

**REPORT OF THE  
NORTH PACIFIC FISHERIES COMMISSION  
PERFORMANCE REVIEW PANEL**

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## **Executive Summary and General Observations**

1. The North Pacific Fisheries Commission (NPFC) was formally established in 2015 following nearly a decade of intergovernmental negotiations and preparatory conferences. The impetus for the establishment of the NPFC was the need to respond to the United Nations General Assembly Resolutions on bottom fishing and high seas fisheries. The NPFC was among the first regional fisheries management organizations (RFMOs) with a specific function of conserving and managing high seas fisheries resources including those associated with vulnerable marine ecosystems (VMEs).
2. NPFC is a small organisation which is responsible for conserving and managing a large number of stocks and fishery resources and associated ecosystem within the North Pacific Ocean. The fishery resources include stocks that are of cultural significance to some Members. We note that the NPFC is unique compared to other RFMOs in that several coastal states operate as distant water fleets in a variety of regions. This gives a different dynamic to the internal workings of the organisation than exists in some other RFMOs.
3. NPFC may be a young and small organisation, but all its Members are highly experienced and capable in international fisheries management and the operation of RFMOs. Its major success has been the adoption and implementation of interim measures consistent with the provisions of United Nations resolution 61/105 relating to the protection of VMEs in the Convention Area. It has also achieved success in a number of other areas. For compliance, it developed a high seas boarding and inspection regime shortly after its establishment which is implemented in an effective manner and with considerable commitment from Members. It has initiated a comprehensive and ambitious program of scientific research and seeks to draw not only on Members' scientific experts but also on independent experts. It is working on the development of management strategy evaluations (MSEs) as a prelude to the establishment of harvest control rules (HCRs) designed to meet fishery conservation objectives, with an initial focus on Pacific saury and Chub mackerel. To this end, it has initiated a science-managers dialogue on Pacific saury, which should facilitate the MSE process. These achievements are recognized and acknowledged.
4. However, progress in some other areas has been slow. The status of some of the NPFC priority stocks is poor and it has been difficult for the organization to agree on effective catch limits. Despite considerable efforts, there is a lack of fully standardised data collection methods and evident data gaps. Other than bottom fisheries, information on fishing impacts on non-target stocks and other species could be improved. The NPFC has not developed the full suite of compliance measures that might be expected even of a young RFMO. The NPFC is lacking a fully-fledged transshipment measure and its scientific observer program only covers bottom fisheries. There are no measures which address the responsibilities of port States, or problem areas such as fishing with long driftnets. Illegal, unreported and unregulated (IUU) fishing is an acknowledged issue in the NPFC Convention Area, with particular concerns over the number of vessels that hide their identification and registry, effectively operate without a flag, yet appear to land or tranship their catch in the region.
5. The lack of progress in some areas appears to be due to a number of factors. The NPFC is a high seas fisheries organization, where much of the fisheries resources are also found in areas under national jurisdiction of various Members. The different domestic assessments and standards are

difficult to rationalise and harmonise. There is an apparent lack of an imperative on Members to address important issues. This is compounded by a shortage of time assigned by the Commission to address complex issues during meetings, and a lack of personnel, including within some Members, to undertake all the work required for effective management of significant fisheries resources.

6. Progress in NPFC has also been affected by the impact of the COVID-19 pandemic, which has required meetings to be held virtually over the last two years. This occurred at a critical point in its development after it had built a firm foundation and was about to embark on important work, including MSE and an agreement on a Total Allowable Catch (TAC) for Pacific saury and the conclusion of a comprehensive transshipment measure. The postponement of the 2022 Commission meeting has exacerbated this.
7. The NPFC has developed a number of excellent initiatives since its establishment. However, some of these have not continued. There were sound ideas and good intentions when initiatives were conceived, but the effort has not been sustained to achieve these aspirations. There may be various reasons for this including the turnover among initiative ‘champions’ as well as inadequate resources for the task, both within NPFC Secretariat and in respect of the national resources devoted to NPFC.
8. These issues could be assisted were NPFC to have a clear strategy for prioritising the various elements of its work. However, there is no clear strategic direction for the organization, a lack of coordination and cross-engagement between the subsidiary bodies, a lack of time in the Commission to consider adequately the work of its subsidiary bodies, and no corporate plan to assist the Secretariat in supporting the Commission and subsidiary bodies. The subsidiary bodies would benefit from the Commission giving them more direction so that they fulfil the tasks set by the Commission within well-defined time frames.
9. To accomplish this goal the NPFC could have an enduring roadmap for what progress should be made and by when. This could be used to address the number of cross-cutting issues the Review Panel assessed as requiring priority attention. These include data collection and management; development of MSE; operational effectiveness of the NPFC; compatibility between coastal State measures and NPFC measures; formal agreement on strategic priorities; and transparency.
10. NPFC was relatively well evolved before its formal establishment. The driver was to respond to the UN General Assembly resolution on bottom fishing and to develop interim measures to protect VMEs from about 2006. The second stage after entry into force of the Convention in 2015 was to focus on priority species: Pacific saury, mackerels and squids. The organization is undertaking the usual fisheries science, fisheries management and compliance tasks of an RFMO in respect of these priority resources and progress has been made, but there is room for improvement.
11. The next stage is that NPFC should do more to strengthen its measures against IUU fishing, protect the wider marine environment and ecosystem, and address the future challenges of climate change and oceanic changes and their impacts on fisheries management. To protect its credibility and act responsibly, NPFC needs to demonstrate that it can make progress not only in the traditional work of an RFMO, but also on these broader issues many of which offer potential for meaningful cooperation with other organisations including other RFMOs in the Pacific Ocean.

12. This issue is not only applicable to the NPFC, but is also applicable to other RFMOs. The issues identified and recommendations of the Review Panel are specific to NPFC, but they have a wider application to other RFMOs. The Review Panel hopes they may be useful to other RFMOs facing similar challenges.

## TABLE OF RECOMMENDATIONS

TABLE OF RECOMMENDATIONS	PRIORITY	ROLE	TIMING
<b>SCIENCE</b>			
<i>Status of living marine resources</i>			
Recommendation 3.1.1. The SC should ensure rigour in management procedures (MP) for Pacific saury based on a fully explicit set of age structured models responsive to provisions of data and variability in the relative vulnerability of different age/size groups of Pacific saury	High	SC	Short
Recommendation 3.1.2. That the SC (and SSC for Pacific Saury) examine in greater detail the standardization of the data and indices used in the stock assessment and in the case of Pacific saury, the size and age composition traits over time.	High	SC SSC PS	Short
Recommendation 3.1.3. The Commission should agree and implement interim measures for Chub mackerel based on the work completed with respect to Chub mackerel stock assessments.	High	SC COMM	Short
Recommendation 3.1.4. That the SC continue to support measures that provide representative data of the ratio of Chub mackerel and Blue mackerel in catches, such as port sampling or other sampling methods, and that the stock assessment model account for this in a reasonable way.	Medium	SC	Medium
Recommendation 3.1.5. The SC should identify and describe standardised sampling gear for deepwater stocks in both Convention Area and EEZ fisheries to generate data on relative abundance and to address data gaps.	High	SC	Medium
Recommendation 3.1.6. The SC should seek to link footprint and effort data on squids and sardines using GIS tools in order to provide improved information on the spatial extent of the stocks and assist in providing advice on effort metrics.	Medium	SC	Medium
Recommendation 3.1.7. To increase the usefulness of the "footprint" data submitted by Members, measures of effort should be reconciled with vessel monitoring system (VMS) data, where possible.	Medium	SC	Medium
Recommendation 3.1.8. The SC and TCC should coordinate formal efforts to collect standardised data and validate bycatch of associated and dependent species.	High	SC TCC	Short
<i>Quality and provision of scientific advice</i>			
Recommendation 3.2.1. The SC should provide the Commission meeting with annual summaries of the status of the stocks and these should be made public.	High	SC	Short

<b>TABLE OF RECOMMENDATIONS</b>	<b>PRIORITY</b>	<b>ROLE</b>	<b>TIMING</b>
Recommendation 3.2.2. The Commission should commit to a schedule for the development of full MSE, including MPs and HCRs for all priority stocks.	High	SC COMM	Short
Recommendation 3.2.3. If it occurs, the SC should communicate to the Commission the reasons for lack of consensus within the SC together with an identification of research needs to bridge gaps in the scientific understanding.	High	SC COMM	Ongoing
<i>Long-term planning and research</i>			
Recommendation 3.3.1. The SC should annually summarize progress taken towards each element in the Five Year Work Plan.	High	SC	Ongoing
<i>Best available science</i>			
Recommendation 3.4.1. That the SC develop guidelines for providing advice to the Commission that reflects standards of ‘best available science’: specifically, whether advice passes defensible tests against identified criteria for ‘best available science’ (data, statistical rigor, documentation, and peer review).	High	SC	Medium
Recommendation 3.4.2. That the SC pursue independent reviews of scientific advice to a greater extent.	High	SC	Medium
Recommendation 3.4.3. The Commission should develop a regional observer program to contribute to addressing science demands, resolve data gaps, improve data collection on bycatch, and monitor the implementation of measures.	High	SC TCC COMM	Short
Recommendation 3.4.4. The Commission should develop a program of work to examine the feasibility of introducing electronic monitoring (EM) in the NPFC Convention Area.	High	SC COMM	Medium
Recommendation 3.4.5. The Commission should endeavour to engage available expertise in science issues available to other institutions and organizations (such as PICES) and seek to foster collaboration on cooperative research projects.	High	SC	Medium

<b>TABLE OF RECOMMENDATIONS</b>	<b>PRIORITY</b>	<b>ROLE</b>	<b>TIMING</b>
<b>CONSERVATION AND MANAGEMENT</b>			
<i>Conservation and Management Measures</i>			
Recommendation 4.1.1. That the Commission and Scientific Committee increase efforts to acquire the requisite data and conclude stock assessments for all NPFC fishery resources with particular attention to the priority stocks: North Pacific armorhead, Splendid alfonsino, Pacific saury, Chub mackerel, Blue (Spotted) mackerel, Japanese sardine, Japanese flying squid and Neon flying squid. These assessments should provide the knowledge and understanding required to adopt more enduring and scientifically validated CMMs to achieve sustainable levels of fishing mortality.	High	SC COMM	Medium
Recommendation 4.1.2. That pending the results of stock assessments and where information is lacking, the Commission adopt a precautionary approach (taking account of the risk of overfishing and whether stocks are overfished) to the setting of catch limits.	High	SC COMM	Short
Recommendation 4.1.3. That the Commission undertake a comprehensive review of existing CMMs to include verifiable objectives, address potential issues associated with interpretation by reducing the use of subjective terms and adopt baselines and measures of performance. This should be repeated regularly not less than every 5 years.	High	COMM	Long
Recommendation 4.1.4. That stand alone CMMs be dedicated to a single NPFC fishery resource and that multi-species CMMs be phased out as the results of stock assessments and Management Procedures become available.	Medium	COMM	Long
<i>Data collection and sharing</i>			
Recommendation 4.2.1. That the Commission increase efforts to characterise NPFC fisheries by expanding and harmonizing data collection formats for all species encounters, including bycatch, discards and species belonging to the same ecosystem or dependent upon or associated with the target stocks.	High	COMM	Medium

<b>TABLE OF RECOMMENDATIONS</b>	<b>PRIORITY</b>	<b>ROLE</b>	<b>TIMING</b>
Recommendation 4.2.2. That the Commission task the Secretariat to contract a data management expert to undertake an intersessional review to assess data reporting formats for SC and TCC purposes and advise on opportunities for further standardization, undertake a comprehensive inventory of NPFC data, evaluate uncertainties associated with that data, identify data gaps and propose a schedule of data-related priority tasks and associated responsibilities to be annually reported to the Commission.	High	COMM	Short
Recommendation 4.2.3. That the Secretariat establish and maintain an inventory of NPFC non-public domain data on the section of the Commission's website restricted to Member-access, including justification for confidentiality, and a meta data inventory in the public domain on the Commission's website.	Medium	Sec COMM	Short
Recommendation 4.2.4. That the Commission dedicate effort and resources to the collection of data relating to bycatch and species taken incidentally in all NPFC fisheries.	High	SC COMM	Medium
Recommendation 4.2.5. That the SC and the TCC each undertake a comprehensive assessment, updated annually, summarizing the NPFC data inventories and the status of data gaps and deficiencies in NPFC data and report the outcomes to the annual session of the Commission.	High	SC TCC	Short
Recommendation 4.2.6. That the Commission seek opportunities for collaboration with other RFMOs with shared interests in the North Pacific Ocean and appropriate technical agencies, such as Global Fishing Watch (GFW) and the IMCS Network, to assess the level and impacts of IUU fishing on NPFC fishery resources.	High	TCC COMM	Short
Recommendation 4.2.7. That the Commission undertake an independent expert review of data-related policies and procedures currently implemented, or under development, in the SC and TCC, with the objective of critically reviewing existing policies and procedures against international best practice and experience in other RFMOs to strengthen and harmonize NPFC data management policies and procedures for all data functions across the Commission.	High	COMM	Short



<b>TABLE OF RECOMMENDATIONS</b>	<b>PRIORITY</b>	<b>ROLE</b>	<b>TIMING</b>
<i>Capacity management</i>			
Recommendation 4.3.1. That the Commission prioritize the development of Terms of Reference to contract appropriate technical expertise to assist with developing advice on effort indicators for fishing capacity for all fisheries harvesting NPFC fishery resources.	High	COMM	Short
<i>Fishing allocations and opportunities</i>			
Recommendation 4.4.1. An agreed process for the allocation of fishing opportunities should be a long-term goal of the Commission.	Medium	COMM	Long
<i>Ecosystem approach to fisheries</i>			
<p>Recommendation 4.5.1. The implementation of the CMMs relating to bottom fishing and the protection of VMEs should be strengthened by requesting the:</p> <ul style="list-style-type: none"> <li>• SC to undertake a review of the scientific aspects of the 50kg VME encounter threshold (including practices in other RFMOs) for possible revision;</li> <li>• SC to re-visit the recommendations of SC03 and SSC VME03 and provide a transparent assessment of the value of including sponges and hydrocorals as VME indicator taxa in conjunction with supporting an initiative to develop a quantitative method for the identification of VMEs; and</li> <li>• TCC to develop compliance-related reporting provisions for the Scientific Observer Program related to VME encounters, accompanied by a mechanism to deter non-compliance.</li> </ul>	Medium	SC TCC COMM	Medium
Recommendation 4.5.2. That the Commission and the SC develop strategies that address the lack of information needed to take ecosystem considerations into account for NPFC pelagic fisheries in the Convention Area, and include these in the SC's Research Plan, data collection procedures and obligations to better take into account ecosystem-related interactions, and how they might compare with compatible initiatives in areas under national jurisdiction.	High	SC COMM	Medium
Recommendation 4.5.3. That the Commission, at an early opportunity, develop and adopt CMMs addressing lost and discarded fishing gear, marine pollution and waste from fishing vessels, interactions with marine mammals, seabirds or sharks (particularly a prohibition on shark finning), and a prohibition on fishing with long driftnets in the NPFC Convention Area.	High	SC COMM	Medium

<b>TABLE OF RECOMMENDATIONS</b>	<b>PRIORITY</b>	<b>ROLE</b>	<b>TIMING</b>
Recommendation 4.5.4. That the Commission recognize the importance of taking into account the known and anticipated impacts of climate change on the North Pacific Ocean ecosystem, including with respect to changes in the geographic and temporal distribution of stocks, notably Pacific saury.	High	COMM	Short
Recommendation 4.5.5. That the SC make appropriate provision in its current Research Plan to address current deficiencies associated with addressing the impacts of climate change on NPFC ocean ecosystems and associated fisheries.	High	COMM	Ongoing
<b>COMPLIANCE AND ENFORCEMENT</b>			
<i>Monitoring, control and surveillance measures</i>			
Recommendation 5.2.1. That, as a priority, the Commission adopt a new comprehensive conservation and management measure to regulate and monitor transshipments.	High	SC	Medium
Recommendation 5.2.2. That the Commission adopts, as a matter of priority, a Regional Observer Program that includes all fisheries and is based on a common understanding of the role and function of observers and common templates for the collection of scientific fisheries data and monitoring compliance with CMMs.	High	TCC COMM	Short
Recommendation 5.2.3. That the Commission adopt procedures to implement Article 17(4) of the Convention and clarify the circumstances in which fishing is to cease and vessels ordered to port for 'serious violations'.	Medium	TCC COMM	Short
Recommendation 5.2.4. That information from high seas boarding and inspections be used, subject to data management rules, to inform assessments under the Compliance Monitoring Scheme and the preparation of the Draft IUU Vessel List.	Medium	Sec COMM	Ongoing
Recommendation 5.2.5. That the Commission adopts a long-term strategy to address the problem of vessels without nationality engaged in IUU fishing, with specific steps for finding and collecting information about each vessel, including on beneficiaries of their fishing activities and their operational aspects.	Medium	TCC COMM	Long
Recommendation 5.2.6. That the Commission make full use of the information arising from at-sea inspections, including the possibility of vessels being included on the Draft IUU Vessel List.	High	TCC COMM	Ongoing
Recommendation 5.2.7. That the Commission develop processes for the reciprocal recognition of the IUU Vessel Lists of other RFMOs.	Low	TCC COMM	Medium

<b>TABLE OF RECOMMENDATIONS</b>	<b>PRIORITY</b>	<b>ROLE</b>	<b>TIMING</b>
Recommendation 5.2.8. That the Commission consider adopting arrangements to prevent tampering with mobile transmitting units for accessing VMS data held by the Secretariat and to make VMS data available to support decisions of Members regarding the planning and when to conduct of high seas boarding and inspection.	Medium	TCC COMM	Medium
Recommendation 5.2.9. That the Commission focus on developing, improving and implementing other, more urgent MCS tools and postpone the development of regional market-related measures at this time.	Low	TCC COMM	Long
Recommendation 5.2.10. That the Commission continue to implement and improve its CMS, including by integrating, in the best possible way, all the MCS instruments at its disposal in order to supplement self-reporting by Members and CNCPs with verifiable data and information.	Medium	TCC COMM	Medium
Recommendation 5.2.11. That the Commission migrate from manual to automated reporting to gather compliance and enforcement data, in order to facilitate the CMS process.	Medium	TCC COMM	Short
Recommendation 5.2.12. That the Commission establish criteria and mechanisms to address instances of persistent, repeated or serious non-compliance and apply measures accordingly, such as demanding specific action plans from States involved and a specified schedule of appropriate penalties or sanctions.	Medium	TCC COMM	Long
<i>Flag State Duties and the requirements for Vessel Registration</i>			
Recommendation 5.3.1. That the Commission review the requirements for vessel registration to avoid demanding unnecessary information and to improve the registration process to prevent duplication and confusion.	Medium	TCC COMM	Medium
Recommendation 5.3.2. That the Commission clarify that all vessels undertaking support activities in the Convention Area, including bunkering, should comply with vessel registration requirements.	High	COMM	Short
Recommendation 5.3.3. That the Commission confirm the duty to have an IMO number for vessel registration by amending Annex I of CMM 2021-01.	High	COMM	Short
<i>Port State duties and minimum standards</i>			
Recommendation 5.4.1. That the Commission adopt, as a matter of priority, a conservation and management measure specifying minimum standards for port inspections, consistent with the FAO 2009 Port State Measures Agreement.	High	COMM	Medium

<b>TABLE OF RECOMMENDATIONS</b>	<b>PRIORITY</b>	<b>ROLE</b>	<b>TIMING</b>
<i>Measures to deter nationals from engaging in IUU fishing</i>			
Recommendation 5.5.1. That the Commission consider the development of a specific scheme to implement the obligations under Article 17(7) so that Members and CNCPs take adequate measures to prevent their nationals from engaging in IUU fishing activities.	Medium	COMM	Long
<b>DECISION-MAKING AND DISPUTE SETTLEMENT</b>			
<i>Decision-making</i>			
Recommendation 6.1.1. That the work of the TCC SWGs be facilitated by having clear work programs and timetables for completion of intersessional work, reporting against work programs in annual reports to TCC, and meetings are held where feasible in person in order to expedite progress on difficult issues in the work program.	High	TCC	Ongoing
<b>INTERNATIONAL COOPERATION</b>			
<i>Relationship to co-operating non-Members</i>			
Recommendation 7.1.1. That the Commission decide whether to grant CNCP status on a biannual or an annual basis and apply a consistent approach to the granting of CNCP status.	Medium	COMM	Short
<i>Relationship to non-cooperating non-Members</i>			
Recommendation 7.2.1. That the Commission task the Secretariat to contact the flag States of fishing vessels and carrier vessels that are not authorized to fish in the Convention Area and those known to have an interest in fishing in the Convention Area and encourage them to seek CNCP status in NPFC and for the Secretariat to provide the Commission with an annual report on such outreach and on non-cooperating non-Member activities.	Medium	Sec COMM	Ongoing
Recommendation 7.2.2. That the Commission revise CMM 2016-03 to require Members to prohibit vessels flying their flag from utilising the services, including transshipment services, of vessels that are flagged to non-contracting parties that are not CNCPs in the Convention Area.	High	TCC COMM	Short
Recommendation 7.2.3. That where carrier vessels of non-contracting Parties and non-CNCPs are confirmed to have undertaken transshipment in the NPFC Convention Area of fisheries resources managed by NPFC, the vessels concerned should be placed on the NPFC IUU Vessel List in accordance with IUU vessel listing procedures.	High	TCC COMM	Short

