catch in 2025 was 3,211 MT. The number of operating vessels was 4 from 2015 to 2021 and was 3 in 2022. Only 2 vessels were active in 2023 and 2024. 4 vessels were active in 2025. An annual comparison of accumulated catch shows a trend of abundance increasing from August through to October, when fishing ends. An annual comparison of the relative seasonal catch shows that there are usually two peaks in the fishing season. In 2025, there was only one peak, in mid-August, showing a shift in seasonal pattern. Nominal CPUE in 2025 was 2.4 MT/haul or 15.8 MT/day. Generally, the main fishing grounds begin in the east early in the season, before shifting to the west. Compared to 2024, the 2025 fishing grounds were further to the east and the north. In terms of size box compositions (S: less than 7 pcs/kg; 1: 7–9 pcs/kg; 2: 10–12 pcs/kg; 3: 13–15 pcs/kg; 4: 16–18 pcs/kg; 5: more than 19 pcs/kg), caught individuals have generally been larger in 2025. The proportion of bycatch, comprising sardines and mackerel, in the Pacific saury fishery is very low compared to Pacific saury catch and there was no bycatch in 2025.
19. Japan presented its Pacific saury fisheries status (NPFC-2025-SSC PS16-IP08). In 2025, 95 fishing vessels were registered, two fewer than in 2024. Landings by the end of November were 61,269 MT, 158% of the 2024 landings in the same period. Nominal CPUE up to the end of November was 1.37, the highest in the last six years, but the value remains low compared with the 2000s. At the beginning of the fishing season in August, fishing grounds were formed north of 45–50°N in the high seas. After mid-September, the main fishing grounds were located in the Japanese exclusive economic zone (EEZ). The proportion of the EEZ catch against the total catch was 64.3% until the end of November. The average body length of age-1 fish was 30.1 cm. In recent years, the body length of age-1 fish has decreased annually, but this year it has recovered greatly. In the overall catch up to November, the percentage of age-0 fish appears to be slightly higher than that of age-1 fish. The following species have been reported as bycatch: sardine, mackerel, anchovy, and Japanese flying squid.
20. Japan also shared additional observations. Japan suggested that its increased catch in 2025 may be due to two factors: a slight recovery in the stock and a change in the formation of fishing grounds. Japan explained that the anomalous sea surface temperature patterns caused by the northward shift of the Kuroshio Extension were reversed in 2025, which created more favorable habitat conditions in the Japanese EEZ and resulted in Pacific saury migrating into the Japanese EEZ more than in the previous 5 years.

21. Canada informed the SSC PS that the Small Working Group on Japanese Sardine has compiled indicators for Japanese Sardine and found that the level of chlorophyll in the Kuroshio Extension this spring was more than one standard deviation higher than usual, which suggests that productivity may have been very high in lower trophic levels.
22. The SSC PS noted that because Pacific saury is a short-lived species, the effects of a rapidly changing environment could manifest themselves in the stock in a short period of time. This highlights the need to further explore the relationship between the Pacific saury's changing growth and changing environmental conditions.
23. The SSC PS noted that generally, Members have seen increased catch, yet CPUE has remained mostly the same. The SSC PS noted the need to study the link between CPUE and population size further, including considering potential hyperstability and hyperdepletion conditions.
24. The Science Manager presented the cumulative catch of Pacific saury in 2020–2025 in the Convention Area. The cumulative catch in 2025 as of 28 November is approximately 123,000 MT compared to 145,000 MT in 2024, 102,000 MT in 2023, 95,000 MT in 2022, 89,000 MT in 2021, and 123,000 MT in 2020.

## 5.2 Others

25. No other information was presented.

## Agenda Item 6. Fishery-independent abundance indices

### 6.1 Any information including survey plans in 2026

26. Japan informed the SSC PS that it plans to conduct its biomass survey with the usual method in 2026.
27. The SSC PS expressed its appreciation to Japan for conducting the biomass survey in 2025 and for planning to do so again in 2026.

### 6.2 Recommendations for future work

28. No recommendations were made.

## Agenda Item 7. Fishery-dependent abundance indices

### 7.1 Any information

29. No new information was presented.

### 7.2 Recommendations for future work

30. In light of the changing Pacific saury distribution and fishing patterns, the SSC PS noted the need to explore ways to better incorporate spatio-temporal factors in Members' CPUE standardizations. The SSC PS also noted the potential need to reconsider how data from different fleets are treated and combined in CPUE standardizations.
31. The SSC PS requested Members to conduct their CPUE standardizations using a spatio-temporal model such as has been used for conducting the joint CPUE standardizations (e.g., Vector Autoregressive Spatio Temporal (VAST) or sdmTMB). The SSC PS requested Members to produce two sets of CPUE standardizations, one with an annual time-step and the other with a quarterly or monthly time-step depending on the nature of each Member's fishery as the current SS3 analyses are conducted with a quarterly time-step.

#### Agenda Item 8. Stock assessment using "provisional base models" (BSSPM)

##### 8.1 Review of results

32. China presented an updated stock assessment for the Pacific saury stock in the Northwestern Pacific Ocean using BSSPM (NPFC-2025-SSC PS16-WP04). Results showed that the estimated median  $B_{2024}$  and  $B_{2025}$  over the two base case scenarios were 567,100 (80% CI: 354,000-1,066,000) and 678,600 (80% CI: 444,900-1,174,000) metric tons, respectively. The median  $B_{2025}/B_{MSY}$  and  $F_{2024}/F_{MSY}$  over the two base case scenarios were 0.44 (80% CI: 0.26-0.64) and 1.09 (80% CI: 0.77-1.85), respectively. For the average values for the most recent three years,  $B_{2023-2025}$  was estimated below the  $B_{MSY}$  ( $B_{2023-2025}/B_{MSY}=0.38$ , 80% CI: 0.24-0.51), and  $F_{2022-2024}$  was estimated to be above  $F_{MSY}$  ( $F_{2022-2024}/F_{MSY}=1.02$ , 80% CI: 0.77-1.63). Over the years, there have been decadal and interannual fluctuations in the biomass trend. Approximately after 2005, the biomass displayed a downward trajectory, albeit with interannual variation. The lowest biomass was recorded in 2020, but a recovery trend has been noted from 2020 to 2025. Since 1999, the harvest rate has shown an upward trend, but it has rapidly declined since 2018. The probability of the 2024 stock status being in the red quadrant of Kobe plot ( $\text{Prob}[B_{2024} < B_{MSY} \text{ and } F_{2024} > F_{MSY}]$ ) was estimated to be 61%. China considered the assessment results to be unrealistic because they still failed to reflect the improving trend in the stock status of Pacific saury due to retrospective pattern and scaling issues. Conversely, the assessment suggested that the stock status was worsening, with  $B/B_{MSY}$  remaining fixed and an increased probability of falling into the red zone of the Kobe plot over the years. This outcome contradicts multiple indicators and observations, including the increasing trend in abundance indices since 2020 and the larger body sizes observed in the 2025 fishing season.
33. Chinese Taipei presented an updated stock assessment for the Pacific saury stock in the Northwestern Pacific Ocean using BSSPM (NPFC-2025-SSC PS16-WP05). Both base case models showed consistent biomass trends after 2011 but differed notably from 1990 to 2010. Base case 2 displayed smoother variability and yielded higher biomass estimates than base

case 1 during this period. The ensemble biomass estimates indicate an increasing pattern from 2000, peaking in the mid-2000s, followed by a continuous decline below  $B_{MSY}$  since 2009. The lowest stock condition was estimated in 2020 and 2021 (median  $B_{2020}/B_{MSY} = 0.233$ ; 80% CI: 0.176–0.331; median  $B_{2021}/B_{MSY} = 0.238$ ; 80% CI: 0.176–0.338), with a slight increase observed in recent years. Biomass in 2025 is below  $B_{MSY}$  (median  $B_{2025}/B_{MSY} = 0.510$ ; 80% CI: 0.340–0.749), showing slightly recovery from the 2020–2021 lows but still not reaching  $B_{MSY}$ . Over the most recent three years (2023–2025), biomass was consistently estimated to be below  $B_{MSY}$  (median  $B_{2023-2025}/B_{MSY} = 0.429$ ; 80% CI: 0.309–0.596).  $F$  was below  $F_{MSY}$  prior to 2007, increased above  $F_{MSY}$  thereafter, and reached high levels in 2014 and 2018. A declining pattern in  $F$  was estimated from 2021 to 2024, with recent fishing mortality close to the  $F_{MSY}$  (median  $F_{2022-2024}/F_{MSY} = 0.927$ ; 80% CI: 0.684–1.278). Estimated fishing mortality in 2024 increased slightly (median  $F_{2024}/F_{MSY} = 0.972$ ; 80% range: 0.684–1.408) compared with 2023 (median  $F_{2023}/F_{MSY} = 0.893$ ; 80% range: 0.646–1.243). The ensemble MCMC stock status results suggest that the stock is likely in the yellow quadrant of the Kobe plot, with biomass below  $B_{MSY}$ , while fishing mortality is near or below  $F_{MSY}$  ( $\text{Prob}[B_{2024} < B_{MSY} \text{ and } F_{2024} < F_{MSY}] = 54\%$ ).

34. Japan presented an updated stock assessment for the Pacific saury stock in the Northwestern Pacific Ocean using BSSPM (NPFC-2025-SSC PS16-WP06 (Rev. 1)). Results showed that the 2025 median depletion level was 22.1% (80% CI: 12.7–34.4%) of the carrying capacity. Furthermore, the B-ratio ( $=B/B_{MSY}$ ) and F-ratio ( $=F/F_{MSY}$ ) in 2024 were 0.377 (80% CI: 0.252–0.499) and 1.085 (80% CI: 0.771–1.622), respectively. For the three-year average values, the B-ratio over 2023–2025 and the F-ratio over 2022–2024 were 0.394 (80% CI: 0.264–0.544) and 1.015 (80% CI: 0.752–1.460), respectively. In addition, the probability of the stock being in the green Kobe quadrant in 2024 was estimated to be approximately 0%, while the probabilities of being in the yellow and red Kobe quadrants were assessed as 62% and 38%, respectively. It should be noted that there is a large difference in the biomass series between the two base cases, whereas relative quantities, such as the B- and F-ratios and depletion level, differ little.
35. The SSC PS reviewed the stock assessments conducted by Members and could not reach consensus on the treatment of the results.
36. China expressed concerns that the current BSSPM model used for the Pacific saury stock assessment exhibits instability and considerable uncertainty in key parameter estimates and that it does not adequately capture non-stationary population dynamics. An increasing body of scientific evidence indicates that key biological processes of Pacific saury, including growth, survival, and maturation, are closely linked to environmental variability. China is therefore concerned that the assumption of stationary stock productivity is not appropriate

for this small pelagic species and is inconsistent with current scientific understanding. In light of these concerns, China considers that the model specification should be improved by incorporating non-stationary formulations for key population parameters, such as the intrinsic growth rate ( $r$ ) and carrying capacity ( $K$ ), and that the assumption of hyperstability should be further evaluated.

37. China also expressed concern regarding the scaling uncertainty in the current BSSPM stock assessments for Pacific saury. The scales of some key assessment outputs such as estimated biomass, biological reference points, and stock status fluctuate across assessment years as newly updated input data are incorporated into the model. Such instability hampers the ability to consistently evaluate management effectiveness and obscures a clear understanding of the true stock status. Until these concerns and limitations are adequately addressed, and to minimize the risk of inappropriate management decisions, China considers that the current assessment results are not sufficiently robust to serve as the basis for developing management advice.
38. Other Members noted China's reservations and recognized that there continue to be some uncertainties in the stock assessment. However, they considered the stock assessment to be the best scientific information available and believed it would be appropriate to aggregate the results, recognizing the agreement in trends among them. It is also noted that, even though Pacific saury stock has been recovering in recent years, the stock has yet to reach past abundance levels and a precautionary approach as incorporated in the interim harvest control rule (HCR) is warranted given the uncertainty of the stock assessment.
39. The SSC PS aggregated the results of the stock assessments conducted by Japan and Chinese Taipei (Annex D), while noting that China did not endorse the stock assessment results.

#### *8.2 Finalization of input values for the adopted HCR*

40. The Chair noted that, although the SSC PS could not reach consensus on the stock assessment results, the SSC PS had been tasked by the Commission to provide relevant information for the conservation and management of Pacific saury, including by applying the adopted interim HCR. The Chair suggested finalizing the input values for the adopted HCR based on the aggregated results of the stock assessments conducted by Japan and Chinese Taipei.
41. To provide the management information requested by the CMM for Pacific saury, with the exception of one Member, the SSC PS agreed that the Chair could apply the adopted interim HCR based on input values from Japan and Chinese Taipei's stock assessments and present the result to SC10 as information, rather than as the consensus advice of the SSC PS.

### *8.3 Recommendations for future work*

42. The SSC PS noted that non-stationary assumptions regarding stock productivity should be examined in future assessments, as several key biological processes of Pacific saury are influenced by environmental change. In addition, the assumption of hyperdepletion in CPUE indices should be explored, given evidence such as substantial seasonal and interannual variability in fleet dynamics, which may indicate that fishing fleets do not consistently or promptly locate the main fish habitat.

### *Agenda Item 9. Biological information on Pacific saury*

43. Japan presented an analysis on seasonal variation in the Pacific saury maturity ogive (NPFC-2025-SSC PS16-IP02 (Rev. 1)). Japan explained that the effects of water temperature and body length on maturation differ among seasons, which, for the purpose of this study, were defined as follows: S1 (Jan–Mar), S2 (Apr–Jul), S3 (Aug–Sep), and S4 (Oct–Dec). Individuals smaller than 25 cm mature mainly in warmer conditions in S1. Individuals larger than 29 cm mature mainly in warmer conditions in S2 and S4, and irrespective of temperature in S1. It is problematic to assume a common maturation curve for all seasons and use this curve to calculate the SSB. It should be noted that estimating the seasonal maturation curve requires weighting by area. However, this is difficult due to sampling bias in the current data, especially in S4.

### *Agenda Item 10. New stock assessment models*

#### *10.1 Review of progress in SWG NSAM*

44. The Small Working Group on New Stock Assessment Models for Pacific Saury (SWG NSAM) Lead, Dr. Libin Dai, presented a summary of the progress made by the SWG NSAM in 2025 (NPFC-2025-SSC PS16-WP03). The SWG NSAM held three meetings in 2025 to advance the development of an age-structured Stock Synthesis 3 (SS3) assessment model for Pacific saury. Major progress included converting the model from an annual to a seasonal time step, incorporating updated fishery and survey data, and implementing time-varying growth, which improved fits to length composition and partially reduced retrospective patterns. However, important challenges persist, including limited prediction skill and substantial uncertainty in natural mortality and steepness. These uncertainties also hinder the reliable estimation of the yield curve and MSY-related reference points, and MSY proxies may be required. As a result, the SWG was unable to finalize base and sensitivity cases in 2025. The SWG recommended continuing model development in 2026 and ensuring sustained technical support from the invited expert.

#### *10.2 Works toward finalization of new stock assessment models*

45. The invited expert presented an update on the development of the SS3 model for Pacific saury

in 2025 (NPFC-2025-SSC PS16-WP07 (Rev. 1)). Improvements have been made to model structure and parameterization and the model fits the historical catch, standardized CPUE, fishery-independent index of abundance, and length composition data provided during SSC PS15. Diagnostic procedures were also conducted to determine goodness of fit to the data, estimability and stability of parameter estimates using jitter analysis and comparison of MCMC with maximum likelihood estimation, and predictive ability for short-term forecasting with retrospective analysis and hindcast validation of future index predictions in the first projection year. Likelihood profiles inform alternative choices on natural mortality (M) and steepness for sensitivity analysis. A reduction in growth has improved the fit to the length composition and reduced the retrospective pattern compared to previous models. However, predictive performance remains difficult for such a short-lived species. Sensitivity analyses indicate difficulty estimating MSY reference points with the current M value in the base model. Further evaluation is recommended with respect to the choice of M in the base case model, as the current value does not provide practical management advice.

46. The SSC PS thanked the SWG NSAM and the invited expert for their continued work on the development of the SS3 and the great progress made over the past year.
47. The SSC PS considered these and other issues and updated the table of the SS3 model configurations to reflect the discussions (Annex E).
48. Japan presented an update on the development of a State-space Assessment Model (SAM) for Pacific saury (NPFC-2025-SSC PS16-IP03). Two additional years of data have been included (2024 and 2025), and the Chinese Taipei CPUE data have been split in the same manner as for the BSSPM and SS3 models. The estimates of key parameters including biomass, F, and SPR were mostly consistent with the 2023 SAM results.

### *10.3 Recommendations for future work*

49. The SSC PS tasked the SWG NSAM and the invited expert to continue developing the SS3 model.

Agenda Item 11. Progress on development and evaluation of a management procedure as a mid-term task

#### *11.1 Conditioning of operating models (OMs)*

50. The Chair summarized the ongoing work and future tasks for the mid-term goal of developing a full management procedure (MP).
51. The SSC PS noted that work is ongoing to develop an age-structured model and that progress on this work will support the conditioning of OMs and development of a full MP.

### *11.2 Types of management procedures (MPs)*

52. The SSC PS noted that the MP could be model-based, empirical-based, or a combination of the two, and that options remain open.

### *11.3 Suggestion to SWG MSE PS07 on timeline and technical matters*

53. In terms of the timeline, the SSC PS noted that it would be difficult to complete the ongoing simulation work within the coming year.
54. The SSC PS suggested that further discussions on technical and other matters related to the development of a full MP could be held at SWG MSE PS07. The SSC PS noted the need for greater dialogue among scientists, managers, and stakeholders at the SWG MSE PS, and requested Members to encourage greater participation by managers and stakeholders at the SWG MSE PS meetings.
55. The Ocean Foundation and Pew expressed their support for progressing discussion on the MSE process and the development of a full MP. Regarding the continued development of OMs, they emphasized that MSE is specifically designed to work under uncertainty, including situations where stock assessments are unreliable or unavailable, to test how management strategies perform across a range of plausible stock dynamics, and to still provide meaningful management guidance even when using simplified or data-limited operating models to explicitly represent uncertainty. They suggested that the absence of a reliable assessment is a reason to continue to develop the MSE, not to delay development.
56. Japan acknowledged that the MSE process is designed to account for uncertainty and that uncertainty should not be a reason for delaying further action. However, Japan also pointed out that the MSE and MP process would not work well with a very unreliable stock assessment model and without Members' trust in the model. Japan emphasized the importance of the work to develop an age-structured model.
57. The invited expert suggested that if there are major uncertainties in the stock assessment, it would not make sense to use the stock assessment in the MP. Alternative, simpler MPs could be evaluated in the MSE.
58. The SSC PS recommended that the SWG MSE PS invite Dr. Quang Huynh as an invited expert to SWG MSE PS07.

Agenda Item 12. Development of recommendations to improve conservation and management of

## Pacific saury stock

### *12.1 Application of the adopted HCR*

59. The interim HCR for Pacific saury under CMM 2025-08 For Pacific Saury was used to calculate the annual catch level in the 2026 fishing year, while noting the lack of endorsement from China. Based on assessment inputs from Japan and Chinese Taipei, the unconstrained annual catch level for 2026 =  $(B_{2025} * F_{MSY} * (B_{2025} / B_{MSY})) = 91,180$  MT. Based on the adopted HCR, the constrained 2026 catch level would be  $0.9 \times 202,500 = 182,250$  MT.
60. As a reference, the unconstrained annual catch level calculated from the interim HCR for 2026 increased by about 20% from 2025 (from 75,741 MT to 91,180 MT).
61. Chinese Taipei stated that based on thorough comparisons of recent stock assessment results across years and alternative model scenarios, contributing Members' assessments indicate substantial uncertainties in the estimation of key stock status indicators, including biomass, fishing mortality, and reference points  $F_{MSY}$  and  $B_{MSY}$ . In this regard, the estimated annual catch level derived from the interim HCR is subject to considerable uncertainty and potential error. While the HCR provides a consistent framework for translating stock status into management advice, the resulting calculated annual catch level should be interpreted with caution.
62. The Chair provided the comparison of 1) theoretical unconstrained annual catch level calculated based on HCR under CMM 2024-08 using 2025 assessment results, 2) unconstrained catch level for 2024, 2025 and 2026 computed in 2023, 2024 and 2025 assessments, respectively, 3) actual catch, and 4) TAC actually applied. Theoretical unconstrained catch level in 1) is calculated as if the current HCR was applicable historically and assumes equilibrium reference points estimated in the latest stock assessment from 2025 (NPFC-2025-SSC PS16-IP09).

### *12.2 Others*

63. No other recommendations were made.

## Agenda Item 13. Review of the Work Plan of the SSC PS

### *13.1 Climate related issues*

64. The SSC PS noted the importance of continuing to advance work to understand and account for the impact of environmental conditions on the distribution and condition of the Pacific saury stock. The SSC PS encouraged Members to conduct related analyses and present them at future meetings of the SSC PS. The SSC PS also encouraged Members to conduct literature reviews and share any other related studies with the SSC PS.

### *13.2 Work Plan of the SSC PS*

65. The SSC PS reviewed, revised and endorsed the 2025–2029 SSC PS 5-Year Rolling Work Plan (NPFC-2025-SSC PS16-WP01 (Rev. 1)).

### *Agenda Item 14. Other matters*

#### *14.1 Observer Program*

66. The Science Manager reminded the SSC PS that the Commission previously requested that the SC provide guidance to the Technical and Compliance Committee (TCC) on the scientific aspects of a regional observer program (ROP), that the TCC Chair posed specific questions to the SC and its subsidiary bodies, and that the SC and its subsidiary bodies, including the SSC PS, provided responses. Following this, the TCC Chair has posed additional questions to the SC and its subsidiary bodies, the Small Working Group on Observer Program has drafted responses to these questions, and these responses will be reviewed and finalized at SC10.

#### *14.2 Pacific saury species summary update*

67. The SSC PS reviewed and revised the species summary of Pacific saury (NPFC-2025-SSC PS16-WP02 (Rev. 1)).
68. The SSC PS recommended that the SC adopt the updated species summary (Annex F).

#### *14.3 Draft agenda, priority issues and timeline for next meeting*

69. The SSC PS prepared an initial draft agenda for its next meeting. The SSC PS requested the Chair to finalize the draft agenda in coordination with Members in the intersessional period.
70. The Science Manager explained that SC10 would discuss potential changes to its typical meeting schedule and presented the various draft options under consideration (NPFC-2025-SC10-WP01 (Rev. 1)).
71. The SSC PS updated the draft options with its input (NPFC-2025-SC10-WP01 (Rev. 2)).
72. The SSC PS recommended holding a data preparatory meeting and a stock assessment meeting in the 2026 operational year and requested the guidance of the SC and Commission for determining the date, format, and location of the meetings. In addition, the SSC PS may hold regular virtual intersessional meetings. The SWG NSAM will also meet intersessionally.
73. The SSC PS agreed on the following priorities for the next meetings in 2026:
  - a) Review standardized CPUE up to 2025 or 2026.
  - b) Review the Japanese fishery-independent survey results up to 2026.
  - c) Update BSSPM analyses.

- d) Review progress on development and evaluation of management procedure as a medium-term task.
- e) Review progress made by the SWG NSAM on the development of the SS3 model.
- f) Review Pacific saury bycatch information from Members.

#### *14.4 Invited expert*

- 74. The SSC PS recommended to continue to hire an invited expert to support the work of the SSC PS and SWG NSAM by conducting the tasks described in Annex G.

#### *14.5 Selection of Chair and vice-Chair for SSC PS*

- 75. The SSC PS re-elected Dr. Toshihide Kitakado (Japan) to serve as its Chair.
- 76. The SSC PS re-elected Dr. Libin Dai (China) to serve as its vice-Chair.

#### *14.6 Other*

- 77. No other matters were discussed.

### **Agenda Item 15. Consolidated recommendations to the Scientific Committee**

- 78. The SSC PS recommended that the SC:
  - a) Consider the stock assessment report, while noting that one Member did not endorse the stock assessment results (Annex D).
  - b) Endorse the SSC PS Work Plan (NPFC-2025-SSC PS16-WP01 (Rev. 1)).
  - c) Allocate funds for an invited expert to support the work of the SSC PS and SWG NSAM by conducting the tasks described in Annex G.
  - d) Adopt the updated species summary of Pacific saury (Annex F).

### **Agenda Item 16. Adoption of Meeting Report**

- 79. The report was adopted by consensus.

### **Agenda Item 17. Close of the Meeting**

- 80. The Chair thanked the participants for their contributions, the invited expert for his support, Japan for hosting the meeting, and the Secretariat and rapporteur for their assistance.
- 81. The meeting closed at 13:00 on 14 December 2025, Nagoya time.

**Annexes:**

Annex A – Agenda

Annex B – List of Documents

Annex C – List of Participants

Annex D – Stock assessment report for Pacific saury

Annex E – Summary of SS3 specification for models presented at SSC PS 16, and future modeling plans

Annex F – Species summary of Pacific saury

Annex G – Tasks for an invited expert to support the work of the SSC PS and SWG NSAM

Please refer to the NPFC website for the complete annexes.

# 10<sup>th</sup> Scientific Committee Meeting

16–19 December 2025

Nagoya, Japan (Hybrid)

Meeting Report



## **Agenda**

### **Agenda Item 1. Opening of the Meeting**

- 1.1 Welcome address and introductions
- 1.2 Appointment of rapporteur
- 1.3 Meeting arrangements

### **Agenda Item 2. Adoption of agenda**

### **Agenda Item 3. Provision of advice to the Commission**

- 3.1 Structure and content of the SC reports
  - 3.1.1 Summary of stock assessments
  - 3.1.2 Species status templates
  - 3.1.3 Species summary documents
- 3.2 SC workflow and meetings
  - 3.2.1 Review of SC workflow
  - 3.2.2 Meeting schedule for SC and its subsidiary groups
  - 3.2.3 Review of guidelines for SC SWGs
- 3.3 Standards of ‘best available science’ (PR Recommendation 3.4.1)
- 3.4 Frequency of benchmark and annual stock assessments
- 3.5 Fisheries-dependent and fisheries-independent indicators of trend for stocks without NPFC stock assessments
- 3.6 Process for selection of external experts and contract renewal
- 3.7 Independent reviews of scientific advice (PR Recommendation 3.4.2.)
- 3.8 Advice on science-based management options for operationalizing the precautionary approach (PR Recommendation 4.1.2)
  - 3.8.1 Summary of NPFC workshop on “Science-based management options available for operationalizing the precautionary approach as outlined in the Convention for NPFC priority species”
  - 3.8.2 Science-based management options for NPFC

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

- 4.1 Technical Working Group on Chub Mackerel Stock Assessment
  - 4.1.1 Summary of TWG CMSA activities, tasks, and recommendations
  - 4.1.2 Summary of CM stock assessment
- 4.2 Small Scientific Committee on Bottom Fish and Marine Ecosystems

- 4.2.1 Summary of SSC BF-ME activities, tasks, and recommendations
- 4.2.2 Summary of stock assessments for bottom fish
- 4.3 Small Scientific Committee on Neon Flying Squid
  - 4.3.1 Summary of SSC NFS activities, tasks, and recommendations
  - 4.3.2 Summary of NFS stock assessment
- 4.4 Small Scientific Committee on Pacific Saury
  - 4.4.1 Summary of SSC PS activities, tasks, and recommendations
  - 4.4.2 Summary of PS stock assessment

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

Agenda Item 6. Summary of progress on the remaining three priority species

- 6.1 Blue mackerel (BM)
  - 6.1.1 Review of tasks and recommendations
  - 6.1.2 Observation of domestic stock assessment
  - 6.1.3 Review of species summary
- 6.2 Japanese flying squid (JFS)
  - 6.2.1 Review of tasks and recommendations
  - 6.2.2 Observation of domestic stock assessment
  - 6.2.3 Review of species summary
- 6.3 Japanese sardine (JS)
  - 6.3.1 Review of tasks and recommendations
  - 6.3.2 Observation of domestic stock assessment
  - 6.3.3 Review of species summary
  - 6.3.4 Potential establishment of a new formal SC subsidiary body to focus on collaborative NPFC stock assessment of JS
  - 6.3.5 Draft Terms of Reference for a Small Scientific Committee on Japanese Sardine
- 6.4 Review of tasks for SWG JFS, SWG BM, and SWG JS (or SSC JS)

Agenda Item 7. Climate change effects on NPFC's priority species and associated ecosystems

- 7.1 Tools for incorporating climate change considerations into scientific advice
- 7.2 Current knowledge
- 7.3 Ongoing research activities
  - 7.3.1 PICES' Basin-scale Events to Coastal Impacts (BECI) project
- 7.4 Detailed work plan to produce climate-resilient scientific advice
- 7.5 Research priorities and potential scientific projects

Agenda Item 8. Data Collection and Management

## 8.1 Data Management System

### 8.1.1 Update for NPFC

### 8.1.2 Data inventory update

### 8.1.3 Data submission deadlines for stock assessment analyses

### 8.1.4 SWG Data

#### 8.1.4.1 Establishment of a new database to manage and archive scientific data

#### 8.1.4.2 Review of the proposed CMM on Minimum Standards for NPFC Data

#### 8.1.4.3 Potential renewal of term for SWG Data

## 8.2 NPFC Data Sharing and Data Security Protocol

### 8.2.1 Revision of Regulations for Management of Scientific Data and Information

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

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

## Agenda Item 9. Potential roles of a regional observer program

### 9.1 Scientific objectives of an observer program

### 9.2 Review and revision of SC responses to five TCC questions

### 9.3 Tool for observers/fishers to distinguish between CM and BM

### 9.4 Future intersessional work of SWG Observer Program (SWG OP)

## Agenda Item 10. Scientific projects for 2026 and 2027

### 10.1 Ongoing/planned projects

### 10.2 New projects

#### 10.2.1 Potential project(s) for NPFC priority species

#### 10.2.2 Independent review of stock assessments

#### 10.2.3 Other potential projects – capacity building, cooperation with other organizations

### 10.3 Review, prioritization and funding of projects

## Agenda Item 11. Cooperation with other organizations

### 11.1 Reports on the joint NPFC-PICES activities since the SC09 meeting, including a report from the PICES Secretariat

### 11.2 SC representation at scientific meetings

#### 11.2.1 Yang Zi SC representation at PICES 2025

#### 11.2.2 Chris Rooper representation at PICES 2025

### 11.3 Report on cooperation between NPFC and NPAFC

### 11.4 FAO ABNJ Deep-sea fisheries project

#### 11.4.1 Report from the NPFC Representative at the FAO Workshop on Cross-Sectoral Interactions with Deep-Sea Fisheries

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

11.6 Partnership with WCPFC, SPRFMO and ISC

11.7 Cooperation with other organizations

Agenda Item 12. SC Terms of Reference (TOR) and 2025-2029 Research Plan and Work Plan

12.1 Review of the Scientific Committee TOR

12.2 Five-year Research Plan

12.3 Five-year Work Plan

12.4 Progress on addressing NPFC PR recommendations for SC

Agenda Item 13. Other matters

13.1 Coordination between SC and TCC

13.2 Other issues

Agenda Item 14. Advice and recommendations to the Commission

Agenda Item 15. Next meetings of SC and its subsidiary bodies

15.1 Meeting schedule for 2026/2027

15.2 Meeting format and location

Agenda Item 16. Selection of SC chairs, vice-chairs and leads

16.1 SC Chair and SC Vice-Chair

16.2 Chairs, Vice-Chairs, and leads of SC subsidiary bodies

Agenda Item 17. Press release

Agenda Item 18. Adoption of the Report

Agenda Item 19. Close of the Meeting

## MEETING REPORT

### Agenda Item 1. Opening of the Meeting

#### *1.1 Welcome address and introductions*

1. The 10<sup>th</sup> Meeting of the Scientific Committee (SC) was held in a hybrid format, with participants attending in-person in Nagoya, Japan, or online via WebEx, on 16–19 December 2025. The meeting was attended by Members from Canada, China, the European Union (EU), Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, the United States of America, and the Republic of Vanuatu. The Deep Sea Conservation Coalition (DSCC), the United Nations Food and Agriculture Organization (FAO), the Marine Stewardship Council, the North Pacific Anadromous Fish Commission (NPAFC), the Ocean Governance Institute, the Pew Charitable Trusts (Pew), the North Pacific Marine Science Organization (PICES), and the World Wide Fund for Nature (WWF) attended as observers.
2. The meeting was opened by Dr. Janelle Curtis (Canada), who served as the SC Chair. She reflected on her time as the SC Chair and the nature of the collaboration and partnership at the SC. She expressed her special thanks to the Chairs of the SC's subsidiary bodies and members of the Secretariat for their support and expressed her appreciation to Members and observers for their contributions. The Chair emphasized that science forms the basis of sound fisheries management and expressed her confidence that the SC and its subsidiary bodies will continue to make progress towards the NPFC's objective of ensuring the long-term conservation and sustainable use of fisheries resources in the Convention Area.
3. Dr. Hiroshi Nishida, Director General of the Fisheries Resources Institute, Japan Fisheries Research and Education Agency, welcomed the participants to Nagoya and expressed his appreciation to the SC Chair and the Secretariat for organizing the meeting. He noted that the meeting would provide an invaluable opportunity for participants to share their visions for promoting the optimal utilization and long-term sustainability of resources in the Convention Area by engaging in forward-looking discussions and sharing their expertise, particularly in light of the changing marine environment in the Pacific Ocean in recent years. Lastly, Dr. Nishida expressed his hope for fruitful discussions and wished the participants a memorable stay in Nagoya.

### *1.2 Appointment of Rapporteur*

4. Mr. Alex Meyer was selected as rapporteur.

### *1.3 Meeting arrangements*

5. The Science Manager, Dr. Aleksandr Zavolokin, outlined the meeting procedures and logistics.

### *Agenda Item 2. Adoption of Agenda*

6. The SC agreed to add two agenda items: “6.3.5 Draft Terms of Reference for a Small Scientific Committee on Japanese Sardine” and “6.4 Review of tasks for SWG JFS, SWG BM, and SWG JS (or SSC JS).”
7. The agenda was adopted as revised (Annex A). The List of Documents and List of Participants are attached (Annexes B, C).

### *Agenda Item 3. Provision of advice to the Commission*

#### *3.1 Structure and content of the SC reports*

8. The SC discussed ways in which to improve the structure and content of the SC reports so as to provide clearer advice from the SC to the Commission.
9. The SC noted that in the past, recommendations from the SC’s subsidiary bodies have been described twice in SC reports, with the SC endorsing each recommendation from these bodies individually and then repeating them in its own recommendations to the Commission. The SC agreed to simplify this by endorsing each subsidiary body’s meeting report as a whole and then to only describe a combination of the SC’s recommendations and those of the subsidiary bodies to the Commission once in the SC report.
10. The SC agreed to add a table of activities and timeline to meeting reports of SC subsidiary bodies to more clearly convey the subsidiary body’s progress and planned work. The SC also requested the Secretariat to make these tables of activities and timelines available on the NPFC website.
11. The SC also discussed the presentation of summaries of stock assessments, the development of species status templates, and the treatment of species summary documents in agenda items 3.1.1–3.1.3 below.

#### *3.1.1 Summary of stock assessments*

12. The SC agreed that SC reports should have independent sections for summarizing SC subsidiary bodies’ stock assessments, separate from the sections summarizing SC subsidiary bodies’ other activities. The SC agreed that for species for which an NPFC stock assessment

has yet to be conducted, this section would summarize activities that could eventually contribute to conducting a stock assessment.

### *3.1.2 Species status templates*

13. The Chair recalled that the Commission has requested that the SC consider standardizing how stock status is presented across species to enhance consistencies as much as possible.
14. Canada presented a proposal for developing a standardized template for presenting species statuses. The goals of the template would be to convey necessary information on stock status for priority species to the Commission via the SC report in an efficient manner, while still containing the key basic information. The template should also be able to convey information on priority species without an assessment. Consideration should be given to making it easy to update the document, for example with code for automation.
15. The SC agreed that it would be valuable to work towards standardizing the way in which stock status information is presented, while recognizing the need to maintain a degree of flexibility across species.
16. The SC considered examples from other organizations. Some Members expressed initial support for developing a modified version of the International Council for the Exploration of the Sea (ICES) stock assessment executive summary. The usefulness of the stock status table presented at the start of the Indian Ocean Tuna Commission's (IOTC's) stock status executive summaries was also noted.
17. The SC agreed to reinstate the Small Working Group (SWG) Milestones, to select Dr. Chris Rooper (Canada) as its Lead, and to request the SWG Milestones Lead to progress the work to develop a standardized template for presenting species status in coordination with the Chairs of the SC and its subsidiary bodies.
18. The SC agreed that in the interim, the SC Chair could work with the Chairs and Leads of the SC subsidiary bodies to develop simple status summary PowerPoint slides for presentation to the Commission and the SC Chair requested that drafts be submitted to her by 15 February 2026.

### *3.1.3 Species summary documents*

19. The SC noted that if the SC develops a species status template, there would be some overlap between information in the species status document and the species summary document for species with an NPFC stock assessment. The SC noted that the species status document could potentially replace the species summary document. The SC noted, however, that species

summary documents also contain biological and fisheries information that would not be contained in the species status document. The SC noted that unlike stock status information, biological and fisheries information is not regularly updated and could perhaps be given dedicated pages on the NPFC website. The species summary document or species status document could then simply contain a link to the relevant page on the NPFC website.

20. The Deep-sea Fisheries (DSF) Project (FAO) pointed out that species summary documents are also of interest to the public and encouraged the NPFC to use language that is accessible not only to scientists and managers but also the general public.

### *3.2 SC workflow and meetings*

#### *3.2.1 Review of SC workflow*

21. The Science Manager presented a review of the SC structure and workflow that have been developed over the past ten years, including potential issues and proposals for improvement (NPFC-2025-SC10-WP07 (Rev. 1)). The substantial increase of the SC workload and growing budgetary pressure, including the number of meetings, projects and additional tasks/requests from the Commission, may require further revision of the SC procedures and workflow.
22. The SC reviewed and revised the proposed amendment to the SC structure and workflow (Annex D).
23. The SC agreed to task the SWG Milestones to discuss the future structure of SC subsidiary groups around stock assessment and report progress in a working paper to SC11.