<b>TABLE OF RECOMMENDATIONS</b>	<b>PRIORITY</b>	<b>ROLE</b>	<b>TIMING</b>
<i>Cooperation with other international organizations</i>			
Recommendation 7.3.1. That the Commission task the Executive Secretary, in consultation with Members, to develop a prioritized program of work to strengthen practical cooperation with other organizations, including on data sharing and data management. This should include collaboration with WCPFC and IATTC as a priority	High	COMM	Short
Recommendation 7.3.2. That in addition to the development of any necessary formal linkages through MOUs, the Secretariat be encouraged to engage informally with staff in other RFMOs, including through the IMCS Network, to learn and share experiences of operational activities.	Medium	Sec	Ongoing
<i>Special requirements of Developing States</i>			
Recommendation 7.4.1. That the Commission demonstrate consideration of the special requirements of developing States, in particular SIDS, in its decision-making.	Medium	COMM	Ongoing
<i>Transparency</i>			
Recommendation 7.5.1. That Commission adopt, on advice of TCC, data security protocols which would enable observers, on signing of confidentiality agreements, to have access to data and information and access to meetings where such data and information is discussed.	High	COMM	Ongoing
Recommendation 7.5.2. That the Commission agree to the principle that meetings, including subsidiary body meetings, will be open to observers subject to rules of procedure which support that principle and are closed to observers only when strictly necessary.	High	COMM	Short
<b>FINANCIAL AND ADMINISTRATIVE ISSUES</b>			
<i>Availability of resources for NPFC activities</i>			
Recommendation 8.1.1. That the Commission encourage the SC and TCC to develop proposals for funding consideration from funds set aside in the Special Projects Fund.	Medium	COMM	Short
Recommendation 8.1.2. That the Commission, through NPFC Members, increase efforts to advance the Commission's work, in particular the development of Management Procedures (MPs) and Harvest Control Rules (HCR) for NPFC priority stocks, and the adoption and implementation of priority MCS measures.	High	Members	Ongoing

<b>TABLE OF RECOMMENDATIONS</b>	<b>PRIORITY</b>	<b>ROLE</b>	<b>TIMING</b>
Recommendation 8.1.3. That proposals for new or revised conservation and management measures be accompanied by costings associated with additional responsibilities for the Secretariat to provide the support necessary for the implementation of the CMM and that this be endorsed by the Commission for inclusion in the budget at the time of the CMM's adoption.	High	COMM	Ongoing
Recommendation 8.1.4. That the new Executive Secretary undertake a review of staffing levels in the Secretariat, capabilities, and needs of the organization, with a view to presenting comprehensive proposals on staffing to the Commission in 2024.	Medium	Sec	Medium
<i>Efficiency and cost effectiveness</i>			
Recommendation 8.2.1. That the Commission task the Secretariat to develop a Corporate Plan to better inform the work of the NPFC Secretariat, to assist in ensuring financial and staff resources are appropriate in relation to expectations and to assist with the monitoring of the Secretariat's performance.	Medium	Sec COMM	Medium
Recommendation 8.2.2. That the Commission review the NPFC Document Rules with a view to ensuring that the website contains all information on past meetings, including the documents submitted, on the outcomes of intersessional decision-making and all other relevant information for Members, observers and the public.	High	COMM	Short

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## Abbreviations and Acronyms

ABNJ Project	FAO areas beyond national jurisdiction deep seas project
BRP	Biological Reference Points
B <sub>MSY</sub>	Biomass at Maximum Sustainable Yield
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
IPOA-IUU	2001 FAO International Plan of Action to Prevent, Deter and Eliminate IUU Fishing
CMM	Conservation and Management Measure
CMS	Compliance Monitoring Scheme
CNCP	Cooperating non-Contracting Party
EEZ	Exclusive Economic Zone
FAC	Finance and Administration Committee
FMC	Fisheries Monitoring Center
FAO	United Nations Food and Agriculture Organization
FIRMS	FAO Fisheries Information and Resource Monitoring System
F <sub>MSY</sub>	Fishing Mortality at Maximum Sustainable Yield
GIS	Geographic Information Systems
GFW	Global Fishing Watch
HCR	Harvest Control Rule
ICCAT	International Commission for the Conservation of Atlantic Tunas
IOTC	Indian Ocean Tuna Commission
IATTC	Inter-American Tropical Tuna Commission
IGO	Inter-governmental Organization
IMCS Network	International MCS Network
IUU	Illegal, Unreported and Unregulated fishing
MP	Management Procedure
MSE	Management Strategy Evaluation
MSY	Maximum Sustainable Yield
MoC	Memorandum of Cooperation
MoU	Memorandum of Understanding
MTU	Mobile Transmitting Unit
MCS	Monitoring, Control and Surveillance
NGO	Non-Government Organization
NAFO	North Atlantic Fisheries Organization
NPFC	North Pacific Fisheries Commission
PSM	Port State Measures
RFMO	Regional Fisheries Management Organization
RFB	Regional Fisheries Body
SC	Scientific Committee
SAI	Significant Adverse Impacts
SSC	Small Scientific Committee
SSC BF-ME	Small Scientific Committee on Bottom fish and Marine Ecosystems
SSC PS	Small Scientific Committee on Pacific Saury

SPRFMO	South Pacific Regional Fisheries Organization
SC	Scientific Committee
SWG	Small Working Group
SWG NPA-SA	Small Working Group on North Pacific Armorhead and Splendid Alfonsino
SWG NFS	Small Working Group Neon Flying Squid
SWG JFS	Small Working Group Japanese Flying Squid
SWG JS	Small Working Group Japanese Sardine
SWG BM	Small Working Group Blue Mackerel (= Spotted Mackerel)
SWG VME <sup>1</sup>	Small Working Group Vulnerable Marine Ecosystems
SWG OM	Small Working Group Operating Model (for Chub Mackerel)
SWG (Ops)	Small Working Group Operational Enforcement (TCC)
SWG (Development and Planning)	Small Working Group Development and Planning (TCC)
SWG AC <sup>2</sup>	Small Working Group on Assessing Compliance (TCC)
SWG VR	Small Working Group on the Vessel Registry (TCC)
SWG VMS	Small Working Group on the Vessel Monitoring System (TCC)
SPF	Special Projects Fund
SAM	Stock Assessment Model
TCC	Technical and Compliance Committee
TWG	Technical Working Group
TWG CMSA	Technical Working Group on Chub Mackerel Stock Assessment
UNCLOS	The 1982 United Nations Convention on the Law of the Sea
UNFSA	The United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (in force as from 11 December 2001)
UN ICSC	United Nations International Civil Service Commission
UNGA	United Nations General Assembly
VPA	Virtual population analysis
VME	Vulnerable Marine Ecosystems
WCPFC	Western and Central Pacific Fisheries Commission

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<sup>1</sup> There were separate SSCs for Bottom fisheries and VMEs until a SC decision in 2019 to combine them: SC04 Final Report, para 13.

<sup>2</sup> The three TCC SWG on Assessing Compliance, on Vessel Registry and on the Vessel Monitoring System were disbanded in 2019: TCC04, Final Report, para 79.

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# 1. Introduction

## 1.1. History

1. Informal consultations began in 2006 on the development of a North Pacific Fisheries Commission (NPFC) in response to calls from the international community for States to take measures to address the impacts of fishing on vulnerable marine ecosystems (VMEs) on the high seas and to close the international jurisdictional gaps for high seas fisheries. Formal negotiations on the establishment of a regional fisheries management organization (RFMO) commenced in August of 2006. Ten rounds of formal negotiations were held between 2006 and 2012. In addition to concluding the text of the Convention the participants to the negotiations agreed in 2011 to interim measures aimed at protecting VMEs and the sustainable management of high seas bottom fisheries in the Convention Area pending the adoption of permanent measures by the Commission.
2. The Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean text was concluded by the negotiating Participants on February 24, 2012. The Convention entered into force on 19 July 2015, 180 days after the fourth ratification. Following a series of preparatory conferences, the NPFC held its first meeting in Tokyo in September 2015. The NPFC Secretariat was formally established in Tokyo on 3 September 2015.

## 1.2. NPFC Performance Review Panel

### *1.2.1. The Panel*

3. Article 22 of the Convention provides for the Commission to organize regular reviews of the effectiveness of the conservation and management measures (CMMs) adopted by the Commission and compliance with the measures in meeting the objectives of the Convention. Such reviews may include examination of the effectiveness of the provisions of the Convention itself.
4. The NPFC Commission Members agreed through an intersessional decision-making process in August 2021 to undertake a performance review of NPFC during 2022. The Terms of Reference provide for the Commission to appoint a Review Panel comprised of eight persons:
  - Three internal experts who have experience in the NPFC context and a thorough understanding of the NPFC Convention, to be selected among Member delegates: a fisheries management specialist, fisheries science specialist, and a monitoring, control and surveillance specialist;
  - Four external experts with professional areas of expertise, to be selected the Commission following an agreed selection process and comprising: an international legal specialist who will serve as the Chair of the Review Panel, a fisheries management specialist, a fisheries science specialist, and a monitoring, control, and surveillance specialist; and
  - One from non-governmental organization observer groups who have attended meetings of the Commission and subsidiary bodies.

5. The selection of the Review Panel was undertaken in accordance with the Terms of Reference and finalized in August 2021. The Panel was composed of the following:

Dr. Joji Morishita: Internal Fisheries Management Specialist  
Dr. Siqun Tian: Internal Fisheries Science Specialist  
Dr. Huang-chih Chiang: Internal Monitoring, Control and Surveillance Specialist  
Dr. Penelope Ridings: External International Legal Specialist (Chair)  
Andrew Wright: External Fisheries Management Specialist  
Dr. Jim Ianelli: External Fisheries Science Specialist  
Dr. Osvaldo Urrutia: External Monitoring, Control and Surveillance Specialist  
Dr. Quentin Hanich: NGO Observer

6. The Secretariat was not part of the Review Panel but coordinated the administrative and logistics activities for the Review Panel and supported and facilitated its work. Annex 2 contains short biographies for the Review Panel members.

#### *1.2.2. Criteria for NPFC Performance Review*

7. The Commission agreed to specific criteria for the Review Panel to address, attached at Annex 1. The criteria follow those adopted by other RFMOs for their performance reviews and relate to conservation and management, including data management, compliance and enforcement, science, decision-making and dispute settlement, international cooperation and financial and administrative issues.

#### *1.2.3. Approach of the Review Panel*

8. The purpose of the performance review is to evaluate the Commission's performance against comprehensive criteria and against the objectives and principles set out in the Convention. The aim is to assess whether the NPFC meets its objectives, and on the basis of this evaluation to identify any areas where improvements could be made and to present recommendations to the Commission to address the issues identified.
9. The Terms of Reference set out the methodology to be used by the Review Panel. This consisted of meetings among members of the Review Panel, desktop studies based on NPFC and other documentation, and interviews with NPFC office holders including Chairs, representatives of NPFC Members, current and previous staff of the Secretariat and key stakeholders. The Review Panel developed a questionnaire based on the above criteria which was addressed to all NPFC Members, Cooperating non-Contracting Parties (CNCs) and observers. The Review Panel received ten responses from six Member delegations and two observers. Efforts were made by the Review Panel to ensure that those that wanted to have input into the Review Panel were provided the opportunity to do so. Members of the Review Panel attended some small group meetings, but due to postponements were not able to observe the Commission meeting or meetings of the Technical and Compliance Committee or Finance and Administration Committee.
10. All of the work of the Review Panel was undertaken virtually.

#### *1.2.4. Structure of the Report*

11. The report consists of eight sections. The first two provide introductory and background information relating to NPFC. The following five sections address each of the areas of the Performance Review criteria and include the Review Panel's consideration of factual information,

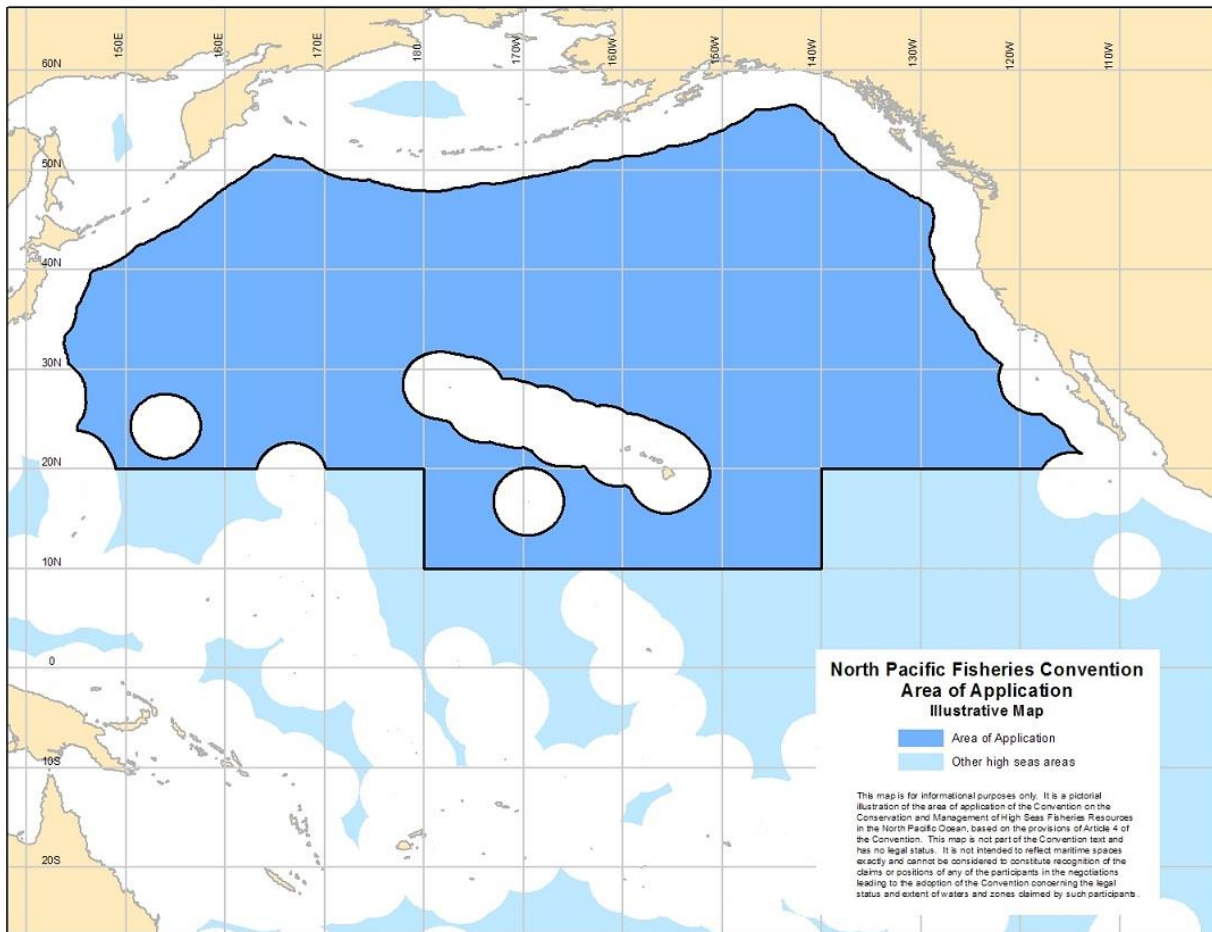
its assessment, key findings and recommendations. The Executive Summary contains some overarching observations and a table of recommendations. To assist the Commission in implementing the recommendations, the Review Panel has set out in the Table of Recommendations the priority the Review Panel gives to the recommendations (high, medium or low), which body it considers would be responsible for implementation, and a suggested timeframe for implementation (short, medium, long or ongoing).

## 2. Introduction to NPFC

### 2.1. Area of Competence and Fisheries

12. The NPFC area of competence (Convention Area) is the waters of the high seas area of the North Pacific, excluding the high seas areas of the Bering Sea and other high seas areas that are surrounded by the exclusive economic zone (EEZ) of a single State. In general, the high seas areas are those north of 20 degrees N latitude and bounded by relevant EEZs in the east, north and south. NPFC has prepared an indicative map of the NPFC Convention Area for illustrative purposes only and with disclaimers regarding the recognition of claims or positions of any of the participants in the negotiations (Figure 1 below).

**Figure 1: Map of NPFC Convention Area**





13. The Convention establishes a Regional Fisheries Management Organization (RFMO) through which Parties will cooperate to ensure the long-term conservation and sustainable use of fisheries resources in the Convention Area. Fisheries resources defined by Article 1(h) of the Convention are all fish, molluscs, crustaceans and other marine species caught by fishing vessels within the Convention Area, excluding: (i) sedentary species insofar as they are subject to the sovereign rights of coastal States; and indicator species of vulnerable marine ecosystems as listed in, or adopted pursuant to the NPFC Convention; (ii) catadromous species; (iii) marine mammals, marine reptiles and seabirds; and (iv) other marine species already covered by pre-existing international fisheries management instruments within the area of competence of such instruments. The NPFC therefore does not cover fisheries managed by other RFMOs in the area, including the Western and Central Pacific Fisheries Commission (WCPFC) and the Inter-American Tropical Tuna Commission (IATTC).
14. The main high seas pelagic species caught within the NPFC Convention Area are Pacific saury (*Cololabis saira*), Chub mackerel (*Scomber japonicus*), Blue (Spotted) mackerel (*Scomber australasicus*), Japanese sardine (*Sardinops melanostictus*), Neon flying squid (*Ommastrephes bartramii*), and Japanese flying squid (*Todarodes pacificus*). Deep-sea species are caught on seamounts in the northwestern Pacific. The primary target of the bottom trawl fishery are North Pacific armorhead (*Pentaceros wheeleri*) and Splendid alfonso (*Beryx splendens*), and the primary target species of the bottom gillnet fisheries have been Splendid alfonso, Oreo (*Allocyttus verrucosus*), and Mirror dory (*Zenopsis nebulosa*). In the northeastern Pacific a seamount longline fishery includes catches of Sablefish (*Anoplopoma fimbria*).

## **2.2. Objectives and Responsibilities of the Organization**

15. The objective of the Convention in Article 2 is to ensure the long-term conservation and sustainable use of fisheries resources in the Convention Area of the North Pacific Ocean, while protecting the marine ecosystems in which these resources occur. Article 3 of the Convention provides for certain actions to be taken to give effect to this objective which relate to responsible fisheries management. They include:
  - promoting the optimum utilization and ensuring the long-term sustainability of fisheries resources;
  - adopting measures, based on the best scientific information available, to ensure that fisheries resources are maintained at or restored to levels capable of producing the maximum sustainable yield;
  - adopting and implementing measures in accordance with the precautionary approach and an ecosystem approach to fisheries;
  - assessing the impacts of fishing activities on species belonging to the same ecosystem or dependent upon or associated with the target stocks and adopting, where necessary, conservation and management measures for such species;
  - protecting biodiversity in the marine environment, including by preventing significant adverse impacts on vulnerable marine ecosystems;
  - preventing or eliminating overfishing and excess fishing capacity;
  - ensuring that complete and accurate data concerning fishing activities are collected and shared;

- ensuring that any expansion of fishing effort, development of new or exploratory fisheries, or change in the gear used for existing fisheries, does not proceed without prior assessment;
- ensuring that conservation and management measures established for straddling fish stocks on the high seas and those adopted for areas under national jurisdiction are compatible;
- ensuring compliance and enforcement of conservation and management measures; and
- minimizing pollution, waste from fishing vessels, discards and catch by lost or abandoned gear.

### **2.3. Structure of the Organization**

16. The membership of NPFC is open to the States that participated in the Multilateral Meetings on the Management of High Seas Fisheries in the North Pacific Ocean, States and regional economic integration organizations whose fishing vessels wish to conduct fishing activities for fisheries resources in the Convention Area, and other coastal States of the Convention Area which are invited to join by consensus. The Convention also provides that a fishing entity whose vessels fish or intend to fish for resources may deposit an instrument expressing its firm commitment to abide by the Convention and CMMs adopted under it, in which case references to the Commission or Members of the Commission include the fishing entity.
17. The Commission currently has nine Members: Canada, People’s Republic of China, European Union, Japan, Republic of Korea, Russian Federation, Chinese Taipei, United States of America and the Republic of Vanuatu. One State currently holds the status of CNCP: the Republic of Panama.