#### *3.2.2 Meeting schedule for SC and its subsidiary groups*

24. The Science Manager presented draft options for the meeting schedule for the SC and its subsidiary groups in the 2026 operational year (NPFC-2025-SC10-WP01 (Rev. 2)).
25. The SC reviewed and revised the draft options and recommended that the Commission endorse the meeting schedule described in Annex E.

#### *3.2.3 Review of guidelines for SC SWGs*

26. The Chair presented proposed revisions to the Guidelines for the SC's SWGs (NPFC-2025-SC10-WP08).
27. The SC reviewed the proposal and made further revisions (NPFC-2025-SC10-WP08 (Rev. 1)). The SC adopted the revised Guidelines for the SC's SWGs (Annex F).

### *3.3 Standards of 'best available science' (PR Recommendation 3.4.1)*

28. China presented a proposal for the adoption of an NPFC Resolution on the Best Available Science (NPFC-2025-SC10-WP16).
29. The SC expressed its appreciation to China for preparing the proposal and offered initial feedback. The SC encouraged Members to share any additional feedback they have with China in the intersessional period and encouraged China to present an updated proposal to the Commission.
30. The DSCC and Pew thanked China for its proposal and drew the SC's attention to discussions at the 18<sup>th</sup> session of the Informal Consultations of States Parties of the United Nations Fish Stocks Agreement (UNFSA), which highlighted that peer-reviewed science can complement regional fisheries management organization (RFMO) scientific processes by enhancing transparency, credibility, and accessibility of scientific information. Furthermore, its value extends beyond traditional stock assessments and can cost-effectively support understanding of broader ecosystem considerations. It can also contribute to frameworks and methodologies to identify vulnerable marine ecosystems and prevent significant adverse impacts.

#### *3.4 Frequency of benchmark and annual stock assessments*

31. The SC considered the frequency of benchmark and data update stock assessments for priority species.
32. For Pacific saury, the SC recommended that the data update stock assessment be conducted annually because of their short lifespan. Regarding the frequency of benchmark stock assessments, the SC recommended that this be determined at a future date as the work to develop a new age-structured model is still ongoing.
33. For chub mackerel, the SC recommended that the benchmark stock assessment be conducted every 3 years, again because of its relatively short lifespan, with the next benchmark stock assessment to be conducted in 2028, and that the data update stock assessment be conducted annually.
34. For neon flying squid (NFS), the SC recommended that the benchmark stock assessment be conducted every 3–5 years and that the data update stock assessment be conducted annually.
35. The SC recommended that in general, benchmark stock assessments should be conducted every 3–5 years and that the data update stock assessments should be conducted annually.

#### *3.5 Fisheries-dependent and fisheries-independent indicators of trend for stocks without NPFC stock assessments*

36. The SC discussed fisheries-dependent and fisheries-independent indicators of trend for stocks without NPFC stock assessments.
37. The SC recommended the following indicators of trend for North Pacific armorhead (NPA):
- (a) Fisheries-dependent indicators:
    - i. Catch
    - ii. Depletion analysis estimates
  - (b) Fisheries-independent indicators:
    - i. Monitoring survey catch per unit effort (CPUE)
    - ii. Monitoring survey fatness index
38. The SC recommended the following indicators of trend for splendid alfonsino (SA):
- (a) Fisheries-dependent indicators:
    - i. Trawl and gillnet CPUE (standardization in progress)
39. The SC recommended the following indicators of trend for NFS:
- (a) Fisheries-dependent indicators:
    - i. Standardized CPUE
    - ii. Mean size at catch
    - iii. Total catch
  - (b) Fisheries-independent indicators:
    - i. Abundance index
    - ii. Size composition
    - iii. Driftnet survey during summer
40. The SC recommended the following indicators of trend for Japanese flying squid (JFS):
- (a) Fisheries-dependent indicators:
    - i. Standardized CPUE from the coastal squid jigging fisheries (Jul-Dec)
41. The SC recommended the following indicators of trend for blue mackerel (BM):
- (a) Fisheries-dependent indicators:
    - i. Standardized CPUE from Stick-held dip net in Shizuoka prefecture
    - ii. Total catch
    - iii. Nominal CPUE
  - (b) Fisheries-independent indicators:
    - i. Egg abundance in East of Miyazaki prefecture
42. The SC recommended the following indicators of trend for Japanese sardine (JS):
- (a) Fisheries-independent indicators:

- i. Egg abundance in East Japan
- ii. Acoustic survey in autumn (Sep-Oct) (abundance of age 0 fish)
- iii. Trawling survey in summer (Jun-Jul) (abundance of age 0 fish)
- iv. Trawling survey in summer (Jun-Jul) (abundance of age 1 fish)
- v. Standardized CPUE from China's summer survey

43. The SC recommended the following indicators of trend for sablefish:

- (a) Fisheries-dependent indicators:
  - i. CPUE from longline traps

### *3.6 Process for selection of external experts and contract renewal*

- 44. The Chair presented a proposed policy for the selection and extension of invited experts for supporting the SC and its subsidiary bodies (NPFC-2025-SC10-WP05 (Rev. 1)).
- 45. The SC reviewed and revised the proposal (NPFC-2025-SC10-WP05 (Rev. 2)). The SC adopted the policy for the selection and extension of invited experts for supporting the Scientific Committee and its expert groups (Annex G).

### *3.7 Independent reviews of scientific advice (PR Recommendation 3.4.2.)*

- 46. China presented a proposal to establish a formal peer-review process for stock assessments (NPFC-2025-SC10-WP17) and a proposed Terms of Reference (TOR) for the external peer review process (NPFC-2025-SC10-WP18). Noting the request from the Commission to explore the potential benefits of a peer review system and the high-priority recommendation from the 2022 Performance Review Panel to establish a peer review process, China urged the SC to initiate such a process.
- 47. The SC thanked China for the proposal and expressed general support for moving towards the establishment of a formal peer-review process for stock assessments.
- 48. The SC requested China to work intersessionally with other interested Members through the SWG Milestones to develop the proposal further with a detailed description of the proposed process for NPFC, and the potential cost implications, and to present an updated proposal to SC11.
- 49. The SC requested the EU to work intersessionally with other interested Members through the SWG Milestones to conduct a review of best practices from other organizations for implementing peer-reviews for stock assessments to support the development of the NPFC's own peer-review process.

50. The SC also tasked coordination of external peer-reviews to its subsidiary bodies, noting the limited capacity within the Secretariat to coordinate an external review process.

### *3.8 Advice on science-based management options for operationalizing the precautionary approach (PR Recommendation 4.1.2)*

#### *3.8.1 Summary of NPFC workshop on “Science-based management options available for operationalizing the precautionary approach as outlined in the Convention for NPFC priority species”*

51. The Chair presented a brief summary of the NPFC workshop on *Science-based management options available for operationalizing the precautionary approach as outlined in the Convention for NPFC priority species* (NPFC-2025-SC10-RP04).

#### *3.8.2 Science-based management options for NPFC*

52. The SC Vice-Chair, Dr. Jie Cao (China), led the discussion on science-based management options for NPFC.
53. For operationalizing the precautionary approach (PA) where stock assessments are not available according to the NPFC Performance Review, the SC reminds the Commission that it can take action according to the best available science (for example, using catch and effort data, peer-reviewed literature or domestic stock assessments).
54. The SC recommends that as a longer-term goal, the Commission should develop a general framework for the application of the PA. The SC recommends that this work be conducted by a small working group established under the Commission. The SC recommends that this small working group be composed of managers and scientists and that it be led by managers.
55. The EU highlighted the need to develop a general framework for the application of the PA as promptly as possible in light of the condition of several NPFC priority stocks.
56. The SC agreed, as an interim measure, to task its subsidiary bodies that do not have stock assessments in place to provide science-based options for operationalizing the PA. The SC agreed that subsidiary bodies could provide multiple options and that these do not necessarily need to be consensus options, but they should be accompanied by clear descriptions of the scientific rationale to facilitate the Commission’s decision-making. The SC agreed to review these options and present them to the Commission.
57. Pew expressed its support for the NPFC’s ongoing management strategy evaluation (MSE) efforts, noting that MSE is designed to work under uncertainty, especially in circumstances where stock assessments are uncertain or unreliable. Pew suggested that the NPFC consider

engaging in broader coordination for applying the PA, including MSE, across species and provide funding for that work.

58. WWF suggested that for stocks that are in decline, in the absence of an agreed stock assessment, the PA calls for the implementation of measures based on the best available science to avoid the collapse of the stock.
59. The DSCC pointed out that the PA applies not only to fish stocks but also to the protection of vulnerable marine ecosystems (VMEs). The DSCC pointed out that there are published scientific papers indicating that significant adverse impacts have occurred and are likely to continue to occur on VMEs in the Convention Area.

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

*4.1 Technical Working Group on Chub Mackerel Stock Assessment*

*4.1.1 Summary of TWG CMSA activities, tasks, and recommendations*

60. The TWG CMSA Chair, Dr. Kazuhiro Oshima (Japan), summarized the outcomes and recommendations of the 10<sup>th</sup> and 11<sup>th</sup> TWG CMSA meetings (NPFC-2025-TWG CMSA10-Final Report & NPFC-2025-TWG CMSA11-Final Report).
61. The SC endorsed the reports of the 10<sup>th</sup> and 11<sup>th</sup> TWG CMSA meetings.
62. The TWG CMSA Chair presented a summary of the TWG CMSA's responses to the taskings from the 9<sup>th</sup> Commission Meeting (NPFC-2025-SC10-WP22 (Rev. 2)). The tasks are 1. Provision and analysis of gear specific data to explore whether there is a need to protect the immature portion of the stock and advice on options for achieving that, as appropriate, 2. Clarification of the correspondence of fishing days and the level of catch in relevant fleets, such as the purse seine fleet, and 3. Based on the next stock assessment, provide projections and associated probabilities, based on constant catch scenarios (e.g. increments of 5000 MT) or constant F scenarios, aiming at reaching an appropriate MSY proxy (SSB and F) within 5 to 10 years (with a probability higher than 50%).
  - (a) For Task 1, the TWG CMSA examined various model outputs available from the SAM assessment model in an attempt to address the issue of whether more protections were needed for the immature portions of the stock. However, after extensive discussion and preliminary analyses, it was determined that none of the model outputs were alone sufficient to address this issue. In order to respond to this Task thoroughly, the TWG CMSA needs gear specific catch-at-age / catch-at-length data by all Members, which is currently not submitted through the data submission requirement. Should the Commission

wish this Task to be completed, the TWG CMSA and SC recommend that the Commission require the Members to submit such data including accessory devices used for fishing purposes for both the Convention Area and exclusive economic zones (EEZs).

- (b) For Task 2, as a first step, the TWG CMSA prepared a description of how each Member defines and calculates “fishing day” and presented this information to SC10, and, in the longer-term, agreed to work towards a common methodology for defining and calculating “fishing day.”
- (c) For Task 3, the TWG CMSA has addressed this through the future projections as part of the 2025 chub mackerel stock assessment. For the projections and associated probabilities, based on constant catch scenarios, the TWG CMSA considered the appropriate increment levels and agreed to use increments of 10,000 MT.

#### *4.1.2 Summary of CM stock assessment*

- 63. The TWG CMSA Chair presented the chub mackerel stock assessment report (NPFC-2025-SC10-WP10).
- 64. The TWG CMSA Chair explained that when Japan conducted its domestic stock assessment meeting for chub mackerel, it identified a calculation error in the input catch-at-age data used for the 2025 domestic stock assessment. Unfortunately, the same error was also included in the input data for the 2025 NPFC chub mackerel stock assessment. The input data for Japan’s 2025 domestic stock assessment were constructed based on the data used for the NPFC stock assessment this year. Japan conducted the necessary data corrections and re-ran the SAM using the revised data. The updated results indicate that although the catch-at-age data for the 2014–2017 fishing years were substantially revised, the estimated biomass, spawning stock biomass (SSB), and recruitment did not change substantially. This correction does not affect the management-related reference points or the overall conclusions of the 2025 stock assessment.
- 65. The SC reviewed and endorsed the chub mackerel stock assessment report (Annex H).
- 66. The SC noted that given the uncertainty in biological parameters in future, which has a large impact on the projection results, it is not appropriate to provide long-term harvesting recommendations at this time. However, in response to the request from COM09, 10 year projection was undertaken to assess the effects of varying catch and F levels based on the most recent eight years’ biological data (Figures E-10 and E-11, Tables E-2 to E-5, Annex H). Projections indicate that current fishing mortality is unsustainable, and probabilities of achieving various reference levels under catch-constant as well as F-constant scenarios are provided in Tables E-2 and E-3 of Annex H. It is recommended to reduce fishing mortality to recover SSB to the reference levels.

67. The SC noted that the TWG CMSA recommended 50<sup>th</sup> percentile of the estimated historical SSB (1970–2023) and 70<sup>th</sup> percentile of the estimated historical SSB (1970–2023) as reference levels and the 25<sup>th</sup> percentile of estimated historical SSB as a limit reference point. The SC recommended that in light of uncertainties around the biological parameters, these reference levels and limit reference point should be treated as interim. The SC noted that Members have differing views on which of the reference levels should be treated as the target.
68. The SC noted that effort is currently not comparable among Members fishing for chub mackerel, as each Member defines “fishing days” differently and Japan has shared data for its purse seine fishery, which is its main fishery, and its bottom trawl fishery. The SC noted Japan’s explanation that its other chub mackerel fisheries operate in its EEZ, that many of these fisheries are artisanal and multi-species in nature, and that it would be very difficult to develop a meaningful indicator of chub mackerel effort for the NPFC from these fisheries. The SC tasked the TWG CMSA to hold further discussions on how best to measure and compare chub mackerel fishing effort among Members.

#### *4.2 Small Scientific Committee on Bottom Fish and Marine Ecosystems*

##### *4.2.1 Summary of SSC BF-ME activities, tasks, and recommendations*

69. The Chair of the SSC on Bottom Fish and Marine Ecosystems (SSC BF-ME), Dr. Chris Rooper (Canada), summarized the outcomes and recommendations of the 6<sup>th</sup> SSC BF-ME meeting (NPFC-2025-SSC BFME06-Final Report).
70. The SC endorsed the report of the 6<sup>th</sup> SSC BF-ME meeting.

##### *4.2.2 Summary of stock assessments for bottom fish*

71. For NPA, the SC noted that no strong recruitment has been detected in recent years (since 2013), stock status remains low, and harvest rate is likely to be high. Potential caveats include the possible effect of a target shift, uncertainty in the estimation of the recruitment season, estimates of harvest rate (>1) in some years and seamounts, and potential bias caused by the removal of zero-catch operations. The SSC BF-ME recommended to keep monitoring possible recruitment events and avoid high harvest rates for recruited fish as specified in CMM 2025-05. Furthermore, since recruitment has been weak, the SSC BF-ME recommended reducing the harvest rates as much as possible. The SSC BF-ME also recognized the effort of Japanese fishers to avoid harvest of NPA since 2019.
72. For SA, the SC noted that there has been no new stock status advice, that there is a high likelihood that growth overfishing is occurring (harvest before the size that maximizes yield-per-recruit (YPR)), and that SA are being captured before they are mature, likely reducing the

spawning potential. A potential caveat is that the trawl fishery has dome shaped selectivity, which may make the analyses pessimistic about the status of the stock. The SC noted that the SSC BF-ME is aiming to conduct a preliminary stock assessment of SA in 2026.

73. For sablefish, the SC noted that domestic stock assessments conducted in three regions (Alaska, Canada, and US West Coast) all indicate that the sablefish stock is healthy and not subject to overfishing. The SC noted that Canada has not fished for sablefish since 2020 as the fishery has not been economically profitable, and that there will likely be some fishing in 2026.
74. For skilfish, the SC noted that there are currently no assessments available and that conducting an assessment for this species is a low priority as fishing is not consistent and data are limited.
75. The DSCC and Pew urged the SC to recommend the suspension of the NPA and SA fisheries until formal stock assessments are completed, a recovery plan is established, the stocks are firmly on the path to being rebuilt, and comprehensive impact assessments consistent with United Nations General Assembly (UNGA) resolutions and relevant provisions of international law have been conducted and confirm that continuous bottom fishing on the Emperor Seamount Chain is not causing significant adverse impacts to VMEs.

#### *4.3 Small Scientific Committee on Neon Flying Squid*

##### *4.3.1 Summary of SSC NFS activities, tasks, and recommendations*

76. The Chair of the SSC on Neon Flying Squid (SSC NFS), Dr. Luoliang Xu (China), summarized the outcomes and recommendations of the 2<sup>nd</sup> SSC NFS meeting (NPFC-2025-SSC NFS02-Final Report).
77. The SC endorsed the report of the 2<sup>nd</sup> SSC NFS meeting.

##### *4.3.2 Summary of NFS stock assessment*

78. The SC noted that China and Japan have conducted preliminary stock assessments of NFS using Just Another Bayesian Biomass Assessment (JABBA) and the stochastic surplus production model in continuous time (SPiCT), respectively. The SC noted that the SSC NFS intends to conduct a preliminary stock assessment of NFS using Members' standardized CPUEs in 2026.

#### *4.4 Small Scientific Committee on Pacific Saury*

##### *4.4.1 Summary of SSC PS activities, tasks, and recommendations*

79. The Chair of the SSC on Pacific Saury (SSC PS), Dr. Toshihide Kitakado (Japan), summarized the outcomes and recommendations of the 15<sup>th</sup> and 16<sup>th</sup> SSC PS meetings (NPFC-2025-SSC

PS15-Final Report, NPFC-2025-SSC PS16-Final Report).

80. The SC endorsed the reports of the 15<sup>th</sup> and 16<sup>th</sup> SSC PS meetings.

#### *4.4.2 Summary of PS stock assessment*

81. The SC noted that the SSC PS reviewed the stock assessments conducted by Members and could not reach consensus on the treatment of the results.
82. The SC noted that China expressed concerns that the current Bayesian State-Space Production Model (BSSPM) used for the Pacific saury stock assessment exhibits instability and considerable uncertainty in key parameter estimates and that it does not adequately capture non-stationary population dynamics. China noted that an increasing body of scientific evidence indicates that key biological processes of Pacific saury, including growth, survival, and maturation, are closely linked to environmental variability. China is therefore concerned that the assumption of stationary stock productivity is not appropriate for this small pelagic species and is inconsistent with current scientific understanding. In light of these concerns, China considers that the model specification should be improved by incorporating non-stationary formulations for key population parameters, such as the intrinsic growth rate ( $r$ ) and carrying capacity ( $K$ ), and that the assumption of hyperstability should be further evaluated.
83. The SC noted that China also expressed concern regarding the scaling uncertainty in the current BSSPM stock assessments for Pacific saury. China noted that the scales of some key assessment outputs such as estimated biomass, biological reference points, and stock status fluctuate across assessment years as newly updated input data are incorporated into the model. Such instability hampers the ability to consistently evaluate management effectiveness and obscures a clear understanding of the true stock status. China noted that until these concerns and limitations are adequately addressed, and to minimize the risk of inappropriate management decisions, China considers that the current assessment results are not sufficiently robust to serve as the basis for developing management advice.
84. The SC noted that other Members noted China's reservations and recognized that there continue to be some uncertainties in the stock assessment. However, they considered the stock assessment to be the best scientific information available and believed it would be appropriate to aggregate the results, recognizing the agreement in trends among them. They also noted that, even though Pacific saury stock has been recovering in recent years, the stock has yet to reach past abundance levels and a precautionary approach as incorporated in the interim harvest control rule (HCR) is warranted given the uncertainty of the stock assessment.
85. The SC noted that to provide the calculations requested by CMM 2025-08 For Pacific Saury,

input values from Japan and Chinese Taipei's stock assessments were used rather than assessment results from all contributing SSC PS Members.

86. The SC noted that the interim HCR for Pacific saury under CMM 2025-08 was used to calculate the annual catch level in the 2026 fishing year, while noting the lack of endorsement from China. Based on assessment inputs from Japan and Chinese Taipei, the unconstrained annual catch level for 2026 =  $(B_{2025} * F_{MSY} * (B_{2025} / B_{MSY})) = 91,180$  MT. Based on the adopted HCR, the constrained 2026 catch level would be  $0.9 \times 202,500 = 182,250$  MT.
87. The SC noted that in the SSC PS16 report, Chinese Taipei stated that based on thorough comparisons of recent stock assessment results across years and alternative model scenarios, contributing Members' assessments indicate substantial uncertainties in the estimation of key stock status indicators, including biomass, fishing mortality, and reference points  $F_{MSY}$  and  $B_{MSY}$ . In this regard, the estimated annual catch level derived from the interim HCR is subject to considerable uncertainty and potential error. While the HCR provides a consistent framework for translating stock status into management advice, the resulting calculated annual catch level should be interpreted with caution.
88. The SC discussed future work on the Pacific saury stock assessment. The SC noted that the SSC PS should continue working both to improve the BSSPM and to develop new age-structured models, but noted that a new age-structured model would not be guaranteed to perform perfectly. It should be noted that the age-structure models can be used in the future as a basis for operating models in the MSE framework. In addition, a simpler assessment model such as the BSSPM might be used as an internal assessment method when developing model-based management procedures, as has been used in other RFMOs.
89. The WWF expressed appreciation for the hard work of the SSC PS but expressed deep concern about the future of the Pacific saury stock as the SSC PS could not reach consensus on a Pacific saury stock assessment. The WWF stated that, generally, when the uncertainty is high, it is necessary to reduce total allowable catch (TAC) in accordance with the precautionary principle. The WWF noted that the current HCR requires a 10% reduction in TAC, but suggested that the SC recommend a TAC reduction of greater than 10% and that, if possible, the SSC PS should hold additional meetings to reach consensus on stock assessment results next year.

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

90. The co-Chair of the joint SC-TCC-COM Small Working Group on Management Strategy Evaluation for Pacific saury (SWG MSE PS), Dr. Toshihide Kitakado (Japan), informed

participants about progress of the SWG MSE PS including the outcomes and recommendations of its 6<sup>th</sup> meeting (NPFC-2025-SWG MSE PS06-Final Report).

Agenda Item 6. Summary of progress on the remaining three priority species

91. The Leads of the Small Working Groups (SWGs) on Japanese sardine (JS), Japanese flying squid (JFS), and blue mackerel (BM) reported on the SWGs' intersessional activities, including the relevant outcomes of the 1<sup>st</sup> and 2<sup>nd</sup> joint virtual meetings of these SWGs in 2025, in the respective sections below (6.1–6.3). Detailed summaries of the joint SWG meetings are available in NPFC-2025-SC10-RP01 (1<sup>st</sup> meeting) and NPFC-2025-SC10-RP02 (2<sup>nd</sup> meeting).

6.1 *Blue mackerel (BM)*

6.1.1 *Review of tasks and recommendations*

92. The SWG BM Lead, Dr. Kazunari Higashiguchi (Japan), reported on the SWG BM's intersessional activities (NPFC-2025-SC10-IP05). The SWG BM has met twice intersessionally (as part of the joint meetings of the SWGs on JFS, JS, and BM). It updated Members' estimated catch and effort, updated BM length-weight relationship and catch-at-length data, updated the ratio of BM in the total mackerel catch by China and Japan, reviewed China's fishery data and research activities, and updated the species summary.

6.1.2 *Observation of domestic stock assessment*

93. Japan presented its 2023 domestic stock assessment of BM (NPFC-2025-SC10-IP06). The assessment is conducted using tuned Virtual Population Analysis (VPA) with two abundance indices. The MSY-based reference points were estimated from the stochastic simulation from the Ricker stock-recruitment relationship. Total biomass and SSB have been decreasing since the 2010s. Fishing mortality and exploitation rate are decreasing. SSB was lower than SSB<sub>MSY</sub> and F was lower than F<sub>MSY</sub> in 2023.

94. Japan informed the SC that its 2024 domestic stock assessment of BM is currently being finalized.

6.1.3 *Review of species summary*

95. The SC reviewed the updated species summary document for BM (NPFC-2025-SC10-WP21). The SC endorsed the updated species summary document for BM (<https://www.npfc.int/species-summaries>).

6.2 *Japanese flying squid (JFS)*

6.2.1 *Review of tasks and recommendations*

96. The SWG JFS Lead, Dr. Hajime Matsui (Japan), reported on the SWG JFS' intersessional activities (NPFC-2025-SC10-IP04). The SWG JFS has met twice intersessionally (as part of

the joint meetings of the SWGs on JFS, JS, and BM). It updated Members' catch and effort data; evaluated the influence of environmental variables on the life history, biology, and population dynamics of JFS; and updated the species summary.

#### *6.2.2 Observation of domestic stock assessment*

97. Japan presented its 2024 domestic stock assessment of JFS (NPFC-2025-COM09-IP05). The estimated total biomass of the winter spawning stock decreased largely from 2015 to 2016 and has remained at a low level since then. The MSY-based reference points were estimated by a stochastic simulation with the Beverton-Holt stock-recruitment relationship. In 2024, the estimated total biomass was 135,000 MT and the estimate of SSB was 57,000 MT. SSB was below  $SSB_{MSY}$  and  $F$  was below  $F_{MSY}$  in 2023.

#### *6.2.3 Review of species summary*

98. The SC reviewed the updated species summary document for JFS (NPFC-2025-SC10-WP14). The SC endorsed the updated species summary document for JFS (<https://www.npfc.int/species-summaries>).

### *6.3 Japanese sardine (JS)*

#### *6.3.1 Review of tasks and recommendations*

99. The SWG JS Lead, Dr. Shuya Nakatsuka (Japan), reported on the intersessional activities of the SWG JS. The SWG JS has met twice intersessionally (as part of the joint meetings of the SWGs on JFS, JS, and BM). The SWG JS updated Members' catch and effort data; reviewed China's JS fishery data and research activities; reviewed Japan's domestic stock assessment methodology; discussed approaches for the development of one or more collaborative stock assessment models; evaluated the influence of environmental variables on the life history, biology, and population dynamics of JS; reviewed a draft TOR for a new Small Scientific Committee on Japanese Sardine (SSC JS); and updated the species summary.
100. Dr. Chris Rooper (Canada) informed the SC that he presented a literature review of studies relating environmental conditions to JS in the North Pacific Ocean at the PICES-2025 Annual Meeting. The paper is available as NPFC-2025-SC10-WP11.

#### *6.3.2 Observation of domestic stock assessment*

101. Japan presented its domestic stock assessment of JS (NPFC-2025-SC10-IP07). The assessment is conducted using a tuned VPA with ridge penalty. The MSY-based reference points were estimated from a stochastic simulation from the normal-regime stock-recruitment relationship of the hockey stick function. In 2024, estimated total biomass was 4.0 million MT and SSB was 2.7 million MT. SSB in 2024 exceeded  $SSB_{MSY}$ .  $F$  in 2024 exceeded  $F_{MSY}$ .

### *6.3.3 Review of species summary*

102. The SC reviewed the updated species summary document for JS (NPFC-2025-SC10-WP23). The SC endorsed the updated species summary document for JS (<https://www.npfc.int/species-summaries>).

### *6.3.4 Potential establishment of a new formal SC subsidiary body to focus on collaborative NPFC stock assessment of JS*

103. The SC agreed to establish a new formal SC subsidiary body, SSC JS, to focus on collaborative NPFC stock assessment of JS and that this new SSC JS would supersede the SWG JS.

### *6.3.5 Draft Terms of Reference for a Small Scientific Committee on Japanese Sardine*

104. The SWG JS Lead presented the draft ToR for the established SSC JS (NPFC-2025-SC10-WP09). The SC reviewed and endorsed the ToR (Annex I).
105. The SC agreed to select Dr. Shuya Nakatsuka (Japan) to serve as the Chair of the SSC JS and Dr. Libin Dai (China) to serve as its Vice-Chair.
106. The SC recommended the hiring of an invited expert to support the work by SSC JS to conduct an NPFC stock assessment of JS.
107. The SC requested Members to share relevant data for the conducting of a JS stock assessment using the data templates developed by SWG Data in advance of the first meeting of the SSC JS.

### *6.4 Review of tasks for SWG JFS, SWG BM, and SWG JS (or SSC JS)*

108. The SC developed a table of future tasks for the SWG BM, SWG JFS, and the SSC JS (Annex J).

## **Agenda Item 7. Climate change effects on NPFC's priority species and associated ecosystems**

### *7.1 Tools for incorporating climate change considerations into scientific advice*

109. Pew presented a review of recent progress by selected RFMOs towards climate-informed governance (NPFC-2025-SC10-OP03). Based on its review, Pew suggested that the NPFC develop a dedicated and more detailed work plan, indicative of timelines, to integrate climate change considerations in NPFC scientific processes and develop climate-informed management approaches for NPFC species; evaluate data requirements for climate-related monitoring as part of ecosystem-based fisheries management (EBFM) implementation; and cooperate with other relevant RFMOs in the Pacific Ocean and intergovernmental scientific organizations regarding climate-ready management approaches, research, and advice for transboundary species whose distribution or migrations are likely to be affected by climate

change.

110. The Chair expressed her appreciation for the information presented and suggestions for the NPFC.

## *7.2 Current knowledge*

111. No new information was presented.

## *7.3 Ongoing research activities*

### *7.3.1 PICES' Basin-scale Events to Coastal Impacts (BECI) project*

112. The Science Director of the Basin-scale Events to Coastal Impacts (BECI) project, Dr. Kathryn Berry, provided an overview and an update on the project (NPFC-2025-SC10-OP05). The BECI project is intended to serve as a North Pacific Ocean knowledge network that identifies and collates existing data, research, monitoring, management efforts, and operational tools across the North Pacific, and synthesizes this information into accessible products, such as interactive maps, dynamic dashboards, and collaboration platforms, to support climate-resilient fisheries and conservation decisions. The BECI project can support the NPFC by enhancing access to environmental information, facilitating NPFC's coordination with other RFMOs, providing comprehensive environmental information about migratory species, and support the NPFC with developing and implementing its climate workplan.
113. The SC thanked Dr. Berry for the update on the BECI project and noted the significant progress made to date. The SC noted the potential value of the BECI project for informing the SC's analyses, including those related to climate change, and looked forward to the project's continued development.
114. The Chair encouraged Members, especially the Chairs and Leads of SC's subsidiary bodies, to review the information in the BECI species cards, including with regard to climate change-related impacts, and consider how some of this information could be incorporated into the NPFC's species summaries. She also encouraged Members to explore the BECI website and consider how its resources could benefit their own work and analyses.

## *7.4 Detailed work plan to produce climate-resilient scientific advice*

115. The SC encouraged the SC subsidiary bodies to incorporate more detailed climate and climate change-related tasks into their work plans. Specifically, the SC tasked the SC subsidiary bodies with considering including in the workplans identification of possible key vulnerabilities and management implications of changing oceanographic conditions resulting from climate change on NPFC fisheries resources (e.g., through meta-analysis and/or review

of published papers; analysis of the relationship between key vulnerabilities and changing environmental conditions (e.g., by drawing on BECI data); if feasible, integration of information about how a changing climate affects biological or fisheries-related parameters into analyses used for stock assessments; and recommendation of ways to help adapt to climate change and promote resilience in NPFC fisheries.

116. The SC agreed that as part of its workplan it would consider possible key vulnerabilities and management implications of changing oceanographic conditions resulting from climate change on species belonging to the same ecosystem or dependent upon or associated with target stocks, as well as make recommendations to help adapt to climate change and promote resilience in NPFC fisheries.

#### *7.5 Research priorities and potential scientific projects*

117. There were no proposals for additional research priorities or scientific projects.

### **Agenda Item 8. Data Collection and Management**

#### *8.1 Data Management System*

##### *8.1.1 Update for NPFC*

118. The Data Coordinator, Mr. Sungkuk Kang, reported on the progress in the development of the SC-related data management system (NPFC-2025-SC10-IP01). The Data Coordinator explained updates to the Members Home, Significant dates/Events, Pacific Saury Weekly Report, Chub Mackerel Monthly/Weekly Report, GIS Maps, Collaboration Site, and Annual Reports sections. In addition, the Data Coordinator reported on the ongoing development of an NFS Map for NFS catch and effort data and progress on the Scientific Data Management System Development project.
119. The SC expressed its appreciation to the Secretariat for continuing to update and enhance the NPFC data management system.
120. The SC suggested that the Secretariat explore the possibility to add a layer to the Bottom Fishing Map to visualize areas closed to bottom fishing and fished areas in the Emperor Seamounts and Cobb Seamount Chain under NPFC CMM 2025-05 and CMM 2025-06, or alternatively, to consider a separate map visualization if integration into the existing map is not feasible.

##### *8.1.2 Data inventory update*

121. The Data Coordinator presented an updated data inventory table summarizing information about data submitted by Members (NPFC-2025-SC10-IP03). The Data Coordinator requested Members to review the updated inventory and provide feedback or corrections to the

Secretariat for further improvement.

#### *8.1.3 Data submission deadlines for stock assessment analyses*

122. The Chair proposed a template prepared by the SWG Data Lead, Ms. Karolina Molla Gazi, for making regular, centralized SC data calls (NPFC-2025-SC10-WP15). A data call is essential to ensure that the SC and its subsidiary bodies have access to the most complete, consistent, and up-to-date information needed to conduct robust stock assessments and provide sound scientific advice to the Commission. Regular and standardized data submissions allow the SC subsidiary bodies to integrate fishery-dependent and fishery-independent information from all Members and CNCs, assess trends across the Convention Area, and evaluate stock status against agreed reference points. This process not only supports transparency and comparability among datasets but also fulfils Members' data-provision obligations under the relevant NPFC CMMs. A centralized request for data ensures coherence, transparency, and equity in how Members and CNCs are asked to contribute information. It provides all parties with the same guidance, deadlines, and specifications, reducing the risk of inconsistent interpretations or selective participation. It also helps align the timing of submissions with the scientific and management calendar, ensuring that the SC subsidiary bodies have the necessary inputs well in advance of analyses and meetings.

123. The SC reviewed and adopted the template for SC data calls (Annex K).

124. The SC agreed to work towards operationalizing the use of the template for SC data calls in 2027. The SC tasked each of its subsidiary bodies to identify appropriate data requirements and deadlines, the Chairs of the subsidiary bodies to communicate these data requirements and deadlines to the Secretariat by SC11, and the Secretariat to compile a document with the data requirements and deadlines for all subsidiary bodies and circulate this to Members. The SC agreed to discuss the timing and frequency of data calls as necessary. The SC agreed that the use of the template for SC data calls would not prevent the SC and its subsidiary bodies from conducting more frequent, ad hoc data calls, such as for exploratory analyses.

#### *8.1.4 SWG Data*

125. The SWG Data Lead presented the report of SWG Data (NPFC-2025-SC10-WP12). SWG Data met four times in 2025 via WebEx. It advanced the development of the NPFC SC database, including database architecture, user roles, confidentiality provisions, and harmonized templates. The SWG also reviewed the draft CMM on Minimum Data Standards, consolidating feedback from Members. It achieved significant progress on defining data types, developing reference code lists, and outlining implementation steps.

126. The SC endorsed the SWG Data report (Annex L).

127. The SC agreed to adopt the common terminology discussed by the group regarding effort and the definitions of live and gutted weight.
128. The SC agreed to share information regarding the maturity scales and corresponding stages used at a national scale in order to develop the reference code list.
129. The Executive Secretary, Dr. Robert Day, informed the SC that the Secretariat has been updating its data records to ensure the standardized use of the FAO 3-alpha species codes, as was recommended by SWG Data.
130. The SC noted that there is currently no FAO 3-alpha species code for Japanese sardine (*Sardinops melanostictus*) and that the Secretariat has had to classify Japanese sardine under the FAO code for Pacific sardine (*Sardinops sagax*, CHP). The SC agreed that Japanese sardine should have its own FAO 3-alpha species code. The SC requested that the Chair make a formal request to the FAO to assign a species code to Japanese sardine. The SC suggested that the Chair could cite <https://doi.org/10.1111/mec.17561>, among other studies, as part of the rationale.

#### *8.1.4.1 Establishment of a new database to manage and archive scientific data*

131. The SC noted the progress made by SWG Data on establishing a new database to manage and archive scientific data. The SC endorsed the holding of a 4-hour training workshop in January 2026 on the use of the database. The SC noted that, based on the outcomes of the workshop, the next steps would be to develop a full manual on the use of the database and hold a further training workshop.
132. The SC thanked the EU for providing a voluntary contribution to support the development of the SC database.

#### *8.1.4.2 Review of the proposed CMM on Minimum Standards for NPFC Data*

133. The SC noted that SWG Data has reviewed the proposed CMM on Minimum Standards for NPFC Data and consolidated feedback from Members (Annex L).

#### *8.1.4.3 Potential renewal of term for SWG Data*

134. The SC agreed to extend the SWG Data's term for one more year to finalize the development of the SC database.

### *8.2 NPFC Data Sharing and Data Security Protocol*

135. Japan presented a proposal on the re-publication of catch and fishing effort information in the Annual Summary Footprints on the public domain of the NPFC website (NPFC-2025-SC10-WP13). Japan explained that although all Members submit annual information on catch and fishing effort to the NPFC, these data are currently not publicly available due to restrictions in the NPFC Data Sharing and Data Security Protocol. Japan proposed that annual catch and effort information presented in the Annual Summary Footprint, including annual catch, annual number of vessels, and annual number of fishing days, by Member, species, area, and gear type, be re-published, with values derived from fewer than three vessels masked to ensure compliance with the Protocol. Japan explained that it annually conducts domestic stock assessments for JS and BM and that being able to access and include the annual catch amounts of these two species by Member as input data for the assessments would enhance scientific reliability and reduce uncertainty in total catch information. Furthermore, making annual catch and effort data by species and by Member publicly available is a fundamental element of transparency in RFMOs.
136. The SC agreed that it would be preferable if there were greater transparency around Members' catch and effort data, even if these data are from fewer than three vessels, as this would help facilitate the SC's scientific work, while recognizing that there are legal and other restrictions that may make this difficult.
137. The SC noted that in accordance with the NPFC Data Sharing and Data Security Protocol, catch and effort data made up of observations from fewer than three vessels can be made public at the decision of the data owner. The SC noted that this has enabled the sharing of data for conducting NPFC analyses, including as part of the SSC BF-ME's work.
138. The SC seeks guidance from the Commission on making these data publicly available to enhance its transparency and make the data more accessible for domestic stock assessments.