#### *2.3.1. Commission*

18. The Commission is the main decision-making body of NPFC and has a wide range of functions set out in Article 7 of the Convention. Among its functions are to adopt CMMs, determine total allowable catches and the nature and extent of participation in fishing for fishery resources, develop and establish effective monitoring, control, surveillance (MCS), compliance and enforcement, and supervise the organizational, administrative, financial and other internal affairs of the Organization.

#### *2.3.2. Scientific Committee*

19. The Scientific Committee (SC) was established by Article 10 of the Convention. Its functions include to: a) recommend to the Commission a research plan, including specific issues and items to be addressed by the scientific experts and identify data needs and coordinate activities that meet those needs; b) plan, conduct and review scientific assessments of the status of fishery resources and provide advice and recommendations to the Commission; c) assess the impacts of fishing activities on fisheries resources and species belonging to the same ecosystem or dependent upon or associated with the target stock; d) develop a process to identify VMEs and areas or features where they are known or likely to occur; e) establish science-based standards and criteria to determine if bottom fishing activities are likely to produce Significant Adverse Impacts (SAIs) on VMEs; f) develop rules and standards for the collection, verification, reporting, and the security

of, exchange of, access to and dissemination of data; and (g) provide such other scientific advice to the Commission and its subsidiary bodies as it considers appropriate. Participants in the SC are experts from Members and CNCPs, as well as observers and other invited experts. The SC usually meets annually in advance of the Commission meeting. It has established a number of subsidiary bodies and small working groups that usually meet intersessionally and undertake work in line with the current Five-Year Research Plan and Work Plan of the Scientific Committee, 2021-2025, which is the second multi-year Work Plan adopted by the SC.

#### *2.3.3. Technical and Compliance Committee*

20. The Technical and Compliance Committee (TCC) was established by Article 11 of the Convention. Its functions are to: a) monitor and review compliance with conservation and management measures adopted by the Commission and make recommendations to the Commission; and b) review the implementation of cooperative measures for MCS and enforcement adopted by the Commission and make recommendations to the Commission. TCC meetings are held immediately prior to the annual Commission meeting. The TCC has established two Small Working Groups which report annually to the TCC: i) Planning and Development, and ii) Operations.

#### *2.3.4. Finance and Administration Committee*

21. The Commission established the standing Finance and Administration Committee (FAC) as a subsidiary body pursuant to Article 6 (1) of the NPFC Convention at its second Annual Session in 2016. The purpose of the FAC is to provide advice and recommendations to the Commission on matters related to the budget, finance and administration of the Commission. It meets in the day or days prior to the commencement of the Regular Commission meeting.

#### *2.3.5. Secretariat*

22. The Secretariat for NPFC is headquartered in Tokyo, Japan. An Agreement regarding Privileges and Immunities of the NPFC was signed between NPFC and Japan on 30 November 2015 and grants standard privileges and immunities to the organization and international staff. The Secretariat is headed by an Executive Secretary who is responsible for the management and supervision of the Secretariat and the provision of advice to the Commission. The terms and conditions of the staff of the Secretariat are governed by rules adopted by the Commission.

### **3. Science**

#### **3.1. Status of living marine resources**

23. The SC has recognized eight priority species on which scientific work is to be prioritized:
  - four pelagic fish species, Pacific saury *Cololabis saira*, Chub mackerel *Scomber japonicus*, Blue mackerel (previously called Spotted mackerel) *Scomber australasicus*, and Japanese sardine *Sardinops melanostictus*;
  - two squid species, Neon flying squid *Ommastrephes bartramii* and Japanese flying squid *Todarodes pacificus*;

- and two bottom fish species, North Pacific armorhead *Pentaceros wheeleri* and Splendid alfonsino *Beryx splendens*.<sup>3</sup>
24. The SC has established several subsidiary bodies and small working groups to address science-related issues to these priority stocks. These are the Small Scientific Committee (SSC) on Bottom Fish and Marine Ecosystems (SSC BF-ME), the SSC on Pacific Saury (SSC PS), and the Technical Working Group on Chub Mackerel Stock Assessment (TWG CMSA). In addition, the following small working groups (SWG) currently operate:
- North Pacific Armorhead and Splendid Alfonsino (SWG NPA-SA)
  - Neon Flying Squid (SWG NFS)
  - Japanese Flying Squid (SWG JFS)
  - Japanese Sardine (SWG JS)
  - Blue Mackerel (= Spotted Mackerel, SWG BM)
  - Vulnerable Marine Ecosystems (SWG VME)<sup>4</sup>
  - Operating Model (for Chub Mackerel, SWG OM)
25. These groups provide the backbone for developing SC advice on the status and trends of the stocks under the purview of the NPFC. The sections below provide a brief summary of these activities.

### 3.1.1. Pacific saury

26. Pacific saury (*Cololabis saira*) is widely distributed from the subarctic to the subtropical regions of the North Pacific Ocean. The fishing grounds are west of 180° E and are fished by NPFC Members China, Japan, Korea, Russia, Chinese Taipei, and Vanuatu. The fishing method used is primarily by stick-held dip net, although some gill nets are also used. The NPFC has a dedicated Small Scientific Committee on Pacific Saury (SSC PS) where most of the discussion and analysis on the Pacific saury stock takes place.
27. Figure 2 shows the trend in Pacific saury catches between 1950 and 2021. Catches have increased over the last three decades, with catches in 2014 reaching 621,000 tonnes, and have subsequently declined. Preliminary data from 2021 showed a sharp decline in catch and nominal CPUE from 2020 to 2021, continuing the declining trend that had occurred over recent years. The spatial distribution of the fishing grounds has also shifted, with fishing grounds shifting to the east and a higher proportion of catch occurring in the Convention Area compared to previous years.<sup>5</sup> Pacific saury is a short-lived pelagic species with potential changes over time in recruitment due to environmental factors,<sup>6</sup> and in the relationship between environmental factors and the ecology of Pacific saury.<sup>7</sup>

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<sup>3</sup> These were based on a proposal presented by the Secretariat (NPFC01-2016-SC01-WP04) to SC01 (para 38) and adopted by the Commission at its 2016 session (COM01, para 15).

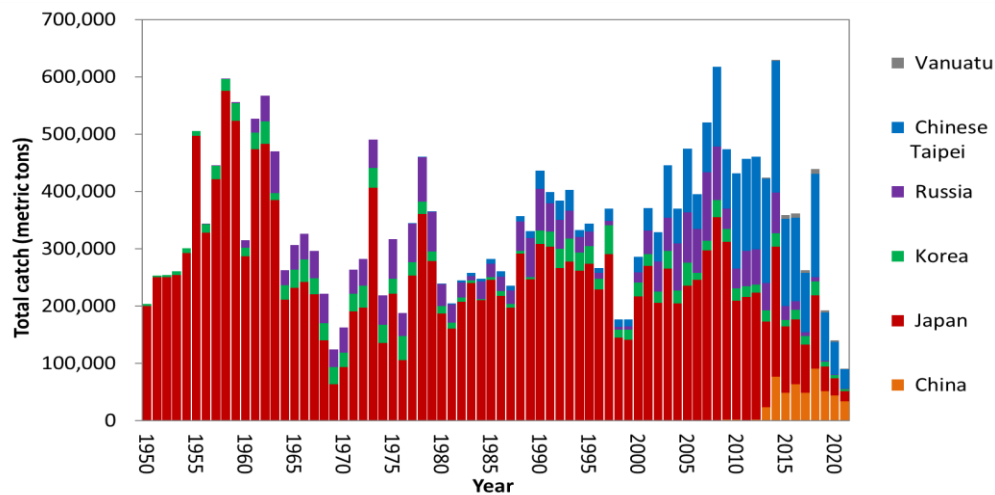
<sup>4</sup> There were separate SSCs for Bottom fisheries and VMEs until a SC decision in 2019 to combine them: SC04 Final Report, para 13.

<sup>5</sup> SSC PS08 Final Report, para 16.

<sup>6</sup> SSC PS Final Report, Annex D: Stock Assessment Report for Pacific Saury, p. 26.

<sup>7</sup> SSC PS07 Final Report, para 23.

**Figure 2: Time series of Pacific saury catch by Member during 1950-2021<sup>8</sup>**



28. A collaborative approach has been taken to the stock assessment of Pacific saury with an agreed provisional stock assessment model for Pacific saury using the years 1980-2021 and analysis conducted by three Members using agreed specifications.<sup>9</sup> The results from the combined model estimates indicate that the stock has declined to current low levels of stock biomass, which had been relatively high prior to 2011, to a historical low during 2011-2021. Stock biomass has likely been at near a record low level in 2021.<sup>10</sup> During 2011-2021 catches were usually greater than or equal to  $F_{MSY}$  and this has contributed to the recent decline in biomass.
29. The SSC PS recommended, and the SC endorsed, the following:<sup>11</sup>
- i. The current annual total allowable catch (TAC) for 2021-2022 specified in CMM 2021-08 for Pacific saury (333,750 tons) is much larger than the TAC would be based on the  $F_{MSY}$  catch approach ( $B_{2021}F_{MSY} = 192,804$  tons) and the current biomass is much lower than  $B_{MSY}$ . Reducing  $F$  in the short term may increase the probability of achieving long-term sustainable use of Pacific saury (i.e. higher long-term catch closer to  $MSY$  of around 419,000 tons).
  - ii. A harvest control rule (HCR) that reduces the target harvest rate and TAC when biomass falls below its target level may be appropriate for Pacific saury. This type of HCR is used in managing many fisheries around the world.
30. This is likely to be considered at COM07. Harvest Control Rules (HCR) and reference points have not yet been established for Pacific saury. However, it is recognized that an HCR is needed and work on this is underway.<sup>12</sup> The NPFC has made progress on the development of Management Strategy Evaluation (MSE) for Pacific saury. It has established a joint SC-TCC-COM Small Working Group on Pacific saury, which held its first meeting in February 2022. The SWG MSE

<sup>8</sup> SSC PS Final Report, Annex D: Stock Assessment Report for Pacific Saury.

<sup>9</sup> See further SSC PS Final Report, Annex D: Stock Assessment Report for Pacific Saury.

<sup>10</sup> SC06 Final Report, Annex N.

<sup>11</sup> SSC PS08 Final Report, para 37; SC06 Final Report, para 13.

<sup>12</sup> SCC PS08 Final Report, Annex D.

PS aims at developing an interim HCR within 2 years, followed by the mid-term goal (3-5 years) of developing a set of candidate management procedures (MPs) through an MSE process.

#### *3.1.1.1. Review Panel's findings relating to Pacific saury assessments*

31. A relatively data-poor method is used for the Pacific saury stock assessment involving a surplus production model. Such models require some significant assumptions which can be easily violated. The assessment documents focus directly on quantities related to theoretical  $F_{MSY}$  values and omit considerations such as retrospective analyses that may show how estimated values may have changed historically.<sup>13</sup> An obvious alternative might be to look at the age structure of the different fisheries and characteristics of Pacific saury.<sup>14</sup> The SSC PS has tested age/size structure models, and although information exists on the size and ages of Pacific saury catch, there may be issues with current data quality. Member scientists have been encouraged to develop age-structured models for Pacific saury.<sup>15</sup> The Review Panel believes the SC should consider revisiting age-structured models for Pacific saury, particularly among fleets and regions. While production models might be useful for MPs, their tests should be based on a fully explicit set of age structured models that can suitably drive provisions of data and variability in the relative vulnerability of different age/size groups of Pacific saury. The SC should ensure that MP testing is sufficiently rigorous as measured against the Terms of Reference for the PS MSE.<sup>16</sup> This recommendation was also noted in Kell 2019.<sup>17</sup>
32. Issues relating to developing a more direct connection between the assessment, catch advice, and CMMs have suffered due to the delays in holding Commission meetings. Progress on implementing a MP is underway and the schedule seems to be accelerated given the tasks at hand. Some respondents to the Review Panel's questionnaire expressed disappointment that progress was hampered by diversion to Chub mackerel MSE work.

#### *3.1.1.2. Review Panel's recommendation relating to Pacific saury*

Recommendation 3.1.1. The SC should ensure rigour in management procedures (MP) for Pacific saury based on a fully explicit set of age structured models responsive to provisions of data and variability in the relative vulnerability of different age/size groups of Pacific saury.

Recommendation 3.1.2. That the SC (and SSC for Pacific Saury) examine in greater detail the standardization of the data and indices used in the stock assessment and in the case of Pacific saury, the size and age composition traits over time.

#### *3.1.2. Chub mackerel and Blue (Spotted) mackerel*

33. Chub mackerel is widely distributed in the North Pacific and is caught using mostly purse-seine, set net, and dip net. Annual catches by Japan and Russia were about 1,000,000 tonnes in the 1970s, but decreased rapidly in the 1980s, and recorded the lowest value (24,000 tonnes) in 1991.<sup>18</sup> In

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<sup>13</sup> NPFC-2021-SSC PS08-WP03, NPFC-2021-SSC PS08-WP02 (Rev. 1).

<sup>14</sup> For example, as provided in NPFC-2021-SSC PS07-WP21.

<sup>15</sup> Summary, 1st Intersessional Meeting of the Small Scientific Committee on Pacific Saury, June 28, 2022: NPFC-2022-SSC PS09-WP02, p. 3.

<sup>16</sup> Terms of Reference for Joint SC-TCC-COM small working group on MSE for Pacific saury.

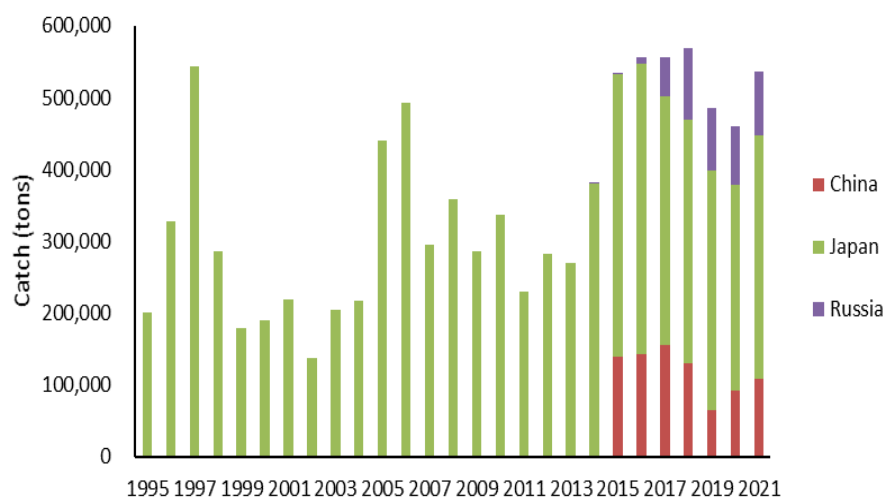
<sup>17</sup> Lawrence Kell, *Review of Target and Limit Reference Points*, Consultancy Report, NPFC-2019-W5 BRP\_HCR\_MSE01-WP01 (Rev. 1).

<sup>18</sup> NPFC Priority Species: <https://www.npfc.int/priority-species>.

1990-2000s, catches generally remained at a relatively low level but have increased since then (Figure 3). Since 1997 Japan has introduced a domestic TAC for the management of mackerels (Chub mackerel and Blue mackerel).<sup>19</sup>

34. SC06 noted that the TWG CMSA intends to conduct a preliminary stock assessment for Chub mackerel in 2022 and a complete stock assessment is planned 2023.<sup>20</sup> Members have presented different stock assessment models to the TWG CMSA.<sup>21</sup> The TWG has developed revised priority performance measures for evaluating the stock assessment models.<sup>22</sup> The TWG CMSA is to select the stock assessment model based on technical work and discussions conducted by the SWG OM. The TWG CMSA agreed to hold further discussions of candidate biological reference points.<sup>23</sup>
35. The SC has updated the species profile for Blue mackerel, which it has recognized as the common name for *Scomber australasicus* (instead of Spotted Mackerel).<sup>24</sup>

**Figure 3: Time series of Chub mackerel catch by Member during 1995-2021**



### 3.1.2.1 Review Panel's findings relating to Chub mackerel and Blue (Spotted) mackerel

36. The assessment of Chub mackerel has lagged, despite being pinned as one of the first CMMs adopted with a mandate to undertake a stock assessment as soon as practicable (in 2016).<sup>25</sup> However, work is underway on a Chub mackerel stock assessment and indications are that the

<sup>19</sup> SC06 Final Report, Annex K, p. 84.

<sup>20</sup> SC06 Final Report, para 9.

<sup>21</sup> TWG CMSA05-Final Report, paras 16-22.

<sup>22</sup> TWG CMSA05-Final Report, para 32, para 59(b) and Annex D.

<sup>23</sup> TWG CMSA05-Final Report, para 54.

<sup>24</sup> SC06 Final Report, Annex K, pp. 83-92.

<sup>25</sup> CMM 2016-07.

stock is in decline. This suggests the need for a precautionary approach to management, using assessments that are available.

37. The TWG CMSA was attended by one panel member. His findings were that the process of development has been well laid out<sup>26</sup> and that the TWG had gone more than halfway through the planned work. However, there appears to be a disconnect between the software being used and Member scientists' familiarity with the software. For example, a discussion about one Member's model led to some concerns that apparently were left unanswered *until they could be discussed with the model developer*. In another instance dealing with the Stock Assessment Model (SAM) versus Virtual Population Analysis (VPA) document,<sup>27</sup> without getting too detailed, the differences between the results were considerable. It is suggested that given issues with doing VPA in general (and in this paper a poor retrospective pattern), this approach should be abandoned.
38. Japan has conducted stock assessments on the Pacific stock of Blue mackerel which is distributed in the NPFC Convention Area.<sup>28</sup> However, there is limited information and data available on Blue mackerel. Catch statistics specific to Blue mackerel in the NPFC Convention Area are not available because combined catch of Chub and Blue mackerels have been reported to NPFC.<sup>29</sup> Japan uses port sampling data to estimate catches of Blue mackerel,<sup>30</sup> while China obtains this from the fishing companies.<sup>31</sup> Information on stock status relative to BRPs are lacking and are presently unavailable.

#### *3.1.2.2. Review Panel's recommendations relating to Chub mackerel and Blue (Spotted) mackerel*

Recommendation 3.1.3. The Commission should agree and implement interim measures for Chub mackerel based on the work completed with respect to Chub mackerel stock assessments.

Recommendation 3.1.4. That the SC continue to support measures that provide representative data of the ratio of Chub mackerel and Blue mackerel in catches, such as port sampling or other sampling methods, and that the stock assessment model account for this in a reasonable way.

#### *3.1.3. Deepwater stocks*

39. SC06 has adopted species summaries for North Pacific armorhead,<sup>32</sup> Splendid alfonsino,<sup>33</sup> Sablefish,<sup>34</sup> and Blackspotted and Rougheyeye rockfishes.<sup>35</sup> Historical catches of North Pacific armorhead by Russia and Japan from the combined Emperor Seamounts reached 100 thousand tons in 1970s, followed by a crash (Figure 4). Splendid alfonsino has been exploited as an alternative resource to the armorhead due to the fluctuations in the armorhead population.<sup>36</sup> Catch rates for Splendid alfonsino appear to reflect the recruitment of North Pacific armorhead, with annual catch rates decreasing below 1,000 tonnes over 2010-2012, with some increases up to 4,000

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<sup>26</sup> Annex G of NPFC-2022-TWG CMSA05-Final Report.

<sup>27</sup> NPFC-2022-TWG CMSA05-WP06.

<sup>28</sup> SC06 Final Report, Annex K, p. 84.

<sup>29</sup> SC06 Final Report, Annex K, p. 87.

<sup>30</sup> Ibid, p. 87.

<sup>31</sup> Ibid p. 86.

<sup>32</sup> SC06 Final Report, Annex D, pp. 25-31.

<sup>33</sup> Ibid, Annex E, pp. 32-39.

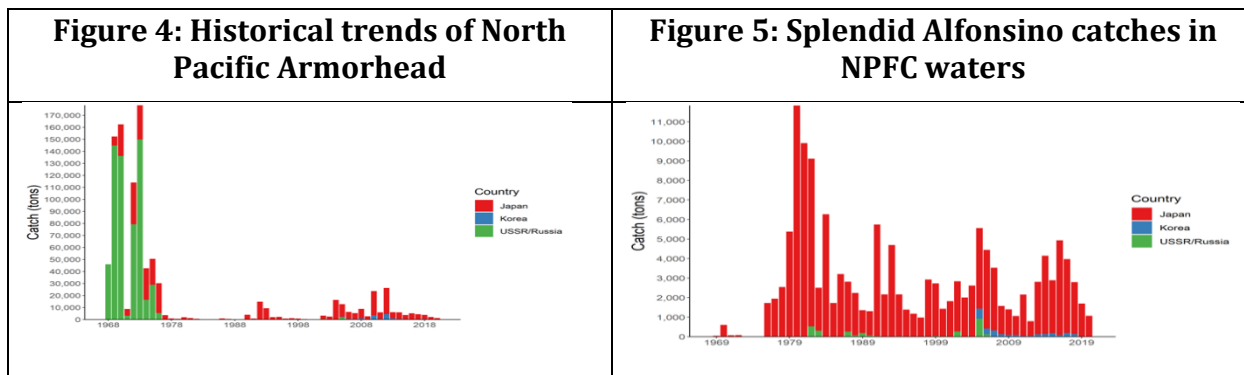
<sup>34</sup> Ibid, Annex F, pp. 41-48.

<sup>35</sup> Ibid, Annex G, pp. 49-58.

<sup>36</sup> SC06 Final Report, p. 33.



tonne in the years since (Figure 5).<sup>37</sup> Currently North Pacific armorhead and Splendid alfonsino are caught by Japan and Korea on the Emperor seamount using bottom trawls and gillnets. The SC has noted the decreasing trends and apparent poor status of the North Pacific armorhead stock, particularly as catch rates of North Pacific armorhead decline, fishing effort is transferred to splendid alfonsino the status of which is also an increasing concern to scientists.<sup>38</sup>



### 3.1.3.1. Review Panel's findings relating to deepwater stocks

40. There is no current or accepted assessment for North Pacific armorhead or Splendid alfonsino and no biomass estimates available for either species in NPFC waters.<sup>39</sup> The Terms of Reference for stock assessments for North Pacific armorhead and Splendid alfonsino have been adopted by the SC.<sup>40</sup>
41. Sablefish (*Anaplopoma fimbria*) is caught in the Northeastern Pacific area of the NPFC Convention area by Canada and within their EEZs by both Canada and the United States. Canada and the US have undertaken their own stock assessments in the three domestic jurisdictions Alaska (US), British Columbia (Canada) and the US West Coast (US) where Sablefish are harvested.<sup>41</sup> Sablefish is managed within their EEZs by Canada and the US and NPFC has a CMM in place for Sablefish in the NPFC Convention Area.
42. Blackspotted and Rougheye rockfishes are captured in the longline trap fishery that targets Sablefish on seamounts in the eastern part of the NPFC Convention Area.<sup>42</sup> No stock assessment is conducted for Blackspotted and Rougheye rockfishes in the NPFC Convention Area and it is unclear if the Blackspotted and Rougheye rockfish population on seamounts in the Convention Area is distinct from the population on the continental shelf of Canada and the US.<sup>43</sup>

<sup>37</sup> Ibid.

<sup>38</sup> SC06 Final Report, Annex E.

<sup>39</sup> SC06 Final Report, p. 28 at p. 35.

<sup>40</sup> SC06 Final Report, para 11.

<sup>41</sup> SC05 Final Report, p. 41.

<sup>42</sup> SC06 Final Report, p. 50.

<sup>43</sup> SC06 Final Report, p. 50.

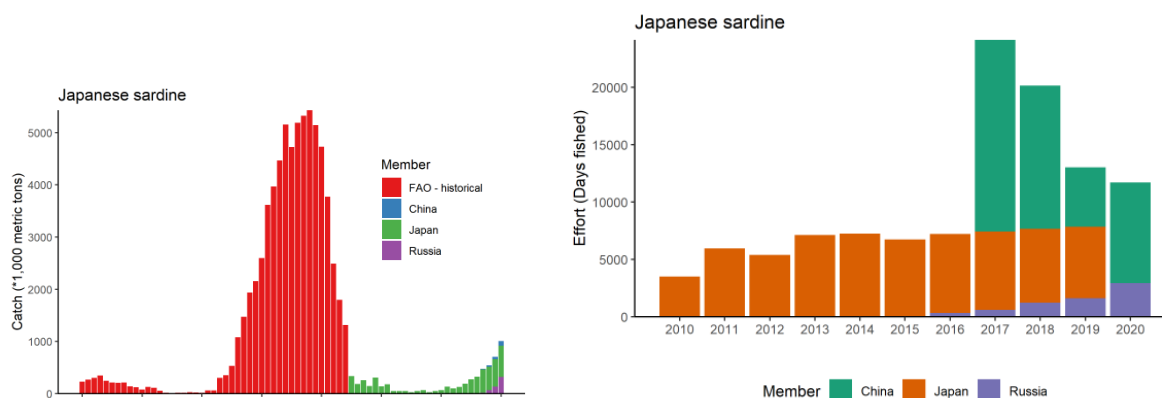
### 3.1.3.2. Review Panel's recommendation relating to deepwater stocks

Recommendation 3.1.5. The SC should identify and describe standardised sampling gear for deepwater stocks in both Convention Area and EEZ fisheries to generate data on relative abundance and to address data gaps.

### 3.1.4. Squids and sardines

43. The two squid species, which are both priority species, are Japanese flying squid and Neon flying squid. The SC has developed recent species summaries for Japanese flying squid,<sup>44</sup> and for Neon flying squid.<sup>45</sup> Japanese flying squid is caught by Japan, Russia, and China both inside their EEZs and in the Convention Area using jigging and mid-water trawl. Neon flying squid is harvested by China, Japan, Korea, Russia, Chinese Taipei, and Vanuatu in the Convention Area using jigging, drift net, dip net and set net.

**Figure 6: Historical trends of sardine catch**



44. China, Japan, and Russia catch Japanese sardine. China does not target the species, but it is captured as bycatch in other fisheries (e.g., Chub mackerel). Catches are primarily by purse seine, with a smaller component of the catch taken by pelagic trawl. China's catch of Japanese sardine is taken exclusively from the Convention Area from April to December. China's existing catch records are from 2016 to 2020 and show increasing catches during that period as the stock may have been increasing. The historical catches (prior to 2016) are unknown but are thought to be low and need to be confirmed.
45. Japan's fishery for Japanese sardine occurs inside their EEZ and is mostly conducted by large purse seine vessels (>90% of the catch). Additional components of the fishery include set nets, dip nets and other gears. The fishery experienced very high catches in the 1980's and early 1990's, a decline to very low catches from 1995 to ~2010 and has been recovering since then. The fishery is conducted year-round, but mainly during the summer season.

<sup>44</sup> SC06 Final Report, Annex J, pp. 74-82.

<sup>45</sup> SC06 Final Report, Annex H, pp. 59-67.

#### *3.1.4.1. Review Panel's findings relating to squid and sardines*

46. Japan has conducted a stock assessment annually for two stocks of Japanese flying squid since 1997 and has set a Japanese domestic TAC based on these results.<sup>46</sup> The NPFC has not established biological reference points (BRPs) and no stock assessment has been conducted for Japanese flying squid in the Convention Area. Work is underway on updating and reviewing catch and effort data, continuing research on the spatial structure and impact of environmental variables and reviewing Members' approaches to stock assessments.<sup>47</sup>
47. The second squid species is Neon flying squid. Some Members have conducted stock assessments or related studies for Neon flying squid based on information from their own fisheries, but no unified stock assessment has been conducted by NPFC for the species.<sup>48</sup> Work is underway on compiling and sharing data, research, including on spatial structure, and reviewing Member's approaches to stock assessments. The SC has noted that Neon flying squid has a complicated life-history and biology: it is a short-lived species, likely to be susceptible to fluctuations in biomass subject to environmental conditions, is highly migratory, has separate areas of reproduction and feeding, and has seasonal cohorts.<sup>49</sup> This is likely to pose scientific challenges for stock assessments and management.
48. A species summary has been prepared by the SC for Japanese sardine.<sup>50</sup> Japanese sardines are caught by Japan and Russia within their EEZs and by China as a bycatch. Catches are primarily by purse seine, and to a lesser extent by pelagic trawl. The NPFC has not established BRPs and no stock assessment has been conducted for the Convention Area. Similar research is to be conducted as in the case of the two squid species with a view to summarizing potential challenges for a Japanese sardine stock assessment.<sup>51</sup>
49. The NPFC's website contains useful detail on the "footprint" of different fisheries (as spreadsheets). These highlight available data and patterns in effort and recorded catch by Members. Linking these with geographic overlapping analyses using Geographic Information System (GIS) tools, may be useful to better understand the overlap and domain of the stocks in question and may help provide advice on whether and how effort increases, including of new entrants into the fishery, may be possible. Some responses to the Panel's questionnaire noted that effort measures are limited and this affects the ability to scientifically validate precautionary measures which use language such as "limit the growth in effort" until such time as better information becomes available. This is exacerbated as the current definition of "effort" based on the number of authorized fishing vessels, or the number of active vessels, is not an efficient means to assess and monitor fishing mortality on stocks.<sup>52</sup>

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<sup>46</sup> SC06 Final Report, Annex J, p. 75.

<sup>47</sup> SC06 Final Report, para 21.

<sup>48</sup> SC06 Final Report, p. 60.

<sup>49</sup> SC Final Report, para 19.

<sup>50</sup> SC06 Final Report, Annex I, pp. 68-73.

<sup>51</sup> SC06 Final Report, para 23.

<sup>52</sup> TCC04 Final Report, paras 16-18.

#### *3.1.4.2. Review Panel's recommendation relating to squid and sardines*

Recommendation 3.1.6. The SC should seek to link footprint and effort data on squids and sardines using GIS tools in order to provide improved information on the spatial extent of the stocks and assist in providing advice on effort metrics.

Recommendation 3.1.7. To increase the usefulness of the "footprint" data submitted by Members, measures of effort should be reconciled with vessel monitoring system (VMS) data, where possible.

#### *3.1.5. Status of associated or dependent species that belong to the same ecosystem*

50. The NPFC SC has as a priority "Ecosystem approach to fisheries management: understand ecological interactions among species and impacts of fishing on fisheries resources and their ecosystem components".<sup>53</sup> Under the category of activity labelled "Ecological Interactions" the SC has specified as an action item to "Understand ecological interactions among species in the North Pacific Ocean" for each of the future years. Additionally, the SC will "Evaluate impacts of fishing on fisheries resources and their ecosystem components, including bycatch species and discards" under concerns on impacts of fishing.

##### *3.1.5.1. Review Panel's findings relating to ecologically related species*

51. Systematic studies by NPFC have thus far focused on the associated and dependent species in the bottom fisheries. Most other species lack directed studies. As noted above, species summaries have been completed for Blackspotted and Rougheye rockfishes which are associated with the Sablefish fishery. Respondents to the Review Panel's questionnaire indicated concern over shark-finning and other bycatch issues (while others noted less concern for bycatch due to the selectivity of gears used). While outside the scope of directed fishery "management" advice, having some indication of the levels of catch of associated and dependent species, and activities such as shark-finning, would reflect a responsible approach to fishery management.
52. Attention has also been paid to VME indicator taxa (for example sponges and hydrocorals). SC03 recommended to the Commission that it expand the approved list of NPFC VME indicator taxa to include Hydrocorals and Sponges (*Stylasteridae* and *Porifera*).<sup>54</sup> In response the Commission requested the SC to determine whether or not the current indicator taxa were sufficient for determining VME.<sup>55</sup> The responses to the questionnaires were mixed related to these issues, which likely reflects the difficulty in addressing VME issues when scientific data are highly uncertain and where policy mandates also vary.

##### *3.1.5.2. Review Panel's recommendations relating to ecologically related species*

Recommendation 3.1.8. The SC and TCC should coordinate formal efforts to collect standardised data and validate bycatch of associated and dependent species.

## **3.2. Quality and provision of scientific advice**

53. Article 3 (c) of the Convention includes among the actions to be taken to give effect to its objective "adopting and implementing measures in accordance with the precautionary approach and an

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<sup>53</sup> Five-Year (2021-2025) Research Plan and Work Plan of the Scientific Committee.

<sup>54</sup> SC03 Final Report, para 44 (c).

<sup>55</sup> COM04 Final Report, para 12 (a).

ecosystem approach to fisheries, and in accordance with the relevant rules of international law”. According to Article 10(4)(d), the Scientific Committee shall “assess the impacts of fishing activities on fisheries resources and species belonging to the same ecosystem or dependent upon or associated with the target stocks”.

54. NPFC is making progress in its approach to MSE, especially in recognizing the importance of a science-managers dialogue to promote exchanges between scientists and managers so that candidate MPs can be modelled to aid decision-making. This was a recommendation from a Workshop held in March 2019 on BRP/HCR/MSE where a number of experts provided valuable information on the nature of a MSE process.<sup>56</sup> The Workshop recommended conducting MSE for only one species at a time due to the resource-intensive and complex nature of the process, and suggested Chub mackerel as a first priority as it was a longer lived species than Pacific saury.<sup>57</sup> These recommendations were endorsed by the SC.<sup>58</sup> However, on the basis of a TCC recommendation,<sup>59</sup> and a Japanese proposal,<sup>60</sup> the Commission decided to establish a joint SC-TCC-COM Small Working Group in 2021 to work on the establishment of a MP to be formulated through an MSE process and HCR for Pacific saury, given the urgent need for effective management of the stock.<sup>61</sup>

### *3.2.1. Review Panel’s findings on the quality and provision of scientific advice*

55. Based on responses from the questionnaire, efforts to receive and act on the best scientific advice relevant to fishery resources was limited (no respondents agreed that this occurred).
56. The SC is undertaking MSEs for highlighted stocks and this can provide a robust way to evaluate management by balancing trade-offs among competing objectives. However, given the perceived lack of commitment from the Commission, improved support is required. Developing predictable TACs for Pacific saury through an MSE would improve the application of science to management decisions by the Commission.
57. Relative to other NPFC subsidiary bodies, the SC work seems undervalued based on time allotments during the Commission meetings. This is quite common among RFMOs but here the distinction may relate to trust of the scientific advice. Ideally, the Commission would receive the SC’s input and this would be effectively reflected in the CMMs.
58. The Scientific Committee strives for consensus in decisions related to its scientific activities and recommendations to the Commission. Disagreements among Members have been addressed by contracting an external reviewer, making computer code readily available, or deferring to an appropriate SWG for further discussion and recommendations. If there are disagreements while adopting the SC reports, Members’ specific views are included in the report.

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<sup>56</sup> NPFC-2019-WS BRP\_HCR\_MSE01-Final Report, at para 27 (d).

<sup>57</sup> NPFC-2019-WS BRP\_HCR\_MSE01-Final Report, at para 27 (a).

<sup>58</sup> SSC04 Final Report, para 33.

<sup>59</sup> TCC Final Report, para 8.

<sup>60</sup> NPFC-2021-COM06-WP05 Rev. 1.

<sup>61</sup> CMM 2021-08, para 15; COM06 Final Report, para 52.

### *3.2.2. Review Panel's recommendation relating to the quality and provision of scientific advice*

Recommendation 3.2.1. The SC should provide the Commission meeting with annual summaries of the status of the stocks and these should be made public.

Recommendation 3.2.2. The Commission should commit to a schedule for the development of full MSE, including MPs and HCRs for all priority stocks.

Recommendation 3.2.3. If it occurs, the SC should communicate to the Commission the reasons for lack of consensus within the SC together with an identification of research needs to bridge gaps in the scientific understanding.

### **3.3. Long-term planning and research**

59. Article 10(4)(a) of the NPFC Convention provides that the SC will “recommend to the Commission a research plan including specific issues and items to be addressed by the scientific experts or by other organizations or individuals, as appropriate, and identify data needs and coordinate activities that meet those needs”. Work on a SC work plan commenced during the preparatory conference phase.
60. The SC has established a rolling Five-Year Research Plan and Work Plan of the Scientific Committee, the latest version of which was adopted in December 2020 for the period 2021-2025.<sup>62</sup> The proposed priority research areas are:<sup>63</sup>
  1. Stock assessments for target fisheries and bycatch species.
  2. Ecosystem approach to fisheries management.
  3. Data collection, management and security.
61. The Five-Year Research Plan identifies the objectives and the areas of work to be achieved in each of these areas. It is accompanied by a comprehensive Work Plan which is reviewed and updated on an annual basis.
62. Cooperation with other organizations is recognized by the Commission as an important component of its functions. A Five-year Work Plan (2021–2025) has been developed to implement the Memorandum of Cooperation between NPFC and NPAFC, which includes specific cooperative activities for the SC.<sup>64</sup> There is also some bottom fisheries/VME collaboration with FAO, including a joint FAO-NPFC Workshop held in 2018. In addition, the SC has an agreed program of scientific projects to assist the SC and its subsidiary bodies in progressing the work plan.<sup>65</sup>

#### *3.3.1. Review Panel's findings relating to long-term planning and research*

63. The 2019 review<sup>66</sup> of BRPs is valuable for providing relevant background on assessment approaches in addition to ways forward on MSE work. The SC's Five-Year planning document covers actions undertaken by SSC's and other bodies.

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<sup>62</sup> SC06 Final Report, Annex Q, pp. 201-231.

<sup>63</sup> The First Five-Year Plan 2017-2021 was adopted in 2017 and had four priority areas: the three currently identified, and the addition of VMEs.

<sup>64</sup> SC06 Final Report, Annex P, pp. 197-200.

<sup>65</sup> SC06 Final Report, Annex O, pp. 192-196.

<sup>66</sup> Lawrence Kell, *Review of Target and Limit Reference Points*, Consultancy Report, NPFC-2019-WS BRP\_HCR\_MSE01-WP01 (Rev. 1).

### *3.3.2. Review Panel's recommendation on long-term planning and research*

Recommendation 3.3.1. The SC should annually summarize progress taken towards each element in the Five-Year Work Plan.

## **3.4. Best available science**

64. Members have discussed the provision of raw and aggregated data and considered how it may relate to the best available science. This was noted to impact cooperative programs where data sensitivities may prohibit broad distributions of fine scale data. Some responses to the Review Panel's questionnaire noted that cooperation with expertise from outside the NPFC community (e.g., PICES) was worthwhile. Other responses noted that funding and support for science was limited and better support is required for the SC's activities to improve the best available scientific advice.

### *3.4.1. Review Panel's findings relating to "best available science"*

65. In defining "best available" the Review Panel followed the general guidelines that include consideration of the objectives of the science.<sup>67</sup> Among the attributes outlined in this paper we considered the most relevant to NPFC as a) having standardized methods for collecting data; b) applying sound logic and statistical rigor for interpreting results; c) having clear documentation of methods applied (including results and conclusions); and d), supporting adequate peer review. Some respondents to the questionnaire noted the lack of independent review for stock assessments. The Review Panel notes that for the key priority species, the standards for science have generally been highlighted and where deficient, the Work Plan tends to target those deficiencies.
66. With respect to non-directed fisheries considerations, specifically judging SAI on VMEs, the standards for best science depends on qualitative aspects of these determinations (as opposed to standard fishery-management related goals of, e.g., MSY). This causes a problem between what is "significant" in the face of scientific measures that are, by their nature, highly uncertain.

### *3.4.2. Review Panel's recommendation on "best available science"*

Recommendation 3.4.1. That the SC develop guidelines for providing advice to the Commission that reflects standards of 'best available science': specifically, whether advice passes defensible tests against identified criteria for 'best available science' (data, statistical rigor, documentation, and peer review).

Recommendation 3.4.2. That the SC pursue independent reviews of scientific advice to a greater extent.

Recommendation 3.4.3. The Commission should develop a regional observer program to contribute to addressing science demands, resolve data gaps, improve data collection on bycatch, and monitor the implementation of measures.

Recommendation 3.4.4. The Commission should develop a program of work to examine the feasibility of introducing electronic monitoring (EM) in the NPFC Convention Area.

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<sup>67</sup> [Defining and Implementing Best Available Science for Fisheries and Environmental Science, Policy, and Management.](#)

Recommendation 3.4.5. The Commission should endeavour to engage available expertise in science issues available to other institutions and organizations (such as PICES) and seek to foster collaboration on cooperative research projects.

## 4. Conservation and management

### 4.1. Conservation and Management Measures

#### 4.1.1. Introduction

67. The objective of the NPF Convention is to ensure the long-term conservation and sustainable use of the fisheries resources in the high seas of the North Pacific while protecting the marine ecosystems where these resources occur.<sup>68</sup> The Convention is designed to address fisheries resources in the high seas of the North Pacific Ocean not covered under pre-existing international fisheries management instruments. “Fishery resources” are defined to include fish, molluscs, crustaceans, and other marine species, but excludes some sedentary species (e.g., corals), catadromous species (e.g., eels), marine mammals, marine reptiles and seabirds or other marine species already covered under other instruments (e.g., tuna).<sup>69</sup>
68. General Principles which give effect to the Objective are elaborated in Article 3. They provide, *inter alia*, for Parties, individually or collectively, to promote optimum utilization and ensure long-term sustainability of fisheries resources,<sup>70</sup> adopt measures, consistent with the precautionary approach and an ecosystem approach to fisheries based on the best scientific information available,<sup>71</sup> assess the impacts of fishing activities on species belonging to the same ecosystem or dependent upon or associated with the target stocks,<sup>72</sup> protect biodiversity including by preventing SAIs on VMEs,<sup>73</sup> prevent or eliminate overfishing and excess fishing capacity,<sup>74</sup> ensure complete and accurate data concerning fishing activities, including with respect to all target and non-target species and that such data are collected and shared,<sup>75</sup> ensure that any expansion of fishing effort, development of new or exploratory fisheries, or change in the gear used for existing fisheries, does not proceed without prior assessment of the impacts,<sup>76</sup> ensure that CMMs on the high seas and those for areas under national jurisdiction are compatible,<sup>77</sup> ensure compliance with CMMs and that sanctions applicable in respect of violations are adequate in severity,<sup>78</sup> and minimize pollution and waste, discards, catch by lost or abandoned gear, and impacts on other species and marine ecosystems.<sup>79</sup>

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<sup>68</sup> Convention, Article 2.