#### *8.2.1 Revision of Regulations for Management of Scientific Data and Information*

139. There were no proposed revisions to the Regulations for Management of Scientific Data and Information.

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

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

140. Pew presented a rapid literature review on where operational ecological objectives exist in fisheries policies (NPFC-2025-SC10-OP04). Pew found that the importance of the ecosystem approach to fisheries management (EAFM) and ecosystem-based management (EBM) has been recognized but implementation is highly diverse and plans often lack clear means of

operationalization. Conversely, operational measures to tackle biodiversity impacts are often outside a single action-oriented EAFM policy. It is necessary to incorporate ecosystem considerations directly into stock management. For the NPFC, Pew suggested that it review existing CMMs and align them with the FAO EAFM monitoring tool; consider how a process of ecological objective setting could be developed; focus on small pelagic target species, endangered, threatened and protected (ETP) species, and ecosystem structure/function; and explore ways to operationalize ecological objectives.

141. China presented an overview of the 2025 survey by the Chinese fishery research vessel Song Hang in the NPFC Convention Area (NPFC-2025-SC10-WP20). The improved survey program in 2025 continues to cover fisheries resources, larval and juvenile stages of marine species, plankton, and environmental surveys, consistent with previous years. Based on the five-year survey, China is conducting a series of research studies to support the NPFC's stock assessment and management of CM, BM, JS, and NFS. Research areas include biological parameters (such as growth and mortality), standardization of abundance indices, biodiversity, and ecosystem modeling. China will submit the resulting outputs to the specific SWG, TWG, or SSC of each priority species.
142. The SC thanked China for the presentation and encouraged it to continue to conduct this survey in the future. The SC noted that the data collected from the survey and resulting analyses could be very valuable for supporting the SC's scientific work.
143. The SC requested that China present more detailed information about the specifications of the gear used in its survey at the next SC meeting.

#### Agenda Item 9. Potential roles of a regional observer program

##### *9.1 Scientific objectives of an observer program*

144. The SC agreed that, in accordance with the NPFC Convention, Article 10, paragraph 4(b), one of the scientific objectives of an observer program could be to collect more data to support the stock assessments of NPFC's priority species.

##### *9.2 Review and revision of SC responses to five TCC Chair's questions*

145. The SC Chair presented the draft responses from the SC to five questions from the TCC Chair regarding the scientific aspects of an NPFC regional observer programme (ROP; NPFC-2025-SC10-WP03). The initial responses were prepared by the Small Working Group on Observer Program (SWG OP) and a summary of the intersessional meeting of the SWG OP is available in NPFC-2025-SC10-RP01. NPFC-2025-SC10-WP03 was drafted intersessionally and the SC reviewed and revised its responses to the questions as well as data types that could be collected as part of an ROP to help improve its stock assessments of priority species (one of the six TCC

Chair's questions regarding the scientific aspects of an ROP posed to the SC in 2024).

146. The SC reviewed and revised the draft responses (NPFC-2025-SC10-WP03 (Rev. 2)). The SC requested that the SC Chair forward the responses to the TCC Chair.
147. The FAO noted that many RFMOs do not consistently collect data regarding the discard of bycatch and suggested that this could be improved with an ROP.
148. Japan noted that CMM 2025-05 and CMM 2025-06 For Bottom Fisheries and Protection of VMEs in the NW Pacific Ocean and the NE Pacific Ocean require 100% observer coverage for bottom fisheries, which should provide high confidence that rare events could be detected in these fisheries.
149. Canada suggested that the Commission could provide a requirement in CMMs to report bycatch data to the SC.
150. Pew noted that the current Shark CMM 2024-14 does not obligate fishing vessels to record shark catches at the species level and suggested that the SC should consider what level or granularity of data (i.e., species level reporting) would be useful for ETP species, particularly sharks found in the Convention Area that are also noted in other international agreements such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora and the Convention on Highly Migratory Species.
151. The WWF suggested that the SC should encourage managers to implement e-monitoring (EM) and e-reporting (ER) to collect updated information more promptly for stock assessments and understanding of ecosystem impacts. The WWF noted that observer coverage in the NPFC is lower than in many other RFMOs, particularly tuna RFMOs. The WWF suggested that if it is difficult for the NPFC to increase human monitoring coverage, it should consider the use of EM and ER, which has been implemented successfully in many tuna RFMOs. The WWF also noted that this would also assist with the collection and reporting of data on bycatch, which occurs frequently in many NPFC fisheries.
152. The EU acknowledged that, depending on the stock assessment model, EM could perhaps collect some information useful for stock assessment, but pointed out that many types of data would still need to be collected by human observers. The EU agreed that EM could be used for collecting information on rare events and ETP species.
153. Chinese Taipei acknowledged the usefulness of EM and ER but pointed out that, other than for bottom fisheries, the NPFC has not established a human ROP so it would be premature to

discuss the establishment of EM. Chinese Taipei pointed out that EM is supposed to supplement a human observer programme by collecting data that human observers could not, but the NPFC has not yet agreed on what data human observers could collect.

154. Canada pointed out that while it may not be possible to collect age-structure data with EM alone, Canada has been able to collect such data by combining EM with port sampling. Canada suggested that the NPFC should be open to using EM for the collection of some types of data if it would be faster to implement EM than to establish a human ROP.
155. The United States echoed the comments by Canada and added that although EM has often been used as a tool to replace existing human observer programmes in the past, the NPFC should be open to developing both in parallel and that human observer programmes and EM could be complementary.
156. Pew suggested that when considering the implementation of EM, the SC could first identify the minimum data requirements for its stock assessments and then identify whether human observers or EM would be the best means of collecting those data, taking into account factors such as cost, accuracy, capacity, etc.
157. The DSF Project informed the SC that it is planning to potentially conduct a review of the state of the implementation of EM at other RFMOs, which could inform the SC's discussions on this topic.

#### *9.3 Tool for observers/fishers to distinguish between CM and BM*

158. The SC noted that the SWG BM has been tasked with the development of a tool for observers/fishers to distinguish between CM and BM.

#### *9.4 Future intersessional work of SWG Observer Program (SWG OP)*

159. The SC noted that there is no future work planned for SWG OP and agreed to disband SWG OP.

### **Agenda Item 10. Scientific projects for 2026 and 2027**

#### *10.1 Ongoing/planned projects*

#### *10.2 New projects*

##### *10.2.1 Potential project(s) for NPFC priority species*

##### *10.2.2 Independent review of stock assessments*

##### *10.2.3 Other potential projects – capacity building, cooperation with other organizations*

#### *10.3 Review, prioritization and funding of projects*

160. The Science Manager presented a draft list of scientific activities and projects that were

discussed during the meetings of the SC and its subsidiary bodies (NPFC-2025-SC10-WP04 (Rev. 1)).

161. The SC reviewed and finalized the list of proposed scientific activities and projects (NPFC-2025-SC10-WP04 (Rev. 3)). The SC prioritized and endorsed the list of scientific activities and projects for consideration by the Commission (Annex M).
162. The SC noted that while the SC's increased workload and planned projects have resulted in increased funding requests, the SC has sought to offset these increases through measures such as adopting a new structure and workflow that would make data preparatory meetings virtual and informal by default.
163. The SC acknowledged that holding meetings at the Tokyo University of Marine Science and Technology, where the NPFC headquarters are located, would result in potential cost savings, but noted that this is not always feasible given limited availability for meeting spaces. The SC reiterated its call for Members to consider hosting meetings.

#### Agenda Item 11. Cooperation with other organizations

##### *11.1 Reports on the joint NPFC-PICES activities since the SC09 meeting, including a report from the PICES Secretariat*

164. The Executive Secretary of the North Pacific Marine Science Organization (PICES), Dr. Sonia Batten, reported on recent and upcoming planned joint activities between PICES and NPFC (NPFC-2025-SC10-OP06). Dr. Batten highlighted the development of the second NPFC–PICES Framework for Enhanced Scientific Collaboration in the North Pacific (2025–2029), which retains the three priority areas of the previous framework (support for stock assessment of priority species, VMEs, ecosystem approach to fisheries), and adds consideration of climate change impacts across priority areas. Recent joint activities include NPFC representation in the PICES-ICES joint Working Group on Small Pelagic Fish (WG43) and its successor-WG on Sustainable Pelagic Forage Communities (WG53), NPFC support for Small Pelagic Fish Symposium (SPF)-2022 Symposium and next years' SPF-2026, involvement and co-Chairing of WG47 on the Ecology of Seamounts by NPFC scientists, establishment of a new WG56 to focus on deep-sea connectivity among seamounts, NPFC endorsement for the BECI project, and NPFC and PICES representation at each other's annual meetings. In addition, PICES underwent an External Review in 2023/24 and has established a new Mission Statement, which it will deliver by engaging with NPFC and other RFMOs.

##### *11.2 SC representation at scientific meetings*

###### *11.2.1 Yang Zi SC representation at PICES 2025*

165. The Chair explained that the SC had originally selected Ms. Yang Zi (China) to represent the

SC at PICES 2025 but that she was not able to travel to attend the meeting due to logistics challenges. Because most sessions were not hybrid, she was not able to participate in them. However, she was able to give her presentation on preliminary projection of distribution shift for Pacific saury in the Northwest Pacific Ocean under climate change, via a recording to Session 4: Responses of Small Pelagic Fish Communities to Recent Climate Regime Shifts and Climate Extremes.

#### *11.2.2 Chris Rooper representation at PICES 2025*

166. The Chair explained that as Ms. Yang Zi was unable to attend PICES 2025, Dr. Chris Rooper was selected as an alternative representative of the SC to attend in her place.
167. Dr. Chris Rooper reported on his attendance of the PICES 2025 Annual Meeting. Dr. Rooper highlighted several sessions of relevance to the NPFC, focusing on Session 4: Responses of Small Pelagic Fish Communities to Recent Climate Regime Shifts and Climate Extremes, which he co-convened. During Session 4, in addition to the presentation by Yang Zi, Dr. Rooper also gave his own presentation on a literature review of studies relating environmental conditions to JS in the North Pacific Ocean. Both presentations were the result of joint work conducted by Members at NPFC. Dr. Rooper also highlighted the work of the Joint PICES/ICES WG on Sustainable Pelagic Forage Communities (WG53), which he co-chairs and which Dr. Toshihide Kitakado and Dr. Kazuhiro Oshima, the Chairs of the SSC PS and TWG CMSA, respectively, participate in. Many of WG53's activities are of relevance to the NPFC, particularly work related to changing species distribution, stock assessment and environment, MSE, and economic impacts of climate/environment/fisheries.

#### *11.3 Report on cooperation between NPFC and NPAFC*

168. The NPAFC Executive Director, Mr. Yoshikiyo Kondo, reported the updates in the implementation of the NPAFC/NPFC Five-year Work Plan (NPFC-2025-SC10-OP07). The NPAFC and the NPFC have been making progress on core aspects of the Five-year Work Plan. On the exchange of data and information, the two organizations have agreed on a ToR for an NPAFC/NPFC SharePoint in 2025. For the coordination of research activities for enhanced scientific cooperation in the North Pacific Ocean, the NPAFC will contribute to BECI activities with scientific research on salmon. For expanding cooperation to collect and share information relating to species of special interest for each Commission, the NPAFC will hold a Workshop on Interactions between Fisheries and Anadromous Fish in the North Pacific High Seas and a Workshop on Interactions Between Salmon, Ecosystems, and Climate: From Mechanisms to Predictive Models in May 2026, and issue an invitation to the NPFC for the former.

#### *11.4 FAO ABNJ Deep-sea fisheries project*

169. Dr. Tony Thompson, the DSF Project (FAO), presented an update on its activities (NPFC-2025-SC10-OP01). Highlights in 2025 include the holding of an EAFM symposium, conservation of deepwater sharks, mapping of deep-sea fisheries, data-limited stock assessments, climate change consultancies, and workshops on the precautionary approach. Planned activities in 2026 include a VME identification methods publication; a precautionary approach publication; an in-person workshop on EAFM, climate change, and the precautionary approach; and the development of data-limited assessment methods. The DSF Project seeks continued support from NPFC to contribute to and review the publication on VME identification by commercial vessels; contribute to and review the publication on the precautionary approach; participate in person at the workshop on EAFM, climate change and the precautionary approach in mid- to late-2026; participate in the data-limited stock assessments methods development; support the deepwater shark work, including guidance on an NPFC Convention Area digital identification key; and support the work on mapping deepwater fisheries.
170. The DSF Project (FAO) discussed the acquisition of spatial data from NPFC to map bottom fisheries in a new format that is compatible with that provided by other RFMOs. The DSF Project (FAO) will draft a letter detailing the new request and forward it to the Executive Secretary for distribution to NPFC Commission Heads of Delegation.
171. The SC welcomed the offer from the DSF Project (FAO) to develop a digital deepwater shark identification guide for the NPFC Convention Area. The SC encouraged the DSF Project (FAO) to give consideration to translating the guide into Members' languages.

#### *11.4.1 Report from the NPFC Representative at the FAO Workshop on Cross-Sectoral Interactions with Deep-Sea Fisheries*

172. The Chair reported on her participation at the Common Oceans Program DSF Project Workshop on Cross-Sectoral Interactions with Deep-Sea Fisheries in Areas Beyond National Jurisdiction. The key topics of discussion were the meaning of the Agreement on Marine Biological Diversity of Areas Beyond National Jurisdiction (BBNJ Agreement) “not undermining the effectiveness and objectives” of RFMOs and potential interactions between deep-sea mining and deep-sea fishing. As a representative of the NPFC, the Chair emphasized the importance of coordination with NPFC and the value of applying spatial-optimization software for identifying key areas to protect biodiversity while allowing deep-sea fisheries and potentially deep-seas mining in the NPFC Convention Area.
173. Pew noted that the new BBNJ Agreement encourages stronger coordination between fisheries bodies and other relevant sectors. As such, several tuna and general RFMO Secretariats attended the second Preparatory Commission of the BBNJ Agreement to provide additional

context of their Conventional mandates, CMMs, and existing ABNJ datasets with respect to marine biodiversity. Pew suggested that the NPFC consider increased engagement with the BBNJ Agreement and contribute submissions, particularly those invited by United Nations Division for Ocean Affairs and the Law of the Sea who is serving as the interim Secretariat.

#### *11.5 Partnership with the Fisheries and Resources Monitoring System of FAO (FIRMS)*

174. Dr. Rishi Sharma and Mr. Aureliano Gentile (FAO) provided an update on the partnership between the Fisheries Resources Monitoring System (FIRMS) and the NPFC (NPFC-2025-SC10-OP08). The 14<sup>th</sup> Session of the FIRMS Steering Committee was held and key outcomes include continued strategic expansion of FIRMS, review of the State of Stocks Index (SoSI), continued progress on the development of the Global Record of Stocks and Fisheries (GRSF) and the Global Tuna Atlas (GTA), standardization of reference points, plans to establish a Working Group to develop guidelines for the responsible use of artificial intelligence within FIRMS, and governance matters. NPFC has updated its stocks and fisheries inventory on FIRMS, and has published 10 stock fact sheets and 8 fisheries fact sheets. The NPFC is requested to continue to support the FAO State of World Fisheries and Aquaculture (SOFIA) State of Stocks Index (SoSI) biennial updates using the improved methodology and data flow. The FAO has also published an updated review of the state of world marine fishery resources and is conducting periodic collation of stock-by-stock status.

#### *11.6 Partnership with WCPFC, SPRFMO and ISC*

175. No updates were provided.

#### *11.7 Cooperation with other organizations*

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

### **Agenda Item 12. SC Terms of Reference (TOR) and 2025-2029 Research Plan and Work Plan**

#### *12.1 Review of the Scientific Committee TOR*

177. The Chair presented a proposal to revise the SC ToR to clarify the process for the selection of the SC Chair and Chairs of SC's subsidiary groups (NPFC-2025-SC10-WP02).

178. The SC reviewed and revised the proposal (NPFC-2025-SC10-WP02 (Rev. 1)). The SC recommended that the Commission adopt the revised SC ToR (Annex N).

#### *12.2 Five-year Research Plan*

#### *12.3 Five-year Work Plan*

179. The SC reviewed its 2025-2029 Five-Year Rolling Research Plan (NPFC-2025-SC10-WP19) and Work Plan (NPFC-2025-SC10-WP06). The Research Plan and the Work Plan of the SC and its subsidiary bodies are attached as Annex O.

180. Members agreed to share data for scientific activities in accordance with the agreed SC Research Plan and SC Work Plan. The SC tasked the Secretariat to send an official call for data to Members.

#### *12.4 Progress on addressing NPFC PR recommendations for SC*

181. The SC noted that it has continued to make progress on addressing the NPFC Performance Review Panel's recommendations.
182. The Executive Secretary reminded the SC that the Commission is exchanging perspectives on the NPFC's progress on addressing the NPFC Performance Review Panel's recommendations through intersessional correspondence and will hold further discussion at the next Commission meeting. He explained that the Commission may provide the SC with a more specific tasking based on those discussions. The Executive Secretary also reported that the Secretariat's analyses indicate that the NPFC is generally making good progress on addressing the recommendations.

#### *Agenda Item 13. Other matters*

##### *13.1 Coordination between SC and TCC*

183. The Compliance Manager, Ms. Judy Dwyer, provided an update on coordination between the TCC and the SC (NPFC-2025-SC10-IP02). The TCC has been developing a draft port inspection measure and working with the FAO Global Information Exchange System (GIES) team on data transfer options, discussing the definition and process to establish "historic existing level," preparing for mandatory entry/exit notifications within the NPFC Vessel Monitoring System, processing transshipment data and preparing for the transition away from emailed data forms, having initial discussions toward the development of an ROP, preparing to discuss the TCC-related aspects of the establishment of NPFC data standards, and correcting data collected for several species using incorrect FAO 3-alpha codes.
184. As matters for coordination between the SC and the TCC, the SC requested that the SC Chair/Secretariat forward to the TCC the SC responses to the questions from the TCC Chair about SC's data needs to inform COM decisions on the development of an ROP (NPFC-2025-SC10-WP03 (Rev. 2)).
185. The SC requested Members to present information about their sampling programs for transshipped catch at the relevant SC subsidiary body meetings.

##### *13.2 Other issues*

186. During SC discussions there were differing opinions on whether the SC provided "advice" or

“information” to the Commission on the status of stocks. In particular this issue was relevant to the 2025 Pacific Saury Stock Assessment, where there was no consensus on the suitability of the existing BSSPM model. The Pacific Saury CMM 2025-08 requests the SSC PS to calculate the annual catch level and apply the interim HCR specified in the CMM. This was done, but it was not clear whether the lack of consensus meant that the application of the interim HCR constituted “advice” or “information.” Some Members of the SC request clarity from the Commission on whether the SC can provide “advice” while capturing the majority and minority views of Members consistent with Article 10 (3) of the NPFC Convention.

**Agenda Item 14. Advice and recommendations to the Commission**

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

- (a) Endorse the revised Scientific Committee Terms of Reference (Annex N).
- (b) Endorse the SC’s 5-Year Rolling Research and Work Plans (Annex O).
- (c) Endorse the proposed scientific activities and projects (Annex M).
- (d) Endorse Dr. Jie Cao (China) as SC Chair.
- (e) Consider the species summary documents (<https://www.npfc.int/species-summaries>) and stock status summaries as reference information when taking decisions on the management of the NPFC priority species.
- (f) Consider the scientific meetings schedule for 2026–2027 as described in Annex E.

**SC Structure and Workflow**

- (g) Endorse the streamlined SC workflow to respond to the substantial increase of the SC workload and growing budgetary pressure as described in Annex D.

**Frequency of Benchmark and Annual Stock Assessments**

- (h) In general, conduct benchmark stock assessments every 3–5 years and conduct the data update stock assessments annually (see paragraphs 32–35 for details).

**Precautionary Approach**

- (i) Develop a general framework for the application of the PA and conduct this work through a small working group that is established under the Commission, is composed of managers and scientists, and is led by managers.

**Chub Mackerel**

- (j) Endorse the stock assessment report for chub mackerel (Annex H).
- (k) Consider the following interim reference levels:
  - i. 50<sup>th</sup> percentile of the estimated historical SSB (1970–2023 fishing years)
  - ii. 70<sup>th</sup> percentile of the estimated historical SSB (1970–2023 fishing years)
- (l) Consider the 25<sup>th</sup> percentile of estimated historical SSB as an interim limit reference point.
- (m) Reduce fishing mortality to recover SSB to the reference levels.
- (n) Continue to hire an invited expert to support the TWG CMSA in 2026.

### **Taskings from the 9th Commission Meeting to the TWG CMSA**

- (o) Should the Commission wish Task 1 from the Commission to TWG CMSA to be completed, require Members to submit gear specific catch-at-age / catch-at-length data by all Members including accessory devices used for fishing purposes for both the Convention Area and EEZs.
- (p) Note that the SC has reviewed the TWG CMSA's responses to the taskings from the Commission and Dr. Kazuhiro Oshima, Chair of TWG CMSA, will submit a working paper to the 10<sup>th</sup> Commission meeting.

### **Bottom Fish and Marine Ecosystems**

- (q) Continue to hire an invited expert to support the work of the SWG NPA-SA.
- (r) Endorse the following indicators of trend for NPA:
  - i. Fisheries-dependent indicators:
    - a. Catch
    - b. Depletion analysis estimates
  - ii. Fisheries-independent indicators:
    - a. Monitoring survey CPUE
    - b. Monitoring survey fatness index
- (s) Endorse the following indicators of trend for SA:
  - i. Fisheries-dependent indicators:
    - a. Trawl and gillnet CPUE (standardization in progress)
    - b. Depletion analysis estimates
- (t) Endorse the following indicators of trend for sablefish:
  - i. Fisheries-dependent indicators:
    - a. CPUE from longline traps
- (u) Note that for SA there continues to be a high likelihood that growth overfishing is occurring (harvest before the size that maximizes yield-per-recruit), and that SA are being captured before they are mature, likely reducing the spawning potential.
- (v) Note that for NPA, no strong recruitment has been detected in recent years (since 2013), stock status remains low, and harvest rate is likely to be high. Since NPA recruitment has been weak, the SC recommends reducing the harvest rates as much as possible, but the SC recognizes the effort of Japanese fishers to avoid harvest of NPA since 2019.
- (w) Note that domestic stock assessments conducted in three regions (Alaska, Canada, and US West Coast) all indicate that the sablefish stock is healthy and not subject to overfishing.
- (x) Note that for skilfish, there are currently no assessments available and no current or planned fishing.

### **Neon Flying Squid**

- (y) Continue to hire an invited expert in 2026 to support the SSC NFS during its meetings and conduct other work to support the SSC NFS as appropriate.

(z) Endorse the following indicators of trend for NFS:

- i. Fisheries-dependent indicators:
  - a. Standardized CPUE
  - b. Mean size at catch
  - c. Total catch
- ii. Fisheries-independent indicators:
  - a. Abundance index
  - b. Size composition
  - c. Driftnet survey during summer

### **Pacific Saury**

(aa) Consider the stock assessment report, while noting that one Member did not endorse the stock assessment results (Annex P), and the SC's discussions in summary of Pacific saury stock assessment (paragraphs 81–88).

(bb) Continue to hire an invited expert to support the work of the SSC PS and SWG NSAM by conducting the tasks described in Annex G, NPFC-2025-SSC PS16-Final Report.

### **Other Priority Species**

(cc) Endorse the following indicators of trend for JFS:

- i. Fisheries-dependent indicators:
  - a. Standardized CPUE from the coastal squid jigging fisheries (Jul-Dec)

(dd) Endorse the following indicators of trend for BM:

- i. Fisheries-dependent indicators:
  - a. Standardized CPUE from stick-held dip net in Shizuoka prefecture
  - b. Total catch
  - c. Nominal CPUE
- ii. Fisheries-independent indicators:
  - a. Egg abundance in East of Miyazaki prefecture

(ee) Endorse the following indicators of trend for JS:

- i. Fisheries-independent indicators:
  - a. Egg abundance in East Japan
  - b. Acoustic survey in autumn (Sep-Oct) (abundance of age 0 fish)
  - c. Trawling survey in summer (Jun-Jul) (abundance of age 0 fish)
  - d. Trawling survey in summer (Jun-Jul) (abundance of age 1 fish)
  - e. Standardized CPUE from China's summer survey

(ff) Hire an invited expert to support the work by SSC JS to conduct an NPFC stock assessment of JS.

### **Data Collection and Sharing**

(gg) Update the data shared by the SC, TWG CMSA, SSC BF-ME, SSC PS, SSC NFS, and SSC JS in accordance with their Work Plans.

(hh) Further develop the draft CMM on Minimum Data Standards while taking into

consideration SWG Data's review of the CMM and Members' consolidated feedback as summarized in the SWG Data report (Annex L).

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

- (a) The SC agreed to reinstate the Small Working Group on Milestones, to select Dr. Chris Rooper (Canada) as its Lead, and to request the SWG Milestones Lead to (1) progress the work to develop a standardized template for presenting species status in coordination with the Chairs of the SC and its subsidiary bodies; (2) support Members in further development of the proposal for a formal peer-review process with a detailed description of the process and the potential cost implications; (3) support Members in conducting a review of best practices from other organizations for implementing peer-reviews for stock assessments, and (4) discuss SC subsidiary groups' structure.

#### **Precautionary Approach**

- (b) The SC agreed to task its subsidiary bodies that do not have stock assessments in place to provide science-based options for operationalizing the PA and agreed to review these options and present them to the Commission (paragraph 56).

#### **Neon Flying Squid**

- (c) The SC endorsed the updated CPUE standardization protocol for NFS (Annex D, NPFC-2025-SSC NFS02-Final Report).
- (d) The SC noted that the SSC NFS intends to conduct a preliminary stock assessment of NFS using Members' standardized CPUEs in 2026.

#### **Pacific Saury**

- (e) The SC noted the plans of the SWG NSAM to continue developing the Stock Synthesis model.

#### **Other Priority Species**

- (f) The SC agreed to establish a new SSC JS to supersede the SWG JS and to select Dr. Shuya Nakatsuka (Japan) as the SSC JS Chair and Dr. Libin Dai (China) as its Vice-Chair.
- (g) The SC endorsed the Terms of Reference for the SSC JS (Annex I).

#### **Data Collection and Sharing**

- (h) The SC agreed to adopt the common terminology discussed by the SWG Data regarding effort and the definitions of live and gutted weight.
- (i) The SC agreed to share information regarding the maturity scales and corresponding stages used at a national scale in order to develop the reference code list.
- (j) The SC endorsed the holding of a 4-hour training workshop in January 2026 on the use of the database.
- (k) The SC agreed to extend the term of SWG Data for one more year to finalize the development of the SC database.
- (l) The SC seeks guidance from the Commission on making catch and fishing effort

information in the Annual Summary Footprints publicly available.

**Selection and extension of invited experts**

(m) The SC adopted the policy for the selection and extension of invited experts for supporting the Scientific Committee and its expert groups (Annex G).

**Climate Change**

(n) The SC noted the analyses on climate change effects conducted by Members and Observers.

**Cooperation with Other Organizations**

(o) The SC reaffirmed its support for the development and implementation of the BECI project, which will provide valuable information for the SC's analyses, including those related to climate change.

189. The SC recommends that the SWG MSE PS invite Dr. Quang Huynh as an invited expert to SWG MSE PS07.

Agenda Item 15. Next meetings of SC and its subsidiary bodies

*15.1 Meeting schedule for 2026/2027*

*15.2 Meeting format and location*

190. The SC agreed to forward to the Commission the provisional meeting schedule for the 2026 operational year described in Annex E, subject to further update before COM10.

Agenda Item 16. Selection of SC chairs, vice-chairs and leads

*16.1 SC Chair and SC Vice-Chair*

191. The SC selected Dr. Jie Cao (China) to serve as the next SC Chair.

192. There were no nominations for a new SC Vice-Chair.

*16.2 Chairs, Vice-Chairs, and leads of SC subsidiary bodies*

193. The Chairs, Vice-Chairs, and leads of the SC subsidiary bodies are as follows:

(a) SSC BF-ME

- i. Chair: Chris Rooper (Canada)
- ii. Vice-Chair: Kota Sawada (Japan)

(b) SSC PS

- i. Chair: Toshihide Kitakado (Japan)
- ii. Vice-Chair: Libin Dai (China)

(c) SSC JS

- i. Chair: Shuya Nakatsuka (Japan)
- ii. Vice-Chair: Libin Dai (China)

(d) SSC NFS

- i. Chair: Luoliang Xu (China)
- ii. Vice-Chair: Bungo Nishizawa (Japan)
- (e) TWG CMSA
  - i. Chair: Kazuhiro Oshima (Japan)
  - ii. Vice-Chair: Qiuyun Ma (China)
- (f) SWG BM
  - i. Lead: Kazunari Higashiguchi (Japan)
- (g) SWG JFS
  - i. Lead: Hajime Matsui (Japan)
- (h) SWG Data
  - i. Lead: Karolina Molla Gazi (EU)
- (i) SWG Milestones
  - i. Lead: Chris Rooper (Canada)

Agenda Item 17. Press release

194. The SC endorsed the press release for publication on the NPFC website after the meeting (NPFC-2025-SC10-IP08 (Rev. 1)).

Agenda Item 18. Adoption of Meeting Report

195. The report was adopted by consensus.

Agenda Item 19. Close of the Meeting

196. The SC expressed its gratitude and appreciation to the outgoing Chair, Dr. Janelle Curtis, for her hard work, warm leadership, and many years of service to the NPFC.
197. The Chair extended her heartfelt thanks to Japan for hosting the meetings, the Secretariat for organizing the meetings, and the participants for their constructive contributions.
198. The meeting closed at 17:20 on 19 December 2025, Nagoya time.

**Annexes:**

Annex A – Agenda

Annex B – List of Documents

Annex C – List of Participants

Annex D – Streamlined workflow of the Scientific Committee

Annex E – Provisional meeting schedule for 2026-2027

Annex F – Guidelines for Scientific Committee's Small Working Groups

Annex G – Policy for the selection and extension of invited experts for supporting the Scientific Committee and its subsidiary groups

Annex H – Stock assessment report for chub mackerel

Annex I – Terms of Reference for the Small Scientific Committee on Japanese Sardine (SSC JS)

Annex J – Tasks for the SSC JS, SWG JFS, and SWG BM the from SC10

Annex K – Template for SC data calls

Annex L – Report of the Small Working Group on Data (SWG Data)

Annex M – Scientific activities and projects in 2026

Annex N – Revised Terms of Reference for the Scientific Committee

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

Annex P – Stock assessment report for Pacific saury

Please refer to the NPFC website for the complete annexes.

# 7<sup>th</sup> Meeting of the Joint SC-TCC-COM Small Working Group on Management Strategy Evaluation for Pacific Saury

3-4 February 2026

## Virtual Meeting Report



## **Agenda**

### Agenda Item 1. Introductory items

- 1.1 Opening of the meeting
- 1.2 Adoption of agenda
- 1.3 Meeting logistics

### Agenda Item 2. Overview of the outcomes of previous NPFC meetings

- 2.1 SWG MSE PS06
- 2.2 COM09
- 2.3 SSC PS15 and 16

### Agenda Item 3. Review of the adopted HCR and its results

- 3.1 TAC for 2025
- 3.2 HCR-generated catch level for 2026
- 3.3 Review of the adopted HCR

### Agenda Item 4. Discussion toward development of management procedures (MPs) as a mid-term goal

- 4.1 Management objectives
- 4.2 Operating models
- 4.3 Management procedures
- 4.4 Performance indicators

### Agenda Item 5. Other matters

### Agenda Item 6. Timeline and future process

- 6.1 Timeline
- 6.2 Future process with assistance of SSC PS
- 6.3 Workplan till SSC PS17&18 and SWG MSE PS08 meetings

### Agenda Item 7. Recommendations to the Commission

### Agenda Item 8. Adoption of report

### Agenda Item 9. Close of the meeting

## MEETING REPORT

### Agenda Item 1. Introductory items

#### *1.1 Opening of the Meeting*

1. The 7<sup>th</sup> meeting of the joint SC-TCC-COM Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS) was held online via WebEx on 3–4 February 2026. The meeting was attended by Members from Canada, China, Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, and the United States of America. The Pew Charitable Trusts (Pew) attended as an observer. Dr. Quang Huynh participated as an invited expert. The meeting was chaired by Mr. Derek Mahoney (Canada) and Dr. Toshihide Kitakado (Japan), the co-Chairs of the SWG MSE PS.
2. Dr. Kitakado (hereafter “co-Chair”) opened the meeting and welcomed the participants.
3. Mr. Alex Meyer was selected as rapporteur.

#### *1.2 Adoption of agenda*

4. The SWG MSE PS agreed to amend the title of Agenda Item 3 to “Review of the adopted HCR and its results,” amend the title of Agenda Item 3.2 to “HCR-generated catch level for 2026,” and to add “Review of the adopted HCR” as a new Agenda item 3.3.
5. The agenda was adopted as revised (Annex A). The List of Documents and List of Participants are attached (Annexes B, C).

#### *1.3 Meeting logistics*

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

### Agenda Item 2. Overview of the outcomes of previous NPFC meetings

#### *2.1 SWG MSE PS06*

7. The co-Chair presented the outcomes and recommendations from the SWG MSE PS06 meeting (NPFC-2026-SWG MSE PS07-IP01).

#### *2.2 COM09*

8. The Science Manager presented the relevant outcomes from the 9<sup>th</sup> Commission meeting. He highlighted the adoption of Conservation and Management Measure (CMM) 2025-08 for Pacific Saury, including:
- (a) Revision of the annual catch limit for the entire area, with a 10% reduction in accordance with the interim harvest control rule (HCR) and the limiting of the total allowable catch (TAC) for the Convention Area to 60% (121,500 MT) of the annual catch limit in the entire area (202,500 MT);
  - (b) Revision of individual Members' TACs and the requirement to ensure that discards of Pacific saury count against these catch limits;
  - (c) Addition of an exemption from the requirements stipulated in Paragraph 10 (b) for any Member committed to reducing its annual total catch 65.5% from its reported catch in 2018;
  - (d) Addition of a requirement to ensure that catches, including incidental catches of other NPFC species, and any discards are recorded and reported; and
  - (e) Addition of a requirement for Members to annually report the catch limit that they diverted, if they have diverted part of their catch limit for areas under their jurisdiction to their own catch in the Convention Area in accordance with Paragraph 13.

### 2.3 SSC PS15 and 16

9. The co-Chair presented the outcomes and recommendations from the 15<sup>th</sup> and 16<sup>th</sup> meetings of the Small Scientific Committee on Pacific Saury (SSC PS; NPFC-2026-SWG MSE PS07-IP03).
10. Chinese Taipei highlighted its concerns with the current Pacific saury stock assessment using the Bayesian state-space surplus production model (BSSPM). Chinese Taipei pointed out the mismatch between the stock assessment results and fisheries observation, noting improvements in fishery indicators, such as higher catch and larger fish in 2025, and the fact that the latest assessment does not include fisheries data from the latest fishing season (2025) due to the current SSC PS meeting timing. Chinese Taipei also raised concerns about the retrospective pattern and scaling instability in the stock assessment results. It also suggested that the stationary productivity assumption may be inappropriate. Furthermore, Chinese Taipei suggested that the CPUE may be biased due to potential hyperstability or hyperdepletion and changing fleet behavior. It also raised concern about the lack of consensus among Members on how to treat the assessment results. Lastly, Chinese Taipei pointed out that the estimated annual catch level derived from the stock assessment is subject to significant uncertainty and should be interpreted with caution.
11. The co-Chair explained that the Scientific Committee (SC) has proposed a modified meeting schedule that would enable the SSC PS to include not only the most up-to-date fisheries-independent data but also the most up-to-date fisheries-dependent data from the latest fishing

season in each future stock assessment. He suggested that the SSC PS could also conduct preliminary work to update Members' CPUEs with data from the 2025 fishing season and test whether this would significantly impact the previous stock assessment results. Regarding the retrospective patterns, the co-Chair pointed out that these have been smaller than the past and that they may be a separate issue from the scaling issues, and that the reason for the retrospective patterns may not be due only to the model, but also the fact that some datasets used in the assessment are changed each year. The co-Chair also noted the need to pay careful attention to the nature of Members' CPUE estimations, taking into account changes in fishery operations such as time, space, gear configuration, and resource-selectivity, and the need to consider how to make greater use of fisheries-independent information.

12. China echoed the concerns raised by Chinese Taipei regarding the stock assessment model specification, assumption, and input data, as well as the plausibility of the stock assessment results. China pointed out that fisheries observations suggest that the stock status is much better than the stock assessment results indicate, which undermines managers' and stakeholders' confidence in the stock assessment. China expressed particular concern with the choice of reference points, especially  $B_{MSY}$ , as the estimation of  $B_{MSY}$  is unstable and makes it difficult to know the true stock status.
13. Japan acknowledged the concerns raised by China and Chinese Taipei but emphasized that the current stock assessment results using BSSPM, which was developed through intensive discussions among Member scientists and has been in place for years, represent the best available information. Japan reminded the SWG MSE PS that the current interim HCR was established through discussions and negotiations at the SSC PS, the SC, the SWG MSE PS, and the Commission, and that it clearly stipulates how to calculate the catch level for Pacific saury, as described in Annex 1 of CMM 2025-08. Japan also pointed out that the Commission has agreed on using this interim HCR until an age-structured model is developed or the Commission decides otherwise, and Japan suggested that the SSC PS continue to work on addressing the technical issues raised by Members as it develops an age-structured model.