<sup>69</sup> Convention, Article 1(h).

<sup>70</sup> Convention, Article 3(a).

<sup>71</sup> Convention, Article 3(b and c).

<sup>72</sup> Convention, Article 3(d).

<sup>73</sup> Convention, Article 3(e).

<sup>74</sup> Convention, Article 3(f).

<sup>75</sup> Convention, Article 3(g).

<sup>76</sup> Convention, Article 3(h).

<sup>77</sup> Convention, Article 3(i).

<sup>78</sup> Convention, Article 3(j).

<sup>79</sup> Convention, Article 3(k).



69. At its first meeting in 2015 the Commission agreed that the Executive Secretary, based on consultations with Members, would circulate a draft priority list of species for final approval of the Commission at its 2016 Session.<sup>80</sup> Based on the Secretariat advice, the Commission agreed in 2016 to the following priority species:<sup>81</sup>
- North Pacific armorhead (*Pseudopentaceros wheeleri*)
  - Splendid alfonsino (*Beryx splendens*)
  - Pacific saury (*Coloabis saira*)
  - Neon flying squid (*Ommastrephes bartammii*)
  - Japanese flying squid (*Tadarodes pacificus*)
  - Chub mackerel (*Scomber japonicus*)
  - Blue (Spotted) mackerel (*Scomber australasicus*)
  - Japanese sardine (*Sardinops melanostictus*).
70. Guided by the list of eight priority species, the NPFC adopted its first CMM for Pacific saury in 2015. Subsequently, a CMM relating to bottom fishing in the Northwest Pacific was adopted in 2016 at the Commission’s second session. A new CMM relating to bottom fishing in the Northeast Pacific and a CMM concerning Chub mackerel were adopted at its session in 2017. In 2019 a single measure for Japanese flying squid and Japanese sardine was adopted. The CMM for Japanese flying squid and Japanese sardine was revised at the next session of the Commission in 2021 to include Neon flying squid. The two CMMs concerning Pacific saury and bottom fishing in the Northwest Pacific have been revised at each annual session of the Commission since their adoption. This was also the case for the CMMs for bottom fishing in the Northeast Pacific and Chub mackerel until the 2021 session of the Commission when no revisions were adopted. The Commission has also published information for other North Pacific fishery resources including Sablefish (*Anoplopoma fimbria*), which is also the subject of a CMM<sup>82</sup>. Two species of rockfish (*Sebastes melanostictus* and *S. aleutianus*) have also been profiled and are referenced in CMMs concerned with bottom fishing and Sablefish.<sup>83</sup> North Pacific armorhead and Splendid alfonsino are included in the CMM concerned with bottom fishing in the Northwest Pacific (CMM 2021-05 and its predecessors). The Measures and decisions of the Commission are consolidated in the “NPFC Conservation and Sustainable Use Handbook”<sup>84</sup>, which is available on the Commission’s website.<sup>85</sup>
71. The following sections describe the CMMs adopted as interim measures prior to the establishment of the NPFC, and the Measures that NPFC has adopted for particular stocks following its establishment. These sections show how new Measures were progressively adopted for priority stocks, and how the Measures evolved over the years through successive revisions which generally sought to strengthen existing Measures. This factual and descriptive section is followed by a section which contains the Review Panel’s assessment of these CMMs.

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<sup>80</sup> COM01, para. 7.

<sup>81</sup> COM02, para 38.

<sup>82</sup> CMM 2019-10.

<sup>83</sup> See SC06 Final Report, Annex G.

<sup>84</sup> Current to July 2021.

<sup>85</sup> <https://www.npfc.int/system/files/2021-05/Sustainable%20Use%20and%20Conservation%20Handbook.pdf>

#### *4.1.2. Conservation and management decisions prior to the establishment of NPFC*

72. In the years leading to the establishment of NPFC, the participants in the Inter-Governmental Meetings on the Management of High Seas Bottom Fisheries in the Northwestern Pacific Ocean agreed to decisions addressing the impacts of bottom fishing. On the advice provided by the 4<sup>th</sup> meeting of the Scientific Working Group (SWG4), the Fifth Inter-Governmental Meeting held in December 2008 adopted “New Mechanisms for the Protection of Vulnerable Marine Ecosystems (VMEs) and Sustainable Management of High Seas Bottom Fisheries in the Northwestern Pacific Ocean”<sup>86</sup>, the SWG’s “Review of Procedures for the Bottom Fishing Activities”<sup>87</sup> and “Science-based standards and criteria for identification of VMEs and assessment of SAIs on VMEs and marine species”<sup>88</sup>.
73. At the Sixth Inter-Governmental Meeting, an “Exploratory Fishery Protocol” and consequential changes to the “New Mechanisms for Protection of VMEs and Sustainable Management of High Seas Bottom Fisheries in the Northwestern Pacific Ocean (Interim Measures)” were adopted.<sup>89</sup>
74. Other than discussion on the extension of the “Interim Measures ” to the entire North Pacific (other than FAO Area 61), “Interim Measures” did not receive further substantive discussion until the 10<sup>th</sup> Multilateral Meeting in 2011 which adopted revised “New Interim Measures for the Protection of VMEs in the Northeast Pacific Ocean” and agreed on a definition of VMEs for the purposes of the “Interim Measures in the Northeast and Northwest Pacific including the Exploratory Fishery Protocol”.<sup>90</sup> These Interim Measures provided the basis for future bottom fishing measures adopted by the NPFC.

#### *4.1.3. Pacific saury*

75. In 2015, the Commission adopted its first CMM for a NPFC fishery resource listed as a priority species - Pacific saury (CMM 2015-02).
76. The CMM called on Members to refrain from a rapid expansion of the number of vessels authorised to fish for Pacific saury until a stock assessment by the SSCSSC and the SC was completed in 2017. Members were encouraged to adopt compatible Measures in areas under national jurisdiction adjacent to the Convention Area. The Measure also called on those eligible to ratify the Convention that had not yet completed domestic processes to apply the Measure and encouraged engagement from CNCPs.
77. At its Third Session in 2017, paragraph 1 of the Measure for Pacific saury (CMM 2015-02) was revised into two paragraphs to require Members currently fishing for Pacific saury to “refrain from expansion”, in the Convention Area and in areas under national jurisdiction, of the number of fishing vessels entitled to fly their flags and authorized to fish for Pacific saury from the “historical existing level”.<sup>91</sup> The original CMM required Members to “refrain from rapid expansion” of the number of vessels authorised to fish for Pacific saury in the Convention Area, from the “historical existing level”. Members fishing for Pacific saury within areas under the national jurisdiction of

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<sup>86</sup> SWG4/NWPBF5/WP15/Rev3.

<sup>87</sup> SWG4/WP11/Rev.

<sup>88</sup> SWG4/NWPBF5/WP6/rev.2; 5<sup>th</sup> Multilateral Meeting Summary Report, Section 6 and 7

<sup>89</sup> 6<sup>th</sup> Multilateral Meeting Summary Report, Section 6.

<sup>90</sup> 6<sup>th</sup> Multilateral Meeting Summary Report, Section 4.

<sup>91</sup> CMM 2017-08, paras. 1 and 2.

other Members were requested to take compatible measures.<sup>92</sup> In addition to removing paragraphs 4 and 5 from CMM 2015-02, a new para. 5 was inserted to support the on-going stock assessment work of the SSC and SC so that further scientific advice could be provided to the 2018 Session of the Commission. CMM 2017-08 also included a new paragraph relating to the development of fisheries for Pacific saury for those Members not currently engaged in the fishery.<sup>93</sup>

78. At its fourth session in 2018, the Measure for Pacific saury (CMM 2017-08) was revised to include three additional paragraphs.<sup>94</sup> Paragraph 4 related to the development of new fishing activity for Pacific saury in the Convention Area by Members without documented historical catch. Paragraph 6 provided for the retention of all catch of Pacific saury and paragraph 7 encouraged Members to take necessary measures for vessels flying their flag to refrain from fishing in areas where juvenile fish contribute more than 50% of the Pacific saury catch.<sup>95</sup>
79. At the 2019 annual session, the pre-ambular paragraphs of CMM 2018-08 for Pacific saury were revised to update the Measure. The updates were based on the work of the SSC on Pacific saury relating to the completion of a consensus stock assessment and to encourage the Commission to consider additional management measures to avoid an increasing trend in the Pacific saury exploitation rate. The new Measure (CMM 2019-08) included three sections relating to effort management, catch management and other measures. The effort management section incorporated the first three operative paragraphs of CMM 2018-08 unchanged.
80. Seven new paragraphs were incorporated in CMM 2019-08 (new paragraphs 4-10 inclusive). Paragraph 4 provided that the total catch of Pacific saury from the Convention Area and areas under national jurisdiction was not to exceed 556,250 mt<sup>96</sup>. The total catch for 2020 for the Convention Area was set at 330,000mt. Members were required to ensure that the total catch of Pacific saury by vessels flying their flag would not exceed the reported catch in 2018 with the expectation the combined catch from the Convention Area would not exceed 330,000mt. Paragraph 8 established weekly reporting with the Secretariat required to publish compiled catches on the Commission's website "without delay". Paragraph 9 provided for Members to transfer part of their catch from areas under national jurisdiction adjacent to the Convention Area to the catch of Pacific saury in the Convention Area by their flagged vessels. The Commission, based on advice provided by the SC, was to review the provisions of paragraphs 4 and 5 relating to total catch in 2020 and "afterwards". Paragraphs 4-8 inclusive of CMM 2018-08 became paragraphs 11-15 of CMM 2019-08. Paragraph 9, which encouraged CNCPs to maintain their CNCP status, was removed in CMM 2019-08 and a new paragraph 16 provided that CMM 2019-08 "shall in no case be a basis for a future CMM for Pacific saury".<sup>97</sup>
81. The Pacific saury Measure (CMM 2019-08) was again revised in 2021. Paragraph 4 was revised to record a new total allowable catch for the Convention Area for 2021 and 2022 of 333,750 mt, a

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<sup>92</sup> CMM 2015-02, para. 2.

<sup>93</sup> CMM 2017-08, para 6.

<sup>94</sup> CMM 2018-08, paras 4, 6 and 7.

<sup>95</sup> As Pacific saury lives only for two years, age 0 fish are regarded as "juveniles".

<sup>96</sup> The Review Panel notes that some CMMs use "tons" others use "metric tonnes".

<sup>97</sup> The Review Panel interprets that this statement relates to para 52 of the COM06 Report where some Members expressed concern that the TAC agreed to for Pacific saury exceeds  $F_{msy}$  determined by the joint SSC PSSA. As well, Members noted their commitment to advance an MSE process for Pacific saury, given the urgent need for effective management of the stock.

decrease of 40% on the previous total catch<sup>98</sup>. The catch in the Convention Area was reduced to 198,000mt.<sup>99</sup> To ensure that the catch in the Convention Area would not exceed 198,000mt, Members were required to reduce the catch of their flagged fishing vessels in 2021 and 2022 by 40%.<sup>100</sup> Paragraph 8 established weekly reporting with the Secretariat required to publish compiled catches on the Commission’s website “without delay”. The Executive Secretary was required to inform Members when the catch of a Members’ flagged vessels reached 70% of its catch limit set.<sup>101</sup> A Member was required to close the fishery for its flagged vessels when the total catch of its flagged vessels was equivalent to 100% of its catch limit. Members were required to notify the Executive Secretary of the date of the closure, except as described in paragraph 9, which enabled Members to transfer part of their catch for areas under national jurisdiction adjacent to the Convention Area to the catch of Pacific saury in the Convention Area by their flagged vessels.

#### 4.1.4. Bottom fishing and protection of VMEs

82. Building on the work undertaken between 2008 and 2015 through the preparatory discussions, at its second session in 2016, the Commission adopted, *inter alia*, two Measures focussed on monitoring and mitigating the impacts of bottom fishing on VMEs; one applying in the north-west Pacific (CMM 2016-05) and the other applying in the north-east Pacific (CMM 2016-06). The objective of these Measures was “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”. They were designed to prevent SAIs of fishing interactions with VMEs in the North Pacific Ocean, acknowledging the complex dependency of fishing resources and species belonging to the same ecosystem as VMEs. The Measures established that fishing effort in bottom fisheries<sup>102</sup> in the western and eastern parts of the Convention Area would be limited to the level of a historical average<sup>103</sup> in terms of the number of fishing vessels and other parameters which reflect the level of fishing effort, fishing capacity or potential impacts on marine ecosystems, and would be dependent on new SC advice. The Measures also provide that Members would only authorize fishing activities on the basis of the assessments, comments and recommendations from the SC adopted by the Commission.<sup>104</sup> In addition, if it was determined that the fishing activity or operations of the vessel or vessels in question would have a SAI on VMEs, the Commission would adopt CMMs to prevent such impacts on the basis of advice and recommendations of the SC.<sup>105</sup> CMM 2016-05 provided that, *inter alia*, Members would ensure that the distance between the footrope of the gill net and sea floor is greater than 70 cm.<sup>106</sup> Encounters of more than 50kg of VMEs in a single trawl were to be reported to the Secretariat

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<sup>98</sup> The Review Panel notes that the annual TAC for 2021-2022 specified in CMM 2021-08 for Pacific saury (333,750 tons) exceeds the TAC that would apply if it was based on the  $F_{MSY}$  catch ( $B_{2021} * F_{MSY} = 192,804$  tons) and the current biomass is much lower than  $B_{MSY}$ . Reducing  $F$  in the short term may increase the probability of achieving long-term sustainable use of Pacific saury. In December 2021 at its sixth session, the SC endorsed the advice from the SSC PS that the TAC or fishing effort be reduced to support the long-term sustainable use of Pacific saury (SC06 Final Report, para 13(f)(i)). However, the Commission has not met since SC06.

<sup>99</sup> CMM 2019-08, para. 5.

<sup>100</sup> CMM 2019-08, para. 6.

<sup>101</sup> CMM 2019-08, para. 6.

<sup>102</sup> Primarily targeting North Pacific armorhead and Splendid alfonsino.

<sup>103</sup> Baseline to be determined through consensus in the SC based on information to be provided by Members.

<sup>104</sup> CMM 2016-05 and 2016-06, para. 3(e) and (f).

<sup>105</sup> CMM 2016-05 and 2016-06, para. 3(d).

<sup>106</sup> CMM 2016-05, para. I.

and, following such encounters, vessels were required to re-locate at least 2 nm from the encounter.<sup>107</sup>

83. Annex 5 of CMM 2016-05 establishes a scientific observer program for NPFC bottom fisheries. It is replicated in CMM 2016-06. The Measures provide for data to be collected from a range of gear types including trawl, bottom longline and bottom gillnet. The Measure does not refer to other gears deployed in NPFC fisheries nor to any compliance-related functions under the program. Paragraph G of Annex 5 provides, among other requirements, that flag State members operating observer programs are to develop, in cooperation with the SC, lists and identification guides of protected species or species of concern (seabirds, marine mammals or marine reptiles) to be monitored by observers. Data to be collected through such monitoring is described. Similarly, paragraph H directs the SC to develop a guideline, species list and identification guide for benthic species (e.g. sponges, sea fans, corals) whose presence in a catch will indicate that fishing occurred in association with a VME. Information submission requirements, at least one month in advance of the [*sic. next*] SC meeting, are also described.<sup>108</sup>
84. In addition, in respect of vessels flying its flag, Members were required to, *inter alia*, conduct the assessments called for in paragraph 83(a) of UNGA Resolution 61/105, in a manner consistent with the “FAO Guidelines and the Standards and Criteria” included in Annex 2 of both Measures and submit those assessments to the SC for advice and recommendations regarding the suitability of the operations of the vessel or vessels in question.<sup>109</sup>
85. At its Third Session in 2017, the Commission approved some minor revisions to CMM 2016-05 concerning bottom fishing by providing a more precise description of areas on the C-H seamount and South-eastern part of Koko seamount closed for precautionary reasons.<sup>110</sup> A minor revision was also agreed to CMM 2016-06 where the determination regarding the limitation of fishing effort was revised subject to consensus in the SC “based on information to be provided by Members” which was not provided for in the initial Measure.<sup>111</sup>
86. The Commission revised CMM 2017-05 relating to bottom fisheries in the north-west Pacific at its fourth session in 2018. The revisions involved the addition of six additional paragraphs specific to North Pacific armorhead and Splendid alfonsino fished by Members in the Convention Area.<sup>112</sup> The additional paragraphs described obligations for Members without a documented catch history developing new fishing activity. They also provided for the determination of the total catch based on recruitment assessments with Japan encouraged to limit its catch to 500t in years of low recruitment and Korea to limit its catch to 200t with provisions for managing catches more than those limits. In years of strong recruitment, Japan and Korea were encouraged to limit their respective catches to 10,000t and 2,000t. The Measure did not preclude other Members with a historical catch participating in the fishery. Specific areas of the Emperor seamounts, where half of the catch were recorded in 2010 and 2012, were excluded from the fishery and a mesh regulation

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<sup>107</sup> CMM 2016-05, para. 4G and CMM 2016-06, para. 3(j).

<sup>108</sup> CMM 2016-05, para. 6 and 9 and CMM 2016-06, para. 8 and 9.

<sup>109</sup> CMM 2016-05, para. 5 and CMM 2016-06, para 3.

<sup>110</sup> CMM 2016-05, para. H.

<sup>111</sup> CMM 2016-05, para. 3(i).

<sup>112</sup> CMM 2018-05, para. L to Q inclusive.

was introduced.<sup>113</sup> Two new Annexes were included to describe a monitoring plan for the detection of strong recruitment for North Pacific armorhead.<sup>114</sup>

87. At its 2019 Session, the Commission revised CMM 2018-05 (adopted as CMM 2019-06). A new paragraph was inserted to explain the treatment of catches taken during monitoring surveys with respect to the limits.<sup>115</sup> The two sub-annexes of Annex 6 were revised and combined in a single Annex to describe monitoring arrangements for Pacific armorhead under a heading of “adaptive management”.<sup>116</sup> CMM 2018-06 was not revised but was adopted as CMM 2019-06.
88. The two key species targeted by NPFC bottom fisheries are North Pacific armorhead and Splendid alfonsino, with bycatches of Mirror dory, Butterfish, Rockfishes, Crabs and others.<sup>117</sup> The SC has noted with concern the decreasing trends and apparent poor status of the North Pacific armorhead stock, particularly as catch rates of North Pacific armorhead decline, fishing effort is transferred to Splendid alfonsino the status of which is also of increasing concern to scientists.<sup>118</sup>
89. In 2021, CMM 2019-06 was revised to stipulate that fishing vessel trawl gear is prohibited from contacting the sea floor at two sites with VME indicator species. A Member of the Commission whose fishing vessels enter the two areas identified are required to report to the TCC as to how it ensured the compliance of the Measure.<sup>119</sup>

#### *4.1.5. Chub mackerel*

90. At its 2016 Session, the Commission adopted an additional CMM for a priority fishery resource: Chub mackerel. CMM 2016-07 encouraged Members and CNCs to refrain from expansion of the number of fishing vessels entitled to fly their flags and authorized to fish for Chub mackerel in the Convention area, based on the number of vessels from the historical existing level, until the stock assessment by the SC was completed. Members participating in Chub mackerel fisheries in areas under national jurisdiction adjacent to the Convention area were requested to take compatible measures.
91. At its Third Session in 2017, the Commission revised CMM 2016-07 to include new pre-ambular paragraphs, which noted progress towards a stock assessment for Chub mackerel by the SC and expressed concern that the requirement in Article 3 of the Convention that expansion of fishing effort not proceed in the absence of an assessment was not preventing a rapid increase in fishing effort for Chub mackerel in the Convention Area.<sup>120</sup> Paragraph 1 of CMM 2016-07 was revised to target Members and CNCs with “substantial” harvests of Chub mackerel to refrain from expanding the number of their vessels authorised to fish for Chub mackerel based on the “historical existing level” until the SC had completed its stock assessment. A new paragraph 2 was inserted to encourage Members and CNCs “without substantial” harvests of Chub mackerel to apply similar constraints. Paragraphs 4, 5 and 6 of CMM 2016-07 were deleted and four new paragraphs were inserted relating to the provision of data, sharing information, the schedule for completion of

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<sup>113</sup> CMM 2018-05, para. P.