### Agenda Item 3. Review of the adopted HCR and its results

#### *3.1 TAC for 2025*

14. The SWG MSE PS noted the TAC set for 2025 in CMM 2025-08.

#### *3.2 HCR-generated catch levels for 2026*

15. China noted and referred to paragraphs 36 and 37 of the SSC PS16 meeting report, which highlight substantial uncertainties and limitations in the current Pacific saury stock assessment. As noted in the report, the model exhibits instability and considerable uncertainty in key parameter estimates and does not adequately capture the non-stationary population dynamics

driven by environmental variability. In addition, the assessment results show scaling instability across years as new data are incorporated, leading to fluctuations in estimated biomass, biological reference points, and stock status, which undermines the consistency and comparison of annual assessments. In light of these unresolved scientific concerns, China considered that the current stock assessment results are not sufficiently robust to be used as inputs to the HCR for the calculation of TAC, and therefore cannot support their application for management advice at this stage.

16. Japan reiterated that the current stock assessment represents the best available scientific information. Japan also reminded the SWG MSE PS that the current interim HCR represented a compromise, as Japan would have preferred a larger maximum allowable change (MAC) than 10%. Japan emphasized that the process described in the HCR for generating catch levels for 2026 should be followed.
17. The SWG MSE PS noted that the interim HCR for Pacific saury under CMM 2025-08 was used to calculate the annual catch level in the 2026 fishing year, while noting the lack of endorsement from China. Based on assessment inputs from Japan and Chinese Taipei, the unconstrained annual catch level for 2026 =  $(B_{2025} * F_{MSY} * (B_{2025} / B_{MSY})) = 91,180$  MT. Based on the adopted interim HCR, the constrained 2026 catch level would be  $0.9 \times 202,500 = 182,250$  MT.

### 3.3 Review of the adopted HCR

18. Chinese Taipei pointed out that as Pacific saury had been overfished for many years, it made sense that industry needed to endure a reduction in TAC to support the recovery of the stock. At the same time, it is necessary to strike a balance between ensuring the survival of the existing industry and allowing the stock to recover to the MSY level. Chinese Taipei explained that when Members considered the candidate interim HCRs, the table of the summary of key outputs from the simulations for each option (SWG MSE PS05 Report, Table 4) was an important reference for many Members. That table showed that for 2024–2028, the simulations of TAC were all above 200,000 MT, which is the level that Chinese Taipei's industry would be able to endure. It was on that basis that Chinese Taipei agreed to adopt the interim HCR. However, in recent years, the unconstrained catch level based on the stock assessment has been much lower than the median value in the simulations. Given this trend, the HCR is expected to reduce the TAC by 10% every year for many years, which would threaten the survival of Chinese Taipei's Pacific saury industry. Chinese Taipei suggested that the original simulation and the HCR that was adopted were overly optimistic and unrealistic. Chinese Taipei believed that in order to ensure the sustainability of its fisheries and the recovery of the Pacific saury stock, the current interim HCR needs to be reviewed and amended if necessary. Chinese Taipei therefore intends to present a proposal at COM10 to

amend the current interim HCR. The proposal is still being prepared but two important aspects will be the extension of the period of recovery and a change in the HCR's reference points.

19. China shared Chinese Taipei's concern regarding the difference between the catch levels in the simulations and the stock assessment results, pointing out that the two showed opposite trends. China explained that it too had agreed to the current interim HCR based on the belief that the TAC trend would be turning upwards after years of decline, as the simulations seemed to suggest.
20. The co-Chair explained that the numbers in the table that Chinese Taipei referred to were the median results of base case simulations. He explained that these simulations were conducted based on the 2023 stock assessment results and various assumptions and that they therefore contained uncertainties. One such assumption was that the stock assessment results would show an increasing trend in the biomass level. However, the biomass levels estimated by the stock assessments have not actually improved as fast as the median values under the base case scenario. The co-Chair explained that the SWG MSE PS also conducted simulations based on a robustness scenario in which a potential negative productivity scenario was assumed and he noted that the current biomass level estimated by the stock assessment lies between the base case and robustness case of the simulations.
21. Japan acknowledged that the stock assessment results deviate somewhat from the simulation results but pointed out that this often occurs in MSE processes. Japan also reminded Members that when the simulations were presented, it was emphasized that they contained wide uncertainty ranges. Japan noted that although the stock assessment results differed from the median results, they were still within these uncertainty ranges and within what scientists considered to be plausible. Japan emphasized that even if the stock assessment results and the simulations differ, that is not a valid reason for not following the adopted interim HCR this year.
22. Canada noted Chinese Taipei's point that its industry could not endure annual catch levels dropping below 200,000 MT. Canada pointed out that it could be one of the concrete management objectives to ensure annual catch levels are above 200,000 MT, and that the SWG MSE PS could design management procedures and evaluate their ability to meet this objective in MSE simulation. Canada emphasized that the development and testing of such potential management objectives is an important role of the SWG MSE PS and encouraged Members to develop and propose more such objectives.
23. Pew welcomed the discussion on management objectives and supported Canada's comments.

24. The United States recognized Members' positions and concerns with the TAC but reminded Members that the current interim HCR is a compromise. The United States pointed out that during discussions that led to the adoption of the interim HCR, it had supported a MAC of 40% to allow the quicker recovery of the Pacific saury stock. The United States also noted that, nevertheless, the current HCR is working in aiding the recovery of the stock.
25. Pew reiterated its view that the overall objective of ensuring the recovery of the Pacific saury stock has not yet been achieved. Pew acknowledged the legitimate concerns raised by Members but encouraged the SWG MSE PS to discuss and explore these issues further as part of the process of developing a full MSE. Pew encouraged the SWG MSE PS to not lose sight of its goal of developing a full MSE and to devote resources to completing that work in a timely manner.
26. The co-Chair recognized the concerns raised by Members about the current interim HCR but pointed out that the SWG MSE PS has also been tasked with developing and conducting a full MSE. He suggested that the SWG MSE PS focus on addressing these concerns as part of its current task of developing a full MSE and work towards developing an age-structured operating model, which could better account for the biological characteristics of Pacific saury and consider environmental perspectives. The co-Chair explained that the existing interim HCR could be tested in the full MSE and that other management procedures (MPs) could also be considered, such as other model-based MPs (e.g., using BSSPM) or empirical MPs. In addition, he pointed out that under the newly proposed meeting schedule for the SSC PS, future assessments would be able to include not only the most up-to-date fisheries-independent data, but also the most up-to-date fisheries-dependent data, which would decrease the data lag between assessment time period and annual advice.

Agenda Item 4. Discussion toward development of management procedures (MPs) as a mid-term goal

*4.1 Management objectives*

*4.2 Operating models*

*4.3 Management procedures*

*4.4 Performance indicators*

27. The SWG MSE PS reviewed the draft table of elements that could be considered when developing a full MSE.
28. The invited expert presented a summary of the work done in 2025 to develop an SS3 assessment for Pacific saury and provided additional comments regarding the ongoing MSE process (NPFC-2026-SWG MSE PS07-IP04). Further improvements have been made to the

SS3 model structure and parameterization. The high uncertainty in the preliminary assessment outputs compromises the reliability and predictability of annual advice. Age-structured models such as SS3 have higher biological realism but may not increase reliability as retrospective patterns remain. Furthermore, the short lifespan of Pacific saury makes estimation difficult because new, unobserved cohorts could significantly impact the next year's abundance. Nonetheless, age-structured models can serve as operating models to evaluate robustness of management procedures. The philosophy of MSE is to develop complex operating models to test robustness of simpler procedures (BSSPM, empirical types). The SWG MSE PS should use MSE to evaluate the "value" of decreasing data lag. The SWG MSE PS should also identify lessons learned from previous work to inform improvements on communication of MSE results (for example, emphasizing that projections are not predictions or forecasts). However, the invited expert also cautioned that the assessment model that explains the dynamics better does not necessarily ensure better management.

29. The SWG MSE PS considered potentially extending the timelines of the draft management objectives for the full MSE.
30. The SWG MSE PS agreed that the final MP should include an exceptional circumstances protocol.
31. Chinese Taipei suggested changing the order of priority among the draft management objectives and elevating "Avoiding unsustainable state of the stock" above "Recovery of the stock." Japan and the United States expressed their preference for maintaining the current order of priority.
32. Canada reiterated its suggestion that a potential additional management objective could be to maintain annual catch levels above 200,000 MT to reflect Chinese Taipei's concerns about the viability of its Pacific saury fishery.

#### Agenda Item 5. Other matters

33. No other matters were raised.

#### Agenda Item 6. Timeline and future process

##### 6.1 Timeline

##### 6.2 Future process with assistance of SSC PS

##### 6.3 Workplan till SSC PS17&18 and SWG MSE PS08 meetings

34. The SWG MSE PS prepared two schedules, with future tasks, for developing a full MSE (Annex D). One schedule follows the original timeline set by the Commission (2026–2027). The other schedule follows a longer timeline (2026–2028).

35. Some Members expressed their initial preference for the longer timeline, noting the heavy workload required and Members' time and capacity constraints. One Member acknowledged the concerns raised by other Members but expressed initial preference for adhering to the original timeline set by the Commission. There was general agreement that a decision of the Commission would be required to lengthen the currently agreed timeline, which will end in 2026–27.
36. The SWG MSE PS agreed to forward both schedules (Annex D) to the Commission for its consideration.
37. Pew expressed disappointment at the potential delay of the full MSE development by a year. Pew encouraged Members to strive to complete the full MSE as soon as possible. Pew also noted that in both of the proposed schedules, management objectives would be a focus of discussions at the next SWG MSE PS meeting and strongly encouraged Members to present concrete proposals of management objectives at that meeting to ensure robust discussions.
38. The invited expert stated that initial MSE results would be helpful to advance discussions on refining objectives, revising candidate MPs, and interpreting results. Until then, much of the concepts are currently abstract. A two-year timeline would also facilitate these discussions and MSE revisions.

#### Agenda Item 7. Recommendations to the Commission

39. The SWG MSE PS recommends that the Commission note the following regarding the annual catch level calculated for the 2026 fishing year:
  - (a) The interim HCR for Pacific saury under CMM 2025-08 was used to calculate the annual catch level in the 2026 fishing year, although there was lack of endorsement from China.
  - (b) Based on assessment inputs from Japan and Chinese Taipei, the unconstrained annual catch level for 2026 =  $(B_{2025} * F_{MSY} * (B_{2025} / B_{MSY})) = 91,180$  MT.
  - (c) Based on the adopted HCR, the constrained 2026 catch level would be  $0.9 \times 202,500 = 182,250$  MT.
40. The SWG MSE PS recommends the hiring of an invited expert to support future meetings of the SWG MSE PS and the technical work to develop a full MSE.
41. The SWG MSE PS recommends that the Commission endorse one of the schedules prepared by the SWG MSE for full MSE development and to endorse the holding of meetings of the SWG MSE PS accordingly (Annex D).

42. The SWG MSE PS recommends that the Commission reaffirm the importance of including scientists, managers, and stakeholders at future meetings to facilitate communication and completion of this important work.

Agenda Item 8. Adoption of Meeting Report

43. The report was adopted by consensus.

Agenda Item 9. Close of the Meeting

44. Mr. Mahoney thanked the SWG MSE PS for its productive discussions and looked forward to making further progress in future meetings. He also expressed his thanks to the Secretariat for hosting the meeting, the Rapporteur for his support, and his fellow co-Chair for his hard work.
45. The meeting closed at 12:30 on 4 February 2026, Tokyo time.

**Annexes:**

Annex A – Agenda

Annex B – List of Documents

Annex C – List of Participants

Annex D – Meeting schedule and tasks for developing a full MSE for Pacific saury

Please refer to the NPFC website for the complete annexes.



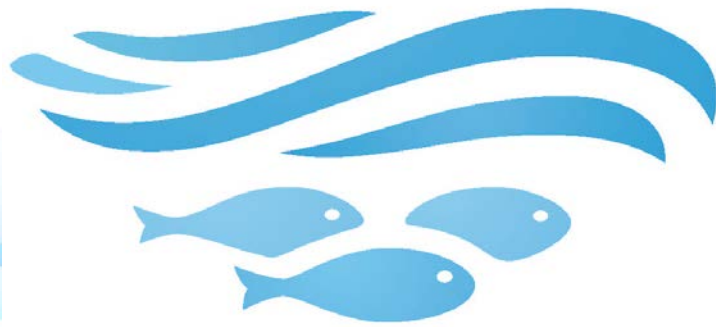
3<sup>rd</sup> Meeting of the Small Scientific Committee  
on Neon Flying Squid

4-6 March 2026

Virtual

Meeting Report

NPFC



## **Agenda**

Agenda Item 1. Opening of the Meeting

Agenda Item 2. Adoption of Agenda

Agenda Item 3. Review of intersessional activities and SC/TCC/Commission meeting updates related to NFS

Agenda Item 4. Updates on Members' fishery status

4.1 Member presentations prepared in advance

Agenda Item 5. Review and updates of biological information for NFS

Agenda Item 6. Updates on fishery-independent abundance indices

6.1 Presentation about survey prepared by Members (e.g., Japan, China) in advance

Agenda Item 7. Updates on fishery-dependent abundance indices

7.1 Presentation about CPUE standardization analysis prepared by each Member in advance

Agenda Item 8. Fisheries stock assessment

8.1 Review of progress on the surplus production models

8.2 Discussion of frequency of benchmark and annual stock assessments

8.3 Discussion of fisheries-dependent and fisheries-independent indicators of trend for stocks

8.4 Recommendations for future work

Agenda Item 9. Review of the SSC NFS Work Plan

9.1 Review and update of the SSC NFS Work Plan

Agenda Item 10. Other matters

10.1 Species summary for neon flying squid

10.2 Invited expert

10.3 Table of activities and timeline

10.4 Other

Agenda Item 11. Adoption of Report

Agenda Item 12. Close of the Meeting

## **MEETING REPORT**

### **Agenda Item 1. Opening of the Meeting**

1. The 3<sup>rd</sup> Meeting of the Small Scientific Committee on Neon Flying Squid (SSC NFS03) took place as a virtual meeting via WebEx, and was attended by Members from Canada, China, Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, and the United States of America. The Pew Charitable Trusts (Pew) attended as an observer. An invited expert, Dr. Rujia Bi, participated in the meeting.
2. The meeting was opened by the SSC NFS Chair, Dr. Luoliang Xu (China), who welcomed the participants.
3. The Science Manager, Dr. Aleksandr Zavolokin, outlined the procedures for the meeting.
4. Mr. Alex Meyer was selected as rapporteur.

### **Agenda Item 2. Adoption of Agenda**

5. The SSC NFS agreed to change the order of agenda items such that “Review and updates of biological information for NFS” becomes agenda item 5 and “Updates on fishery-dependent abundance indices” becomes agenda item 7.
6. The agenda was adopted as revised (Annex A). The List of Documents and List of Participants are attached (Annexes B, C).

### **Agenda Item 3. Review of intersessional activities and SC/TCC/Commission meeting updates related to NFS**

7. The Chair provided an update on intersessional activities of the SSC NFS. Members have submitted updated 1 x 1 degree catch and effort data up to 2024 for joint CPUE standardization work. The invited expert has conducted a joint CPUE standardization and will share the code on the NPFC GitHub in due course. Members have also conducted individual CPUE standardizations and will present their work at this meeting. There is one pending task, which is for Members to share information about their collection of size and age data.

8. The Science Manager presented the outcomes from the 10<sup>th</sup> Scientific Committee meeting (SC10) of relevance to NFS. SC10 discussed taskings for its subsidiary bodies, including the frequency of benchmark and annual stock assessments, fisheries-dependent and fisheries-independent indicators of trend for stocks, incorporation of climate-related tasks into workplans, invited experts' roles and tasks for 2026, addition of a table of activities and timeline to meeting reports, science-based options for operationalizing the precautionary approach, development of a template for data calls and tasking subsidiary bodies to specify requirements and deadlines, and provision of information about Members' sampling programs for transshipped catch. The SC also streamlined its workflow and suggested to separate preparatory work from the formalization of recommendations and scientific advice, in particular by turning data preparatory meetings into informal meetings. The SC also suggested to hold one formal meeting of each SSC and TWG per year for formalizing scientific advice; fund formal meetings including SC's annual session by the NPFC, unless Members volunteer to host and sponsor them; task the Science Manager to draft meeting summaries for data preparatory meetings; task the Science Manager to post agendas, meeting papers and summaries of informal meetings on the website; use the new SC database for the submission and dissemination of data shared for routine/recurring assessments; and shorten the deadline for document submission to meetings of SSCs, TWG and SWGs from one month to two weeks.

#### Agenda Item 4. Updates on Members' fishery status

##### *4.1 Member presentations prepared in advance*

9. China presented its NFS fishery status up to 2025 (NPFC-2026-SSC NFS03-IP03). More than 99% of NFS is caught by squid jigging. The annual catch has remained relatively stable in recent years, with a total of 12,457 MT in 2025. In 2025, most catches (11,987 MT) occurred in the Convention Area east of 170°E. China operated 78 vessels in 2025, a decrease of 42 compared to 2024. They operated for 5,207 fishing days, a decrease of 3,586 compared to 2024. Seasonal catches occur from May to November and tend to show an initial rise followed by a decline. The accumulated catch increased annually between 2022 and 2024, then declined in 2025. The nominal CPUE was 0.59 MT/day west of 170°E and 2.92 MT/day east of 170°E in the Convention Area.
10. Japan presented its NFS fishery status up to 2025 (NPFC-2026-SSC NFS03-IP04). The annual catch in recent years has been relatively stable and total catch in 2025 was 5,746 MT. In general, Japanese fishing vessels mainly operate in the Convention Area east of 170°E from May to July. They also operate in Japanese national waters in January and February in some years. In 2025, most of the catch was taken in the Convention Area east of 170°E. There was almost no catch in national waters because fishing vessels operating in national waters in January and February targeted Japanese flying squid. The number of vessels operating in the Convention Area east of 170°E has been stable since 2011 at around 25 vessels. The number

of vessels operating in national waters has been decreasing in recent years. In 2019, 2020, 2024 and 2025, many fishing vessels operated in August and September. Nominal CPUE in 2025 was 4.0 MT/day in the Convention Area west of 170°E and national waters, and 3.4 MT/day in the Convention Area east of 170°E, both increasing compared to 2024.

11. The Chair noted that Japan has not shared its older CPUE data dating back to 1995 for joint CPUE analysis. Japan explained that it is still preparing the data from the earlier time period and intends to share these data when the preparation is completed. For now, Japan has shared its CPUE data from 2005 onwards for joint CPUE analysis.
12. Korea presented its NFS fishery status up to 2025 (NPFC-2026-SSC NFS03-IP05). All NFS fishing occurs by stick-held dipnet vessels which have squid jigging licenses, but NFS is not the primary target species. Pacific saury is the primary target species for these vessels. Korea conducted exploratory fishing in the North Pacific Ocean in 2017 (1 vessel), 2021 (1 vessel) and 2022 (2 vessels). In other years, NFS was caught as a bycatch species by hand lines from stick-held dipnet vessels. In 2025, total NFS catch was 28 MT, with 25 MT caught by one exploratory fishing vessel operated from July 15 to August 5. NFS catches east of 170°E have only been recorded during Korean exploratory fishing (2017, 2021, 2022 and 2025). In other years all NFS were caught west of 170°E as fishing activities focused primarily on Pacific saury. The number of stick-held dipnet vessels fishing for squid has gradually decreased from 14 in 2016 to 5 in 2025, with only 4 out of 5 operating vessels reporting catch of NFS. Since the NFS are caught only by hand lines, the annual catch fluctuates significantly. In the years when NFS were caught west of 170°E, fishing occurred in August and November, with the highest catch recorded in August. In 2025, one exploratory fishing vessel caught NFS east of 170°E and it did so only in July.
13. Chinese Taipei presented its NFS fishery status up to 2025 (NPFC-2026-SSC NFS03-IP01 (Rev. 1)). Catch peaked at 9,022 MT in 2004 and was 82 MT in 2025. Catch is mainly from the Convention Area west of 170°E. Only four vessels harvested squid in 2025, down from a peak of 91 in 2019. The four vessels operated from August to September. In 2025, the nominal CPUE was 0.2 MT/day in the western region and 2.7 MT/day in the eastern region. The fishing grounds in 2025 expanded compared to recent years. One fishing vessel operated in the eastern region, the first since 2021. Captains utilize commercial weight categories when reporting daily catch data via an electronic logbook system. The commercial weight categories are classified into the following groups: <300 g; 300–400 g; 400–600 g; >600 g; and miscellaneous.

#### Agenda Item 5. Review and updates of biological information for NFS

14. Chinese Taipei presented an investigation of the relationship between weight category and

mantle length (ML) distribution of NFS caught by its squid jigging fishery and estimates of their mantle length composition (NPFC-2026-SSC NFS03-WP04). A total of 4,449 NFS individuals were measured during 1992–2001, although some samples lacked associated date records. Because body weight (BW) category information was not recorded in the biological data, BW categories were subsequently assigned based on individual BW. The ML distribution for each BW category can be calculated from the biological samples. The monthly catch in weight was converted to catch in number using the average individual BW of each BW category. The monthly ML composition of NFS catch can be calculated from BW category data for 2022–2024. Chinese Taipei suggested that the results may be useful for stock identification of NFS in the North Pacific.

15. Japan presented size composition data for NFS caught by its squid jigging vessels in waters east of 170°E in 2025 and a preliminary estimation of catch by cohort (NPFC-2026-SSC NFS03-WP05). Japan investigated the relationship between size-box categories and ML for NFS caught by its squid jigging vessels in these waters. On-board ML measurements of squid were conducted from May to September in 2025, covering five size-box categories. In total, ML was measured for 3,023 individuals. Based on these measurement results and measurement data from previous studies in 2012–2013, the proportions of the winter-spring cohort were calculated for each size-box category. By applying these proportions to the catch by size-box categories, the catch proportion of the winter-spring cohort in the total catch in waters east of 170°E was preliminarily estimated to be an average of 4.1% for the period from May to September in 2010–2025.
16. China presented ML composition data and length-weight relationships for NFS caught by its squid jigging vessels between 2011 and 2025 (NPFC-2026-SSC NFS03-WP09). China analyzed the biological data of 10,061 NFS specimens collected by its jigging vessels in the North Pacific Ocean from 2011 to 2025, focusing on ML composition and length-weight (ML-BW) relationships to discern differences between regional cohorts and their long-term growth trajectories. China suggested that these biological data could provide complementary information for a future NFS stock assessment.
17. The SSC NFS agreed to tentatively use 170°E as the dividing line for separating the winter-spring and autumn cohorts. The SSC NFS agreed to also continue to collect and study cohort-specific size composition data and to continually reevaluate the appropriateness of this cohort-separation method.

#### Agenda Item 6. Updates on fishery-independent abundance indices

##### 6.1 *Presentation about survey prepared by Members (e.g., Japan, China) in advance*

18. Japan presented a study on interannual trends in the abundance, biomass, and abundance-

based CPUE of the autumn and winter-spring cohorts (NPFC-2026-SSC NFS03-WP06). Japan conducted the study using Japanese driftnet survey data and explored two methods for separating the cohorts: separating them by the 170°E line and separating them by size. Similar trends in abundance, biomass, and abundance-based CPUE were observed for the winter-spring cohort using the two methods. However, for the autumn cohort, there were large differences in abundance and abundance-based CPUE between the two separating methods in some years due mainly to the high abundance of smaller squid (<30 cm) sampled in the area east of the 170°E line. While the overall interannual trends in the biomass were similar for both cohorts between the two methods, information on the size of squid caught by the commercial jigging fishery should be confirmed for cohort-specific stock assessments because size selectivity may differ between gear types.

19. The Chair noted that this study also seemed to support the appropriateness of using the 170°E line to separate the two cohorts.

#### Agenda Item 7. Updates on fishery-dependent abundance indices

##### *7.1 Presentation about CPUE standardization analysis prepared by each Member in advance*

20. China presented a standardized CPUE for NFS caught by the Chinese squid jigging fishery up to 2024 in the Northwest Pacific Ocean (NPFC-2026-SSC NFS03-WP08 (Rev. 1)). China explored three approaches, generalized additive model (GAM), Random Forest (RF), and Gradient Boosting Machine (GBM) to standardize the CPUE for the winter-spring cohort, the autumn cohort, and the combined stock during 2005–2024 from Chinese squid jigging fishery data. All models incorporated spatial, temporal, and environmental variables. Model performance metrics and residual diagnostics indicated acceptable fits for all models. The resulting standardized CPUE showed highly consistent interannual trends among the three methods for each cohort, as evidenced by high pairwise correlations ( $r > 0.94$ ). Specifically, the standardized CPUE for the winter-spring cohort peaked during 2005–2007, declined thereafter, and has since remained at relatively low levels. In contrast, the index for the autumn cohort showed an increasing trend from 2012 onwards, reached its highest point around 2019–2020, and has exhibited a recent declining trend. China suggested that these standardized CPUE indices, validated through multi-model comparison, could serve as abundance indices to support future stock assessment and management of this species.
21. The SSC NFS suggested that China could explore the use of a Tweedie distribution or a delta approach to explicitly handle the zeros in the raw data without having to add a constant.
22. Japan presented a preliminary standardized CPUE for the autumn cohort of NFS caught by Japanese squid jigging fishery from 2007 to 2025 in the North Pacific (NPFC-2026-SSC NFS03-WP07). The cohort was defined as individuals caught in areas east of the 170°E line.

Japan used GAM to standardize the nominal CPUE, incorporating temporal (year and month) and spatial (longitude and latitude) variables. The model with the lowest Akaike information criterion (AIC) value was selected as the best performing model. Japan found that the annual standardized CPUE derived from the best GAM showed a similar trend to the nominal CPUE. While noting that the winter-spring cohort may be included in the catch from the area east of 170°E and that there is room for further improvement in cohort separation methods, Japan suggested that this standardized CPUE could serve as a fishery-dependent abundance index of the autumn cohort in future NFS stock assessments.

23. Chinese Taipei presented a standardized CPUE for NFS caught by Chinese Taipei's squid jigging fishery up to 2024 (NPFC-2026-SSC NFS03-WP03). Catch and effort data for the Chinese Taipei NFS fishery in the Northwest Pacific were collected from 2001 to 2024. However, the fishery was temporarily halted in 2010 and during 2012–2015. The CPUE standardization was conducted using a generalized linear model (GLM) incorporating temporal, spatial, environmental, and vessel-related factors during 2016–2024. Most main explanatory variables and interaction terms included in the models were statistically significant. The standardized CPUE decreased from 2016 to 2018 and exhibited relatively limited interannual variation during 2019–2024.
24. The Chair informed the SSC NFS that, as was agreed at SSC NFS02, he had prepared a template for presenting standardized CPUEs of NFS (NPFC-2026-SSC NFS03-WP11). He requested Members to review the template intersessionally and share any feedback with him in advance of SSC NFS04.
25. The invited expert, Dr. Rujia Bi, presented a joint spatiotemporal CPUE standardization for NFS using Template Model Builder (TMB; NPFC-2026-SSC NFS03-IP06). Joint standardization is useful when multiple fleets observe the same stock with uneven overlap in space and time. The key modeling idea is to let fleets share a latent population surface while allowing fishery-specific catchability adjustments. For NFS, the approach is attractive because fleet coverage, seasonality, and spatial sampling are heterogeneous. The final assessment should focus not only on the index itself, but also on diagnostics, model stability, and biological plausibility. No environmental covariates were considered in the current analyses, but this functionality could be added to the package by allowing users to specify which covariates affect population density and which affect catchability.
26. The SSC NFS requested the invited expert to continue to develop the joint spatiotemporal CPUE standardization work and encouraged Members to continue to communicate with her on how best to utilize their data.

## Agenda Item 8. Fisheries stock assessment

### *8.1 Review of progress on the surplus production models*

27. China provided an updated preliminary stock assessment using Just Another Bayesian Biomass Assessment (JABBA) for two seasonal cohorts (winter-spring and autumn) and the stock-wide population through 2024 (NPFC-2026-SSC NFS03-WP10 (Rev. 1)). Abundance indices were derived from the Chinese squid-jigging fishery, including nominal CPUE, GAM-standardized CPUE, and RF-standardized CPUE. Annual catch data were obtained from the 2025 NPFC Annual Summary Footprint, aggregating reported catches from all Members. A total of nine assessment scenarios were conducted, covering three stock units  $\times$  three abundance indices. The scenario based on RF-standardized CPUE for the stock-wide population was designated as the base case. All models converged successfully, and residual diagnostics confirmed satisfactory model fit. Retrospective analysis showed negligible bias (Mohn's  $\rho < 0.1$ ). The results consistently indicated that in 2024, none of the stock units were overfished ( $B/B_{MSY} > 1$ ) and overfishing was not occurring ( $F/F_{MSY} \leq 1$ ). Short-term projections further confirmed the stock's resilience to catch levels within the recent historical range. China suggested that these findings provide a scientific basis for considering the current exploitation of NFS to be sustainable under the NPFC management framework.
28. The SSC NFS provided suggestions for potential technical improvements and encouraged China to continue developing its JABBA model. Members pointed out and discussed some technical improvements including parameter setting, prior and posterior distributions, relationships between  $r$  and  $K$  and  $q$ , autocorrelation of indices and residuals, hyperstability, and potential structure of JABBA. Members noticed some bimodal posterior distributions in some parameters, which may suggest lack of convergence of the MCMC samples. Members suggested running common JABBA diagnostics, for example the Gelman-Rubin diagnostic.

### *8.2 Discussion of frequency of benchmark and annual stock assessments*

29. The SSC NFS suggested that a three-to-five-year cycle for conducting benchmark stock assessments, as recommended by the SC, is likely to be appropriate. The SSC NFS agreed to reevaluate the appropriate frequency of benchmark stock assessments after conducting its first NFS stock assessment. The SSC NFS agreed to conduct the operational (data-updating) stock assessment once every year.

### *8.3 Discussion of fisheries-dependent and fisheries-independent indicators of trend for stocks*

30. The SSC NFS agreed that the indicators suggested by the SC are valuable and that they could be used to identify potential stock trends before an NFS stock assessment has been developed and conducted. The SSC NFS noted that some indicators, including standardized CPUE and total catch, have been regularly provided by Members.

31. The SSC NFS noted that mean size at catch should be cohort-specific.

#### *8.4 Recommendations for future work*

32. Pew provided an overview of a project on the development of management strategy evaluation (MSE) tools for short-lived species such as squid (NPFC-2026-SSC NFS03-OP01). The project is funded by Pew and led by Blue Matter Science. It aims to develop globally applicable MSE tools for squid and other short-lived species, develop some archetype management procedures (MPs) that could be effectively applied to fisheries for such species, provide strategic MSE analyses for regional fisheries management organization (RFMO) squid fisheries, integrate/test climate and environmental robustness testing methods, and provide feedback opportunities and capacity-building on the new MSE tools through RFMO trainings/workshops. Pew invited engagement and collaboration from NPFC scientists, emphasizing that RFMO scientists' inputs will be crucial for shaping the project's direction and relevance.
33. As future work, the SSC NFS agreed to:
- (a) continue analyses of Members' individual CPUE standardizations and the joint CPUE standardization and to explore areas where potential improvements could be made, such as in model assumption validation.
  - (b) further develop and evaluate surplus production models, including JABBA and SPiCT, for potential use in an NFS stock assessment.
  - (c) continue to conduct any other relevant work, including the determination of the input data, to prepare for the conducting of the first NFS benchmark stock assessment.
  - (d) complete data preparation and discuss model settings and specifications at the SSC NFS04 meeting in July 2026 and subsequently finalize the first stock assessment using updated input data at the 2027 meeting(s) to minimize the time lag between the terminal data year and the 2028 management year.
  - (e) explore the potential use of MSE methods and tools.

#### *Agenda Item 9. Review of the SSC NFS Work Plan*

##### *9.1 Review and update of the SSC NFS Work Plan*

34. The SSC NFS reviewed and updated the SSC NFS Work Plan (NPFC-2026-SSC NFS03-WP01 (Rev1)).

#### *Agenda Item 10. Other matters*

##### *10.1 Species summary for neon flying squid*

35. The Chair presented a species summary for NFS (NPFC-2026-SSC NFS03-WP02). It will be further updated to include 2025 catch and effort and other relevant information.

### *10.2 Invited expert*

36. The SSC NFS recommended that the SC continue to hire an invited expert in the 2026 operational year to support the SSC NFS during its meetings and to conduct other work to support the SSC NFS as appropriate. The SSC NFS identified the invited expert's roles and tasks to support the work of the SSC NFS in the 2026 operational year (Annex D).

### *10.3 Table of activities and timeline*

37. The SSC NFS reviewed and updated the table of intersessional activities and timelines for the 2026 operational year (Annex E).

### *10.4 Other*

38. The SSC NFS reviewed the template for SC data calls and provided input on potential data requirements and deadlines (NPFC-2026-SC11-IP01 (Rev. 1)). The updated data call is available on the website (<https://www.npfc.int/sc-data-call>).
39. The Data Coordinator, Mr. Sungkuk Kang, reported on the ongoing development of an NFS Map for NFS catch and effort data. The structure of the map is designed to be similar to the Pacific Saury map, with additional functionality to filter data by Member and to display actual catch and effort information under the "Members Only" domain. Development is nearly complete and the Secretariat is in the final stages of display refinement and data validation.
40. The Science Manager explained that the NFS map currently shows two isotherms of 8°C and 18°C, which is based on the optimal temperature range for Pacific saury, and requested Members to provide any advice they may have on a more appropriate temperature range for NFS.
41. The Data Coordinator informed the SSC NFS that once the remaining work is complete, the Secretariat will share a link to a trial version of the map with Members so that they can test the trial version and share any feedback with the Secretariat.

### *Agenda Item 11. Adoption of Report*

42. The SSC NFS03 Report was adopted by consensus.

### *Agenda Item 12. Close of the Meeting*

43. The Chair thanked the participants for their active engagement and constructive discussions, the rapporteur for producing a professional record of the meeting, and the Secretariat for organizing and supporting the meeting.
44. The meeting closed at 09:30 on 6 March 2026, Tokyo time.

**Annexes:**

Annex A – Agenda

Annex B – List of Documents

Annex C – List of Participants

Annex D – Invited expert’s roles and tasks to support the work of the SSC NFS in 2026

Annex E – SSC NFS intersessional activities and timelines for the 2026 operational year

Please refer to the NPFC website for the complete annexes.

# 9<sup>th</sup> Meeting of the Technical and Compliance Committee

8–11 April 2026

Osaka, Japan (Hybrid)

Meeting Report



## **Agenda**

1. Opening of the Meeting
  - a. Welcome to Participants
  - b. Appointment of Rapporteur
  - c. Introduction of Observers
  - d. Adoption of Agenda
  - e. Meeting Arrangements
2. Report from Secretariat
  - a. Fisheries Overview 2025
  - b. Data Management System Update and Initiatives for 2026
3. Review of MCS related issues from SC
  - a. TCC review of SC responses on data needs for an NPFC ROP
4. SWG Reports on Progress, Priorities and Recommendations
  - a. SWG Planning and Development - Report and Recommendations
  - b. SWG Operations - Report and Recommendations
  - c. Terms of Reference for the TCC SWGs
5. Conservation and Management Measures – Amendments or new CMMs
6. IUU Vessel List
  - a. Recommendation for Provisional IUU Vessel List to the Commission
  - b. Recommendations for amendments to current NPFC IUU Vessel List to Commission
7. Compliance Monitoring Scheme
  - a. Response to Chair's Letter on 2025 CMS
  - b. Draft Compliance Monitoring Reports for 2025 -presentation by Secretariat
  - c. Develop Provisional Compliance Report- Annual determination of compliance status and potential responses for each obligation subject to assessment for each Member
  - d. List of obligations for consideration for the Compliance Monitoring Scheme in 2026
8. Historic Existing Level
9. Transshipment
  - a. Secretariat Report on 2025 activity

- b. TCC review of CMM 2025-3 (per paragraph 52)
- 10. Vessel Monitoring System
  - a. Secretariat report on implementation
- 11. High Seas Boarding and Inspection
  - a. Secretariat Report
  - b. Member Reports
- 12. Review of Applications for CNCP Status
- 13. Climate Change
- 14. Cooperation with Other Organizations
  - a. MoU with SPRFMO
  - b. MoU with WCPFC
  - c. NPFC-NPAFC Work Plan
  - d. IMCS Network
- 15. Performance Review- Recommendations relevant to TCC
- 16. Other Matters
- 17. Review and Endorsement of TCC Work Plan for 2026/2027
- 18. Recommendations to the Commission
- 19. Next Meeting
- 20. Adoption of the Report
- 21. Close of the Meeting

## MEETING REPORT

### Agenda Item 1. Opening of the Meeting

#### *1a. Welcome to Participants*

1. The 9<sup>th</sup> Meeting of the Technical and Compliance Committee (TCC) was held in a hybrid format, with participants attending in-person in Osaka, Japan, or online via WebEx, on 8–11 April 2026, and was attended by Members from Canada, China, the European Union (EU), Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, the United States of America (USA), and Vanuatu, and Panama as a Cooperating Non-Contracting Party (CNCP). The meeting was opened by Ms. Alisha Falberg (USA), who served as the TCC Chair.

#### *1b. Appointment of Rapporteur*

2. Mr. Alex Meyer was appointed as rapporteur.

#### *1c. Introduction of Observers*

3. The Chair introduced approved observers permitted to be present. The accredited observers were the Pew Charitable Trusts (Pew), the Ocean Foundation, Ocean Governance Institute (OGI), World Wildlife Fund (WWF), and the North Pacific Anadromous Fish Commission (NPAFC). The observers were admitted without objection.