<sup>114</sup> CMM 2018-05, Annex 6-1 and 6-2.

<sup>115</sup> CMM 2019-05, para. O.

<sup>116</sup> CMM 2019-06, Annex 6.

<sup>117</sup> Refer to SSC NPA2 Final Report, 2017.

<sup>118</sup> SC06 Final Report, Annex E.

<sup>119</sup> CMM 2021-05, para. S.

<sup>120</sup> Incorporated into CMM 2017-07.

the stock assessment and provisions for Members not harvesting substantial amounts of Chub mackerel to develop their own Chub mackerel fisheries.<sup>121</sup>

92. At its fourth session in 2018, CMM 2017-07 was revised again.<sup>122</sup> The revision provided for the addition of a new paragraph relating to the development of new fishing activity for Chub mackerel in the Convention Area by Members without documented historical catch.<sup>123</sup> The remainder of the Measure was unchanged.
93. CMM 2018-07 was revised as CMM 2019-07 at the Commission's fifth session in 2019. The revisions included the addition of three pre-ambular paragraphs that reaffirmed the commitment of Members to establishing measures for the conservation of straddling stocks in the adjacent high seas consistent with the UN Fish Stocks Agreement and to acknowledge the principle of compatibility between Measures established for stocks on the high seas and in areas under national jurisdiction. Paragraph 3 was expanded to provide for the transfer of part of the catch by Members within national jurisdiction to the catch of Chub mackerel in the Convention Area by their flagged vessels subject to i) a catch limit having been established for Chub mackerel within its jurisdiction, ii) that catch limit had been notified to the Commission, and iii) the total catch within areas under national jurisdiction and in the Convention Area do not exceed the Member's total allocation for its jurisdiction.

#### *4.1.6. Japanese sardine, Japanese flying squid and Neon flying squid*

94. At its fifth session in 2019, the Commission adopted a new Measure for two species identified as priority species by the Commission in 2016 – Japanese sardine and Japanese flying squid (CMM 2019-11). Noting eight priority species had been identified by the Commission, and that Measures had already been adopted for Pacific saury and Chub mackerel, with the adoption of these two Measures, the two priority species that remained to be addressed in a CMM were Blue (Spotted) mackerel and Neon flying squid.
95. CMM 2019-11 encourages Members and CNCPs to refrain from expansion of the number of their fishing vessels authorised to fish for Japanese sardine and Japanese flying squid in the Convention Area from historical existing levels.<sup>124</sup> Members are encouraged to establish compatible measures in areas under national jurisdiction adjacent to the Convention Area.<sup>125</sup> Drawing on the provisions of CMM 2019-07 for Chub mackerel, CMM 2019-11 also provides for the transfer of part of a Member's catch limit for areas under national jurisdiction to the catch of the two species in the Convention Area by their flagged vessels subject to i) a catch limit having been established for the species in its jurisdiction, ii) that catch limit has been notified to the Commission, and iii) the total catch within areas under national jurisdiction and in the Convention Area do not exceed the Member's total allocation for its jurisdiction. Paragraph 4 describes arrangements for new fishing activity for the two species. Provisions for VMS, data submission obligations and cooperation regarding the sharing of information to eliminate IUU fishing for these species were added.<sup>126</sup> Paragraph 8 provides for the Measure to be revised by the Commission following a stock

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<sup>121</sup> CMM 2017-07, Paras 5, 6, 7 and 8.

<sup>122</sup> CMM 2018-07.

<sup>123</sup> CMM 2018-07, Para. 4.

<sup>124</sup> CMM 2019-11, paras 1 and 2.

<sup>125</sup> CMM 2019-11, para 3.

<sup>126</sup> CMM 2019-11, paras 5, 6 and 7.

assessment for either of the two species. It also provides that, those Members not harvesting “substantial” amounts of the two species in the Convention Area will not be hindered in developing their own fisheries. The term of the Measure was unspecified but was subject to decisions in the Commission based on the advice of the SC.

96. The Measure for Japanese sardine and Japanese flying squid was revised in 2021 at the Commission’s sixth session to include Neon flying squid (CMM 2021-11). All of the revisions to the operative paragraphs in CMM 2019-11 simply reflected the expansion of the Measure to cover three pelagic species as opposed to two in the previous version of the Measure (CMM 2019-11).
97. The Review Panel notes that there is significant fishing effort on Neon flying squid. Although there are effort limitations for Japanese flying squid, the authorizations to fish are not separated by species of squid in the NPFC’s vessel registry.
98. In November 2020, the SC formed four new SWGs to focus on exchanging information and collating available data on Neon flying squid, Japanese flying squid, Japanese sardine, and Blue (Spotted) mackerel as the foundation for developing stock assessments of these priority species.<sup>127</sup>

#### *4.1.7. Sablefish*

99. At its 2019 Session, the Commission adopted a new Measure for Sablefish (CMM 2019-10).<sup>128</sup> Sablefish is only fished by Canada in the Convention Area using longline and longline trap gear.<sup>129</sup> The first five operative paragraphs of CMM 2019-10 describe obligations on Members currently harvesting Sablefish, Members with a historical catch but no current harvest, development of new fishing activity in the eastern part of the Convention Area and in areas under national jurisdiction adjacent to the Convention Area. The Measure includes the provisions of CMM 2019-06 relating to VMS and provides that vessels fishing for Sablefish will carry 100% observer coverage.<sup>130</sup> It does not preclude the prospect of developing new and exploratory fisheries for Sablefish in the eastern part of the Convention Area.<sup>131</sup> It also encourages Members to report lost fishing gear as soon as possible to the Secretariat and to make efforts to retrieve lost gear.<sup>132</sup>

#### *4.1.8. The Review Panel’s assessment of Conservation and Management Measures*

100. This review of the development of conservation and management measures illustrates the work that was done prior to and after the establishment of NPFC to develop and strengthen Measures for NPFC fishery resources. It highlights that the focus of the work of the Commission has been on adopting, and periodically revising, CMMs primarily concerned with priority fishery resources.
101. An overarching comment relating to the Measures adopted for priority fishery resources concerns the lack of a verifiable objective for each Measure. For example, the stated objective of CMM 2016-05 and CMM 2016-06 on bottom fishing, retained in subsequent iterations, 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”.

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<sup>127</sup> SC05 Final Report, para 30.

<sup>128</sup> COMM05, paras 35, 36 and Annex T.

<sup>129</sup> NPFC-2019-COM05-WP07 (Rev 8).

<sup>130</sup> CMM 2019-10, para 8.

<sup>131</sup> CMM 2019-10, para 5.

<sup>132</sup> CMM 2019-10, para 9.



While the aspiration is noble, it is beyond the capability of a multilateral arrangement in such a dynamic physical and political environment that prevails in North Pacific fisheries to achieve this objective. Further, “protection” is poorly defined which affects the effectiveness of the Measures. It is important that performance measures and trade-offs are evaluated to transparently support decisions that are made. In the context of these two Measures, marine ecosystems specifically refer to VMEs. However, despite the provisions of Article 10(4)(e) of the Convention relating to the development of processes to identify VMEs, and of Annex 5 (para. G) of both bottom fishing Measures, NPFC has not yet adopted a quantitative methodology for identifying VMEs.<sup>133</sup>

102. Both bottom fishing CMMs also provide that, if it was determined that fishing activity would have a SAI on VMEs, the Commission would adopt CMMs to prevent such impacts based on advice and recommendations of the SC. In this regard, revisions to the original CMMs include a requirement that Members will ensure that the distance between the footrope of the gill net and sea floor is greater than 70 cm, that encounters of more than 50kg of VMEs in a single trawl are reported to the Secretariat and, following such encounters, vessels are required to re-locate at least 2 nm from the encounter. It is not evident that the footrope distance to the seafloor is assessed for compliance nor that the Secretariat has ever received a report of an encounter of more than 50kg.<sup>134</sup>
103. In addition, Members are required by Annex 2 of both Measures to conduct the assessments called for in paragraph 83(a) of UNGA Resolution 61/105, in a manner consistent with the “FAO Guidelines and the Standards and Criteria” and submit those assessments to the SC for advice and recommendations regarding the suitability of the operations of fishing vessels. There is no evidence that this has ever been formally undertaken. These types of issues bring into question the capacity of NPFC to monitor compliance with obligations it establishes for itself and whether adopted Measures are effective in addressing the issue they were designed to target.
104. The Review Panel assesses that NPFC has not yet adopted Measures for non-target species that ensures long-term conservation and sustainable use of the fisheries resources based on the best scientific evidence available, which is one of the key criteria to be assessed as part of the Performance Review. The review of existing CMMs identified some potentially significant challenges associated with interpretation of terms used and, in association with the lack of clarity with some of the drafting, creates potential challenges with both the implementation and an assessment of the efficacy of existing Measures.
105. In relation to NPFC Measures generally, the lack of an agreed metric for fishing effort or fishing capacity is problematic. The bottom fishing Measures establish that fishing effort in bottom fisheries would be limited to the level of a historical average (baseline to be determined through consensus in the SC based on information to be provided by Members) in terms of the number of fishing vessels and other parameters which reflect the level of fishing effort, fishing capacity or potential impacts on marine ecosystems, and would be dependent on new SC advice. As noted at TCC04, the current definition of “effort” based only on the number of authorized fishing vessels, or number of active vessels, are not efficient means to assess and monitor fishing mortality on

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<sup>133</sup> The Review Panel understands that Canada is actively working on developing a quantitative method that could be applied throughout the Convention Area with the goal of applying it in the NE Pacific during the coming years.

<sup>134</sup> In 2021, CMM 2019-06 was revised to stipulate that fishing vessel trawl gear is prohibited from contacting the sea floor at two sites with VME indicator species. A Member of the Commission whose fishing vessels enter the two areas identified are required to report to the TCC as to how it ensured the compliance of the Measure.

stocks<sup>135</sup>. This remains a critical issue for the TCC, SC and Commission to address (as discussed further in Section 4.3).

106. NPFC CMMs commonly use terms that open the possibility for subjective interpretation. While perhaps politically necessary to achieve consensus at the time of adoption, the lack of definition of terms used creates significant challenges for the Commission in terms of assessing the efficacy of its decisions. As an example, CMM 2016-07 (para 1) was revised to target Members and CNCPs with “substantial” harvests of Chub mackerel to refrain from expanding the number of their vessels authorised to fish for Chub mackerel based on the “historical existing level” until the SC had completed its stock assessment. Among other revisions, a new paragraph 2 was inserted to encourage Members and CNCPs “without substantial” harvests of Chub mackerel to apply similar constraints. Neither “substantial” nor “without substantial” have been defined for NPFC application. A similar issue arises in CMM 2021-11 in which Members and CNCPs are encouraged to refrain from expansion of the number of their fishing vessels authorised to fish for Japanese sardine, Neon flying squid and Japanese flying squid in the Convention Area from “historical existing levels”, a term that is also undefined in the context of these CMMs.
107. Annex 5 of CMM 2016-05 and CMM 2016-06 establishes a scientific observer program for NPFC bottom fisheries. It is appropriate that a variety of initiatives were consolidated in a single Measure in the early years of NPFC when the focus was on responding to the UN Resolutions relating to bottom fishing and protecting VMEs. However, as the complexity and detail of management and conservation decisions of the Commission continue to evolve, improved clarity would be achieved by separating some of the annexes that continue to be supported in the two bottom fishing CMMs and adopt them as either i) standalone CMMs, or ii) as policies or guidelines. Candidates for consideration include the “Exploratory Fishery Protocol”, the “Science-based standards and criteria for identification of VMEs and assessment of SAIs on VMEs and marine species” and the “Scientific Observer Program”. Successful completion of this exercise would streamline review and refinement of the substantive CMM itself. In addition, in relation to the Scientific Observer Program, it would provide a sound foundation for eventual extension of the observer program to all NPFC fisheries (see Section 5.2.2 for additional discussion).
108. Another significant issue for RFMOs responsible for straddling stocks and highly migratory stocks that spend periods in areas under national jurisdiction concerns the compatibility between Measures established in the Convention Area on the high seas and related Measures established by Members in areas under their national jurisdiction. This is a significant feature of NPFC fisheries including for Pacific saury, Japanese sardine, mackerels and squids.
109. NPFC’s Chub mackerel CMM (CMM 2018-07) was revised as CMM 2019-07 in 2019 by including three pre-ambular paragraphs that reaffirmed the commitment of Members to acknowledge the principle of compatibility between measures established for stocks on the high seas and in areas under national jurisdiction. Paragraph 3 was expanded to provide for the transfer of part of the catch by Members within national jurisdiction to the catch of Chub mackerel in the Convention Area by their flagged vessels subject to i) a catch limit having been established for Chub mackerel within its jurisdiction, ii) that catch limit had been notified to the Commission, and iii) the total catch within areas under national jurisdiction and in the Convention Area do not exceed the Member’s total allocation for its jurisdiction. It is not evident how compatibility in this

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<sup>135</sup> TCC04 Final Report, paras 16-18.

regard is evaluated in NPFC fisheries. NPFC is yet to established procedures to monitor and report on compliance with these provisions.

110. The Review Panel notes that, at its fifth session in 2019, the Commission adopted an additional new Measure for Japanese sardine and Japanese flying squid (CMM 2019-11). This Measure was revised in 2021 to include Neon flying squid (CMM 2021-11). While the difficulties associated with monitoring multi-species fisheries are acknowledged, and similar challenges are encountered in North Pacific mackerel fisheries, unless the catch and effort by gear type is adequately characterised, it is extremely difficult to assess the benefit to individual species when management and conservation arrangements apply equally to multiple species. The Review Panel is of the view that NPFC should strive to establish CMMs that are dedicated to a single species. (See Section 4.2 relating to data required to improve the characterisation of NPFC fisheries).

#### *4.1.9. The Review Panel's findings*

111. The Review Panel notes:
- a) the considerable work undertaken since 2008 under the auspices of the SWG, the Inter-Governmental Meetings and continued after 2015 in the Commission and Scientific Committee to formally establish arrangements for the conservation and management of NPFC priority fishery resources,
  - b) the on-going uncertain status of many NPFC fishery resources, the apparent unsustainability of current levels of fishing mortality on these stocks and the actions that have been recently introduced in an effort to achieve sustainable levels of fishing mortality,
  - c) that North Pacific armorhead is a biologically challenging species to undertake a stock assessment and, because efforts by the SC have not been successful to date, the Commission has adopted an adaptive approach to managing North Pacific armorhead fisheries, and
  - d) that decisions relating to non-target and bycatch species or the impact of NPFC fisheries on associated or dependent species are restricted to demersal resources impacted during bottom fishing. CMMs concerning pelagic NPFC fishery resources make limited, or no, reference to obligations enshrined in the Convention relating to the assessment of impacts of fishing activities on species belonging to the same ecosystem or dependent upon or associated with the target stocks or the protection of biodiversity.<sup>136</sup>

#### *4.1.10. The Review Panel's recommendations*

Recommendation 4.1.1. That the Commission and Scientific Committee increase efforts to acquire the requisite data and conclude stock assessments for all NPFC fishery resources with particular attention to the priority stocks: North Pacific armorhead, Splendid alfonsino, Pacific saury, Chub mackerel, Blue (Spotted) mackerel, Japanese sardine, Japanese flying squid and Neon flying squid. These assessments should provide the knowledge and understanding required to adopt more enduring and scientifically validated CMMs to achieve sustainable levels of fishing mortality.

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<sup>136</sup> Convention, Article 3(d) and (e).

Recommendation 4.1.2. That pending the results of stock assessments and where information is lacking, the Commission adopt a precautionary approach (taking account of the risk of overfishing and whether stocks are overfished) to the setting of catch limits.

Recommendation 4.1.3. That the Commission undertake a comprehensive review of existing CMMs to include verifiable objectives, address potential issues associated with interpretation by reducing the use of subjective terms and adopt baselines and measures of performance. This should be repeated regularly not less than every 5 years.

Recommendation 4.1.4. That stand alone CMMs be dedicated to a single NPFC fishery resource and that multi-species CMMs be phased out as the results of stock assessments and Management Procedures become available.

## **4.2. Data collection and sharing**

### *4.2.1. Introduction*

112. In assessing obligations and associated data generated from NPFC fisheries and its management the Panel reviewed the chronological development of data-related discussions in NPFC, including those recorded in the Preparatory Conference and related meetings, SC, TCC and associated developments in Secretariat's data management capacity. This review, combined with discussions with NPFC Member representatives, Secretariat staff and drawing on the responses to the Review Panel's questionnaire, provided a basis for the Panel to comment on the status of data acquisition for NPFC fisheries, identify gaps in data acquisition and comment on processes and procedures to administer NPFC data to support NPFC decision-making processes. It also provided a foundation on which to base recommendations regarding future efforts in NPFC to strengthen both the quality and timeliness of data available to support Commission decision-making.

### *4.2.2. Data-related provisions of the Convention*

113. The preambular paragraphs of the NPFC Convention recognize the necessity of collecting scientific data to understand the marine biodiversity and ecology in the region and to assess the impacts of fisheries. Article 3 of the Convention requires that, individually or collectively, Members will ensure that complete and accurate data concerning fishing activities, including with respect to all target and non-target species within the Convention Area, are collected and shared in a timely and appropriate manner.<sup>137</sup>
114. The functions of the SC in relation to data, described at Article 10, includes to recommend to the Commission a Research Plan which addresses specific issues and items to be addressed by the scientific experts or by other organizations or individuals, as appropriate, and identify data needs and coordinate activities that meet those needs,<sup>138</sup> collect, analyse and disseminate relevant information,<sup>139</sup> and develop rules and standards for the collection, verification, reporting, and the security of, exchange of, access to and dissemination of data on fisheries resources, species belonging to the same ecosystem, or dependent upon or associated with the target stocks and fishing activities in the Convention Area.<sup>140</sup>

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<sup>137</sup> Convention, Article 3(g)

<sup>138</sup> Convention, Article 10(4)(a)

<sup>139</sup> Convention, Article 10(4)(c)

<sup>140</sup> Convention, Article 10(4)(i)

115. The functions of the TCC, which is described in Article 11(4), includes to develop rules and procedures governing the use of data and other information for MCS purposes.<sup>141</sup> To encourage compliance, the Convention also states that any Contracting Party that does not submit the data and information required under Article 16(3) in respect of any year in which fishing occurred in the Convention Area by fishing vessels entitled to fly its flag shall not participate in the relevant fisheries until that data and information have been provided<sup>142</sup>.
116. Article 16 is dedicated to data collection, compilation and exchange. It requires the Commission to develop standards, rules and procedures for, *inter alia*, the collection, verification and timely reporting of all relevant data by Members of the Commission,<sup>143</sup> the compilation and management by the Commission of accurate and complete data to facilitate effective stock assessment for ensuring that the provision of the best scientific advice is enabled,<sup>144</sup> data exchange and sharing arrangements,<sup>145</sup> including between RFMOs and arrangements,<sup>146</sup> audits of Commission Members' compliance with data collection and exchange requirements, and for addressing any non-compliance identified in such audits.<sup>147</sup>
117. The Convention also provides that the Commission will ensure, *inter alia*, that data concerning the number of fishing vessels operating in the Convention Area are publicly available.<sup>148</sup> In addition, the Commission is required to establish rules to ensure the security of, access to and dissemination of data, including data reported via real-time satellite position-fixing transmitters, while maintaining confidentiality where appropriate and taking due account of the domestic practices of Members of the Commission.<sup>149</sup>

#### 4.2.3. Data-related institutional history and responsibilities

118. Data, and data deficiencies, have received significant consideration by NPFC Members since informal consultations to establish the organization commenced in 2006.
119. The predecessor to the NPFC SC, the Scientific Working Group (SWG), which convened 13 meetings from 2007 to 2015, started these discussions. The SC and its SSCs and SWGs all require quality-assured data and information.<sup>150</sup> They assimilate scientific and fishery dependent and independent information and data and collectively share this information to support stock assessments and assess fishery impacts on ecosystems as input into policy and management decisions.
120. The SC has produced three Research Plans since 2015. One applied for the period 2014-2017, one for the period 2018-2021 and the current Plan (2021-2025).<sup>151</sup> All three describe actions relating to data and efforts to address data gaps.

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<sup>141</sup> Convention, Article 11(4)(f).

<sup>142</sup> Convention, Article 13(11).

<sup>143</sup> Convention, Article 16(1)(a).

<sup>144</sup> Convention, Article 16(1)(b).

<sup>145</sup> Convention, Article 16(1)(c).

<sup>146</sup> Convention, Article 16(1)(d).

<sup>147</sup> Convention, Article 16(1)(e).

<sup>148</sup> Convention, Article 16(2)

<sup>149</sup> Convention, Article 16(4)

<sup>150</sup> These were established at SC05 in 2020: SC05 Final Report, para 30.

<sup>151</sup> <https://www.npfc.int/research-and-work-plan>

121. The TCC oversees compliance-related data. Compliance-related considerations by NPFC Members were commenced in 2013 when the Fifth Preparatory Conference established a Technical and Compliance Working Group (TCWG).<sup>152</sup> The first report of the TCWG was considered at the Sixth Preparatory Conference in 2014.<sup>153</sup> It included consideration of issues such as high seas boarding and inspection, transshipment and Annual Reports for bottom fisheries. The Seventh Preparatory Conference in 2015 received a report from the second session of the TCWG which advised that information requirements for Vessel Registration had been agreed and that further work was required to finalize procedures related to transshipment and high seas boarding and inspection. Apart from consideration of data field types associated with these procedures, the TCWG did not consider systems for compliance-related data administration and management.<sup>154</sup> Since entry into force of the Convention, the work program of the TCC has also been supported by two SWG's that work intersessionally and annually report to the TCC: the SWG on Planning and Development (PD), and the SWG on Operations (Ops).
122. The Secretariat supports a Data Manager position. In addition, a Compliance Manager and a Science Manager are engaged in substantive discussion on data issues across Secretariat functions. The Secretariat has, since 2017, retained the services of a data management systems and website development company under a consultancy agreement.<sup>155</sup>

#### *4.2.4. Agreed data submission formats, specifications, and timeframes*

123. This section details the chronology of the NPFC's consideration of data submission formats, specifications, and timeframes. It is followed by the Review Panel's assessment, based on the Performance Review's criteria, interviews and questionnaire responses. The final subsection is the Review Panel's key findings and recommendations on agreed data submission formats, specifications, and timeframes.

##### *4.2.4.1. Review of NPFC's consideration of data submission formats, specifications, and timeframes*

124. Discussions on standardizing formats for data submission were carried forward from the inter-governmental Consultations which were convened between 2006 and 2011. Standardized data collection and validation efforts and the absence of a consistent data format amongst NPFC members were common items considered across many SWG agenda prior to 2015 (for example, raised by Korea at SWG7 in 2009, the United States at SWG11 in 2013 and again by Korea SWG12 in 2014). These matters essentially remained unresolved through the Preparatory Conference (2011-2015), where for example, at the Sixth Preparatory Conference, Korea suggested the establishment of a working group to examine data fields and data formats.<sup>156</sup> The Seventh Session of the Preparatory Conference received a report from SWG13 which, *inter alia*, recommended that "a group [be established] that includes members from the SC, TCC and others to review the development of standardized reporting templates (as drafted by Korea)".<sup>157</sup>

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<sup>152</sup> 5<sup>th</sup> Preparatory Conference Summary Report, Section 9.

<sup>153</sup> 6<sup>th</sup> Preparatory Conference Summary Report, Section 6.

<sup>154</sup> 7<sup>th</sup> Preparatory Conference Summary Report, Section 8.

<sup>155</sup> 80Options, Hobart, Australia. <https://www.eightyoptions.com.au/>.

<sup>156</sup> 6<sup>th</sup> Preparatory Conference Summary report, Section 7(1).

<sup>157</sup> 7<sup>th</sup> Preparatory Conference Summary Report, Section 7(e).

125. At SC01 in 2015 Korea formally tabled a proposal for the development of standardized data collection forms.<sup>158</sup> However, further consideration was paused pending clarification from the Commission regarding “a. the objective for the data collection; and b. whether it was to be reported by observers or fishers, or both”.<sup>159</sup> The second meeting of the Commission in August 2016 requested that the SC and TCC hold further discussions on developing data standards building on the reporting template developed by Korea presented at the SC01.<sup>160</sup> While little progress was reported at SC02<sup>161</sup>, the second SSC for North Pacific armorhead (SSC NPA02), endorsed by SC02 in 2016, included advice to undertake intersessional work to develop templates for data collection and reporting by observers and fishers.<sup>162</sup>
126. Also in 2016, partly based on issues associated with data confidentiality, TCC02 recommended to the Commission that compliance- and science-related data and information be separated in the Annual Report.<sup>163</sup>
127. At SC03 in 2017, Korea provided a status report on the Corresponding Group’s work, since its establishment in 2016,<sup>164</sup> to develop standardized templates for data collection and reporting for Pacific saury (complete), bottom fish (in progress), squids (in progress), Chub mackerel (early stages) and crab fisheries (not yet started, at that time). The work was reported to be progressing in line with the SC’s Five-Year Work Plan. In addition, SC03 agreed to create a data reporting template for all gear types for Chub mackerel intersessionally in consultation with TWG CMSA members.<sup>165</sup>
128. The Secretariat updated SC04 in 2018 on progress in developing standardized templates for data collection and reporting for bottom fish (complete), Pacific saury (complete), Chub and Blue (Spotted) mackerels (not yet started; to be developed when the stock assessment model and corresponding data requirements are decided), Japanese sardine (not yet started), and squids (not yet started).<sup>166</sup>
129. TCC03 recommended that the Commission task the SWG (Ops) to explore the utility of a Standard Violation Case Package to support standardized data collection and reporting protocols from high seas boardings and inspections.<sup>167</sup>

*4.2.4.2. Review Panel’s findings relating to agreed data submission formats, specifications, and timeframes*

130. NPFC discussions on data submission formats, specifications and timelines extend back to at least 2009 – more than a decade. It is encouraging that NPFC participants recognized the importance of standardized data reporting arrangements very early in negotiations to establish the organization,

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<sup>158</sup> SC01 Final Report, paras 33-35.

<sup>159</sup> SC01 Final Report, paras 33-35.

<sup>160</sup> COM02, para 15.

<sup>161</sup> SC02 Final Report, paras 41-43.

<sup>162</sup> SC02 Final Report, para 22.

<sup>163</sup> TCC02 Final Report, para 43.

<sup>164</sup> SC02 Final Report, paras 51-52.

<sup>165</sup> SC03 Final Report, para 19-21.

<sup>166</sup> SC04 Final Report, para 36.

<sup>167</sup> TTC03 Final Report, paras 18 and 48.

but it is of concern that apparently, seven years after entry into force of the Convention, much still remains to be done in this regard.

131. The Review Panel appreciates that the harmonization and synchronization of data reporting standards and formats is a major exercise for a multilateral regional fisheries organization supporting fishing in areas under national jurisdiction and on the high seas. Since the establishment of the Commission, good progress has been made in relation to the sharing of standardized data to support the work of the SC's SCCs and TWGs and positive developments continue in the TCC. Although more remains to be done, and efforts are on-going, NPFC is to be commended for the progress achieved to date.
132. Although the Review Panel did not undertake an audit of the data formats and reporting processes for Pacific saury and bottom fisheries it is encouraging that, in 2018, the SC reported that these were complete. While progress continues to be made, particularly in relation to the mackerels, standardized data reporting formats and processes for other priority species remain outstanding. In addition, NPFC has not yet specified data reporting arrangements for species belonging to the same ecosystem, or dependent upon or associated with the target stocks and fishing activities.
133. The Review Panel is of the view that the harmonization of data collection formats and associated gains in efficiency in data processing at the Secretariat, including through automated data quality assurance routines, could result in revisions to data submission deadlines. This would result in more complete quality data being available in a timely manner to support analysis and decision-making. The Commission is encouraged to take advantage of such developments. Expanding and harmonizing data collection will i) improve data administration and processing, including through opportunities to support the introduction of e-reporting, and ii) improve the timeliness and quality of data available to support analysis and decision-making for all species, including bycatch, discards and associate and dependent species.

#### *4.2.4.3. Review Panel's recommendations*

Recommendation 4.2.1. That the Commission increase efforts to characterise NPFC fisheries by expanding and harmonizing data collection formats for all species encounters, including bycatch, discards and species belonging to the same ecosystem or dependent upon or associated with the target stocks.

Recommendation 4.2.2. That the Commission task the Secretariat to contract a data management expert to undertake an intersessional review to assess data reporting formats for SC and TCC purposes and advise on opportunities for further standardization, undertake a comprehensive inventory of NPFC data, evaluate uncertainties associated with that data, identify data gaps and propose a schedule of data-related priority tasks and associated responsibilities to be annually reported to the Commission.<sup>168</sup>

#### *4.2.5. Collection and sharing of data*

134. This section first describes the approach NPFC has taken to the collection and sharing of data. It is relevant for the collection of data for both conservation and management purposes and for

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<sup>168</sup> This draws on a similar recommendation from the TCC03 Final Report, paras 17, 18 and 48.



compliance purposes. It then includes the Review Panel’s assessment followed by its key findings and recommendations.

#### 4.2.5.1. NPFC’s consideration of collection and sharing of data

135. Data availability discussions have continued to occupy significant time in the SC and its subsidiary bodies since the entry into force of the Convention in 2015. The following sections describe these discussions in relation to bottom fisheries and priority species, before turning to collection and sharing of data in TCC.

#### 4.2.5.2. Bottom fisheries and VMEs

136. Data discussions in relation to bottom fisheries and VMEs at SC02 included consideration of VME indicators, scientifically valid encounter thresholds, VME field guides and VME data collection standards.<sup>169</sup> SC03 agreed to a joint VME- and bottom fish-related data workshop in November 2018 to, *inter alia*, develop a data “wish list”, review minimum data requirements and data availability and to consider data collection templates and data sharing protocols.<sup>170</sup> The Workshop recommended, *inter alia*, i) a review of a draft list of potentially available data to better identify current and historical bottom fishing grounds in the Convention Area and fishing footprint and effort in relation to assessing SAI; ii) to identify appropriate temporal and spatial resolution of data to be shared in order to map combined fishing footprint and effort to better identify fishing grounds and to define the fishing footprint in relation to assessing SAI; iii) to continue work on whether current indicator taxa were sufficient for determining VMEs; iv) to review the summary table of the status of the NPFC’s identification and protection of VMEs and data requirements; v) to consolidate all available VME bycatch data for combined mapping assessment; vi) to review updates and continue to revise the data availability and progress in VME protection in the NPFC against data requirements from the FAO Deep-Sea Fisheries Guidelines; and vii) to continue to develop templates to summarize existing data potentially available on bottom fishing footprint and effort, taxa, multibeam and VME predictive modelling.<sup>171</sup>
137. Further work on data collection on bottom fishing took place in the SSC VME,<sup>172</sup> and the SSC BF.<sup>173</sup> In relation to VME-related data, SC04 endorsed the recommendations from the SSC VMEs, including a plan and timelines to determine the type and resolution of data to be shared for SAI assessment and a map of combined fishing footprint and effort, and a list of specifications regarding the design and content of the common VME taxa identification guide in the western North Pacific Ocean.<sup>174</sup> The SC noted that the SSC VME agreed to continue discussions about data sharing intersessionally, with the aim of reaching a consensus on the type and resolution of data to be shared by November 2019.<sup>175</sup>
138. In relation to data and bottom fishing, SC04 in 2019 reviewed the recommendations of the SSC BF and endorsed “Interim Guidance for Management of Scientific Data”, an updated draft

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<sup>169</sup> SC02 Final Report, para 18 and 20.

<sup>170</sup> SC03 Final Report, para 13 and Annex D.

<sup>171</sup> NPFC-2018-WS DATA01 Final Report, para 53.

<sup>172</sup> See NPFC-2019-SSC VME04-WP05 (Rev. 1).

<sup>173</sup> See NPFC-2019-SSC BF02-WP02 (Rev. 1).

<sup>174</sup> SC04 Final Report, para 6.

<sup>175</sup> SC04 Final Report, para 7.

template for collecting scientific observer data from NPFC bottom fisheries,<sup>176</sup> the establishment of a SWG for the development of the combined bycatch taxa list for the Convention Area, and the development of the fish identification guide for scientific observers for the north-western Pacific Ocean.<sup>177</sup> SC04 agreed to combine the SSC BF and the SSC VME into one new SSC addressing VME and BF.<sup>178</sup> SC04 also agreed that Members would share data for the assessment of SAI of bottom fisheries on VME and create a map of combined fishing footprint and effort after the SSC BF-ME had agreed on the type and resolution of data.<sup>179</sup>

#### *4.2.5.3. Other priority fishery resources*

139. Building on the discussions in the SWG during the Inter-governmental Consultations<sup>180</sup>, data collection schemes and ways to improve reporting and data collection were discussed in the SSC PS and the first SC in 2015.<sup>181</sup> Discussions included separating catch, fishing days and number of vessels by area into those that apply to national waters and those that apply in the Convention Area and a proposal to convene a workshop to, among other matters, consider research needs and data requirements to develop the next assessment.<sup>182</sup> SC01 also noted that although there has been work on stock assessments for alfonso by Japan in 2009, there was insufficient data to complete a stock assessment. SC pointed out the necessity to continue collecting data from fisheries using different fishing gear for future stock assessments of other bottom fish species.<sup>183</sup>
140. Data-related advice from the SSC PS endorsed by SC02 included to collect more data on the impact of IUU fishing, bycatch, and catch discarding on the Pacific saury stock and to modify the proposed data collection templates to meet the requirements for stock assessment and management.<sup>184</sup> At the third session of the Commission, Russia requested that the SSC PS develop a template for collecting data on Pacific saury bycatch and discards for the possible inclusion of these data in the stock assessment.<sup>185</sup>
141. SC02 recommended the establishment of a Technical Working Group on Chub Mackerel (TWG CM) for the purpose of stock assessment with Terms of Reference including consideration of data quantity, data quality and sources of uncertainty.<sup>186</sup> SC02 also considered the status of other species, including squid, and agreed to continue to collect data and monitor the situation relating to such species.<sup>187</sup> The SC02 report was silent on the scope, process and type of data to be collected.
142. The SC04 discussed the need to report data for measuring effort and analyzing trends in effort noting various factors that impact on the capacity to report such data which include, for some species, the multi-gear nature of some fisheries which operate both within EEZs and in the

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<sup>176</sup> NPFC-2019-SSC BF02-WP02 (Rev. 1).

<sup>177</sup> SC04 Final Report, para 13.

<sup>178</sup> SC04 Final Report, para 18.

<sup>179</sup> SC04 Final Report, para 69 (p).

<sup>180</sup> See SWG3, 2007 and SWG11, 2013.

<sup>181</sup> SC01 Final Report, para. 13 and 17.

<sup>182</sup> SC01 Final Report, para 19 and COMM2, para 17-19 and 27.

<sup>183</sup> SC01 Final Report, para 24 and COMM2, para 24.

<sup>184</sup> SC02 Final Report, para 27.

<sup>185</sup> COM03, Final Report, para 13.

<sup>186</sup> SC02 Final Report, para 35 and 36.

<sup>187</sup> SC02 Final Report, para 40.

Convention Area.<sup>188</sup> SC04 also agreed to share more data of Pacific saury (e.g. size-at-maturity measurements, catch-at-size data and catch-at-age data, etc.) for improving stock assessments, and after the SSC PS agreed upon the type and resolution of data, display Pacific saury catch and effort data on a publicly accessible map on the NPFC website, and share data for Chub mackerel to support stock assessments.<sup>189</sup>

143. SC05 noted that VMS data may be useful for scientific analyses and agreed with the proposed definition of “scientific purposes” which may include estimating distribution of fishing effort for use in the Commission’s research activities; planning for and implementing tagging programs; modelling fishing effort for use in fisheries management activities, including MSE; estimating abundance indices or undertaking stock assessments; validating logbook data; and, any other scientific purposes agreed to by the Commission.<sup>190</sup>
144. SC06 discussed future data-related tasks for the SWG Neon flying squid, SWG Japanese sardine and Japanese flying squid and to support the development of a data template, share data, compile CPUE data and agree on CPUE indices.<sup>191</sup> In relation to the SWG Blue mackerel, it was reported to SC06 that, among other tasks, the SWG had reviewed Members’ available Blue mackerel data, developed a species summary document and discussed the need to correctly identify Chub mackerel and Blue mackerel given that combined data for both species are submitted to NPFC. SC06 adopted FAO convention to use the common name of “Blue mackerel” rather than “Spotted mackerel” as the common name for this species. The SC discussed future tasks for the SWG BM which included to update the Blue mackerel species summary document, share information and papers on species identification of Blue mackerel and Chub mackerel, and continue data collation for Blue mackerel.<sup>192</sup>
145. SC06’s review of the Research Plan (2021-2025) in relation to data agreed to the following areas of work: review of data standards related to stock assessments and other relevant data, including VME data collection and VMS, identify data sources to meet data needs for priority areas of work, develop programs for data collection, and develop a data security policy including data handling and sharing protocol, information confidentiality classification and an access control security guideline. The SC’s plans in relation to this work forecast for each year for the period 2022-2025 were restricted to: the review data standards in relation to stock assessment for priority species, to discuss the need for additional sources of data for scientific analyses and develop a data management policy.<sup>193</sup>

#### *4.2.5.4. TCC data sharing considerations*

146. At TCC01, the Secretariat proposed that the IMO number be included among the data to be provided in relation to vessel authorizations.<sup>194</sup> The potential development of data management arrangements was referenced in the TCC Framework drafted by Canada<sup>195</sup> and appended as

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<sup>188</sup> SC04 Final Report, paras 34-35 and 67.

<sup>189</sup> SC04 Final Report, para 20 and 69 (q) to (s).

<sup>190</sup> SC05 Final Report, para 36.

<sup>191</sup> SC06 Final Report, para 18-23.

<sup>192</sup> SC06 Final Report, para 24-26.

<sup>193</sup> SC06 Final Report, Annex Q.

<sup>194</sup> TCC01 Final Report, para 13.

<sup>195</sup> NPFC-2016-TCC01-WP03.

Annex E to the TCC01 report.<sup>196</sup> No other compliance-related data matters were considered in detail during TCC01.

147. TCC02 in 2017 considered developments in relation to the Commission's VMS.<sup>197</sup> TCC02 noted most NPFC members were collecting VMS data and that it could be transmitted to the Commission as part of a regional VMS. Some Members emphasized that, in principle, flag States are responsible for managing their vessels and their VMS data.<sup>198</sup>
148. TCC02 was updated on plans to improve the NPFC's vessel registry system including improved functionality providing for data validation procedures, a unique vessel identifier and for updates to be actioned at any time as opposed to annually.<sup>199</sup> TCC recommended that Members test a pilot version of the new system, clarify issues such as the minimum information requirements for registering a vessel, and revise CMM 2016-01 as necessary for TCC03.<sup>200</sup> A proposal on the NPFC transshipment data format was endorsed.<sup>201</sup>
149. At TCC03, during discussion on IUU fishing, the Commission considered the use of AIS data as a potential additional tool to facilitate vessel identification and activity.<sup>202</sup> This discussion was left open.
150. TCC04 discussed the need for as much information as possible on future IUU vessel lists to facilitate the sharing of information with other RFMOs and to make such information searchable as part of Commission's databases (see "e-reporting opportunities" Section 4.2.9 below). The TCC requested that the Commission discuss the development of a standard to address issues such as duplication of authorized vessel names by IUU vessels, database searchability and information sharing.<sup>203</sup>
151. TCC04 continued to draft the text for a CMM on VMS but was unable to reach a consensus on VMS data access and use<sup>204</sup>, data-sharing and data-security protocols<sup>205</sup>, as well as minimum standards for mobile transmitting units (MTUs).<sup>206</sup> TCC04 also considered a draft CMM for a Compliance Monitoring Scheme (CMS), which would rely on quality-assured data and information.<sup>207</sup> It was referred to the Commission for further consideration, noting the desire of some Members to conduct a feasibility study as a basis for further discussion.<sup>208</sup>
152. In relation to transshipment data, an analysis relating to NPFC Catch Statistics and NPFC Member/CNCP Flagged Vessels Register in 2018 and 2019 was presented by Japan<sup>209</sup> and noted

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<sup>196</sup> COM02 Final Report, para 25.

<sup>197</sup> NPFC-2017-TCC02- WP01.

<sup>198</sup> TCC02 Final Report, para 9-11.

<sup>199</sup> NPFC-2017-TCC02-IP03.

<sup>200</sup> Final Report, para 19 and TCC03 Final Report, para 21.

<sup>201</sup> TCC02 Final Report, para 27, 29 and Annex F.

<sup>202</sup> TCC03 Final Report, para 24-29.

<sup>203</sup> TCC04 Final Report, para 61.

<sup>204</sup> NPFC2019-TCC04-WP05 (Rev. 3).

<sup>205</sup> Detailed in NPFC2019-TCC04-WP04.

<sup>206</sup> TTC04 Final Report, para 71.

<sup>207</sup> NPFC-2019-TCC04-WP03 (Rev 2).

<sup>208</sup> TCC04 Final Report, para 70 and Annex G.