#### *1d. Adoption of Agenda*

4. The provisional agenda was adopted (Annex A). The List of Documents and List of Participants are attached (Annexes B, C).

#### *1e. Meeting Arrangements*

5. The Compliance Manager, Ms. Judy Dwyer, outlined the meeting arrangements.

### Agenda Item 2. Report from Secretariat

#### *2a. Fisheries Overview 2025*

6. The Compliance Manager presented the overview of NPFC fisheries in 2025 (NPFC-2026-TCC09-IP01).
7. The Compliance Manager explained that this year's fisheries overview did not include vessel

authorizations. She reminded the TCC that issues with the vessel registry data held by the Secretariat and discrepancies between these data and the data held by Members had resulted in several revisions to the fisheries overview at TCC08. The Secretariat has been investigating the issues in the vessel registry and found issues including duplicate or triplicate authorizations and the use of inconsistent vessel and gear codes. The Secretariat has been working on these issues but had not been able to resolve them in time for TCC09. The Secretariat will continue to address these issues and can work with Members individually or collectively, as appropriate, to do so.

8. Korea expressed appreciation for the new format of the fisheries overview, noting that it is more factual and simpler than previous years. The USA recognized the value of the new fisheries overview format in that it is more focused on factual information and acknowledged that there were issues with historical vessel authorization data that the Secretariat had not yet been able to resolve. However, the USA also pointed out that the more comprehensive information provided in previous years was useful for understanding the historical context. The USA also noted that other historical data besides vessel authorizations, such as historical catch, could have been presented, and requested that the Secretariat find a better balance in the kinds of information that it includes in the fisheries overview.
9. China noted that Table 2 presented chub mackerel catch for the 2025 calendar year, whereas Conservation and Management Measure (CMM) 2025-07 For Chub Mackerel applies a fishing year that runs from June 1 to May 31 and a catch limit based on fishing year. China considered the use of different time periods for reporting and for setting catch limits to be confusing and expressed its intention to propose that the Commission revert to using calendar year for setting catch limits for chub mackerel at COM10.
10. In response to a request for clarification regarding Members reporting bycatch in their Annual Report, the Secretariat explained that under the current data reporting template, Members are only required to report one amount for total catch and the Secretariat cannot verify whether or not this amount includes discards and bycatch.
11. The USA expressed concern regarding the significant increase in catch of Japanese sardine, noting the limited scientific advice and lack of an assessment for this stock at the NPFC level. The USA also requested Japan elaborate on its significant reported quantities of shark bycatch.
12. In response to the request for clarification, Japan explained that its shark bycatch was taken from its bottom fisheries and that over 80% of this bycatch consists of lantern shark.
13. The TCC requested that future annual report templates include a description of which fishery

such bycatch is associated with, so this information can be included in future fisheries overviews

14. The USA pointed out that even though the fisheries overview and other papers were submitted to TCC before the mandated deadline, it can nevertheless be challenging for Members and the Secretariat to adequately prepare for the meeting if most documents are being posted around the same time towards the end of the submission period, shortly before the meeting. The USA suggested that papers be submitted and posted earlier and in a more staggered way, if possible.
15. The Compliance Manager agreed that this would be beneficial for Members and the Secretariat, while pointing out that its ability to post documents earlier depends on when it receives data and papers from Members, though for the Vessel Monitoring System (VMS) and transshipment the goal/plan is to review these throughout the year.

*2b. Data Management System Update and Initiatives for 2026*

16. The Data Coordinator, Mr. Sungkuk Kang, presented a summary of the status of all TCC-related data management systems and new initiatives for further development in 2026 by the Secretariat (NPFC-2026-TCC09-IP02). Updates have been made to the Members Home, Significant Dates/Events, Transshipments Map, Annual Reports, Vessel Registry, High Seas Boarding and Inspection (HSBI) Events, e-IUU, Pacific Saury Weekly Report, Chub Mackerel Monthly/Weekly Report, and Collaboration sections. New Member Reporting Dashboard and Aerial Surveillance pages were also launched. As for VMS, it is in operation and continuously monitors the positions and movements of all NPFC fishing vessels operating in the Convention Area. The Secretariat will continue to provide Members with an inspection presence with access to VMS data to support inspection activities and address any technical needs. In 2026, the Secretariat intends to advance the following key initiatives: upgrading the NPFC Vessel Registry by enhancing its authorization management functionality; updating the NPFC Annual Report module to improve data integrity; developing an e-Implementation Questionnaire module similar to the e-Annual Report; creating a Monitoring, Control, and Surveillance (MCS) page to cover HSBI Events, Air Surveillance, and related Focal Points; and regularly updating the NPFC website in line with Member requirements.
17. The Data Coordinator informed the TCC that the Secretariat had received a request from Korea to enable individual users to create their own accounts in addition to the current process of group administrators having that ability. However, he explained that this functionality has not been implemented due to security considerations, as unrestricted account creation could expose the NPFC domain to unauthorized traffic or malicious activities.
18. The Data Coordinator explained that the Secretariat recently experienced an unusually high

level of traffic to the NPFC domain (npfc.int). This resulted in a deterioration of the domain's "trust rating," causing outbound emails to be flagged as spam or quarantined by many recipients. To safeguard the domain's integrity, the Secretariat was advised by its service provider not to develop functionality allowing account creation by any user; instead, the Group Administrator of each Member continues to create and manage their group users' accounts, ensuring network security and reliable email delivery.

19. The TCC noted that Members do not have permission to update the authorization period and target species of their authorized vessels and asked for an explanation from the Secretariat.
20. The Secretariat explained that this issue had previously been discussed among Members and the Secretariat, and it was concluded that Members should not have the ability to make such updates retroactively and that only the Secretariat should have that permission. The Secretariat further explained that, perhaps unintentionally, this resulted in Members also not having permission to make such updates for future authorization periods and target species. The Secretariat suggested that it would work with Members and the service provider to reintroduce that functionality as part of its work to address the aforementioned issues in the vessel registry.
21. The TCC noted that it is possible for Members to revise their annual reports after they have been submitted, including after the submission deadline. Some Members expressed concern about Members editing their reports after the deadline. The TCC agreed that information should be recorded on whether Members submitted their reports before the deadline and whether they made any changes to their reports after the deadline.
22. The Secretariat confirmed that the NPFC data management system does currently record what changes have been made, when, and by whom.
23. When asked about facilitating access for registered observers to the NPFC Collaboration site, the Secretariat explained that it is continuing to work with the service provider on facilitating this, but that there have been many unexpected technical and security issues that have prevented faster progress.
24. China pointed out that for their annual reports, Members must manually select all their active vessels from a list of all their authorized vessels, which can be very time-consuming and cumbersome. China suggested that it would be helpful if this process could be automated in some way, such as if the selection could be done automatically based on a separate list of active vessels submitted by a Member to the Secretariat or based on the VMS position reports sent to the Secretariat.

25. The USA suggested that a disclaimer be added to the Reporting Dashboard that clarifies that it is still each Member's responsibility to meet the reporting requirements under the NPFC CMMs in the case of any potential omissions or errors. The USA also suggested that a check box be added that Members must mark when submitting their annual reports that indicates that they are responsible for the accuracy of the data they are submitting.

Agenda Item 3. Review of MCS related issues from SC

*3a. TCC review of SC responses on data needs for an NPFC ROP*

26. The Chair reminded the TCC that she, the Scientific Committee (SC) Chair, and the SC had continued to engage in communication in the intersessional period regarding potential scientific components of an NPFC At-Sea Regional Observer Program (ROP) and explained that the responses from SC to the questionnaire from the TCC have been provided in NPFC-2026-TCC09-IP03.
27. Some Members considered the responses from the SC to be a summary of areas of scientific interest and not a conclusion on the necessities, scope, or design of a ROP. Furthermore, they noted that existing data needed for stock assessment work are already derived largely from Members' domestic programs and port sampling, that additional verification is not considered necessary, and that the level of monitoring required cannot yet be determined. They suggested that there is therefore not an urgent need to establish an ROP for scientific purposes.
28. Other Members believed that the information from the SC provided an adequate basis for beginning more full-fledged discussions on the development of an ROP, including potential components of an NPFC ROP. They also disagreed with the suggestion that the SC is already collecting all the data it needs and that additional verification is not needed, noting that there were a number of areas where the SC said it did not have enough information to answer the questions from the TCC. They further noted that the establishment of an ROP is required under the Convention, that an ROP should cover not only scientific aspects but also compliance aspects, and that the need for an ROP was reinforced by the Performance Review Panel.
29. **Recommendation:** That the Commission task TCC to work intersessionally through the SWG on Planning and Development (SWG PD) to develop a paper on TCC-related components of an NPFC ROP and submit the paper to TCC10. In developing the paper, the SWG PD should review other data collection methods, including current data collection methods such as Members' domestic observer programs and port sampling programs, as well as possibilities for the use of e-monitoring (EM).
30. The Ocean Foundation expressed concern at some Members' reluctance to move forward with the establishment of an ROP when this is a commitment under the Convention. The Ocean

Foundation noted the continued occurrence of data-related issues at the TCC, the SC and the Commission and expressed concern over the SC's lack of clarity regarding its level of confidence in, and uncertainties associated with, its stock assessments. The Ocean Foundation emphasized that an ROP is intended not only for collecting more data but independently verifying the data being collected, which is an instrumental part of modern fisheries management.

#### Agenda Item 4. SWG Reports on Progress, Priorities and Recommendations

##### *4a. SWG Planning and Development - Report and Recommendations*

31. Ms. Amber Lindstedt (Canada), Co-Lead of SWG PD, presented a summary of the work conducted by SWG PD in the 2025–2026 intersessional period. SWG PD held six meetings and advanced key files through email communication. Two priority tasks were completed: development of a three-year Compliance Monitoring Scheme (CMS) workplan and of a draft proposal to establish a CMM on Minimum Standards for Port State Measures. SWG PD began implementing the new CMS workplan and started by revising the implementation questionnaire, which was subsequently used for Members' 2025 submissions. SWG also advanced the draft ToR for SWGs for the TCC's consideration. In addition, SWG PD reviewed the SC's responses on scientific components of an NPFC ROP and the SC's input on the proposal from the EU for a CMM on Minimum Draft Standards for the Collection, Reporting, Verification, and Exchange of Data in NPFC.

##### *4b. SWG Operations - Report and Recommendations*

32. Ms. Patricia DeMille (Canada), Lead of the SWG on Operations (SWG Ops), presented a summary of the work conducted by SWG Ops in the 2025–2026 intersessional period (NPFC-2026-TCC09-IP04 (Rev.1)). SWG Ops held six meetings and prepared an amendment to CMM 2023-01 On Information Requirements for Vessel Registration to reflect accepted vessel marking practices. SWG Ops also worked with the Secretariat and a service provider to develop a reconfigured "MCS" page to replace the current HSBI page. SWG Ops advanced work on historical existing levels by holding further discussions and considered various approaches to identifying historical existing levels including: 1. using the maximum number of authorized vessels found between 2015 and the year members were to refrain from expansion for each individual species measure, 2. using one point from the year prior to CMM adoption, or 3. consider explicit recommendations from TCC08 that described the average number of vessels in various year ranges for relevant measures. With regard to the taskings related to serious violations, SWG Ops has firstly developed a voluntary Inspector's Guide to support inspectors during HSBI. Secondly, SWG Ops considered Article 17 Paragraph 4 and Member obligations where it has been established that a flag vessel has committed a serious violation, but no further progress was made.

33. The USA expressed some concerns with the voluntary inspectors guide and had questions about the intent of the document and alignment with the serious violations tasking, noting a lack of clarity regarding how it will continue to be updated and the need to ensure the potential for Members to adapt it does not lead to different interpretations.
34. The SWG Ops Lead also pointed out that meetings of SWG Ops invited participation from MCS practitioners so as to facilitate exchanges on shiprider, air surveillance and at sea patrols. She noted an online session to focus on practical issues with the online tools had been well received and expressed her intention to continue this practice going forward, noting that this would provide an opportunity to focus even more on technical considerations, including potential compliance or conservation issues that are not currently regulated by any NPFC measures.
35. The TCC held further discussions on historical existing levels under Agenda Item 8.

*4c. Terms of Reference for the TCC SWGs*

36. The TCC reviewed and revised the draft Terms of Reference (ToR) for the TCC SWGs prepared by SWG PD. The TCC endorsed the ToR for the TCC SWGs (Annex D).

**Recommendation:** That the Commission adopt the ToR for the TCC SWGs (Annex D).

**Agenda Item 5. Conservation and Management Measures – Amendments or new CMMs**

37. Canada presented its proposal for amendments to CMM 2024-02 To Establish a List of Vessels Presumed to Have Carried out Illegal, Unreported and Unregulated Fishing Activities in the Convention Area of the NPFC (NPFC-2026-TCC09-WP03). Canada explained that the proposed amendments are intended to clarify the timelines in paragraphs 5 and 6, as they could currently be interpreted to mean that vessels can only be proposed for listing on the NPFC IUU vessel list for violations that occurred in the previous year, which would severely limit and potentially prevent the ability to conduct post-inspection review of reporting requirements and ensure that all potential violations are considered by the TCC and the Commission.
38. Several Members acknowledged the potential need to investigate cases and propose IUU vessel listings based on activities that occurred further in the past than the current CMM allows, but they believed that five years would be too long a time period. One Member believed that the period should be the current year or previous calendar year in principle but that the period could be extended where relevant reporting information is only available after the submission of the annual reports of the Members and CNCPs. Some Members also noted that under a certain interpretation of the current CMM, there is a particular period of time in which, if a Member encountered a case of potential IUU fishing activity, it would not procedurally be able to nominate the vessel for inclusion on the draft IUU vessel list.

39. The TCC reviewed and revised the proposal (NPFC-2026-TCC09-WP03 Rev.3).
40. The USA presented its proposal for amendments to CMM 2024-02 (NPFC-2026-TCC09-WP05). The USA explained that the proposed amendments are aimed at clarifying the implementation of certain provisions, strengthening the CMM's effectiveness as a tool to combat and deter IUU fishing in the Convention Area, and making other non-substantive edits.
41. Several Members did not support inclusion of the measure to remove fishing privileges for vessels tied to beneficial owners of vessels on the NPFC IUU Vessel List, pointing out the difficulty of defining "beneficial owners" and also disagreeing with the justification of punishing other vessels that had not engaged in IUU fishing activities. The USA recognized the difficulty of defining "beneficial owners" and explained that it had therefore sought to include such a stipulation in a flexible way that would allow Members to take such action, rather than mandating it. However, in the spirit of compromise and in the interest of reaching consensus on a strengthened CMM, the USA agreed to withdraw those proposed provisions.
42. Some Members were uncomfortable with the proposed addition of provisions on measures to be taken by Members and CNCPs towards vessels included on the IUU vessel lists of other regional fisheries management organizations (RFMOs) before the NPFC has established a cross-listing procedure.
- Recommendation:** That the Commission task the SWG PD to develop a proposal for a procedure for cross-listing vessels from the IUU vessel lists of other RFMOs and determining which RFMOs' IUU vessel lists should be considered.
43. During the TCC's review of the US proposal, the EU proposed the addition of text to paragraph 3c) specifying that non-recording or non-reporting of incidental catches of other NPFC species and any discards would constitute presumed IUU fishing activities. The EU explained that the addition was intended to specify obligations that are already set out in other CMMs. Some Members did not support the addition, pointing out that the NPFC has no clear guidelines on reporting of discards and that the current CMM text has been serving its purpose with regard to non-recording or non-reporting of incidental catches. The EU agreed to withdraw the proposed addition.
44. Noting that part of the US proposal (NPFC-2026-TCC09-WP05) sought to address the same issue as the Canadian proposal, Canada offered to withdraw its proposal once consensus was reached on paragraphs 5 and 6 of CMM 2024-02.
45. The TCC reviewed and revised the proposal (NPFC-2026-TCC09-WP05 Rev.2).

**Recommendation:** That the Commission adopt the proposed amendments to CMM 2024-02 (NPFC-2026-TCC09-WP05 Rev.2).

46. The USA and Korea presented a joint proposal for the establishment of a CMM on Scientific Research Activities (NPFC-2026-TCC09-WP04 Rev.1). They explained that the proposed CMM is aimed at considering scientific research activities separately from commercial fishing activities, clarifying related procedures around information sharing and the application of CMMs, and promoting scientific research in the Convention Area while ensuring such activities do not undermine the objectives of the Convention and CMMs.
47. Several Members expressed general support for the measure. Some Members noted the relatively novel nature of a CMM that seeks to distinguish between commercial fisheries vessels and fisheries research vessels and called for caution in developing such a measure. In particular, they cautioned against creating undue burdens that would disincentivize Members from conducting research. They also noted the potential wide-ranging impacts of such a CMM due to the broad range of species covered by the Convention. Another Member expressed concern that exemption for research vessels from most CMM obligations could introduce MCS-related loopholes.
48. Members held further productive discussions in the margins but was unable to reach a consensus. The United States and Korea expressed their intention to submit an updated proposal to the Commission.

**Recommendation:** That the Commission further consider the proposal for the establishment of a CMM on Scientific Research Activities, taking into account the discussions at TCC.

49. The EU presented a proposal for the establishment of a CMM On Minimum Standards for the Collection, Reporting, Verification, and Exchange of Data (NPFC-2026-TCC09-WP06). The EU explained that the proposed CMM is intended to establish a more efficient and consistent approach for the collection, reporting, verification and exchange of data in NPFC, with the aim of contributing to strengthening the capacity of the SC in fulfilling its tasks, including undertaking conclusive and robust assessments, and facilitating the monitoring and enforcement of CMMs.
50. Members recognized the importance of establishing a unified data collection system. However, several Members pointed out that the standards in the proposed measure were not feasible in light of operational realities and that the input their scientists provided to SWG Data and the SC had not been reflected.
51. The EU noted that SWG Data and SC input had been considered, and for the information,

updated the proposal with background comments provided by Members to SWG Data and the SC and with recent comments from Members. The TCC reviewed the proposal and updated it further (NPFC-2026-TCC09-WP06 Rev.3). The TCC noted that several substantive issues remained unresolved despite productive discussions.

**Recommendation:** That the Commission further consider the proposal for the establishment of a CMM On Minimum Standards for the Collection, Reporting, Verification, and Exchange of Data (NPFC-2026-TCC09-WP06 Rev.3), taking into account the discussions at TCC.

52. The Lead of SWG Ops, Ms. DeMille, presented a proposed amendment to CMM 2023-01 On Information Requirements for Vessel Registration (NPFC-2026-TCC09-WP07), explaining that the amendment is intended to clarify that, under paragraph 4 of Annex 2, vessels are permitted to display both a name and other identification mark, rather than one or the other.

53. The TCC reviewed and endorsed the proposal.

**Recommendation:** That the Commission adopt the proposed amendment to CMM 2023-01

54. The Co-Lead of SWG PD, Ms. Lindstedt, presented a proposal to establish a CMM on Minimum Standards for Port State Measures (NPFC-2026-TCC09-WP08). She explained that a joint proposal by Canada, EU, and Korea to establish such a measure was discussed at COM09 and that the Commission had tasked the SWG PD to develop the proposal further. Some sections remained in square brackets because consensus had not yet been reached or because they depended on a decision about the technological solution that NPFC will use for collecting and managing the data requirements under this measure.

55. Regarding the scope and application of the measure, one Member expressed its strong preference for allowing carrier vessels with a regional observer on board for the full trip to be exempt from port inspections, pointing out the extra burden of requiring both 100% regional observer coverage and port inspections for those vessels, and the duplicative nature of the activities of the regional observers and the port inspections. Several Members disagreed with exempting such vessels from port inspections, pointing out such exemption is not in line with PSMA and the importance of the cross-verification mechanism provided by having both the transshipment observer program and port inspections, and the different and complementary functions served by each.

56. The TCC discussed the potential technological solutions for collecting and managing the data required under the proposed measure. Most Members expressed that an electronic Port State Measures (e-PSM) system adapted from, for example, the Indian Ocean Tuna Commission (IOTC) or the Pacific Islands Forum Fisheries Agency (FFA), for the NPFC would be the preferred option. Several Members were of the view that all Members should use the same

technological solution and should use an e-PSM adapted to the NPFC. One Member stated that it could accept other Members using the e-PSM but that it intends to use the Global Information Exchange System (GIES), that it is using GIES for other RFMOs, and that being required to use the e-PSM as well would be highly burdensome. The TCC noted that if some Members were to use one solution and other Members were to use another solution, it would be important to ensure that data could be transmitted bidirectionally between the two solutions. The Secretariat indicated that this would be complicated but could be feasible.

57. The TCC reviewed and revised the proposal (NPFC-2026-TCC09-WP08 Rev.2). The TCC noted that a number of substantive issues remained unresolved despite productive discussions. **Recommendation:** That the Commission further consider the proposal for the establishment of a CMM on Minimum Standards for Port State Measures (NPFC-2026-TCC09-WP08 Rev.2), taking into account the discussions at TCC.
58. TCC agreed that paragraph 23(g), which requires each Member and CNCP to “ensure that inspections are carried out thoroughly and in an expeditious manner, carried out in accordance with international law, and, to the extent possible, conducted within 72 hours of port entry, but not later than 5 working days,” will be interpreted to mean that the time of port entry triggering the timeframe for conducting a port inspection is the time at which the vessel has berthed in port and is physically available for inspection. **Recommendation:** That the Commission endorse the TCC’s interpretation of paragraph 23(g) when considering the proposal to establish a CMM on Minimum Standards for Port State Measures.

#### Agenda Item 6. IUU Vessel List

##### *6a. Recommendation for Provisional IUU Vessel List to the Commission*

59. The Compliance Manager presented the draft IUU Vessel List (NPFC-2026-TCC09-WP01). The draft list contained five vessels nominated for inclusion on the Provisional IUU Vessel List, two nominated by Japan and three nominated by Canada.
60. Japan presented information on vessel No. 1, a Chinese vessel it nominated. The Japanese inspection vessel observed that the fishing vessel discarded what appeared to be incinerator ashes and plastic bags. Following bilateral communication with China, China sanctioned the vessel owner. Japan was therefore satisfied that China had taken effective action in response to the violation.
61. China added that it also imposed a fine on the vessel captain.
62. The TCC noted that China has taken effective measures by imposing sanctions of adequate

severity on the vessel owner and vessel captain and agreed not to include vessel No. 1 on the Provisional IUU Vessel List.

63. Japan presented information on vessel No. 5, a Chinese vessel it nominated. Japan explained that the vessel recorded the mixture of Japanese sardine and chub mackerel under 40 grams as Japanese sardine in the logbook and transshipment records. The captain explained that even for a mixture that consists of mackerel (90%) and sardine (10%), he has recorded such a mixture as sardine. Japan considered this a case of serious misreporting as the vast majority of the mixture consisted of chub mackerel but was recorded as simply Japanese sardine. Furthermore, when the Japanese inspectors asked the captain to communicate with the fishing company and asked for the total catch amount of chub mackerel caught by the fishing vessel as of that date, the total amount reported did not include chub mackerel in the mixed fish bags. Since the total number of the mixed fish bags onboard was approximately 450, inspectors considered this as serious misreporting of the chub mackerel catch, which is subject to catch limit control. Japan expressed concern that there may be widespread underreporting of chub mackerel by Chinese fishing vessels.
64. China explained that its vessels can use either paper logbooks or e-logbooks, but their formats are slightly different. This is because China created a large volume of paper logbooks in 2024, prior to the establishment of an NPFC catch limit for chub mackerel. Part of the issue is also that there is no standard NPFC logbook. China's paper logbook does not include a column for recording mixed catches of chub mackerel and Japanese sardine, whereas the e-logbook does. In the e-logbook, vessels can record catches of a mixture of Japanese sardine and chub mackerel, and there is an additional column for recording the ratio of Japanese sardine to chub mackerel. In the paper logbook, the Chinese authorities have instructed vessels to record mixed catches of Japanese sardine and chub mackerel as Japanese sardine, regardless of which species constituted the majority of the catch, and to record the ratio of chub mackerel species in the "notes/remarks" column to synchronize the recording practice and avoid potential input error. The vessel in question reported the mixed catch of Japanese sardine and chub mackerel correctly in both logbook formats, so there was no misreporting of the catch. Chinese domestic regulations also require third-party verification of the catch harvested by purse seiners catching chub mackerel through the random sampling of 50 kg of each haul and determination of species composition and catch ratios, and this was done for the vessel. China did, however, find issues with the non-standardization of the vessel's fishing logbook and transshipment records and fined the vessel owner for it.
65. China and Japan informed the TCC that they had held constructive bilateral consultations regarding vessel No. 5. They explained that they had clarified some of the facts in the case, identified some remaining problems, and noted the need for further discussions on how to

prevent similar events occurring again in future. They informed the TCC that they planned to discuss this matter further at the Commission, including ways in which the implementation of the relevant measures could be improved.

66. The TCC agreed to include vessel No. 5 on the Provisional IUU Vessel List.
67. Canada presented information on vessel No. 2, a Russian vessel it nominated. Aerial surveillance indicated that the vessel's top or horizontal IRCS identifier was absent, that the side IRCS was believed to be too small to meet the size requirements, and that there were three alphanumeric identifiers instead of two.
68. Russia explained that it has sanctioned the vessel owner and the vessel has corrected its markings. It further explained that if a Russian vessel is undergoing repairs and does not include information that it will operate in the Convention Area, the vessel will be painted in a different way that is compliant with domestic legislation but not NPFC regulations. Russia also informed the TCC that it has issued instructions to the authorities that issue fishing permits to check vessels' markings before any fishing activity in the Convention Area.
69. The TCC noted that the vessel has corrected its vessel markings and that Russia has taken effective measures by imposing sanctions of adequate severity on the vessel owner and issuing instructions to prevent recurrence of such issues. The TCC agreed not to include vessel No. 2 on the Provisional IUU Vessel List.
70. Canada presented information on vessel No. 3, a Russian vessel it nominated. A HSBI event found several violations. These included catch of salmon on board, shark bycatch that was not recorded, a VMS transmitter that was not tamper-proof, and significant quantities of NPFC products that could not be inspected or identified by species because they had been rendered down into oil and fish meal. A review of catch records showed no bycatch was recorded and the weight of products was not that of the whole catch but the reduced liquefied weight. Canada was concerned that bycatch was not being correctly recorded and that catch documentation does not accurately reflect the catch weight of NPFC resources that are extracted from the Convention Area. Canada noted that the flag State did not respond to Canada's initial report but did submit a response to some of Canada's concerns once the vessel was added to the draft IUU vessel list.
71. Russia explained that it has thoroughly investigated all the alleged violations presented by Canada. Regarding the Canadian inspectors' indication that bycatch records were absent from the logbooks, Russia explained that it has recently introduced e-logbooks and it is continually revising and enhancing these e-logbooks through the issuance of new versions. At the time

the vessel was inspected in June 2025, it had been at sea since December 2024 and had therefore not been set up with a sufficiently enhanced e-logbook. Consequently, the vessel master could not provide e-logbook records of catch and bycatch. Nevertheless, all information on the catch was reported in daily paper logbooks, which are collected and analyzed by Russia's fisheries monitoring center. The translation of those logbooks has been provided to Canada and NPFC. The vessel has now also been set up with an e-logbook system that enables proper reporting of bycatch. Based on its investigation, which included close scrutiny of the vessel master, Russia believed that his failure to convey all the bycatch information to the Canadian inspectors was due to his lack of experience undergoing such an HSBI in the Convention Area. Following this incident, a meeting with the heads of the fishing companies operating in the Convention Area was held. Methodical regulations were also circulated to vessels about the correct recording of bycatch.

72. Regarding the alleged violation related to the VMS mobile transmitting unit (MTU), Russia explained that the switching off of MTUs is strictly prohibited and punishable under domestic law. It is considered one of the most serious fisheries violations and can result in the liquidation of the vessel owner's business. Russia investigated the alleged violation thoroughly and concluded that the MTU was fully compliant with the standards under Russian legislation. The investigation showed that all seals were intact and found no evidence that the MTU had been tampered with. The transmission of data was also uninterrupted. VMS data transmissions are constantly monitored and if there are any interruptions of data transmission, notification is immediately made to the monitoring authorities and this information is further transmitted to the Russian fishing ministry and coast guard authorities. Russia also pointed out that CMM 2024-12 does not contain detailed criteria for determining whether an MTU is tamper-proof.
73. Regarding the presence of salmon on board the vessel, Russia explained that based on its investigation, it found that some of these were salmon that the vessel crew had previously purchased at port for crew consumption. However, Russia also found that some pink salmon were caught in the Russian EEZ, these fell out of the net onboard, and some were taken by a crew member for personal use, in violation of the vessel rules and Russian legislation. The master of vessel, at the time of investigation, was unaware that that had occurred and naturally assumed these salmon were part of the supply purchased for crew consumption at port. The vessel owner was fined the maximum amount allowable under Russian legislation for this kind of violation. Further disciplinary measures were imposed on the vessel owner and the crew. Specifically, they have been required to culture salmon juveniles with a scientific facility for release into the wild.
74. Regarding the onboard processing of fish oil and fish meal, Russia clarified that the vessel

specializes in production of such products from sardine. Russia explained there are rigorous domestic restrictions on the content of fish oil and that it could not reasonably be assumed that other species had been added to the mix. As for the fish meal, if there were any suspicion that other species had been mixed in, Russia would conduct a rigorous investigation, including genetic research, but this was not considered necessary in this case as there was no evidence of the mixing of species in production.

75. Based on the above explanations, Russia believed that it had implemented all necessary measures, as a flag Member, to mitigate the violation and prevent future violations. Furthermore, Russia noted that neither the vessel owner nor the vessel master was involved in the violations that took place and that all fines and compensatory measures have been executed by the vessel owner. Russia emphasized that there was therefore no reason to include vessel No. 3 on the Provisional IUU Vessel List.

76. Three Members were of the view that Russia had demonstrated effective action in response to all of the alleged IUU fishing activities, while three other Members held the opposite view. The TCC noted there was a lack of clarity in CMM 2024-02 on the procedure to be taken when there is such a lack of consensus. The TCC agreed, based on its reading of CMM 2024-02 and the Convention, and past practice, to include vessel No. 3 on the Provisional IUU Vessel List, while also noting that there were differing views among Members.

**Recommendation:** That the Commission provide guidance on the appropriate procedure to follow when there is a lack of consensus at the TCC on whether or not to include a vessel on the Provisional IUU Vessel List.

77. Canada presented information on vessel No. 4, a Russian vessel it nominated. Aerial surveillance identified a significant number of sharks onboard the vessel and verification of the 2025 annual report confirmed that the vessel failed to record this bycatch. Canada noted that in bilateral communication with Russia, Russia indicated that the sharks had been caught outside the Convention Area and towed into it. However, Canada's analysis of the vessel's AIS tracks and speed did not support that analysis.

78. Russia pointed out that the alleged incident occurred in 2024 and that it is clear, under paragraphs 5 and 6 of CMM 2024-02 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 that only activities during the years from the previous meeting to the current year can be considered for listings on the NPFC IUU Vessel List. Russia stated that the alleged incident falls outside the scope of the CMM. Nevertheless, Russia conducted a thorough investigation, including analysis of trawl movements, and found no fishing activity in the Convention Area. Russia indicated that based on the vessel's tracks

and catch reports, the sharks had been caught outside the Convention Area in the Russian exclusive economic zone (EEZ) and towed into it. Furthermore, domestic regulation requires vessels to remove any gear from the water before entering the Convention Area and no fishing is allowed to be conducted when a vessel crosses from the Russian EEZ into the Convention Area. Russia therefore concluded that the sharks were caught in the Russian EEZ.

79. Several Members agreed with Russia that the activities in question fall outside the scope of CMM 2024-02 and that the vessel should not have been included on the draft IUU vessel list to begin with, although some of these Members understood the concerns raised by Canada.
80. Canada and the USA disagreed with these Members' interpretation of the scope of CMM 2024-02. They believed that paragraphs 5 and 6 are ambiguously phrased and that the intent of these paragraphs was not to exclude consideration of activities from before the period between one meeting and the next. Canada and the USA also pointed out that Canada had practical reasons for not immediately nominating the vessel and that the other Members' interpretation of the scope of CMM 2024-02 would create considerable practical issues going forward, including for example, difficulty nominating a vessel for the draft IUU vessel list for activities that occur shortly before a TCC meeting. They pointed out that if other Members insist on their current interpretation of CMM 2024-02, it would be essential to adopt a new measure that is clearer and provides a longer historical timeframe for considering potential IUU fishing activities.
81. Although Members did not have consensus on the interpretation of paragraphs 5 and 6 of CMM 2024-02, the TCC was satisfied with the effectiveness of the actions taken by Russia based on bilateral consultation between Canada and Russia in the margins and discussion in TCC. Therefore, the TCC agreed not to include vessel No. 4 on the Provisional IUU Vessel List.
82. **Recommendation:** That the Commission consider the Provisional NPFC IUU Vessel List, while noting that there was a lack of consensus on the inclusion of one of the two vessels on the Provisional NPFC IUU Vessel List.

*6b. Recommendations for amendments to current NPFC IUU Vessel List to Commission*

83. The Compliance Manager presented information concerning seven fishing vessels (Nos. 17–23) on the current NPFC IUU Vessel List (NPFC-2026-TCC09-IP08). These vessels had been added to the NPFC IUU Vessel List as unidentified IUU fishing vessels that had assumed the identities of legitimate vessels (LU RONG YUAN YU Nos. 101, 102, 103, 105, 106, 108, and 109). In 2025, the EU had noticed that the listings for these vessels contained a mix of photographs of both the legitimate and illegitimate vessels. Subsequently, the EU had

requested the Secretariat to seek clarification from China on these vessels and China had provided the additional documentation. Based on this, the TCC was requested to consider whether to amend the current NPFC List by removing the photographs of the legitimate, authorized Chinese vessels from the listings of those illegitimate vessels.

84. In response to questions for clarification, China provided additional explanations. China explained that it compared photos of the legitimate vessels in shipyards against the photos of the legitimate vessels and IUU vessels on the current NPFC IUU Vessel List to confirm which photos on the list were of the legitimate vessels. China also explained that the legitimate vessels have since changed their names, IMO certificates and International Radio Call Signs. In response to a request from one Member, China agreed to clarify the new MMSI numbers of the legitimate vessels.
85. The TCC agreed that there were photos of legitimate vessels mixed in with the photos of IUU vessels that had impersonated these vessels on the current NPFC IUU Vessel List and that the photos of the legitimate vessels should be removed.

**Recommendation:** That the Commission amend the current NPFC IUU Vessel List by removing the photographs of the legitimate, authorized Chinese vessels (LU RONG YUAN YU Nos. 101, 102, 103, 105, 106, 108 and 109) and task the Secretariat to amend any incorrect text descriptions on the current NPFC IUU Vessel List that were based on the photographs of the legitimate, authorized Chinese vessels.

#### Agenda Item 7. Compliance Monitoring Scheme

##### *7a. Response to Chair's Letter on 2025 CMS*

86. The TCC Chair introduced a Letter of Concern by the Commission Chair, Mr. Shingo Ota (Japan), to China, which was assessed as “non-compliant” at TCC08 (NPFC-2026-TCC09-IP09). The Letter of Concern was sent in accordance with paragraph 24 of CMM 2025-13 For the Compliance Monitoring Scheme and invited China to present to TCC09/COM10 an explanation of what measures it currently has in place to ensure that incidents such as those for which it was found “non-compliant” will not be repeated.
87. China explained the case of the *WanTong*, while emphasizing the unusual nature of the case. The vessel was flagged to Panama and Panama sanctioned the vessel for IUU fishing activities. It then de-listed the vessel and nominated it for inclusion on the NPFC IUU Vessel List. A new owner purchased the vessel and it was flagged to Comoros. However, Comoros did not wish to seek to get the vessel delisted from the NPFC IUU Vessel List. Ultimately, China engaged in negotiations with the vessel owner on settlement for scrapping and the vessel was scrapped at the end of 2024 in Bangladesh. China acknowledged that it had been non-compliant because it did not fulfil its obligation to deter the vessel from entering Chinese ports

nor deter Chinese vessels from conducting transshipments with the vessel. China explained that it has in place regulations to ensure that vessels on the IUU vessel lists of RFMOs for which China is a member are not allowed in Chinese ports and are not allowed to conduct transshipments with Chinese flagged vessels. China also expressed its commitment to ensure that such a situation does not occur again.

88. China submitted a letter in response to the Commission Chair's letter of concern during the meeting, while explaining that it had been unclear what, if any response, was required to the Chair's letter. China also provided English translations of its relevant domestic regulation.

89. The TCC noted that there was a lack of clarity around the process, purpose, and expected response for Letters of Concern under CMM 2025-13 For the Compliance Monitoring Scheme and that it would be beneficial to have a clearer and more established process.

**Recommendation:** That the Commission endorse a process for the sending of Letters of Concern whereby Members are notified when a Letter of Concern is sent, the Letter states the expectation that the Member receiving the Letter is to provide a written response with the actions taken by the Member, and the Letter specifies a timeline for the Member's written response and actions.

90. China believed it would be important for this process to eventually be reflected in CMM 2025-13 so as to establish the requirement to provide a response to the Letter of Concern as a legal obligation that can be assessed as part of the CMS process.

*7b. Draft Compliance Monitoring Reports for 2025 -presentation by Secretariat*

91. The Compliance Manager presented the Draft Compliance Report, which contained data retrieved from various sources on compliance with the 85 obligations listed in Annex II of the Compliance Monitoring Scheme (CMM 2025-13). The sources included the implementation reports submitted by Members, annual reports, HSBI reports including aerial surveillance, and reviews of VMS and transshipment data.

92. The TCC reviewed each area of potential non-compliance highlighted by the Secretariat.

93. In its review of the Draft Compliance Report, the TCC noted that it was unable to assess any obligations related to historical existing levels as the NPFC has yet to agree on a method of identifying historical existing levels.

94. Regarding China's vessel marking issue (CMM 2024-01, paragraph 5), China believed that the vessel fully complied with the obligation as the measurement conducted immediately after the HSBI activity confirmed that the markings do meet the 1 m requirement. Japan explained

that its inspectors' measurements found the markings were smaller than 1 m, but the difference was marginal and Japan did not consider this to be a serious issue. Based on the information provided by China and Japan, the TCC determined this case to be "Compliant."

95. Regarding Russia's vessel marking issue, Russia noted that this case related to vessel No. 2 on the draft IUU vessel list, which was considered under agenda item 6. Russia reiterated that it has sanctioned the vessel owner, the vessel has corrected its markings, and that the issue occurred due to technical reasons relating to differences in Russian domestic legislation and NPFC regulations. Some Members pointed out that an assessment of a Member's compliance with an obligation under a NPFC CMM should be based not only on actions taken by the Member in response to a violation, but also how the Member is implementing the obligation through its domestic regulations. In response to the request from the TCC, Russia presented further information on its relevant domestic regulations. Based on the information provided by Russia, the TCC determined this case to be "Compliant."
96. Regarding Chinese Taipei's vessel marking issues (CMM 2024-01, paragraph 5), two vessels were identified through HSBI events. Chinese Taipei explained that the cases had been investigated and adequately resolved as the vessels were sanctioned with fines in accordance with its domestic law, including the Distant Water Fisheries Act. Based on the information provided by Chinese Taipei, the TCC determined this case to be "Compliant."
97. Regarding Vanuatu's vessel marking issue (CMM 2024-01, paragraph 5), Vanuatu provided a verbal explanation that upon receiving report of the issue from Japan, it conducted its own investigation and instructed the vessel owners to rectify the matter. Vanuatu explained that the vessel owners have rectified the issue and presented a photo of the updated markings. The TCC noted the explanation provided by Vanuatu but also noted that Vanuatu had not provided any written response to the Secretariat when it was notified of the potential non-compliance nor any subsequent written explanation about its response as a flag Member. Therefore, the TCC determined this case to be "Non-Compliant."
98. Regarding China's potential transshipment reporting non-compliance issue (CMM 2025-03, paragraph 9), the TCC noted that this case related to vessel No. 5 on the draft IUU vessel list, which was discussed under agenda item 6. The TCC noted the explanations provided by Japan, the nominating Member, and China, the flag Member, under agenda item 6. Given that the TCC agreed to include the vessel on the Provisional IUU Vessel List, the TCC determined this case to be "Non-Compliant."
99. Regarding Russia's potential non-compliance issue related to transshipment observer obligations (CMM 2025-03, paragraphs 26, 29, 31, 34), Russia explained that in its view, the

obligations related to the deployment of observers under CMM 2025-03 are only applicable to transshipments in the Convention Area. Russia further explained that it does not conduct any transshipments in the Convention Area, that it only conducts transshipments in its own EEZ, and that all such transshipments are subject to inspection by Russian domestic inspectors. Russia also pointed out that its inspectors conduct inspections that are of a stricter standard than the monitoring and reporting requirements of observers. Some Members disagreed with Russia's interpretation of the CMM and believed that the obligations applied to all transshipments of NPFC resources, regardless of if they take place in the Convention Area or in a Member's EEZ. Other Members considered there to be ambiguities in the applicability of paragraphs 26, 29, 31, and 34 of CMM 2025-03 and did not think they clearly applied to transshipments in Members' EEZs. Some Members also pointed out that having inspectors inspect all transshipment activities was not equivalent to ensuring onboard observers for all carrier vessels and that inspectors may not necessarily conduct the same duties as observers. Consensus could not be reached on Russia's compliance status on paragraphs 26, 29, and 31, of CMM 2025-03, with different Members suggesting statuses of "Compliant," "Non-Compliant," or "Unable to be Assessed at this time." Regarding paragraph 34 of CMM 2025-03, the TCC noted ambiguity in the drafting of the paragraph as it states, "An observer shall," which could be interpreted as meaning that the obligation is placed on the observer, rather than the Member or CNCP. The TCC therefore agreed on a compliance status of "Unable to be Assessed at this time."

100. Some Members reiterated their concerns about the interpretation that the observer deployment obligations under CMM 2025-03 apply also to Members' EEZs. They also emphasized that this would be particularly problematic when parts of CMM 2025-03 are superseded by CMM 2025-17 On Transshipment Observer Program, as the deployment of regional observers in Members' EEZs and ports would be legally challenging. Other Members expressed serious concern over those Members' views, pointing out that during the extensive discussions and negotiations held to draft CMM 2025-17, it was made clear and explicit that the scope of the measure covered both the Convention Area and EEZs, including Members' ports.
101. Regarding Russia's potential non-compliance issues related to HSBI (CMM 2024-09, paragraph 31), Russia explained that it was the first year that Russia conducted HSBI and there were some technical issues at the local level in terms of inspectors' understanding of the communication and reporting requirements. As a result, Russia submitted a number of HSBI reports later than the stipulated deadline. Russia is implementing internal measures to improve inspectors' understanding of the CMM and communication and reporting requirements. Russia expressed its commitment to make improvements and strive to comply with CMM 2024-09. Based on the information provided by Russia, the TCC determined the status of this case to be "Delayed Submission."

102. Regarding China's potential non-compliance issues related to the reporting of catch, including incidental catch and discards, in its chub mackerel, sardine and squid fisheries (CMM 2025-07, paragraph 6 and CMM 2025-11, paragraph 6), the TCC noted that this related to incidents involving two vessels, one of which was vessel No. 5 on the draft IUU vessel list, which was discussed under agenda item 6. Regarding vessel No. 5, the TCC noted the explanations provided by Japan, the nominating Member, and China, the flag Member, under agenda item 6. Regarding the other vessel, China explained that it has imposed fines on the vessel owner and the vessel master, that it suspended the vessel from fishing for six months, and that the vessel did not leave port for 1 year as the fishing season had ended by the time the suspension period ended. The TCC was satisfied with China's actions as the flag Member in response to this latter vessel. As for vessel No. 5, the TCC agreed to include the vessel on the Provisional IUU Vessel List, and it therefore determined this case to be "Non-Compliant."
103. Regarding China's potential non-compliance issues related to sharks (CMM 2023-14, paragraph 7) and anadromous fish (CMM 2024-16, paragraph 5), arising from violations by a Chinese vessel, China explained that it has sanctioned the vessel owner and the vessel master, that it suspended the vessel from fishing for six months, and that the vessel did not leave port for 1 year as the fishing season had ended by the time the suspension period ended. Based on the information provided by China, the TCC determined this case to be "Compliant."
104. The TCC noted that several of Russia's potential non-compliance issues related to vessel No. 3 on the draft IUU vessel list, which was discussed under agenda item 6. Specifically, these were issues related to reporting of transshipments of bycatch and unregulated species (CMM 2025-03, paragraph 9), chub mackerel (CMM 2025-07, paragraph 6), recording shark catch (CMM 2023-14, paragraph 9), and anadromous fish (CMM 2024-16, paragraphs 5 and 11). The TCC noted the explanations provided by Russia under agenda item 6. Consensus could not be reached on Russia's compliance status for these issues. Some Members considered that Russia had taken effective action and suggested a status of "Compliant." Other Members did not agree that they had enough information to support such a conclusion and suggested a status of "Non-Compliant."
105. Regarding Russia's potential non-compliance issues related to annual reporting of shark catches (CMM 2023-14, paragraph 10), Russia believed that paragraph 10 concerned the obligation of Russia to report shark catches to the Secretariat and was independent of the obligation in paragraph 9 to record shark catches. Russia explained that it had reported all relevant information that it had to Secretariat before the deadline and in accordance with the relevant requirements and Russia therefore considered itself to be compliant with this provision. Some Members agreed with Russia's explanation and interpretation of paragraph

10. Other Members disagreed, pointing out that paragraphs 9 and 10 were interrelated, that HSBI events indicated that there were Russian vessels that could not correctly record shark bycatch, and that it was therefore also not possible for Russia to correctly report shark catches in its annual report. Consensus could not be reached on Russia's compliance status for this issue, with some Members suggesting a "Compliant" status and other Members suggesting a "Non-Compliant" status.

106. Regarding China's potential non-compliance issues related to marine pollution (CMM 2024-15, paragraph 7), the TCC noted that this related to vessel No. 1 on the draft IUU vessel list, which was discussed under agenda item 6. The TCC noted the explanations provided by Japan, the nominating Member, and China, the flag Member. The TCC agreed that China has taken effective measures in response to the violations by the vessel and determined this case to be "Compliant."
107. China expressed the view that inspector comments from the remarks section of HSBI reports should not be the basis for flagging cases of potential non-compliance.
108. The TCC thanked the Secretariat for making improvements to the Compliance Table in the CMR, including adding a column with responses from Members. The TCC requested that the Secretariat continue to improve the Compliance Table by providing more detailed descriptions of the cases of potential non-compliance, including the reasons that the Secretariat identified them as such.

*7c. Develop Provisional Compliance Report- Annual determination of compliance status and potential responses for each obligation subject to assessment for each Member*

109. Based on the above discussions, the TCC developed and adopted the Provisional Compliance Monitoring Report including the Executive Summary.

**Recommendation:** That the Commission consider the Provisional Compliance Monitoring Report adopted by the TCC, along with the attached Executive Summary.

*7d. List of obligations for consideration for the Compliance Monitoring Scheme in 2026*

110. As part of the development of the Provisional Compliance Monitoring Report and the Executive Summary, the TCC recommended the addition of a number of obligations for consideration for the Compliance Monitoring Scheme in 2026. Considering that some CMMs may become effective before others, the paragraph numbers and contents may change following decisions at the Commission meeting. The TCC agreed that the final review of obligations to be assessed under Annex 2 of the CMS CMM should occur at the Commission meeting.

**Recommendation:** That the Commission consider the TCC's list of obligations for

consideration for the Compliance Monitoring Scheme in 2026 as described in the Executive Summary of the Provisional Compliance Monitoring Report.

*Agenda Item 8. Historic Existing Level*

111. The TCC considered the options prepared by SWG Ops in NPFC-2026-TCC09-IP04 Rev.1.
112. The TCC noted that the historical existing level for the Northwest bottom fishery is already set out in CMM 2025-05 as the level agreed in February 2007, and therefore focused its discussion on the remaining species under the purview of the NPFC.
113. Several Members expressed a preference for basing the historical existing level on the maximum authorizations in the relevant timeframe, rather than the average authorizations over that timeframe, to avoid disadvantaging Members for year-to-year anomalies.
114. Some Members expressed a preference for options D or E. One Member expressed its preference for C, while stating that it could accept option D for the sake of achieving consensus. Another Member believed that 1 or 3-year timeframes were too short.
115. The TCC could not reach consensus on defining historical existing levels and noted the need for further discussions at the Commission.  
**Recommendation:** That the Commission note that the TCC was unable to reach consensus on defining historical existing levels and hold further discussions on this matter.
116. Canada and the United States expressed disappointment that the TCC could not make progress on the hard work of SWG Ops or provide further clarity. They emphasized the importance of defining historical existing levels for compliance assessments. They also suggested that if Members could not agree on how to define historical existing levels, they may need to consider establishing other effort controls based on the best available scientific information.

*Agenda Item 9. Transshipment*

*9a. Secretariat Report on 2025 activity*

117. The Compliance Manager presented the 2025 Transshipment Overview (NPFC-2026-TCC09-IP05). The number of transshipment events of fish products from the Convention Area in 2025 increased from 2024 with 2,477 reported in 2025 and 2,082 for the previous year. The volume of fish transshipped in 2025 (383,699 MT) also showed a corresponding increase over 2024 (306,503 MT). Although the overall catch in the Convention Area was down slightly in 2025, the percentage that was transshipped increased from 57.8% in 2024 to 72.7% in 2025, and the average amount of fish products transshipped per event increased from 147 MT in 2024 to 155 MT in 2025. In 2025, there were 389 more “Other Transfer Activities” (OTA) events (at

2,902) in the Convention Area than the previous year (2,513 in 2024). Fish transshipment and OTA events showed similar trends in both seasonal event counts and spatial distribution. There were 226 OTA events reported as Force Majeure activities in 2025. No potential non-compliance issues were reported in 100 random samples of observer reports, and with the implementation of the transshipment observer program in April, it is expected that enhanced analysis will be available for the 2026 season.

*9b. TCC review of CMM 2025-3 (per paragraph 52)*

118. The Chair noted that pursuant to paragraph 52 of CMM 2025-03 On Transshipments, the Commission will review the CMM regularly at the Annual Session, taking into account, *inter alia*, the latest advice from the TCC regarding the effectiveness of this measure in (i) providing the Commission with information about transshipments; and (ii) supporting effective MCS activities in line with the obligations of the Convention and CMMs.
119. **Recommendation:** That the Commission note that the TCC did not have any concerns or advice regarding the effectiveness of CMM 2025-03 On Transshipments in providing the Commission with information about transshipments and supporting effective MCS activities in line with the obligations of the Convention and CMMs.
120. The TCC held additional discussions regarding the implementation and applicability of CMM 2025-03 On Transshipments.
121. China explained that its vessels had faced difficulties with using the transshipment declaration in certain circumstances. Specifically, China explained that it has purse seiners that target both chub mackerel and Japanese sardine and they often catch a mix of both species and the two species are transshipped together in mixed bags. China noted that the transshipment declaration requires species-by-species reporting and was unsure how to record this in the case of the mixed bags, as it would be highly impractical to divide out the Japanese sardine and chub mackerel and weigh them separately. The TCC suggested that China could report the two species together using bags that have the mixed products in weight, but not in unit of number of bags, while providing the associated species codes and comments regarding the estimated proportion of each species once the online system enables such reporting. The Secretariat pointed out that it may be necessary to modify the transshipment API to enable such reporting but believed that such a modification would be feasible.
122. The TCC discussed the applicability of the provisions of CMM 2025-03 On Transshipments to Members' EEZs. Some Members were of the view that the CMM contained ambiguities in this regard, and considered that the reporting requirements under the CMM applied to both the Convention Area and Members' EEZs, but that the observer deployment requirements

only applied to the Convention Area. Other Members were of the view that the CMM did not contain ambiguities in its scope and that all provisions applied to both the Convention Area and Members' EEZs. The TCC noted that Members had different interpretations of the applicability of some of the provisions of CMM 2025-03 On Transshipments to Members' EEZs.

#### Agenda Item 10. Vessel Monitoring System

##### *10a. Secretariat report on implementation*

123. The Compliance Assistant, Mr. Jumpei Hinata, presented the 2025 VMS Overview (NPFC-2026-TCC09-IP06 Rev.2). Over the past four years, the NPFC VMS has progressed into a robust and reliable tool for tracking activities in the Convention Area. Cooperation from Members has been vital in addressing both anticipated and unexpected challenges, resulting in prompt resolutions to most issues. Notably, there have been an estimated 122 cases of data interruptions exceeding 4 hours across all Members, and the use of manual reporting continually helps to bridge data gaps. These developments, coupled with refinements in vessel entry/exit detection, are expected to significantly reduce the number of data interruptions in 2026. The Secretariat will continue to enhance vessel identification procedures and strengthen data security measures. Emphasizing globally recognized identifiers, timely updates to the vessel registry, and efficient communication channels will preserve the momentum built thus far.
124. The TCC noted that in previous years, the Secretariat has included an analysis comparing the actual time and location of transshipment events compared to the time and location listed in the advance notifications of said transshipments. The TCC requested that the Secretariat continue to include such analyses in future reports.
125. The Compliance Manager explained that the Secretariat intends to continue to do such analyses going forward and that this year's analysis is still ongoing as the Secretariat had been occupied with dealing with data backlogs and preparing for the transition to fully electronic transshipment reporting.
126. The TCC considered the Secretariat's suggestion that the North Atlantic Format (NAF) be annexed to CMM 2025-12 On the VMS and that the existing NAF format be updated to make the IMO number a mandatory field. Some Members noted that IMO number is the most reliable unique vessel identifier available and is effective for MCS purposes, particularly in identifying IUU fishing vessels assuming the identities of legitimate vessels. No Members opposed the suggested changes, but some expressed the need to hold further intersessional discussions on the mandatory reporting of IMO numbers, including practical aspects and the added burden on vessel owners.

**Recommendation:** That the Commission task SWG Ops to hold intersessional discussions on the potential inclusion of the North Atlantic Format (NAF) as an annex to CMM 2025-12 On The VMS and the updating of the existing NAF format to make the IMO number a mandatory field.

#### Agenda Item 11. High Seas Boarding and Inspection

##### *11a. Secretariat Report*

127. The Compliance Assistant presented the HSBI summary for 2025 (NPFC-2026-TCC09-IP07). In 2025, five Members deployed nine patrol vessels, inspecting almost 11% of the active fishing vessels in the Convention Area. Over the May–October period, 66 inspections were carried out, with “no violations” detected in 56 (85%) of these. Of the remaining 10 events (identifying 21 violations), one of these events identified two “serious violations” involving misreporting and obstruction. As in previous years, most of the “violations” identified related to potential vessel registry offences. However, other areas of potential non-compliance were identified, including misreporting, retaining salmon, marine pollution and obstruction. While the number of “serious violations” rose in 2025, the overall number of inspections with “no violations” identified continued a three-year upward trend.
128. The TCC noted that the Secretariat has proposed updates to the Annual Report template for 2027 to improve data collection that may include possibly requesting additional HSBI and patrol-related details. The TCC was generally supportive of the suggested updates, while recognizing the concerns expressed by one Member about sharing sensitive information, such as entry and exit dates and other detailed information about patrol activities, that could potentially compromise the effectiveness of patrols.

##### *11b. Member Reports*

129. Noting that more information on HSBI is provided in Members’ Annual Reports and the SWG Ops Annual Summary for 2025–2026, Canada and the USA presented brief reports of their HSBI activities for 2025.

#### Agenda Item 12. Review of Applications for CNCP Status

130. The TCC noted that no applications for CNCP status have been received.

#### Agenda Item 13. Climate Change

131. The TCC noted that climate change is a standing agenda item but that there have been no papers submitted to the TCC on this agenda item and discussions on it at recent meetings. The TCC noted that it was unclear what the TCC should discuss in relation to climate or whether it should continue to be a standing agenda item. The TCC noted that it would be useful if the Secretariat could prepare a summary paper of climate change-related information of relevance

to the TCC.

**Recommendation:** That the Commission provide further guidance on whether or not climate change should continue to be a standing agenda item for the TCC and, if so, to provide further guidance on the intended purpose of this agenda item and to task the Secretariat to prepare a paper that compiles climate change-related discussions and developments from the Commission and its subsidiary bodies, with a particular focus on compliance and technical considerations, of relevance to the TCC for discussion at TCC10.

#### Agenda Item 14. Cooperation with Other Organizations

132. The Executive Secretary explained that NPFC and the Inter-American Tropical Tuna Commission (IATTC) are developing a Memorandum of Understanding and that the latest draft text, which is scheduled to be discussed at COM10, will have relevance to the TCC's discussions on e-monitoring.

##### *14a. MoU with SPRFMO*

133. The Executive Secretary explained that there was no information regarding the MoU with South Pacific Regional Fisheries Management Organisation (SPRFMO) that was relevant to the TCC.

##### *14b. MoU with WCPFC*

134. The Executive Secretary explained that there was no information regarding the MoU with Western and Central Pacific Fisheries Commission (WCPFC) that was relevant to the TCC.

##### *14c. NPFC-NPAFC Work Plan*

135. The Executive Secretary explained that the NPFC and the North Pacific Anadromous Fish Commission (NPAFC) have continued to cooperate closely. He highlighted the holding of two NPAFC workshops alongside its annual meeting in May, which are both related to the NPAFC and the NPFC's shared ecosystem, plans to update the work plan for the implementation of the NPFC-NPAFC Work Plan, and a recent focus on the exchange of data and information between the two organizations, including through a joint NPAFC/NPFC SharePoint.

136. The NPAFC Executive Director, Mr. Yoshikiyo Kondo, provided an update on cooperation with NPFC (NPFC-2026-TCC09-OP02 Rev.1). Many items in the five-year NPFC-NPAFC Work Plan are completed or ongoing. Key remaining items are the exchange of data and information between the two organizations through a data sharing platform and the voluntary sharing of Pacific salmon bycatch data from NPFC fishing vessels. Progress is being made and expected on these tasks. NPAFC has also updated its IUU vessel list and will discuss it further at its annual meeting in May. When adopted, the list will be linked to from the NPFC website. One of the workshops to be held alongside the annual meeting will be on Interactions

Between Fisheries and Anadromous Fish in the North Pacific High Seas and is expected to produce recommendations about cooperation between NPAFC and NPFC and the five-year Work Plan. NPAFC remains committed to continuing its close cooperation with NPFC, which is essential to the NPAFC's efforts to fulfil its purpose.

*14d. IMCS Network*

137. The Executive Secretary reminded the TCC that the NPFC joined the International Monitoring, Control, and Surveillance (IMCS) Network in 2023. He informed the TCC that the NPFC hosted a Tuna Compliance Network and Pan Pacific Fisheries Compliance Network (TCN/PPFCN) meeting at the NPFC office in Tokyo in June 2025. He also explained that the IMCS Network will host Global Fisheries Enforcement Workshop (GFETW) 8 in March 2027 and that it is planned for the new Compliance Manager to attend, pending approval of the Secretariat Workplan by the Commission.

Agenda Item 15. Performance Review- Recommendations relevant to TCC

138. The Executive Secretary presented an update (NPFC-2026-COM10-IP02) on the status of the Performance Review Recommendations relevant to the TCC.
139. The TCC noted the ongoing work to address the recommendations from the Performance Review Panel and the progress made in the intersessional period.
- Recommendation:** That the Commission task the TCC to continue to review and provide updated input on the Performance Review Panel Recommendations through the intersessional process initiated in 2025–2026.
- Recommendation:** That the Commission task SWG Ops to work intersessionally with the Secretariat to address the issues with the vessel registry and thereby address Performance Review Panel Recommendation 5.3.1.

Agenda Item 16. Other Matters

140. The TCC noted that one SWG Ops Co-Lead position is vacant. There were no nominations to fill the vacancy.
141. The TCC thanked the outgoing Compliance Manager and acknowledged the work that she has done for the NPFC.

Agenda Item 17. Review and Endorsement of TCC Work Plan for 2026/2027

142. The TCC reviewed the TCC/SWG Work Plan for 2026/2027 (NPFC-2026-TCC09-WP10 (Rev.1)) against the progress made to date and in consideration of new items of work arising from TCC09.
- Recommendation:** That the Commission revise the draft Work Plan developed by the TCC,

including work completed, and consider further revisions, then task TCC and relevant SWGs with the activities in the revised Work Plan

Agenda Item 18. Recommendations to the Commission

143. The TCC recommended the following to the Commission:

(Agenda Item 3)

- (a) That the Commission task TCC to work intersessionally through the SWG on Planning and Development (SWG PD) to develop a paper on TCC-related components of an NPFC ROP and submit the paper to TCC10. In developing the paper, the SWG PD should review other data collection methods, including current data collection methods such as Members' domestic observer programs and port sampling programs, as well as possibilities for the use of e-monitoring.

(Agenda Item 4)

- (b) That the Commission adopt the ToR for the TCC SWGs

(Agenda Item 5)

- (c) That the Commission task the SWG PD to develop a proposal for a procedure for cross-listing vessels from the IUU vessel lists of other RFMOs and determining which RFMOs' IUU vessel lists should be considered.
- (d) That the Commission adopt the proposed amendments to CMM 2024-02 (NPFC-2026-TCC09-WP05 Rev.2).
- (e) That the Commission further consider the proposal for the establishment of a CMM on Scientific Research Activities, taking into account the discussions at TCC (NPFC-2026-TCC09-WP04).
- (f) That the Commission further consider the proposal for the establishment of a CMM On Minimum Standards for the Collection, Reporting, Verification, and Exchange of Data (NPFC-2026-TCC09-WP06 Rev.3), taking into account the discussions at TCC.
- (g) That the Commission adopt the proposed amendment to CMM 2023-01
- (h) That the Commission further consider the proposal for the establishment of a CMM on Minimum Standards for Port State Measures (NPFC-2026-TCC09-WP08 Rev.2), taking into account the discussions at TCC.
- (i) That the Commission endorse the TCC's interpretation of paragraph 23(g) when considering the proposal to establish a CMM on Minimum Standards for Port State Measures.

(Agenda Item 6)

- (j) That the Commission provide guidance on the appropriate procedure to follow when there is a lack of consensus at the TCC on whether or not to include a vessel on the Provisional IUU Vessel List.
- (k) That the Commission consider the Provisional NPFC IUU Vessel List while noting that there was a lack of consensus on the inclusion of one of the two vessels on the Provisional

NPFC IUU Vessel List.

- (l) That the Commission amend the current NPFC IUU Vessel List by removing the photographs of the legitimate, authorized Chinese vessels (LU RONG YU Nos. 101, 102, 103, 105, 106, 108 and 109) and task the Secretariat to amend any incorrect text descriptions on the current NPFC IUU Vessel List that were based on the photographs of the legitimate, authorized Chinese vessels.

(Agenda Item 7)

- (m) That the Commission endorse a process for the sending of Letters of Concern whereby Members are notified when a Letter of Concern is sent, the Letter states the expectation that the Member receiving the Letter is to provide a written response with the actions taken by the Member, and the Letter specifies a timeline for the Member's written response and actions.
- (n) That the Commission consider the Provisional Compliance Monitoring Report adopted by the TCC, along with the attached Executive Summary.
- (o) That the Commission consider the TCC's list of obligations for consideration for the Compliance Monitoring Scheme in 2026 as described in the Executive Summary of the Provisional Compliance Monitoring Report.

(Agenda Item 8)

- (p) That the Commission note that the TCC was unable to reach consensus on defining historical existing levels and hold further discussions on this matter.

(Agenda Item 9)

- (q) That the Commission note that the TCC did not have any concerns or advice regarding the effectiveness of CMM 2025-03 On Transshipments in providing the Commission with information about transshipments and supporting effective MCS activities in line with the obligations of the Convention and CMMs.

(Agenda Item 10)

- (r) That the Commission task SWG Ops to hold intersessional discussions on the potential inclusion of the North Atlantic Format (NAF) as an annex to CMM 2025-12 On The VMS and the updating of the existing NAF format to make the IMO number a mandatory field.

(Agenda Item 13)

- (s) That the Commission provide further guidance on whether or not climate change should continue to be a standing agenda item for the TCC and, if so, to provide further guidance on the intended purpose of this agenda item and to task the Secretariat to prepare a paper that compiles climate change-related discussions and developments from the Commission and its subsidiary bodies, with a particular focus on compliance and technical considerations, of relevance to the TCC for discussion at TCC10.

(Agenda Item 15)

- (t) That the Commission task the TCC to continue to review and provide updated input on the Performance Review Panel Recommendations through the intersessional process

initiated in 2025–2026.

- (u) That the Commission task SWG Ops to work intersessionally with the Secretariat to address the issues with the vessel registry and thereby address Performance Review Panel Recommendation 5.3.1.

(Agenda Item 17)

- (v) That the Commission revise the draft Work Plan developed by the TCC, including work completed, and consider further revisions, then task TCC and relevant SWGs with the activities in the revised Work Plan

Agenda Item 19. Next Meeting

- 144. **Recommendation:** That the Commission hold the next TCC meeting in conjunction with the next Commission meeting.

Agenda Item 20. Adoption of the Report

- 145. The report was adopted by consensus.

Agenda Item 21. Close of the Meeting

- 146. The meeting closed at 21:35 on 11 April 2026, Osaka time.

**Annexes:**

Annex A – Agenda

Annex B – List of Documents

Annex C – List of Participants

Annex D – TCC SWG Terms of Reference

Please refer to the NPFC website for the complete annexes.

# 8<sup>th</sup> Meeting of the Finance and Administration Committee

13 April 2026  
Osaka, Japan (Hybrid)  
Meeting Report



## **Agenda**

1. Opening of the Meeting
2. Appointment of Rapporteur
3. Adoption of Agenda
4. Financial Statement
  - a. Audit Report for the 2024/2025 fiscal year
  - b. Status of Member Contributions
  - c. Secretariat financial updates to 31 January 2026:
    - i. for 2025/2026 fiscal year (General Fund)
    - ii. Working Capital Fund
    - iii. Voluntary Contribution Funds
    - iv. Special Project Fund
    - v. Repatriation Fund
    - vi. Transshipment Observer Program Fund
5. Administration Matters
  - a. Staffing considerations
  - b. Pay and benefits system
    - i. General Service Staff
      1. Pay
      2. Benefits
    - ii. Manager and Executive Secretary Staff
      1. Pay
      2. Benefits
  - c. Consideration of list of contracted work
  - d. Consideration of Working Capital Fund
  - e. Proposed revisions to the Staff Regulations
    - i. Draft NPFC Social Security Policy
  - f. Potential revisions to the Financial Regulations
  - g. 2026 Internship and Secondment programs
6. Performance Review updates and items of relevance to FAC
7. Secretariat's Report and Work Plan: Budget Estimates for 2026/2027 to 2029/2030

- a. Secretariat Work Plan 2026/2027 including staffing
- b. Budget estimates for 2026/2027 and 2027/2028 and indicative budget estimates for 2028/2029 and 2029/2030

8. Other matters

9. Next meeting

10. Recommendations to the Commission

11. Adoption of the Report

12. Close of the Meeting

## MEETING REPORT

### Agenda Item 1. Opening of the Meeting

1. The 8<sup>th</sup> Meeting of the Finance and Administration Committee (FAC) was held in a hybrid format, with participants attending in-person in Osaka, Japan, or online via WebEx, on 13 April 2026, and was attended by Members from Canada, China, the European Union (EU), Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, the United States of America (USA), and Vanuatu. The Pew Charitable Trusts (Pew) attended as an observer. The meeting was opened by Mr. Haruo Tominaga (Japan), who served as the FAC Chair.
2. The Executive Secretary, Dr. Robert Day, outlined the logistical arrangements for the meeting.

### Agenda Item 2. Appointment of Rapporteur

3. Mr. Alex Meyer was selected as rapporteur.

### Agenda Item 3. Adoption of Agenda

4. The agenda was adopted (Annex A). The List of Documents and List of Participants are attached (Annexes B, C).

### Agenda Item 4. Financial Statement

#### *4a. Audit Report for 2024/2025 fiscal years*

5. The NPFC Auditor's Report for the 2024/2025 Financial Year (NPFC-2026-FAC08-IP01) was taken as read, with supplementary comments from the Executive Secretary regarding efforts to improve the timeliness with which the Secretariat assembles audit data, the shift to tracking separate funds in QuickBooks, and the transfer of the overall Commission surplus to the Working Capital Fund.

**Recommendation:** That the Commission adopt the NPFC Auditor's Report for the 2024/2025 Financial Year.

#### *4b. Status of Member Contributions*

6. The Executive Secretary reported on the status of Member contributions for 2025/2026 (NPFC-2026-FAC08-WP01 Rev.1). All Member contributions have been received. Panama has been invited to make a voluntary contribution as a Cooperating Non-Contracting Party

(CNCP), and Panama has indicated that it will make a payment when its vessels are able to operate starting in FY2026/2027.

7. The FAC accepted the report from the Secretariat on Member contributions.

*4c. Secretariat financial update to 31 January 2026*

*i. for 2025/2026 fiscal year (General Fund)*

8. The Executive Secretary presented the Statement of Income and Expenditure for the year ending 31 March 2025 (2024/2025 fiscal year) and unaudited values for 2025/2026 (NPFC-2026-FAC08-WP01 Rev.1). He noted that for the 2025/2026 fiscal year, there were no Commission and related meetings held as COM09 was held in March of the previous fiscal year and COM10 in the next fiscal year, resulting in significant savings on duty travel. There were also modest savings related to monitoring, control, and surveillance costs. For the current fiscal year, the expenditures continue to be affected by the low value of the Japanese yen (with numerous contracts in US dollars). There are also a number of expenditures still pending for various service costs and credit card bills.

**Recommendation:** That the Commission adopt the financial update to 31 January 2026 for the 2025/2026 fiscal year, including the statement of income and expenditure for the year ending 31 March 2025 (2024/2025 fiscal year) and unaudited values for 2025/2026.

*ii. Working Capital Fund*

*iii. Voluntary Contribution*

*iv. Special Project Fund*

*v. Repatriation Fund*

*vi. Transshipment Observer Program Fund*

9. The Executive Secretary reported on the status of the other funds, including the Working Capital Fund, the Voluntary Contribution, the Special Project Fund, the Repatriation Fund, and the Transshipment Observer Program Fund (NPFC-2026-FAC08-WP01 Rev.1).
10. The FAC thanked Canada, China, the EU, the United States, and Panama for their voluntary contributions.
11. The FAC noted the status of other funds.

Agenda Item 5. Administration Matters

*5a. Staffing considerations*

12. No paper was submitted under this agenda item.

*5b. Pay and benefits system*

13. Discussions under Agenda Item 5b were carried out in a closed session due to the confidential nature of personnel matters.
14. The Executive Secretary presented a report on the implementation of the updated NPFC Staff Regulation 8.1 and the NPFC Social Security Policy (NPFC-2026-FAC08-IP03).
15. The FAC noted the report on the implementation of the updated NPFC Staff Regulation 8.1 and the NPFC Social Security Policy.

*i. General Service Staff*

*1. Pay*

16. No papers were submitted under these sub-agenda items.

*2. Benefits*

17. The Executive Secretary presented a request from the NPFC Executive Assistant (NPFC-2026-FAC08-WP08).
18. The FAC considered the request.  
**Recommendation:** That the Commission accommodate the request from the NPFC Executive Assistant described in NPFC-2026-FAC08-WP08 using the Working Capital Fund, while noting that this retroactive application should not set a precedent for the future.

*ii. Manager and Executive Secretary Staff*

*1. Pay*

*2. Benefits*

19. No papers were submitted under these sub-agenda items.

*5c. Consideration of list of contracted work*

20. The Executive Secretary presented a report on contractual services engaged and outputs received (NPFC-2026-FAC08-IP02).
21. The FAC noted the report on contractual services engaged and outputs received.
22. One of the Members that had originally requested that the Secretariat provide such a report explained that the reason for its request, besides seeking greater transparency, was that there had been instances in the past where Members had been notified after the fact that the Secretariat had contracted services to conduct work that Members had not agreed was a priority. This Member suggested that in the future, the Secretariat should consult Members whenever it is considering contracting services of a substantial financial size to conduct work

that has not been specifically tasked by Members.

23. The FAC suggested a number of improvements to the report:

- (a) indicating the total payment for each contractual service rather than just the rate.
- (b) adding columns indicating the total amount contracted and the amount already expended.

**Recommendation:** That the Commission direct the Secretariat to continue to provide reports on contractual services engaged and outputs received to future meetings of the FAC, while incorporating the improvements suggested by FAC08.

*5d. Consideration of the Working Capital Fund*

24. The Executive Secretary presented an analysis of past discussions by the FAC and options for the Working Capital Fund cap consistent with the Financial Regulations, as requested by FAC08 (NPFC-2026-FAC08-WP05). The Executive Secretary presented options and recommendations based on advice from the auditor on the size of the Working Capital Fund, the role for excess funds in the Working Capital Fund, the approach for future surpluses, potential future performance review, and use of other reserve funds to offset costs, for further consideration by the FAC.

25. The FAC considered the appropriate the size of the Working Capital Fund, taking into account the auditor's advice that while a six-month buffer would be reasonable, a larger buffer would be sensible given the small number of Members at NPFC, the uneven timing of payments, and past instances of delayed contributions. Several Members were flexible on setting the balance of the Working Capital Fund at an amount ranging from six months to nine months, noting the prudence of a nine-month buffer as recommended by the Secretariat. One Member expressed a strong preference for a six-month buffer, believing that this would be sufficient, but noted the views of other Members and stated that it could accept a nine-month buffer in the interest of achieving consensus.

**Recommendation:** That the Commission establish nine months of operating expenses as the balance for the Working Capital Fund.

26. The FAC endorsed the Secretariat's recommendation on the role for excess funds and the method to reduce the Working Capital Fund.

**Recommendation:** That the Commission reduce the Working Capital Fund down to a nine-month floor gradually by offsetting some costs on an ongoing basis over a number of years at the current rate of attrition.

27. Regarding how to approach future surpluses in the Working Capital Fund above the nine-month level, the FAC noted that a number of options may be appropriate and agreed to continue to discuss this matter in the future based on the actual situation.

28. The FAC considered the suggestion from the Secretariat to set aside a reserve for a future Performance Review. The FAC agreed to defer discussion of this matter, including how to fund a future Performance Review, noting that this is not an immediate priority. One Member noted that other regional fisheries management organizations (RFMOs) have tended to implement performance reviews regularly on a 4–5-year cycle and highlighted the value of the recommendations from the previous NPFC Performance Review.
29. Another Member noted that, in other RFMOs, performance reviews are usually funded by voluntary contributions.
30. The FAC discussed the use of other reserve funds to offset costs as part of its consideration of the budget under agenda item 7.

*5e. Proposed revisions to the Staff Regulations*

31. Discussions under Agenda Item 5e were carried out in a closed session due to the confidential nature of personnel matters.
32. The Chair introduced a draft proposal for how to consider the Staff salary scale and schedule going forward and a summary of discussion points arising from his informal inter-sessional discussions with Members (NPFC-2026-FAC08-WP02 Rev.1.)
33. The FAC considered the proposal and provided further feedback to the Chair. The FAC requested that the Chair continue to develop the proposal intersessionally in consultation with Members.

*i. Draft NPFC Social Security Policy*

34. This matter was discussed under agenda item 5b.

*5f. Potential revisions to the Financial Regulations*

35. The Executive Secretary presented proposed revisions to the Financial Regulations to extend the timelines for the audit process, as well as to clarify the nature of the payments for the operation of the Transshipment Observer Program (TOP) and to provide authority to the Executive Secretary to continue to manage costs related to the TOP (NPFC-2026-FAC08-WP06).
36. The FAC endorsed the proposed extension of the timelines for the audit process.  
**Recommendation:** That the Commission update the NPFC Financial Regulations with extended timelines for the audit process as outlined in Annex 1 of NPFC-2026-FAC08-WP06.

37. The FAC noted that there is a lack of clarity regarding the treatment and execution of payments to cover the costs for the operation of the TOP. The FAC considered potential amendments to the Financial Regulations that would provide greater clarity but could not reach consensus. Some Members supported amending paragraph 27 of the Financial Regulations by changing all instances of “voluntary contributions” to “voluntary contributions and other payments,” as a partial solution. One Member did not support the amendment, pointing out that creating any link between payments for programs such as the TOP with the budget and contributions would create confusion.

**Recommendation:** That the Commission consider potential amendments to the Financial Regulations to address the lack of clarity regarding the treatment and execution of payments to cover costs such as those for the operation of the TOP.

**Recommendation:** That the Commission authorize the Executive Secretary to execute payments of up to 2,312,631 USD for the TOP for its second year of operations and to be able to execute payments for that purpose beyond the end of the 2025/2026 fiscal year if necessary.

*5g. 2026 Internship and Secondment programs*

38. The Executive Secretary reported on the outcomes of the 2025/2026 Intern and Secondment Program (NPFC-2026-FAC06-WP04). He noted the valuable contributions of the interns, Mr. Shinnosuke Kato (Japan) and Mr. Jiyu Wang (China), and the secondee, Mr. Jumpei Hinata (Japan) in 2025/26. He informed the FAC that there were no new applications for interns and there was one application for the secondment program for the 2026/2027 fiscal year. The Executive Secretary informed the FAC that there was interest expressed in the internship position by an individual, but because they were not from a Member, a formal application process could not be initiated.

39. The FAC reviewed the application for the secondment program.

**Recommendation:** That the Commission accept the secondment application from Ms. Yume Kawai for a 12-month period commencing in June 2026.

*Agenda Item 6. Performance Review and items of relevance to FAC*

40. The Executive Secretary presented an update (NPFC-2026-COM10-IP02) on the status of the Performance Review Recommendations relevant to the FAC.
41. The FAC noted the ongoing work to address the recommendations from the Performance Review Panel and the progress made in the intersessional period.

*Agenda Item 7. Secretariat’s Work Plan; Budget Estimates for 2025/2026 to 2028/2029*

*7a. Secretariat Work Plan 2025/2026 including staffing*

42. The Executive Secretary presented the Secretariat's Work Plan for the 2026/2027 fiscal year (NPFC-2026-SR).

43. The FAC endorsed the work plan.

**Recommendation:** That the Commission adopt the Secretariat's Work Plan for 2026/2027 (Annex D), in addition to tasking the Secretariat with other necessary work identified by FAC08.

*7b. Budget estimates for 2026/2027 and 2027/2028 and indicative budget estimates for 2028/2029 and 2029/2030*

44. The Executive Secretary presented the proposed budget for 2026/2027 (NPFC-2026-FAC08-WP01 Rev.1) for the review of the FAC.

45. The FAC noted that whereas Members may indicate the intended purpose of use when making voluntary contributions, to date, the purpose of use for voluntary contributions from CNCPs has been determined by the Commission.

46. The FAC supported the use of the voluntary contribution from Panama, as a CNCP, for advancing the work of the Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS) as described in the proposed budget for 2026/2027.

47. The FAC noted the need for more clarity regarding how voluntary contributions from CNCPs should be treated financially and what purposes they can be used for under the Financial Regulations. Members had different views regarding whether such contributions should be used for specific projects/purposes or for offsetting general operational expenditures, and whether such contributions could be transferred to the Special Project Fund, the Working Capital Fund, or the Special Purpose Fund.

**Recommendation:** That the Commission task the Secretariat to submit a paper to FAC09 that outlines possible options, based on the Financial Regulations, for how voluntary contributions from CNCPs should be treated financially and what kinds of purposes they can be used for.

48. The FAC endorsed the proposed budget for 2026/2027.

**Recommendation:** That the Commission adopt the proposed budget for 2026/2027 (Annex E).

**Recommendation:** That the Commission adopt the proposed Member contributions for 2026/2027 (Annex F).

Agenda Item 8. Other matters

49. The Science Manager, Dr. Aleksandr Zavolokin, presented a progress report on a special

project to assist the SWG NPA-SA with stock assessments for splendid alfonsino (SA) and North Pacific armorhead (NPA) in 2025/2026 and a request for continued funding in 2026 (NPFC-2026-FAC08-WP03). The Commission had approved the allocation of 2,142,700 (JPY) from the Special Project Fund for the 2025/2026 work, 2,102,372 JPY of which was used to hire two experts (who worked collaboratively under a single contract). The invited experts worked with Members to assess the NPA stock using a depletion model and conduct a preliminary Stock Synthesis 3 (SS3) model analysis for SA. 2,477,000 (JPY) is requested from the Special Project Fund to continue to assist the SWG NPA-SA with the SA and NPA stock assessments in 2026. Specifically, in this final phase of the project, with the help of the invited experts, the SWG NPA-SA intends to conduct an assessment of the SA stock using an integrated model and to improve the depletion model for the assessment of the NPA stock.

50. The FAC endorsed the proposal and recommended funding from the Special Project Fund.  
**Recommendation:** That the Commission approve the allocation of 2,477,000 (JPY) from the Special Project Fund for hiring external experts to assist with stock assessments for SA and NPA in 2026/2027.
51. The Chair noted that the policy for the use of the Special Project Fund provides for a detailed evaluation process including the establishment of a Special Working Group (SWG). He explained that he had determined that such a detailed evaluation process was not necessary for the above project, as it was the continuation of an existing, ongoing project. Nevertheless, he posited that when the policy for the use of the Special Project Fund was established, it was envisioned that there would be many projects being considered, but the reality is that there have been very few. He suggested that the Secretariat could be tasked with reviewing the policy based on the current reality and provide information to the FAC for further discussion.  
**Recommendation:** That the Commission task the Secretariat to review whether the policy for the use of the Special Project Fund is fit for purpose and submit a paper to FAC09 for further discussion.
52. The Executive Secretary presented a proposal for the establishment of a formal side-event policy (NPFC-2026-FAC08-WP07). The Chair noted that in the past few years, side events have been held at COM09 and SC10, and he explained that the draft policy has been used to guide the Secretariat as an internal policy to date but could be adopted as a more general policy for NPFC going forward.
53. The FAC reviewed the proposal but did not consider it necessary to establish a formal side-event policy.

Agenda Item 9. Next Meeting

54. **Recommendation:** That the Commission consider holding the next FAC meeting in conjunction with the next Commission meeting.

Agenda Item 10. Recommendations to the Commission

55. The FAC recommended the following to the Commission:

(Agenda Item 4)

- (a) That the Commission adopt the NPFC Auditor's Report for the 2024/2025 Financial Year.
- (b) That the Commission adopt the financial update to 31 January 2026 for the 2025/2026 fiscal year, including the statement of income and expenditure for the year ending 31 March 2025 (2024/2025 fiscal year) and unaudited values for 2025/2026.

(Agenda Item 5)

- (c) That the Commission accommodate the request from the NPFC Executive Assistant described in NPFC-2026-FAC08-WP08 using the Working Capital Fund, while noting that this retroactive application should not set a precedent for the future.
- (d) That the Commission direct the Secretariat to continue to provide reports on contractual services engaged and outputs received to future meetings of the FAC, while incorporating the improvements suggested by FAC08.
- (e) That the Commission establish nine months of operating expenses as the balance for the Working Capital Fund.
- (f) That the Commission reduce the Working Capital Fund down to a nine-month floor gradually by offsetting some costs on an ongoing basis over a number of years at the current rate of attrition.
- (g) That the Commission update the NPFC Financial Regulations with extended timelines for the audit process as outlined in Annex 1 of NPFC-2026-FAC08-WP06.
- (h) That the Commission consider potential amendments to the Financial Regulations to address the lack of clarity regarding the treatment and execution of payments to cover costs such as those for the operation of the TOP.
- (i) That the Commission authorize the Executive Secretary to execute payments of up to 2,312,631 USD for the TOP for its second year of operations and to be able to execute payments for that purpose beyond the end of the 2025/2026 fiscal year if necessary.
- (j) That the Commission accept the secondment application from Ms. Yume Kawai for a 12-month period commencing in June 2026.

(Agenda Item 7)

- (k) That the Commission adopt the Secretariat's Work Plan for 2026/2027 (Annex D), in addition to tasking the Secretariat with other necessary work identified by FAC08.
- (l) That the Commission task the Secretariat to submit a paper to FAC09 that outlines possible options, based on the Financial Regulations, for how voluntary contributions from CNCPs should be treated financially and what kinds of purposes they can be used for.

(m) That the Commission adopt the proposed budget for 2026/2027 (Annex E).

(n) That the Commission adopt the proposed Member contributions for 2026/2027 (Annex F).

(Agenda Item 8)

(o) That the Commission approve the allocation of 2,477,000 (JPY) from the Special Project Fund for hiring external experts to assist with stock assessments for SA and NPA in 2026/2027.

(p) That the Commission task the Secretariat to review whether the policy for the use of the Special Project Fund is fit for purpose and submit a paper to FAC09 for further discussion.

(Agenda Item 9)

(q) That the Commission consider holding the next FAC meeting in conjunction with the next Commission meeting.

Agenda Item 11. Adoption of the Report

56. The report was adopted by consensus.

Agenda Item 12. Close of the Meeting

57. The meeting closed at 14:15 on 15 April 2026, Osaka time.

**Annexes:**

Annex A – Agenda

Annex B – List of Documents

Annex C – List of Participants

Annex D – Secretariat Work Plan

Annex E – 2026/2027 Budget

Annex F – 2026/2027 Assessed Contributions

Please refer to the NPFC website for the complete annexes.



# 10<sup>th</sup> Commission Meeting

14–17 April 2026

Osaka, Japan (Hybrid)

Meeting Report



## **Agenda**

1. Opening of the Meeting
  - a. Welcome Address
  - b. Appointment of Rapporteur
  - c. Adoption of Agenda
  - d. Meeting Arrangements
2. Membership of the Commission
  - a. Status of the Membership
  - b. CNCP applications
3. Report from the Secretariat
4. Performance Review of the Commission – overview of progress
5. Report of the 10th Scientific Committee meeting
  - a. Review of SC10 Report and response to COM09 taskings
  - b. Adoption of revised SC Terms of Reference
  - c. Selection of SC Chair and Vice-Chair
  - d. Adoption of SC10 Report and Recommendations
  - e. Consideration of other SC issues identified during SC10 or by COM10 meeting
6. Report of the 9th Technical and Compliance Committee meeting
  - a. Review of TCC09 Report and response to COM09 taskings
  - b. Adoption of IUU Vessel List for 2026
  - c. Adoption of Final Compliance Monitoring Report
  - d. Adoption of TCC09 Report and Recommendations
  - e. Consideration of other TCC issues identified during TCC09 or by COM10 meeting
7. Report of the 8th Finance and Administration Committee meeting
  - a. Review of FAC Report
  - b. Adoption of the proposed budget for 2026/2027 and 2027/2028
  - c. Adoption of the FAC08 Report and Recommendations
  - d. Consideration of other FAC issues identified during FAC08 or by COM10 meeting
8. Conservation and Management Measures and Resolutions
  - a. Review of the amendments to existing CMM's and any new CMMs

- b. Review of measures with specified review provisions
  - c. Review of existing resolutions and any new Resolutions
- 9. Report of the 7<sup>th</sup> Meeting of the joint SC-TCC-COM Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS)
- 10. Cooperation with Other Organizations
  - a. PICES
  - b. NPAFC
  - c. FAO: Deep Sea Fisheries project and FIRMS
  - d. WCPFC
  - e. ISC
  - f. IATTC
  - g. SPRFMO
  - h. IMCS Network
  - i. UN BBNJ
  - j. Other Organizations
- 11. Other matters
  - a. Secondment and Intern for 2026
  - b. Other business
  - c. Press Release
- 12. Date and Place of next meeting of the Commission and its Committees
- 13. Adoption of the report
- 14. Close of the Meeting

## MEETING REPORT

### Agenda Item 1. Opening of the Meeting

#### *1a. Welcome Address*

1. The 10<sup>th</sup> Meeting of the North Pacific Fisheries Commission (NPFC) was held in a hybrid format, with participants attending in-person in Osaka, Japan, or online via WebEx, on 14–17 April 2026, and was attended by Members from Canada, China, the European Union (EU), Japan, the Republic of Korea, the Russian Federation, Chinese Taipei, the United States of America (USA), and Vanuatu, and Panama as a Cooperating Non-Contracting Party (CNCP). The United Nations Food and Agriculture Organization (FAO), the North Pacific Anadromous Fish Commission (NPAFC), the Deep Sea Conservation Coalition (DSCC), the Pew Charitable Trusts (Pew), World Wildlife Fund (WWF), the International Monitoring, Control and Surveillance (IMCS) Network, the Australian National Centre for Ocean Resources and Security (ANCORS), the Ocean Foundation, the Ocean Governance Institute (OGI), the Marine Stewardship Council (MSC), the Natural Resources Defense Council (NRDC), and Greenpeace International attended as observers. The meeting was opened by Mr. Shingo Ota (Japan), who served as the Commission Chair.
2. The Chair thanked the Secretariat for organizing this series of meetings and welcomed the participants to Osaka again. The Chair noted the entry into force of the Agreement under United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction (BBNJ Agreement) in January 2026 and reiterated the importance of the NPFC adopting effective Conservation and Management Measures (CMMs), particularly for bottom fishing. He also noted the progress the Commission has made by adopting interim harvest control rules (HCR) for Pacific saury, but noted that this year, the SC was unable to reach consensus on the Pacific saury stock assessment, and he emphasized the urgent need to develop a full Management Strategy Evaluation (MSE) process, including exceptional circumstance provisions. The Chair hoped that the Commission would be able to reach consensus on enhanced CMMs for the protection of other NPFC species as well. In addition, the Chair noted the adoption of the NPFC Transshipment Observer Program (TOP) in 2025, which, together with the NPFC Vessel Monitoring System (VMS) and high seas boarding and inspection (HSBI), should enhance the NPFC's monitoring, control, and surveillance (MCS) capacity. Finally, the Chair requested Members' cooperation and flexibility and expressed his hope for a fruitful meeting. The

Chair's full statement is attached as Annex A.

3. China made an opening statement. China pointed out the need, when considering the setting of catch limits, to take into consideration the extraordinary cooperation shown by the Chinese fishing industry, the heavy burden of high oil prices on fishing-related industries, and the need to take decisions based on science, including actual catch levels. China also noted the importance it places on NPFC's continued development and highlighted the extensive voluntary contributions it has made to that end. The full statement is attached as Annex B.
4. Japan made an opening statement. Japan emphasized the concerning signs in the Pacific saury, chub mackerel, and Japanese sardine stocks, the importance of these stocks to Japan as a coastal Member, and the need to ensure that NPFC measures do not undermine coastal Members' longstanding efforts to conserve NPFC stocks.

*1b. Appointment of Rapporteur*

5. Mr. Alex Meyer was selected as rapporteur.

*1c. Adoption of Agenda*

6. The Commission adopted its agenda (Annex C). The List of Documents and List of Participants are attached (Annexes D, E).

*1d. Meeting Arrangements*

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

Agenda Item 2. Membership of the Commission

*2a. Status of the Membership*

8. The Republic of Korea, the Depositary of the NPFC, reported on the status of the Convention (NPFC-2026-COM10-IP01). Since the previous Commission meeting, the total number of Members remains at nine.

*2b. CNCP applications*

9. The Commission noted that no applications for CNCP status have been received.

Agenda Item 3. Report from the Secretariat

10. The Executive Secretary presented a summary of the Commission's intersessional activities and work programs carried out during the 2025/2026 period and the proposed Secretariat work plan for the 2026 operational year (NPFC-2026-SR).
11. With regard to the ongoing work to develop a new database for scientific data, the Commission requested that the Secretariat consider how to ensure that the NPFC data management systems

would be able to accommodate the data collection requirements under a new CMM for minimum standards for the collection, reporting, verification and exchange of data in NPFC, which the Commission is currently developing.

Agenda Item 4. Performance Review of the Commission – overview of progress

12. The Executive Secretary presented an update on the status of the implementation of the Performance Review Recommendations (NPFC-2026-COM10-IP09).
13. The Commission noted the ongoing work to address the recommendations from the Performance Review Panel and the progress made in the intersessional period. The Commission tasked the Secretariat to update the status of the implementation of the Performance Review Panel Recommendations based on the outcomes of this meeting. The Commission agreed to continue to review and provide updated input on the Performance Review Panel Recommendations through the intersessional process initiated in 2025–2026.

Agenda Item 5. Report of the 10<sup>th</sup> Scientific Committee meeting

*5a. Review of the SC10 Report and response to COM09 taskings*

14. After a brief introduction by the Chair of the Scientific Committee (SC), Dr. Janelle Curtis (Canada), the SC Vice-Chair, Dr. Jie Cao (China), presented a summary of the outcomes of the 10<sup>th</sup> SC meeting and the meetings of its subsidiary bodies (NPFC-2026-SC10-Final Report & NPFC-2026-COM10-IP12) on behalf of the SC Chair.
15. The SC Chair added some closing remarks. She expressed her confidence in the abilities of Dr. Cao, if endorsed as the new SC Chair. She also recommended that the Commission meet formally with the chairs of the SC subsidiary bodies and the SC heads of delegation during this and future Commission meetings to discuss potential tasks and activities. In the context of the BBNJ Agreement, the SC Chair noted room for biodiversity conservation, fisheries and potentially other activities on seamounts throughout the Convention Area and believed that the BBNJ Agreement provides a good incentive for the NPFC to start working on the application of spatial optimization to prioritize areas for biodiversity conservation and fisheries. Lastly, she noted that although the collection of more data through a regional observer program (ROP) would strengthen the SC's stock assessments, the SC has limited capacity to provide more input on ROP design given its many other responsibilities.
16. The Commission thanked the SC Chair for her great dedication over her three terms.
17. The Commission considered the request for clarity on whether the SC can provide “advice” while capturing the majority and minority views of Members consistent with Article 10 (3) of the NPFC Convention. Some Members believed that the SC could provide “advice” while capturing the majority and minority views, as provided for under the Convention and the Rules

of Procedure. Other Members believed that the SC could not provide “advice” without consensus and could only capture the majority and minority views. The Commission noted that nevertheless, the Commission is to make decisions based on the discussions of the SC and it can take into account majority and minority views as part of that.

18. The Commission considered the request for guidance from the SC on making catch and effort data publicly available. The Commission agreed to make the information in the Annual Summary Footprint publicly available subject to the provisions of the NPFC Data Sharing and Data Security Protocol.

*5b. Adoption of revised SC Terms of Reference*

19. The Commission reviewed the proposed revisions to the SC Terms of Reference (SC10 report, Annex N). The Commission adopted the revised SC Terms of Reference (Annex F).

*5c. Selection of SC Chair and Vice-Chair*

20. The Commission endorsed the recommendation of the SC to select Dr. Jie Cao (China) to serve as the SC Chair.
21. Canada nominated Dr. Mackenzie Mazur (Canada) for the position of SC Vice-Chair. The Commission agreed to select Dr. Mazur to serve as the SC Vice-Chair.

*5d. Adoption of the SC10 Report and Recommendations*

22. The Commission considered the recommendation from the SC to develop a general framework for the application of the precautionary approach and conduct this work through a small working group that is established under the Commission, is composed of managers and scientists, and is led by managers. The Commission reaffirmed the importance of implementing the precautionary approach but believed that it should be applied on a case-by-case basis. Some Members had reservations about establishing the proposed small working group, noting the added burden of establishing another small working group and the tendency for discussions on this topic to be largely conceptual and unlikely to produce many practical outcomes.
23. The SC Chair clarified that the SC has tasked its subsidiary bodies that do not have stock assessments in place to provide science-based options for operationalizing the precautionary approach and the scientific rationales behind those options.
24. The Commission adopted the report and the recommendations of SC10, aside from the recommendation in paragraph 22 above (Annex G).

Agenda Item 6. Report of the 9<sup>th</sup> Technical and Compliance Committee meeting

*6a. Review of TCC09 Report and response to COM09 taskings*

25. The Chair of the TCC, Ms. Alisha Falberg (USA), summarized the outcomes of the 9<sup>th</sup> TCC meeting (NPFC-2026-TCC09-Final Report) for discussion by the Commission.

26. The Commission considered the request from the TCC for guidance on the appropriate procedure to follow when there is a lack of consensus at the TCC on whether or not to include a vessel on the Provisional IUU Vessel List. Some Members pointed out that paragraph 16 of CMM 2024-02 states the TCC shall “adopt” a Provisional IUU Vessel List and were of the view that adoption requires consensus. They believed, therefore, that a vessel cannot be included on the Provisional IUU Vessel List unless there is consensus to do so. Other Members were of the view that because this is a “provisional” list, it is less formal in nature and consensus is not needed for its adoption. They believed that a vessel could be included on the Provisional IUU Vessel List even if there is no consensus, provided the majority and minority views are captured, as stipulated in Article 11, paragraph 3 of the Convention and considering past practice at TCC. The Commission noted that there was no consensus interpretation among Members but that a solution could potentially be found by amending the language of the CMM and tasked the Small Working Group on Planning and Development (SWG PD) to review this measure intersessionally.

27. The Commission considered the request for guidance from the TCC regarding the treatment of climate change as a standing agenda item. Many Members noted the importance of discussions on climate change, while acknowledging that no papers have been submitted to the three most recent TCC meetings and that no discussions have taken place. The Commission agreed that climate change should be maintained as a standalone agenda item on an as needed basis, rather than as a standing agenda item. The Commission agreed that if climate change-related discussions and developments have occurred at the Commission or its subsidiary bodies that are relevant to TCC, the Secretariat should prepare a paper with a summary thereof and submit it to the TCC for its discussions.

*6b. Adoption of IUU Vessel List for 2026*

28. The Commission reviewed the Provisional IUU Vessel List provided to COM10 by TCC09, which contained one Chinese vessel and one Russian vessel. The Commission noted that there had been a lack of consensus at TCC on the inclusion of the Russian vessel on the list.

29. Regarding the Chinese vessel on the Provisional IUU Vessel List, China expressed its commitment that when a purse seine fishing vessel encounters a mixed catch of Japanese sardine and small chub mackerel, the fishing vessel will be required to conduct random sampling at least from 4 plates (later to be 4 bags) for each haul and acquire the best estimation of the mixture rate of each species. Based on the above sampling, catch amount for each

species shall be recorded on its logbook on a daily basis, along with the estimated average mixture rate for chub mackerel, the total number of these mixture bags of the day. Sampled mixture bags are required to be clearly marked together with the date of catch. The fishing vessel shall ensure the consistency of data among its electronic logbook, paper logbook and transshipment reports. In the course of HSBI, upon request by inspectors, the fishing vessel is required to facilitate the inspection of these mixture bags on board. At the landing site, the Chinese authority will continue to strengthen the conducting of random landing inspections/samplings to assess the accuracy of the estimation by its fishing vessels of species mixing rates for these mixtures bags.

30. The Commission was satisfied with the commitment expressed by China and agreed not to include the vessel on the final IUU Vessel List. The Commission requested China to report at TCC10 on its follow-up actions to implement the above commitment. Some Members requested that China also report at TCC10 on follow-up actions to the commitments it expressed under paragraphs 49–50 of the COM09 Report.
31. Canada highlighted its concerns regarding the Russian vessel on the Provisional IUU Vessel List. Canada pointed out that it had identified several very concerning violations through an HSBI event, specifically unrecorded and unreported bycatch and discards. Varying responses from Russia indicated that the e-log system was not able to record bycatch or the bycatch was reported through other channels. Canada noted that Russia had indicated some of the incidental catch on board was taken outside the Convention Area but there was no reporting to document that. Canada also noted that this matter helped identify opportunities for further enhancing the NPFC's CMMs, including reporting onboard catch upon entry into the Convention Area, ensuring e-log systems on Members' vessels are set up to meet NPFC CMMs, and additional work to ensure Members understand the requirements around ensuring that mobile transmitting units (MTUs) are tamper-proof.
32. Russia pointed out that it has presented detailed materials on each identified violation, thoroughly investigated each case, and provided comprehensive explanations on them. Russia believed that it had been as constructive as possible, including in informal consultations with Canada and the USA. Russia explained that during its detailed investigations, some violations were confirmed, but these were violations that took place in the Russian EEZ. Sanctions were imposed for these violations and the fines were fully paid by the vessel owner. Russia believed that it had taken necessary and adequate measures to hold the vessel owner accountable and prevent recurrence of similar violations as the flag Member and believed the vessel should not be included on the final IUU Vessel List. Russia emphasized that it values cooperation with the NPFC HSBI framework and expressed its openness to cooperate with all Members, including on the improvement of annual reporting and e-logbooks, to ensure full compliance with domestic regulations and NPFC CMMs.

33. Considerable discussion was held regarding the Russian Federation's flagged vessels that had been proposed to the NPFC IUU Vessel List. During these discussions, Members noted the need to further clarify the Russian Federation's responsibilities as they pertain to accurate reporting requirements.
34. The Russian Federation confirmed that improvements to the Russian Federation's electronic catch reporting system now allows for the recording of all bycatch (in particular anadromous and shark species), both retained and released/discarded. In this regard, the Russian Federation committed to reporting all bycatch in a complete manner in accordance with NPFC obligations moving forward. The Russian Federation committed to ensure all records pertaining to bycatch and discards of all species onboard of fishing vessels will be made available to Members during inspections upon request in accordance with HSBI procedures. The Commission acknowledged that the CMM 2025-07 amendments adopted this year, which will require vessels to report catch on-board trawlers upon entering the Convention Area, will help to provide clarity to inspectors on the location where species were caught.
35. Some Members noted that it would be appropriate for TCC and SC to further consider potential mechanisms to address the at-sea processing of NPFC fisheries resources to a state that makes them impossible to inspect by species and weight.
36. Based on the above discussions, the Commission agreed to not include the Russian vessel on the final IUU Vessel List.
37. As recommended by the TCC, the Commission agreed to amend the current NPFC IUU Vessel List by removing the photographs of the legitimate, authorized Chinese vessels (LU RONG YUAN YU Nos. 101, 102, 103, 105, 106, 108 and 109) and tasked the Secretariat to amend any incorrect text descriptions on the current NPFC IUU Vessel List that were based on the photographs of the legitimate, authorized Chinese vessels.
38. The Commission adopted the NPFC IUU Vessel List for 2026 (Annex H).

#### *6c. Adoption of Final Compliance Report*

39. The TCC Chair presented the Provisional Compliance Report which assessed each Member's compliance with all obligations in Annex II of CMM 2025-13, and attached an executive summary that summarized outstanding issues, general feedback on the process, and identified data gaps. She explained that the TCC assessed 23 areas of potential non-compliance identified by the Secretariat and that all other areas were assumed to be compliant. She further explained that the TCC could not reach consensus on the assessment of 9 areas of potential non-compliance.

40. Regarding Vanuatu's vessel marking issue (CMM 2023-01, paragraph 5), Vanuatu followed up on the verbal explanation it provided at TCC09 and submitted a written explanation on the actions it has taken in response to the potential non-compliance issue. Based on the information provided, the Commission determined this case to be "Compliant."
41. Regarding China's potential non-compliance with CMM 2025-03, paragraph 9, CMM 2025-07, paragraph 6, and CMM 2025-11, paragraph 6, the Commission noted that China has fulfilled its duty as a flag Member to impose sanctions on the vessel and has committed to implementing improved measures for recording mixed bags of chub mackerel and Japanese sardine catch. The Commission determined these cases to be "Compliant."
42. Regarding Russia's potential non-compliance with CMM 2025-03, paragraph 9, and CMM 2025-07, paragraph 6, the Commission noted Russia's explanation of the improvements it has made subsequently to its electronic catch reporting system and welcomed the future commitments it made regarding the reporting of bycatch and the provision of these records during inspections. Nevertheless, the Commission determined that for the compliance assessment period, these cases should be assessed as "Non-Compliant."
43. Regarding Russia's potential non-compliance issue related to transshipment observer obligations (CMM 2025-03, paragraphs 26, 29, 31), the Commission determined these cases to be "Unable to be assessed," which was the majority view, as it had been supported by four Members. These Members believed that there were ambiguities in the CMM drafting and that it was unclear whether these obligations apply only to the Convention Area or also to Members' EEZs. Three Members had supported a status of "Non-compliant." They believed that these obligations clearly applied to both the Convention Area and Members' EEZs and had serious concerns with other Members' interpretations to the contrary. One Member had supported a status of "Compliant." This Member noted that there was ambiguity in the definition of "an observer" in the CMM and noted Russia's explanation that it had deployed independent inspectors who were equivalent to observers.
44. Regarding Russia's potential non-compliance issues related to the recording and reporting of shark catches (CMM 2023-14, paragraphs 9 and 10), the Commission noted the corrective actions Russia has taken and the improvements it is making to its e-logbook system and determined these cases to be "Compliant."
45. Regarding Russia's potential non-compliance issues related to anadromous fish (CMM 2024-16, paragraphs 5 and 11), the Commission noted the additional written explanations and documentation that Russia had provided, including that the violations took place in the Russian EEZ and that sanctions had been imposed on the vessel owner and paid. The

Commission determined these cases to be “Compliant.”

46. The Commission added revisions to the Provisional Compliance Report based on the above discussions and adopted the final Compliance Report (Annex I).
47. Some Members emphasized when a Member has been notified of cases of its potential non-compliance, it is important for the Member to take timely actions and provide follow-up information in writing by the requisite deadlines in accordance with the procedures set out in 2025-13 For The CMS. Such information is essential for ensuring an effective assessment process.
48. The Commission noted that in accordance with CMM 2025-13, the Final Compliance Report shall include all responses taken and to be taken to address areas of non-compliance, as well as an Executive Summary with recommendations or observations from the TCC. The Commission agreed to conduct a more thorough review of these aspects when developing the Final Compliance Report at its next meeting.

*6d. Adoption of the TCC09 Report and Recommendations*

49. The Commission adopted the report and the recommendations of TCC09 (Annex J) with the understanding that the definition of historical existing levels and the draft CMMs discussed at TCC09 would be discussed under Agenda Item 8.

*6e. Consideration of other TCC issues identified during TCC09 or by COM10 meeting*

50. The Commission reviewed proposed updates, based on the discussions at TCC09, to the list of obligations to be assessed as part of the Compliance Monitoring Scheme (CMS) in Annex II of CMM 2025-13 (updated as NPFC-2026-TCC09-IP10 Rev.1).
51. The Commission agreed to add paragraphs 34 and 37 of CMM 2024-09 to the list of obligations to be assessed as part of the CMS in Annex II of CMM 2025-13 (Annex K).
52. Members were unable to reach consensus on the other potential additions and deletions that were considered at TCC.
53. Members reiterated the different interpretations they expressed at TCC regarding the applicability of some of the provisions of CMM 2025-17 On NPFC Transshipment Observer Program to Members’ EEZs. Some Members were of the view that the CMM contained ambiguities in this regard, and considered that the reporting requirements under the CMM applied to both the Convention Area and Members’ EEZs, but that the observer deployment requirements only applied to the Convention Area. These Members were of the view that the CMM needed to be amended to address these issues and that in the meantime, the related

provisions under the CMM should not be included in the list of obligations to be assessed as part of the CMS. Other Members were of the view that the CMM did not contain ambiguities in its scope and that all provisions applied to both the Convention Area and Members' EEZs. These Members emphasized that the CMM had been agreed to and adopted by consensus and were concerned about the suggestion of excluding certain obligations from the CMS simply because they are challenging for Members to implement.

54. Some Members pointed out that they would face legal and technical challenges in permitting regional observers to conduct MCS-related activities in their areas of jurisdiction.
55. The Commission noted the legal and technical challenges some Members would face in implementing CMM 2025-17 On NPFC Transshipment Observer Program. The Commission agreed to task the TCC Small Working Groups (SWGs) to work intersessionally to review CMM 2025-17 and CMM 2025-03 On Transshipments to consider potential implementation of the TOP, while avoiding the creation of MCS loopholes.
56. The USA nominated Mr. Conor Sullivan (USA) for the vacant SWG on Ops (SWG Ops) Co-Lead position. The Commission agreed to select Mr. Sullivan to serve as the SWG Ops Co-Lead.
57. The Secretariat updated the TCC Work Plan based on the Commission's discussions (NPFC-2026-TCC09-WP10 (Rev.4)).
58. The Commission reviewed the TCC Work Plan and added minor amendments. The Commission adopted the revised TCC Work Plan (Annex L).

#### Agenda Item 7. Report of the 8<sup>th</sup> Finance and Administration Committee meeting

##### *7a. Review of FAC Report*

59. The Chair of the Finance and Administration Committee (FAC), Mr. Haruo Tominaga (Japan), summarized the outcomes of the 8<sup>th</sup> FAC meeting (NPFC-2026-FAC08-Final Report) for discussion by the Commission.

##### *7b. Adoption of the proposed budget for 2026/2027 and 2027/2028*

60. The Commission adopted the proposed budgets for 2026/2027 (Annex M) and 2027/2028 (Annex N) as submitted by the FAC08 (NPFC-2026-FAC08-WP01 Rev.1) along with the associated assessed contributions, noting that the assessed contribution amounts for 2027/2028 would be updated based on GDP and catch history at that time. The Commission confirmed that the budget for 2027/2028 could be subject to review at the 2027 annual meeting.

*7c. Adoption of the FAC08 Report and Recommendations*

61. The Commission adopted the report and the recommendations of FAC08 (Annex O).

*7d. Consideration of other FAC issues identified during FAC08 or by COM10 meeting*

62. As requested by the FAC, the Commission considered potential amendments to the Financial Regulations to address the lack of clarity regarding the treatment and execution of payments to cover costs such as those for the operation of the TOP. One Member noted the need for more time to consider potential amendments to the Financial Regulations to address this issue, expressing concern that such amendments could be interpreted as being linked to Member contributions, which would have wide-ranging implications.
63. The Commission noted the lack of consensus among Members and agreed to defer discussions on this issue to FAC09.

**Agenda Item 8. Conservation and Management Measures**

*8a. Review of the amendments to existing CMM's and any new CMMs*

*Review of CMM 2025-05 for Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northwestern Pacific Ocean*

64. The USA presented a proposal to amend CMM 2025-05 for Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northwestern Pacific Ocean (NPFC-2026-COM10-WP01). The USA explained that the best available scientific information for North Pacific armorhead (NPA) and splendid alfonsino (SA) in the Convention Area indicates that both stocks are currently subject to unsustainable exploitation rates and depleted biomass levels. The USA noted the importance of managing these fisheries consistent with the precautionary approach. Noting these stock status concerns as well as other concerns about bycatch and vulnerable marine ecosystems, the USA has therefore recommended the establishment of temporary measures to ensure that vessels refrain from targeting NPA and SA until the SC recommends catch and effort limits consistent with long-term sustainable use objectives.
65. Japan pointed out that NPA has unique biological characteristics unlike other bottom fish and has tended to show high recruitment every 10–20 years. Furthermore, the Commission has adopted adaptive management measures for NPA in 2017. As for SA, Japan pointed out that, to address concerns of overfishing, the Commission has adopted mesh size regulations to reduce catches of juvenile fish and implemented total fisheries closures from November to January each year.
66. Japan suggested to reduce Members' catch of SA to 50% of its annual highest catch recorded since the establishment of the NPFC as a provisional and precautionary measure until the SC completes an assessment of the SA stock.

67. Some Members shared the concerns raised by the USA regarding the NPA and SA stocks but expressed their preference for the Japanese proposal, as they considered a complete temporary closure of the fisheries to be disproportionate. Other Members expressed support for the US proposal, believing it to be measured and precautionary, and questioning the effectiveness of the measures proposed by Japan.
68. The DSCC, the NRDC, and Pew reiterated their longstanding concerns of overfishing of SA and NPA, and continued degradation of biodiversity by these bottom trawl fisheries. They were of the view that these fisheries were inconsistent with the Convention, the United Nations Fish Stocks Agreement, and the BBNJ Agreement, and contrary to the commitments made by NPFC Members to manage bottom fisheries under UNGA Resolutions. They welcomed the support expressed by some Members for the US proposal and hoped that it would be adopted. In addition, they drew the Commission's attention to NPFC-2026-COM10-OP02, a letter submitted on behalf of 122 scientists that calls on the Commission to take steps toward stronger protection of the Emperor Seamount Chain, based on the best available science and current understanding of the long-term impacts of bottom fishing in the region. The letter has since garnered more than double the number of signatories since it was presented at COM09, underscoring the growing scientific consensus on the need for urgent and effective measures in this area.
69. The FAO Deep-Sea Fisheries (DSF) Project noted that discussion of this issue centered on the application of the precautionary approach and the balancing of scientific advice and socioeconomic considerations. The FAO DSF Project expressed support for the SC's recommendation for the development of a general framework for the application of the precautionary approach and establishment of a small working group to that end, and believed that this would facilitate discussion and adoption of appropriate measures for stocks facing conditions like those of SA and NPA.
70. Korea reiterated the need to target the recovery of the NPA and SA stocks by focusing on the active fishery and suggested a two-year closure of these fisheries that would expire after COM12 unless otherwise decided by the Commission. Korea explained that the suggestion was intended to strike the right balance between contributing to the protection and recovery of the stocks and establishing a clear time-bound framework to encourage progress by the SC on the relevant stock assessments.
71. The Commission considered the various proposals but could not reach consensus on amending CMM 2025-05 for Bottom Fisheries and Protection of Vulnerable Marine Ecosystems in the Northwestern Pacific Ocean.

72. The Commission tasked the SC with the following:
- (a) Drawing on the preliminary analyses already done in the SSC BF-ME on the stock dynamics of NPA and SA, as well CPUE indices which were recommended to COM10 by the SC as trend indicators, provide precautionary advice on catch levels that would be sufficient to address the current scientific concerns identified for NPA and SA. The preliminary analyses might include: Depletion model analysis for North Pacific armorhead in the Southern Emperor-Northern Hawaiian Ridge seamounts, NPFC-2025-SSC BFME06-WP18; Yield per recruit and spawning biomass per recruit analyses for splendid alfonsino (*Beryx splendens*) in the North Pacific, NPFC-2024-SSC BFME05-WP09.
  - (b) Complete the stock assessments for North Pacific armorhead and splendid alfonsino according to the work plan, by 2027 if possible. The SC should provide advice on management measures, including the measures outlined in paragraph (c), in the absence of a stock assessment, consistent with the precautionary approach.
  - (c) Recommend any management measures other than catch limits that may be beneficial to the NPA and SA populations, particularly management options aimed at reducing the capture of splendid alfonsino before maturity, including through selectivity-related or operational measures or additional seasonal / area closures.
  - (d) Provide a summary analysis of the relationship between NPA monitoring survey results and other stock status metrics such as per recruit metrics, fishing mortality, or biomass trend indicators to help the commission in understanding the efficacy of the high recruitment identification as a management tool and further explore potential contribution to management advice provided by the NPA monitoring surveys.
  - (e) Review the updated impact assessments of Members' bottomfish fisheries, which should be prepared taking into account input from SSC BF-ME on improvements to the draft assessments, and provide a concise summary to the Commission on whether the current fisheries present a risk to the ongoing recovery of seamount fish stocks or benthic marine ecosystems.
73. The DSCC, Pew and NRDC drew the Commission's attention to its observer paper, NPFC-2026-COM10-OP03, which provided recommendations for the updated bottom fisheries impact assessments that relevant Members have committed to deliver to SC11. In particular, they highlighted the recommendations that the impact assessments should include comprehensive mapping of the areas where bottom fishing is permitted combined with predictive modeling, habitat-suitability modeling, and/or species distribution modeling; identification of areas where deep-water species and vulnerable marine ecosystems are likely to better survive the impacts of climate change and ocean acidification; and application of the precautionary approach and reverse burden of proof in assessing the risk of significant adverse impacts. They emphasized that all of these recommendations are consistent with the NPFC Convention, Annex 2 of CMM 2025-05, and the UNGA resolutions related to bottom fisheries

in Areas Beyond National Jurisdiction.

74. The USA supported the recommendations in NPFC-2026-COM10-OP03.

*Review of CMM 2025-07 For Chub Mackerel*

75. Japan presented a proposal, co-sponsored by Korea, to amend CMM 2025-07 For Chub Mackerel (NPFC-2026-COM10-WP02 (Rev.1)). Japan explained that the proposed amendments are intended to update the CMM with 2026 catch limits that are based on the advice of SC10 and the NPFC chub mackerel stock assessment. The catch limits are aimed at achieving the 70<sup>th</sup> percentile of spawning stock biomass (SSB) in 2036 with a probability of at least 50% and preventing fishing operations in the Convention Area from undermining the conservation efforts by coastal Members.
76. Canada presented a proposal to amend CMM 2025-07 For Chub Mackerel (NPFC-2026-COM10-WP07). Canada explained that the proposed amendments are intended to firstly ensure that trawl vessel expansion limits are in place for Members with significant catch, pointing out that the current measure limits the EU and China to a specific number of authorized trawlers but does not include a limit for other Members. Secondly, Canada noted that catch from outside the Convention Area may be intermingled with catch from NPFC waters and explained that the proposed amendments would introduce a requirement to report catch on board upon entry/exit to and from the Convention Area, making it possible to differentiate between NPFC and other fisheries resources on vessels to support effective MCS activities.
77. Pew expressed support for the Japanese and Canadian proposals to amend CMM 2025-07 and suggested that they be merged. Pew suggested the addition of the following as the penultimate paragraph “The Scientific Committee shall endeavor to consider the establishment of a management procedure to be formulated through an MSE process by the 13<sup>th</sup> Commission meeting in 2029. The Commission shall fund an external expert to support the process.” Pew also welcomed the completion of an NPFC chub mackerel stock assessment in 2025 but noted that work to develop a Management Procedure for chub mackerel has stalled as Members have concerns about personnel and funding capacity while the Pacific saury MSE process is still ongoing. Pew suggested that, to alleviate some of those concerns, the Commission could consider turning the Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS) into a more general MSE working group addressing multiple species.
78. Canada worked with Members in the margins to provide an updated proposal that only sought to add a requirement for catch on entry reporting (NPFC-2026-COM10-WP07 (Rev.2)). The Commission added some editorial changes (NPFC-2026-COM10-WP07 (Rev.3)) and endorsed the proposed amendments.

79. Japan presented an updated proposal (NPFC-2026-COM10-WP02 (Rev.2)) that it had worked with Members in the margins to develop. The updated proposal added blue mackerel to the scope of the measure, changed the management period from fishing season to calendar year, and added provisions for the carry-over and transfer of unused catch limits.
80. The Commission noted that there is no NPFC stock assessment for blue mackerel and that the scope of this CMM should continue to be limited to chub mackerel. The Commission also recognized that harvests of chub mackerel are often mixed with that of blue mackerel and that the mixing rate between the two species should be taken into account when determining catch limits for chub mackerel. The Commission agreed that references to blue mackerel could be included for provisions on the determination of the chub mackerel catch limits.
81. Japan presented a revised proposal (NPFC-2026-COM10-WP02 (Rev.3)) that reflected the above discussion and incorporated the proposed amendments in the Canadian proposal to the same CMM.
82. The Commission reviewed the proposal and added further changes (NPFC-2026-COM10-WP02 (Rev.4)). The Commission adopted the proposed amendments to CMM 2025-07 For Chub Mackerel (Annex P). The Commission noted that the CMM is intended to apply to fisheries targeting chub mackerel.
83. The Commission endorsed the recommendation from SC10 to require Members to submit gear specific catch-at-age / catch-at-length data by all Members including accessory devices used for fishing purposes for both the Convention Area and EEZs, so that the TWG CMSA can complete Task 1 from the Commission in Annex T of the COM09 Report. The Commission requested that the Chair of TWG CMSA circulate a letter explaining how such data from the 2025/2026 fishing season should be submitted to TWG CMSA<sup>12</sup>.
84. Canada expressed concerns about the condition of the chub mackerel stock and the ability of the adopted CMM to deliver sustainable outcomes. Canada expressed its intention to submit a proposal to COM11 for establishing an MSE process for chub mackerel.
85. Canada presented a proposal to introduce bycatch exclusion strategies for NPFC pelagic trawl fisheries under CMM 2025-07 For Chub Mackerel, 2025-08 For Pacific Saury and 2025-11 For Japanese Sardine, Neon Flying Squid and Japanese Flying Squid (NPFC-2026-COM10-WP08 (Rev.2)). Canada explained that NPFC trawl fisheries targeting pelagic species are at risk of intercepting sharks, marine mammals, and other vulnerable, large non-target species (collectively “megafauna”) and that such incidents have in fact been increasing. The proposed amendments would implement gear modification requirements to reduce the number of

incidentally caught megafauna and require mandatory reporting on all incidental megafauna bycatch and interactions.

86. Pew expressed support for the Canadian proposal.
87. Canada worked with Members in the margins to update the proposal (NPFC-2026-COM10-WP08 (Rev.3)).
88. The Commission noted that there was general agreement with the likely benefit from use of the proposed devices but that some Members would need to change their domestic law to enable use of those devices. Therefore, Canada agreed to withdraw its proposal and present it again at COM11.

*Review of CMM 2025-08 For Pacific Saury*

89. Japan presented a proposal to amend CMM 2025-08 For Pacific Saury (NPFC-2026-COM10-WP03). Japan explained that the proposed amendments update the CMM with the 2026 catch level based on the adopted interim harvest control rule (HCR) for Pacific saury and require Members to promptly notify the Executive Secretary of the starting date of any diversion of part of their catch limit for areas under their jurisdiction to their own catch of Pacific saury in the Convention Area.
90. Korea presented a proposal to amend CMM 2025-08 For Pacific Saury (NPFC-2026-COM10-WP05). Korea explained that the proposed amendments update the CMM with the 2026 catch level based on the adopted interim HCR for Pacific saury and add preambular text that reflects the ongoing work by the SC and the SWG MSE PS and the need to maintain an effective, predictable and practicable interim management framework pending further development of the management procedure and related scientific work.
91. Chinese Taipei presented a proposal to amend CMM 2025-08 For Pacific Saury (NPFC-2026-COM10-WP06). Chinese Taipei explained that substantial uncertainties persist in the current BSSPM stock assessments for Pacific saury stemming from a variety of factors and that the omission of these factors from the current assessment model may have resulted in an overly pessimistic and unrealistic view of the stock status. Chinese Taipei believed that achieving a full recovery to  $B_{tar}$  within a five-year timeframe may therefore be practically unfeasible and explained that it had proposed amendments to the interim HCR in Annex I of the CMM to reflect this.
92. Several Members expressed concern with the proposal to amend one of the management objectives in the agreed interim HCR, noting that the potential impact of such a change had not been assessed at the SC or the SWG, and that work to develop a full-fledged MSE is

ongoing.

93. Canada and the USA expressed concern with the deviation from the interim HCR given the state of the Pacific saury stock. They reminded other Members that when the interim HCR was adopted, the selection of a 10% maximum allowable change (MAC) rather than a larger MAC was done as a part of a compromise to address Members' socio-economic concerns. They also pointed out that the adopted TAC would be much higher than the unconstrained annual catch level for 2026 estimated by the latest stock assessment.
94. Japan worked with Members in the margins to develop an updated proposal (NPFC-2026-COM10-WP03 (Rev.1)). The updated proposal incorporated aspects of the Korean proposal. It also sought to accommodate strong socio-economic concerns raised by some Members through a temporary deviation from the interim HCR and the setting of a total allowable catch (TAC) that is based on a 5% reduction from the 2025 level.
95. Chinese Taipei expressed the need for further consideration for its socio-economic difficulties and proposed the inclusion of a provision for the carry-over of 10% of the unused portion of the 2026 catch. Some Members expressed concern with the inclusion of such a provision and believed that there was no scientific justification for it. Noting the lack of support from other Members, Chinese Taipei withdrew its proposal.
96. The Commission reviewed the proposal and added further changes (NPFC-2026-COM10-WP03 (Rev.2)). The Commission adopted the proposed amendments to CMM 2025-08 For Pacific Saury (Annex Q).

*Review of CMM 2025-11 For Japanese Sardine, Neon Flying Squid, And Japanese Flying Squid*

97. Japan presented a proposal to amend CMM 2025-11 For Japanese Sardine, Neon Flying Squid and Japanese Flying Squid (NPFC-2026-COM10-WP04). Japan explained that its domestic stock assessment for Japanese sardine indicates that the stock biomass has declined and the fishing mortality ratio has increased, resulting in a sharp increase in the exploitation rate since 2022, while the recruitment indices in the recent three years also indicate sharp declines. Furthermore, although Japan has reduced its domestic TAC for Japanese sardine, the limits on the number of authorized vessels under CMM 2025-11 have not been effective in controlling fishing pressure on Japanese sardine in the Convention Area. Japan has therefore proposed to 1) separate sardines and squid, 2) create a stand-alone CMM for sardine and introduce a catch limit for sardines, and 3) create a stand-alone squid CMM with the text essentially unchanged from CMM 2025-11 except with references to sardine removed.
98. Japan worked with Members in the margins to develop an updated proposal (NPFC-2026-COM10-WP04 (Rev.1)).

99. The Commission added some further changes (NPFC-2026-COM10-WP04 (Rev.2)). The CMM endorsed the proposed amendments to CMM 2025-11 For Japanese Sardine, Neon Flying Squid and Japanese Flying Squid and adopted a standalone CMM for Japanese sardine (Annex R) and another standalone CMM for neon flying squid and Japanese flying squid (Annex S). The Commission noted that the Japanese sardine CMM is intended to apply to fisheries targeting Japanese sardine but not Japanese sardine bycatch.
100. The EU expressed its view that as a principle, it is not a good practice for an RFMO to set catch limits based on domestic stock assessments without having first conducted scientific assessment by the NPFC SC.

*Review of CMM 2024-02 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*

101. The Commission reviewed the TCC09-endorsed amendments to CMM 2024-02 (NPFC-2026-TCC09-WP05 (Rev.2)). The Commission adopted the proposed amendments (Annex T).
102. The Commission also considered amendments to paragraph 16a) of CMM 2024-02 to provide greater clarification around the procedure for the Provisional IUU Vessel List, as discussed under agenda item 6, but could not reach consensus.
103. Some Members also expressed concerns about the low threshold at the NPFC for the nomination of vessels to the draft IUU vessel list compared to other regional fisheries management organizations (RFMOs) due to the wording of the CMM and pointed out that discussions related to potential IUU vessel listings that would have been sufficiently addressed in the compliance evaluation process have taken up a disproportionate amount of time at TCC meetings.
104. The Commission tasked the TCC SWG PD to review the entirety of the CMM 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 taking into account the practice of other RFMOs.

*Review of CMM 2023-01 on Information Requirements for Vessel Registration*

105. The Commission reviewed the TCC-endorsed amendments to CMM 2023-01 On Information Requirements for Vessel Registration (NPFC-2026-TCC09-WP07). The Commission adopted the proposed amendments (Annex U).

*Proposed new CMM on Scientific Research Activities*

106. The USA and Korea presented a joint proposal for the establishment of a CMM on Scientific Research Activities (NPFC-2026-TCC09-WP04 (Rev.2)). They explained that they had presented the proposal at TCC09 and updated the proposal following the meeting based on Members' comments.
107. Some Members believed that the definition of "fisheries-related scientific research activities" under paragraph 2 of the proposed CMM was overly broad and expressed concern that under the current wording a wide range of non-fisheries-related research could be included in the CMM's scope. They also believed that several provisions in the proposed CMM would create undue burdens that would disincentivize Members from conducting research.
108. Noting Members' reservations, the Commission agreed to defer discussion of the proposal for the establishment of a CMM on Scientific Research Activities. The Commission tasked the SC with developing a definition for "fisheries-related research activities."

*Proposed New CMM on Minimum Standards for the Collection, Reporting, Verification and Exchange of Data*

109. The EU presented a proposal for the establishment of a CMM On Minimum Standards for the Collection, Reporting, Verification, and Exchange of Data (NPFC-2026-TCC09-WP06 (Rev.3)). The EU explained that it had presented the proposal at TCC09 and that the TCC had reviewed and updated the proposal but that several substantive issues remained unresolved despite productive discussions.
110. The EU worked with Members in the margins to provide an updated proposal (NPFC-2026-TCC09-WP06 (Rev.4)).
111. The Commission reviewed the proposal and added further revisions (NPFC-2026-TCC09-WP06 (Rev.5)). Members shared the understanding that the language "shall, as appropriate" in paragraph 1 reflects the fact that some data collection fields are mandatory and some are optional. They agreed that the collection of data in fields marked as "Mandatory" in the Annexes of the CMM are obligatory, while collection of data in fields marked as "Optional" is not obligatory.
112. The Commission adopted the CMM On Minimum Standards for the Collection, Reporting, Verification, and Exchange of Data (Annex V).

*Proposed New CMM on Minimum Standards for Port State Measures*

113. The TCC Chair presented a proposal for a CMM on Minimum Standards for Port State Measures, which had been drafted by the TCC SWG PD and was further developed by the

TCC but contained a number of issues that remained unresolved (NPFC-2026-TCC09-WP08 (Rev.2)).

114. The Commission considered the potential technological solutions for collecting and managing the data required under the proposed measure and noted that a hybrid solution, whereby Members could use either the Global Information Exchange System (GIES) or notification to the Secretariat, could accommodate all Members' needs.
115. The TCC Chair worked with Members in the margins to develop an updated proposal (NPFC-2026-TCC09-WP08 (Rev.3)).
116. The Commission reviewed the proposal and added further changes (NPFC-2026-TCC09-WP08 (Rev.4)).
117. The Commission adopted a CMM on Minimum Standards for Port State Measures (Annex W).

#### *Historic Existing Level*

118. The Commission discussed the definition of historical existing level and the options considered at the TCC. The Commission recalled the preferences expressed by Members at the TCC, including one Member that had suggested that a three-year timeframe for defining historical existing levels was too short.
119. The Commission considered a new option, whereby historical existing level would be defined as the maximum number of vessels authorized to fish for each species by a flag Member between the year when the NPFC was established (2015) and the year when the provision to restrict the expansion in the number of authorized vessels was adopted in the relevant CMM.
120. One Member expressed continued reservation over the proposed options and expressed concern about potential implications for other wide-ranging issues, such as potential allocation discussions in the future. This Member proposed another option, whereby the historical existing level is defined as "The maximum number of vessels authorized to fish for each species by a flag Member between the year when the catch history firstly started, supported by catch data for the flag Member in the area to which the Convention applies, and the year when the provision to restrict the expansion in the number of authorized vessels was adopted in the relevant CMM."
121. The Commission could not reach consensus on defining historical existing level. The Commission agreed to hold further discussions intersessionally through the TCC SWG Ops. The Commission tasked the TCC SWG Ops to consider all options presented at TCC09 and

COM10 (NPFC-2026-TCC09-IP11, NPFC-2026-COM10-IP14, NPFC-2026-COM10-IP15) and to provide the outcomes of its discussions to TCC10 and COM11. The Commission requested that Members submit their historical data regarding their vessel authorizations, in accordance with the requisite Excel template, no later than one week before the next meeting of the SWG Ops. The Commission agreed that Members that had already submitted these data need not submit them again. The Commission agreed that Members may also submit additional data if they wish.

*8b. Review of measures with specified review provisions*

122. The Commission reviewed a table listing the review provisions of existing NPFC CMMs (NPFC-2026-COM10-IP11). The Commission noted that most of the necessary reviews have been undertaken at TCC09 and COM10. Due to time constraints, the Commission had no opportunity to review CMM 2024-15 but agreed to review this CMM at the 2027 annual meeting. The Commission also agreed to defer the review in paragraph 10 of CMM 2024-16 to the 2027 annual meeting.

*8c. Review of existing resolutions and any new Resolutions*

123. The Commission did not review any existing or new Resolutions.

*Agenda Item 9. Report of the 7<sup>th</sup> Meeting of the joint SC-TCC-COM Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS)*

124. The Science Co-Chair of the joint SC-TCC-COM Small Working Group on Management Strategy Evaluation for Pacific Saury (SWG MSE PS), Dr. Toshihide Kitakado (Japan), summarized the outcomes of the 7<sup>th</sup> SWG MSE PS meeting (NPFC-2026-SWG MSE PS07-Final Report – Annex X).
125. The Commission noted the annual catch level calculated for the 2026 fishing year using the interim HCR for Pacific saury under CMM 2025, while noting that there had been a lack of endorsement from China at SWG MSE PS07.
126. The Commission agreed that invited experts would continue to be invited to the next SWG MSE PS.
127. The Commission discussed the possibility of a new schedule for completing the full MSE development one year later than originally planned in light of the workload involved and capacity constraints. The USA expressed reservations about delaying the full MSE given some Member concerns about the interim HCR and their requests to not apply it as agreed, and said that would need to be discussed in the context of negotiations on the Pacific saury measure. The Commission endorsed the corresponding meeting schedule as appeared as option 2 in NPFC-2026-SWG MSE PS07-Final Report, after adopting the revisions to the Pacific saury

CMM under agenda item 8.

128. The Commission reaffirmed the importance of participation by scientists, managers, and stakeholders in future SWG MS PS meetings.
129. Pew expressed the view that there would not be time to revise the interim HCR and develop a full MSE process at the same time, noting that when the interim HCR was adopted it was intended to be a short-term strategy and there was an understanding that the SWG MSE PS would develop a full-fledged MSE. Pew believed that many of the concerns raised by Members about the stock assessment and the interim HCR could be addressed through the MSE process. Pew also pointed out that observations of increased catch-per-unit-effort (CPUE) in a certain area did not necessarily mean the improved health of the stock, and that this could be due to hyperstability resulting from factors such as a change in the species range or improving fisher skill in finding fish.
130. WWF expressed deep concern regarding the decline not only in the Pacific saury stock but also the chub mackerel and Japanese sardine stocks. WWF noted that while there was no consensus on Pacific saury stock assessment results, the results from the individual assessments conducted by China, Japan, and Chinese Taipei indicated that stock levels are very low and below  $B_{MSY}$ . WWF emphasized that the current HCR is based on agreement among Members, including managers, and pointed out that if there is the possibility that, under the HCR's 10% maximum allowable reduction in the TAC, the target cannot be achieved, then a reduction of more than 10% should be considered. WWF emphasized that the NPFC must take responsible action to demonstrate that it is an RFMO that can manage fisheries sustainably.
131. Chinese Taipei emphasized that the Pacific saury stock has not worsened and is in the process of recovering. Chinese Taipei pointed out that whether the current TAC is maintained or reduced would determine the speed of recovery, not whether the stock would or would not continue to recover.

#### Agenda Item 10. Cooperation with Other Organizations

132. The Executive Secretary presented a summary of the Commission's efforts and progress in liaising with other relevant international organizations during 2025/2026 (NPFC-2026-COM10-IP08). Further details are provided in the sub-agenda items below.

##### *10a. PICES*

133. The Executive Secretary highlighted the extensive engagement by NPFC scientists in PICES processes, the regular interaction between the NPFC and PICES secretariats, support in SC10 and FAC08 for NPFC co-sponsorship of the upcoming Small Pelagic Fish symposium, and

support expressed by the Commission previously for the project Basin Scale Events and Coastal Impacts (BECI).

134. The Commission noted that an update on recent and upcoming planned joint activities between NPFC and PICES from the Executive Secretary of PICES, Dr. Sonia Batten, had been submitted to the meeting (NPFC-2026-COM10-OP05).

*10b. NPAFC*

135. The NPAFC Executive Director, Mr. Yoshikiyo Kondo, thanked the NPFC for its adoption of CMM 2024-16 On Anadromous Fish at COM08, the implementation of which has been of great support to the NPAFC. He also provided an update on NPFC-NPAFC cooperation (NPFC-2026-COM10-OP10). Many items in the five-year NPFC-NPAFC Work Plan are completed or ongoing. Key remaining items are the exchange of data and information between the two organizations through a data sharing platform and the voluntary sharing of Pacific salmon bycatch data from NPFC fishing vessels. Terms of Reference for the NPAFC/NPFC SharePoint have been agreed. NPAFC has also updated its IUU vessel list and will discuss it further at its annual meeting in May. In addition, NPAFC is holding two upcoming workshops of potential interest to the NPFC: a Workshop on Interactions between Fisheries and Anadromous Fish in the North Pacific High Seas and a Workshop on Interactions Between Salmon, Ecosystems, and Climate: From Mechanisms to Predictive Models. NPAFC remains committed to continuing its close cooperation with NPFC, which is essential to the NPAFC's efforts to fulfil its purpose.

*10c. FAO: Deep Sea Fisheries project and FIRMS*

136. Ms. Eszter Hidas (FAO, DSF Project) provided an update on the Common Oceans Deep Sea Fisheries Project (NPFC-2026-COM10-OP06). In 2022–2026, the DSF Project reviewed the implementation of the International Guidelines for the Management of Deep-sea Fisheries in the High Seas (DSF Guidelines), produced an introductory e-learning course on the management of DSF in areas beyond national jurisdiction (ABNJ), and established the Deep-sea Fisheries Technical Forum. It also held various workshops and symposia, including the Workshop on the Application of the Precautionary Approach to the Management of DSF stocks, the Symposium on Applying the Ecosystem Approach to Fisheries Management in ABNJ, workshops with the DSF industry, a global workshop on deepwater sharks, a workshop on cross-sectoral interactions with DSF, and a workshop on incorporating climate change in RFMO considerations. In addition, the DSF Project has advanced work on development of a shark identification key for the NPFC Convention Area, supporting and improving data-limited stock assessments, and mapping of DSF in the ABNJ. A notable activity was the holding of the NPFC/FAO workshop on the operationalization of the precautionary approach. Key messages from the workshop are that operationalizing the precautionary approach is most effective when taken on as a joint SC-Commission responsibility, a working group dedicated

to the operationalization of the precautionary approach is highly effective in allowing informal scientist-manager exchanges and fostering common understanding, the DSF Project is available to provide support until the end of May 2027, and a guidance document, targeting primarily managers, is under development, with publication expected by September 2026. Looking ahead, the DSF Project will hold a workshop on developing guidance for RFMOs and a workshop on RFMO communication and outreach.

137. The Executive Secretary added that NPFC has been cooperating with FAO and its ABNJ project since the beginning of the Commission and has contributed as one of the project partners. Furthermore, the Project Steering Committee met at the NPFC headquarters in March 2026. The NPFC headquarters will also host an FAO/ICES workshop on data-limited stock assessments on 20–24 April 2026. In addition, the NPFC and FIRMS signed a Partnership Arrangement in 2023 and the Secretariat has provided the necessary information for the FIRMS databases on stocks and fisheries and will continue to update it annually.

*10d. WCPFC*

*10e. ISC*

138. The Executive Secretary highlighted the ongoing collaboration between the NPFC and WCPFC Secretariats and his own virtual attendance of the WCPFC Regular Commission Meeting.

*10f. IATTC*

139. The Executive Secretary presented the draft Memorandum of Understanding (MoU) between the NPFC and the Inter-American Tropical Tuna Commission (IATTC; NPFC-2026-COM10-WP10). He explained that the draft MoU has been reviewed by IATTC and Members and that the current draft incorporates comments from both.
140. The Commission reviewed and endorsed the draft MoU. The Commission tasked the Secretariat to forward the draft MoU to IATTC for its further consideration (Annex Y).

*10g. SPRFMO*

141. The Executive Secretary explained that NPFC and the South Pacific Regional Fisheries Management Organisation (SPRFMO) are similarly sized RFMOs and that their two Secretariats are in regular contact regarding best practices and approaches.
142. The Executive Secretary explained that the SPRFMO Commission has recently endorsed the renewal of its MoU with NPFC, which expires on 12 July 2026, and indicated its preference for maintaining the three-year review mechanism. He presented the proposed renewed MoU for the Commission's consideration (NPFC-2026-COM10-WP09).

143. The Commission agreed to renew its MoU with SPRFMO (Annex Z).

*10h. IMCS Network*

144. Ms. Kate Chung (IMCS Network) provided an update on IMCS Network activities and highlighted tools offered by the IMCS Network (NPFC-2026-COM10-OP08). The IMCS Network has launched the IUU Vessel List Hub, a secure, RFMO-restricted platform designed for RFMO secretariat staff for the management of IUU vessel lists and sharing of information. It has also launched the Combined Regional Authorized Vessel Tool (CRAVT), a publicly available tool for searching for specific vessels, as well as vessel companies, owners, and operators, and compare records for the same vessel on different RFMO registries. In addition, the Pan-Pacific Fisheries Compliance Network (PPFCN) is a network hosted by the IMCS Network for those responsible for compliance in the RFMO secretariats and the NPFC has been part of the PPFCN since its inception. In March 2027, the IMCS Network will hold the 8<sup>th</sup> Global Fisheries Enforcement Training Workshop (GFETW 8) in Bali, Indonesia. The IMCS Network also hosts Wavemakers, a nine-month professional development programme.

145. The Executive Secretary added that the Secretariat work plan includes plans for the incoming Compliance Manager to attend GFETW 8.

*10i. UN BBNJ*

146. The Executive Secretary explained that the Secretariat has not attended BBNJ sessions other than following virtually. He also noted that the PICES BECI Project has been identified as having a potential role in a future clearing house mechanism.

147. The EU presented a discussion paper on interaction between RFMOs and the BBNJ Agreement (NPFC-2026-COM10-IP02). The EU pointed out that the BBNJ Agreement recognizes the role of RFMOs and should be interpreted and applied in a way that does not undermine RFMOs, but rather promotes coherence and coordination with these frameworks. The EU highlighted four key lines of questioning that the NPFC should consider so as to proactively prepare itself for potential future interactions with the BBNJ Agreement: Are the relevant timelines and procedures applicable in the NPFC sufficiently well known by the negotiators who are finalizing the procedures for the functioning of the BBNJ Agreement? Does NPFC have a clear and comprehensive overview of its activities and achievements? Should NPFC work with other RFMOs to ensure coherence in any potential contributions or information flowing between RFMOs? Is NPFC sufficiently prepared and equipped to deal with future requests for consultation or cooperation from BBNJ?

148. The Commission tasked the Executive Secretary to attend the Regional Fishery Body Secretariats' Network (RSN) in September, collect and share information with other RFMOs about how they are preparing for interactions with the BBNJ, and submit a paper summarizing

his findings to COM11.

149. The Commission agreed to hold further discussions on potential interactions with the BBNJ Agreement at COM11 based on the paper from the Executive Secretary. The Commission welcomed any other proposals or papers from Members on this matter.
150. The Commission encouraged Members to send their fisheries officials to attend BBNJ-related meetings so as to share perspectives from fisheries bodies and support their incorporation into the BBNJ process.
151. The DSCC, NRDC, and Pew expressed support for the EU proposal to urge the Commission to proactively consider engagement in the implementation of the BBNJ Agreement and believed that the NPFC should examine whether it is sufficiently prepared and equipped to deal with future requests for consultation or cooperation from BBNJ and determine if there are processes that need to be reinforced, for example, in the assessment of environmental impacts. They also highlighted the valuable contributions of accredited observers and the importance of their participation in such discussions, as well as the importance of Members playing a more active role in helping facilitate information-sharing between the NPFC and the BBNJ Agreement.

*10j. Other Organizations*

152. The Executive Secretary noted the upcoming Agreement on Port State Measures (PSMA) Technical Working Group on Information Exchange to be held on 8–12 June 2026 in Korea. He explained that due to the transition of Compliance Managers, no members of the Secretariat are planning to attend. He requested Members who are attending to share information from the meeting with the Commission.

Agenda Item 11. Other matters

*11a. Secondment and Intern for 2026*

153. The Commission endorsed the FAC's recommendation and agreed to accept the secondment application from Ms. Yume Kawai (Japan) for a 12-month period commencing in June 2026.
154. The Commission noted that there were no candidates for internship positions this year.

*11b. Other business*

155. No other business was raised.

*11c. Press Release*

156. The Commission noted that it is not a common practice among RFMOs to issue press releases of the outcomes of their annual meetings. The Commission agreed to not issue such press

releases going forward.

Agenda Item 12. Date and Place of next meeting of the Commission and its Committees

157. The Executive Secretary presented a document with information on the potential timing and location of meetings of the Commission and its subsidiary bodies in 2027 and 2028 (NPFC-2026-COM10-WP11).
158. The Commission agreed to hold the next meetings of the TCC, the FAC, and the Commission in Fukuoka, Japan, on the following dates:
  - (a) TCC10: 6–9 April 2027
  - (b) FAC09: 10 April 2027
  - (c) COM11:12–15 April 2027
159. The Commission tentatively agreed to hold the 2028 meetings of the TCC, the FAC, and the Commission, in Hiroshima, Japan, on the following dates:
  - (a) TCC11: 5–8 April 2028
  - (b) FAC10: 9 April 2028
  - (c) COM12: 11–14 April 2028
160. The Commission agreed to hold the next meetings of the SC and related SSC/TWG meetings in Kobe, Japan, on the following dates:
  - (a) TWG CMSA13: 11–14 January 2027
  - (b) SSC BFME07: 15–17 January 2027
  - (c) SSC PS18: 19–22 January 2027
  - (d) SC11: 23–26 January 2027
161. The Commission tentatively agreed to hold the 2027–2028 meetings of the SC and related SSC/TWG meetings on the following dates, with SSC BFME potentially being hosted in Canada with the rest envisioned to be held in Japan:
  - (a) SSC BFME: December 2027 (ending before December 18)
  - (b) SSC PS: 10–13 January 2028
  - (c) TWG CMSA: 13–16 January 2028
  - (d) SC12: 18–20 January 2028
162. The Commission tentatively agreed to hold the next meetings of the SWG MSE PS in a virtual format:
  - (a) SWG MSE PS08: 8–10 October 2026
  - (b) SWG MSE PS09: 22–24 February 2027

Agenda Item 13 Adoption of the report

163. The report was adopted by consensus.

Agenda Item 14. Close of the Meeting

164. The meeting closed at 18:40 on 17 April 2026, Osaka time.

**Annexes (click CTRL and the link you wish to access):**

Annex A – Statement by the Chair

Annex B – Opening Statement by China

Annex C – Agenda

Annex D – List of Documents

Annex E – List of Participants

Annex F – SC Updated Terms of Reference

Annex G – NPFC SC10 Final Report

Annex H – NPFC 2026 IUU Vessel List

Annex I – 2026 Compliance Report

Annex J – NPFC TCC09 Final Report

Annex K – CMM 2026-13 Compliance Monitoring Scheme

Annex L – TCC 2026 Workplan

Annex M – 2026/2027 Budget and Assessed Contributions

Annex N – 2027/2028 Budget and Assessed Contributions

Annex O – NPFC FAC08 Final Report

Annex P – CMM 2026-07 Chub Mackerel

Annex Q – CMM 2026-08 Pacific Saury

Annex R – CMM 2026-18 Japanese Sardine (New CMM for separated species)

Annex S – CMM 2026-11 Neon Flying Squid and Japanese Flying Squid

Annex T – CMM 2026-02 IUU Fishing Vessel List

Annex U – CMM 2026-01 Vessel Registration

Annex V – CMM 2026-19 Data standards (new CMM)

Annex W – CMM 2026-20 Port State Measures (new CMM)

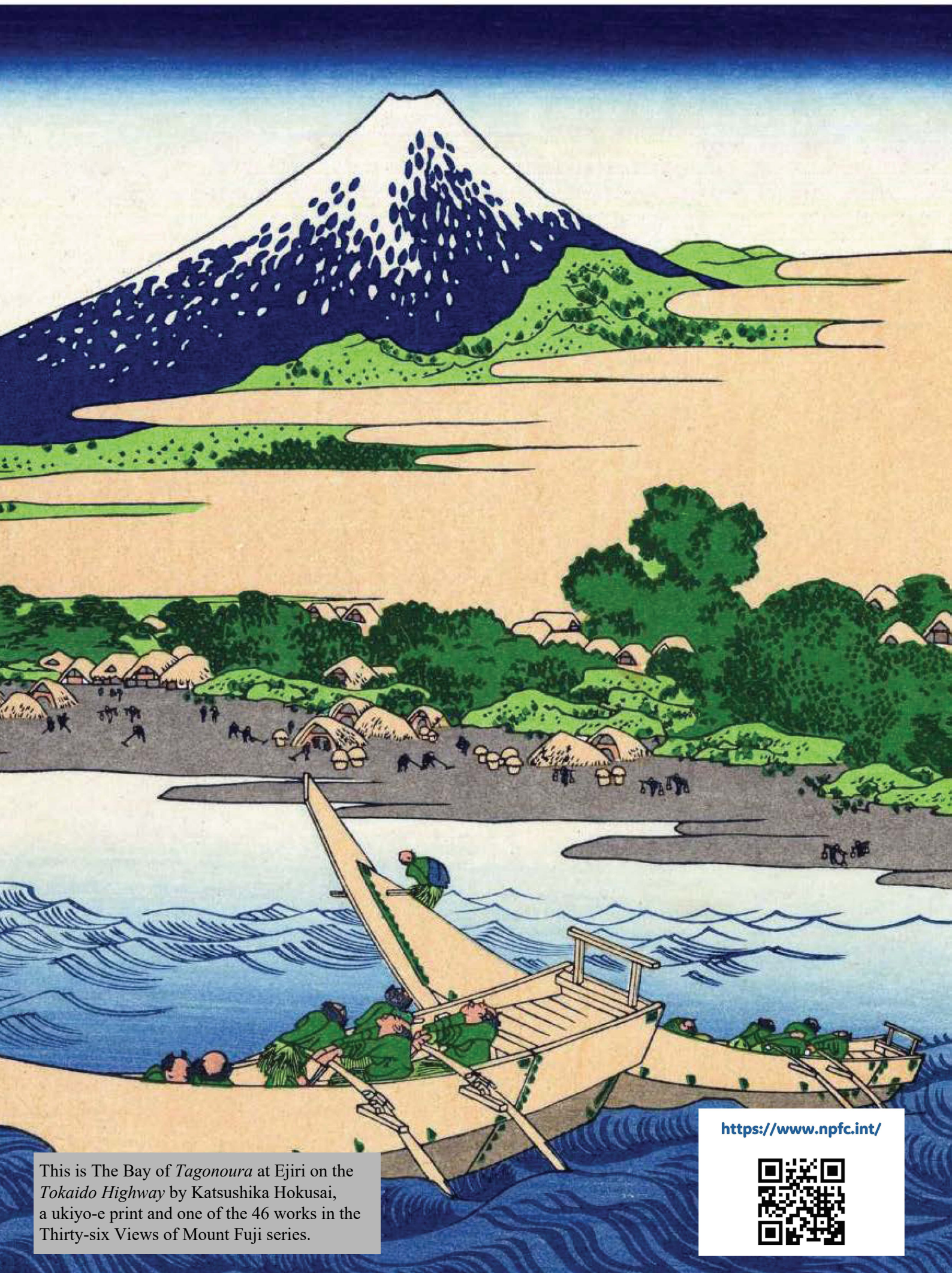
Annex X – NPFC SWG MSE PS07 Final Report

Annex Y – MOU with IATTC

Annex Z – MOU with SPRFMO

Please refer to the NPFC website for the complete annexes.





This is The Bay of *Tagonoura* at Ejiri on the *Tokaido Highway* by Katsushika Hokusai, a ukiyo-e print and one of the 46 works in the Thirty-six Views of Mount Fuji series.

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