<sup>209</sup> NPFC-2021-TCC05-IP08.

by TCC05.<sup>210</sup> Panama, in presentations relating to its CNCP status, committed to sharing all its transshipment data to assist with addressing gaps in the management of transshipment in the NPFC Convention Area and, once the NPFC establishes a regional VMS, offered to share its VMS data with the NPFC.<sup>211</sup>

#### *4.2.5.5. Review Panel's Findings relating to the collection and sharing of data*

153. The Review Panel has identified three principal issues relating to data collection and data sharing in NPFC.
154. The first, regarding priority fishery resources, relates to the utility of information on fishing effort by gear type. A record of the number of authorized fishing vessels provides limited information on the actual level of fishing effort in a fishery. Improved data for analytical purposes should report on the catch by species and the number of actual fishing days, or other suitable effort metric, by gear type. Data inventories will assist in this endeavour, and should be public unless a clear justification for confidentiality is agreed.
155. The second issue is in relation to bottom fisheries and VMEs and concerns the lack of an agreed protocol for the identification of VMEs. This includes reporting and monitoring compliance with that protocol. This issue is addressed further in Section 4.3.2.
156. The third issue concerns the collection of data related to species belonging to the same ecosystem or dependent upon or associated with the target stocks taken incidentally. NPFC has not yet specified data reporting arrangements for non-target fishery resources or encounters with species taken incidentally (see also Sections 4.2.5 and 4.5.3).

#### *4.2.5.6. Review Panel's recommendations on the collection and sharing of data*

Recommendation 4.2.3. That the Secretariat establish and maintain an inventory of NPFC non-public domain data on the section of the Commission's website restricted to Member-access, including justification for confidentiality, and a meta data inventory in the public domain on the Commission's website.

Recommendation 4.2.4. That the Commission dedicate effort and resources to the collection of data relating to bycatch and species taken incidentally in all NPFC fisheries.

#### *4.2.6. Data gaps*

157. Data gaps, data deficiencies and information sharing were common issues raised during discussions among NPFC Members in the SWG during the Inter-governmental Consultations.<sup>212</sup>
158. At the first meeting of the SC (SC01), discussion on data deficiencies related to a VME encounter protocol based on UN Resolutions in 2006, and subsequent Resolutions, were deferred for inter-sessional consideration.<sup>213</sup> The situation in relation to insufficient data to support an assessment of alfonso was also discussed at SC01.<sup>214</sup> The SC01 Chair undertook to consult broadly across

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<sup>210</sup> TCC05 Final Report, para 50.

<sup>211</sup> COM05, Final Report, para 13.

<sup>212</sup> See <https://www.npfc.int/meetings/meeting-type/24>. Note that the reports of the first three sessions of the SWG are not currently available on the Commission's website.

<sup>213</sup> SC01 Final Report, para. 38 and COM02 Final Report, para 36.

<sup>214</sup> SC01 Final Report, para 24.

SSCs and TWG's on data deficiencies and potential initiatives to improve data availability to support the scientific program of the Commission. Discussion on data gaps and deficiencies have remained a feature of discussions in the SC's SSCs and TWGs, and to a lesser extent the TCC, since.

159. At COM03, it was noted significant gaps existed in the submission of transshipment data with only two Members complying. The Commission encouraged other Members to submit the required data.<sup>215</sup>
160. In 2019, SC05 considered the development of summary profiles for all priority species to identify potential data gaps and to track progress towards establishing management targets or limits to determine stock status. The SC reviewed a proposed template for the profiles and agreed to include information on biological characteristics and behaviour and to separate the species profile from a data summary for each species.<sup>216</sup>
161. The agenda of SC05 also included an item supporting discussion on the identification of data needs and data gaps and discussion for an observer program and other ways to fill data gaps. The three paragraphs of the Report of SC05 summarizing discussion on this item were primarily dedicated to consideration of the potential for EM to address data gaps.<sup>217</sup>
162. SC06 in 2021 appended profiles for Pacific saury, Splendid alfonsino, North Pacific armorhead, two species of Rockfish, Sablefish, Japanese sardine, Japanese flying squid, Neon flying squid, and Blue mackerel to its session report<sup>218</sup>. Tables summarizing the source and type of data available to NPFC for each species were included in the annexes. To supplement these summaries, SC06 tasked the SWGs for Japanese flying squid, Neon flying squid, Japanese sardine and Blue mackerel, which were established by SC05 in 2020, to identify data needs, data gaps, and strategies to fill those gaps.<sup>219</sup>

#### *4.2.6.1. Review Panel's findings relating to data gaps*

163. Despite recurring discussion across the Commission over many years, the Review Panel found it challenging to accurately determine the status of NPFC data and identify where critical data-related issues persist. Reference to data gaps and deficiencies has been a recurring feature of discussions in the SC and its subsidiary bodies as recorded in meeting documentation and summary reports.<sup>220</sup> Unless intimately involved in the work of these groups it is currently difficult to i) access an inventory of data either held by the Commission or available to it, or ii) obtain details relating to data gaps and deficiencies.
164. In relation to obvious data gaps, the Panel was unable to obtain data or information relating to estimates of IUU fishing in the NPFC Convention Area and the potential impact of IUU fishing on NPFC fishery resources and associated ecosystems. Given the expected impact of IUU fishing on stocks and the reliability of data used in stock assessments, the Commission is encouraged to undertake a robust assessment of IUU fishing in the NPFC Convention Area.

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<sup>215</sup> COM03 Final Report, para 16.

<sup>216</sup> SC05 Final Report, para 31 and 32.

<sup>217</sup> SC05 Final Report, para 26-28.

<sup>218</sup> Summaries of the profiles prepared at SC6 are included in this Review Report at Appendix XX.

<sup>219</sup> SC06 Final Report, para 34.

<sup>220</sup> See Annexes to the SC06 Final Report.

#### 4.2.6.2. Review Panel's recommendations on data gaps

Recommendation 4.2.5. That the SC and the TCC each undertake a comprehensive assessment, updated annually, summarizing the NPFC data inventories and the status of data gaps and deficiencies in NPFC data and report the outcomes to the annual session of the Commission.<sup>221</sup>

Recommendation 4.2.6. That the Commission seek opportunities for collaboration with other RFMOs with shared interests in the North Pacific Ocean and appropriate technical agencies, such as Global Fishing Watch (GFW) and the IMCS Network, to assess the level and impacts of IUU fishing on NPFC fishery resources.

#### 4.2.7. Data management policy and procedures

165. At SC01 Japan raised the issue of a NPFC data management policy.<sup>222</sup> SC02 in 2016 considered the development of a NPFC data management system including a project strategy and architecture, business context, the system context, design, and development roadmap.<sup>223</sup> The Secretariat was requested to progress this,<sup>224</sup> and subsequently prepared draft “Information Security Guidelines” which included four categories of information in relation to risk of its disclosure, types of information, proposed regulations for each data type, protection of data ownership and other issues related to data and publication handling by the NPFC.<sup>225</sup> In response, the SC recommended the establishment of a Corresponding Group to work intersessionally with the TCC to further develop the draft “Information Security Guidelines”.<sup>226</sup> TCC02 was provided with an update on the work of the SC and the intersessional Corresponding Group endorsing the need for progress on this issue as a priority.<sup>227</sup>
166. At SC03, based on an update provided by the Secretariat,<sup>228</sup> the SC03 drafted regulations for the management of scientific meeting documents, meeting reports and intersessional communications on the NPFC collaboration website,<sup>229</sup> and agreed to work intersessionally before the Commission meeting in July 2018 to review potential issues related to the sharing of data and, if necessary, revise the “Interim Guidance for Management of Scientific Data used in Stock Assessments” adopted in 2017.<sup>230</sup>
167. TCC03 received two papers specific to data management tabled by the Secretariat.<sup>231</sup> Among other decisions, TCC03 proposed that the Commission endorse the development of data-sharing and

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<sup>221</sup> The WCPFC’s periodically revised *Scientific data to be provided to the Commission* and the annual report submitted to the WCPFC’s Scientific Committee by WCPFC’s Science Services Provider detailing data gaps provide useful examples for consideration in revising NPFCs data policies and strategies. See: <https://www.wcpfc.int/scientificdatasubmission>

<sup>222</sup> SC01 Final Report, para 45 and COM02 Final Report, para 45.

<sup>223</sup> NPFC-2017-SC02-WP04 (Rev1).

<sup>224</sup> SC02 Final Report, paras 53-56.

<sup>225</sup> NPFC-2017-SC02-WP03 and NPFC-2017-SC02-IP01.

<sup>226</sup> SC02 Final Report, paras 51-52.

<sup>227</sup> NPFC-2017-TCC01-WP05; TCC Summary Report, para 13 and 14.

<sup>228</sup> NPFC-2018-SC03-IP02.

<sup>229</sup> SC03 Final Report, Annex G.

<sup>230</sup> COM03 Final Report, para 41 and 42, Annex Q and COM04 Final Report, para 36, Annex O.

<sup>231</sup> NPFC-2018-TCC03-IP03: “Data Management and the Way Forward” and NPFC-2018-TCC03-IP04 “Vessel Registry - Data Information Requirements”.

data-security protocols by TCC, SC and Finance and Administration Committee (FAC) to ensure the secure handling and confidentiality of Commission data.<sup>232</sup>

168. SC04 reviewed progress with Commission policy relating to data collection, management and security<sup>233</sup> and endorsed some revisions to the “Interim Regulations for Management of Scientific Data and Information”,<sup>234</sup> which included regulations for management of scientific meeting documents, meeting reports and intersessional communications on the NPFC website.<sup>235</sup>
169. At TCC04 Canada presented a draft for “NPFC Data-Sharing and Data-Security Protocols for VMS Messages” as proposed by the SWG VMS<sup>236</sup> and an update on “NPFC Data Collection, Compilation and Exchange Interim Guidelines” for further consideration at TCC05 and the following session of the Commission.<sup>237</sup>
170. COM05 reviewed the status of the development of “NPFC Information Security Guidelines”, noting that such guidelines should cover both scientific and compliance aspects. The Commission endorsed the “Interim Regulations for Management of Scientific Data and Information” developed and adopted by the SC,<sup>238</sup> and requested the TCC to continue to develop guidelines from a compliance perspective for consideration at the next Commission meeting.<sup>239</sup>
171. SC05 reviewed the “Interim Regulations for Management of Scientific Data and Information” and recommended that the Commission endorse them as formal regulations of the SC and its subsidiary bodies. The “Regulations” include sections relating to the management of scientific data, the management of meeting documents, and intersessional communications using the NPFC collaborative website supporting discussion in subsidiary bodies and informal working groups on NPFC projects. In adopting this “Regulation”, the SC also requested that the TCC consider the inclusion of the Regulations as an annex to the “NPFC Data Sharing and Data Security Protocols” that the TCC was developing as an overarching data policy for the Commission.<sup>240</sup>
172. The Secretariat reported to SC05 on the ongoing work to draft the “NPFC Data Sharing and Data Security Protocol<sup>241</sup>” and the “NPFC Data-Sharing and Data-Security Protocol for VMS Data”.<sup>242</sup> The SC noted that VMS data may be useful for scientific analyses and agreed with a proposed definition of “scientific purposes”.<sup>243</sup>
173. At TCC05, the Secretariat provided a summary of MCS matters for coordination between the SC and the TCC which included the proposed incorporation of the “Regulations for Management of Scientific Data and Information” in the “NPFC Data Sharing and Data Security Protocols”.<sup>244</sup> TCC05 also received a report from the co-lead of the SWG for Planning and Development (SWG

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<sup>232</sup> TTC03 Final Report, paras 17, 18 and 48.

<sup>233</sup> NPFC-2019-SC04-IP01 (Rev. 2).

<sup>234</sup> NPFC-2019-SC04-WP01 (Rev. 1).

<sup>235</sup> SC04 Final Report, Annex J.

<sup>236</sup> NPFC-2019-TCC04-WP04.

<sup>237</sup> TTC04 Final Report, para 72.

<sup>238</sup> NPFC-2019-COM05-WP08.

<sup>239</sup> COM05 Final Report, para 40.

<sup>240</sup> SC05 Final Report, para 34 and 64.

<sup>241</sup> NPFC-2020-SC05-WP06.

<sup>242</sup> NPFC2020-SC05-WP07.

<sup>243</sup> SC05 Final Report, paras 35 and 36.

<sup>244</sup> TCC05 Final Report, para 6.



PD) concerning a proposal for the development of an “NPFC Data Sharing and Data Security Protocol for the VMS”.<sup>245</sup> The “Protocol” was subsequently adopted at COM06.<sup>246</sup>

174. The Secretariat presented a summary of the status of all compliance-related information technology and data management systems completed, or under development, at the Secretariat to TCC05.<sup>247</sup> Completed systems include the direct entry Vessel Registration System, Meeting Management, Calendar, e-Annual Report, Pacific Saury Weekly Report, Collaboration site, e-IUU, e-HSBI, HSBI Events, CMM Chart of Accounts and Data Warehouse Dashboard with the VMS and an Electronic Compliance Monitoring System (e-CMS) under development.<sup>248</sup>
175. The Secretariat also provided SC06 with a report on the progress in the development of the SC-related data management system since SC05<sup>249</sup>. It noted, among other developments, the status of the NPFC GIS Map with additional updates for Pacific saury catch and effort data and, at the request of the SSC BF-ME, that provisional maps of combined gear-specific footprints by different gear types and time periods were well advanced.<sup>250</sup>
176. Prior to the postponement of TCC06 in 2022 papers for discussion at the session were posted on the meeting webpage. Data related papers included an update on data management initiatives,<sup>251</sup> a transshipment paper submitted by the SWG PD which included a draft CMM that provides for data and information sharing,<sup>252</sup> and proposed amendments to the Vessel Registry submitted by the SWG (Operations).<sup>253</sup>

#### *4.2.7.1. Review Panel’s findings relating to data management policies and procedures*

177. The Review Panel acknowledges the significant amount of work undertaken in relation to NPFC data management policies and procedures. Many of these initiatives started during the Preparatory Conference largely motivated by the experience of individual NPFC Members in other RFMOs.
178. The Review Panel was unable to determine the reasons for the slow development of a standardized Commission-wide data policy. It remains a recurring matter which absorbs significant time in meetings of the SC and its subsidiary bodies and in the TCC. NPFC participants have significant experience in RFMO data management generally and so it is not clear why that experience and knowledge appears not to have been applied for the benefit of NPFC in a timelier manner. There is considerable room to strengthen NPFC data management policies and procedures consistent with international best practice and experience in other RFMOs and harmonize them for all data functions across the Commission.<sup>254</sup>

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<sup>245</sup> NPFC-2021-TCC05- WP04.

<sup>246</sup> COM06 Final Report, para 28 and Annex J.

<sup>247</sup> NPFC-2021-TCC05-IP02.

<sup>248</sup> TCC05 Final Report, para 29 and Comm6, para 31.

<sup>249</sup> NPFC-2021-SC06-IP03.

<sup>250</sup> SC06 Final Report, para 38.

<sup>251</sup> NPFC-2022-TC06-IP04.

<sup>252</sup> NPFC-2022-TC06-WP23.

<sup>253</sup> NPFC-2022-TC06-WP22.

<sup>254</sup> Secretariat staff advised that some initial work in this regard had been undertaken by the Secretariat and examples, such as the Asia-Pacific Fishery Commission, offered useful information that could be drawn upon to develop an overarching data management policy for NPFC

#### *4.2.7.2. Review Panel's recommendations on data management policies and procedures*

Recommendation 4.2.7. That the Commission undertake an independent expert review of data-related policies and procedures currently implemented, or under development, in the SC and TCC, with the objective of critically reviewing existing policies and procedures against international best practice and experience in other RFMOs to strengthen and harmonize NPFC data management policies and procedures for all data functions across the Commission.

#### *4.2.8. The Secretariat's support for data management*

179. Since 2017, the Secretariat has contracted the services of a data management systems and website development company to provide data systems support to the Secretariat.<sup>255</sup> The Commission has been regularly updated on this work through a standing agenda item relating to data management and security.<sup>256</sup> In that time, based on a strategic assessment of the business needs for a range of data-associated functions that the Secretariat is responsible for in supporting the work of the Commission and its subsidiary bodies, a range of electronic and web-based systems have been developed and deployed. The Secretariat retains the services of the company on contract to provide on-going system refinement and maintenance. The strategic approach that has been employed, and the phased implementation, has proven effective with a significant improvement in the Secretariat's data administration capacity since 2017.

##### *4.2.8.1. Review Panel's findings relating to the Secretariat's support for data management*

180. The Panel commends the Commission for supporting the development of data management services at the Secretariat and the Secretariat for its effective implementation.
181. Subject to the approval of the Commission, and the allocation of adequate supporting resources, planned future work also appears to be appropriate and well-formulated. Continued support from the Commission for this work is recommended.

#### *4.2.9. Future opportunities to improve data quality<sup>257</sup>*

182. The Review Panel notes that there are numerous opportunities for NPFC to broaden and strengthen the use of e-reporting to improve both the timeliness and quality of data submission to the Commission. Some of these opportunities have already received early consideration in the Commission, SC or TCC. They include the items set out in the following sub-sections.

##### *4.2.9.1. Transshipment and port State measures*

183. Summary transshipment data is currently primarily collected through the Annual Reports. The Secretariat's on-line system enables Members to submit transshipment details at any time throughout the year. Any data submitted in such a manner is collated into the electronic Annual Report which is available for final submission by Members each January. The on-line facility is reportedly currently under-utilized by Members.

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<sup>255</sup> 80Options based in Hobart, Tasmania, Australia.

<sup>256</sup> For example, see COM03 Final Report, para 38; COM04 Final Report, para 34; COM05 Final Report, para 39, and COM06 Final Report, para 53.

<sup>257</sup> Informed by discussions with Tony Miller, 80Options (NPFC data services and website administration provider), April 2022.

184. Data collected on transhipments does not currently include all the fields outlined in CMM 2016-03 that vessels are required to provide to their flag State. A future revision of CMM 2016-03 could address this deficiency to make the provision of all transhipment data mandatory to NPFC. It is possible for that data to be directly supplied from the vessels to the Secretariat similar to models that are implemented in other RFMOs and as offered by Panama at COM05 (para. 13).
185. The existing interim Measure on transhipment will likely be subject to review and there is a possibility that the Commission will consider a CMM for port State measures soon. Both offer opportunities for standardizing data reporting formats which would facilitate more timely reporting, strengthen data validation routines and broaden analytical possibilities.

#### *4.2.9.2. Annual Reports*

186. The electronic Annual Report facility is also currently an underutilized feature with a number of Members continuing to submit their reports by emailing PDF attachments. There is potential to improve this requirement by revising the Annual Report templates to provide for more quantitative responses in standardized formats. This would facilitate full migration to e-reporting which will result in significant efficiency gains in relation to both the timeliness of the submission of Reports and the quality of information submitted through automated validation routines.

#### *4.2.9.3. VMS*

187. The VMS offers opportunities for undertaking analysis of the VMS data e.g. identifying vessels not reporting positions, potential transhipment detection and improved assessment of fishing effort. For example, if transhipment latitude and longitude data was collected, transhipment reports could be verified against VMS data.

#### *4.2.9.4. The Exploratory Fisheries Protocol*

188. The Exploratory Fishery Protocol (CMM 2021-05 and 2021-06, Annex 1) offers potential for converting to an online standardized format which would then provide opportunities for cross-referencing against vessels reporting from the restricted seamounts.

#### *4.2.9.5. The IUU Vessel List*

189. The electronic system for submitting proposed IUU listings is in early stages of implementation. As experience with the process increases there may be opportunities for improvement. In addition, RFMOs have been discussing the possibility of sharing IUU lists for many years. NPFC's IUU list is already available via an application programming interface (API) so could quite easily be read programmatically by other RFMOs. This capability has broader application, subject to the approval of the Commission, for [iuu-vessels.org](http://iuu-vessels.org) and GFW related initiatives.

#### *4.2.9.6. Scientific Observer Program*

190. The data collected by observers through the bottom fisheries Scientific Observer Program is well defined. A common system for recording and reporting this information could be developed for use by Members, or directly by observers.<sup>258</sup> This would enable observer generated data to flow through to the NPFC data warehouse to facilitate analysis combined with other data, e.g. VMS.

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<sup>258</sup> In 2019, the Secretariat provided SSC PS4 with a paper providing a template for scientific data to be collected by Observers for discussion (NPFC-2019-SSC-PS4-WP2).

### 4.3. Capacity management

191. There is one reference specific to fishing capacity in the Convention. This is included as a general principle which provides that Members, collectively or individually, will prevent or eliminate overfishing and excess fishing capacity. Members will ensure that levels of fishing effort or harvest levels are based on the best scientific information available and do not exceed those commensurate with the sustainable use of the fisheries resources.<sup>259</sup>
192. To achieve this, the functions of the Commission include requirements to adopt CMMs that specify levels for total allowable catch or total allowable fishing effort ensuring that limits are based on the best scientific information available, and the advice of the SC.<sup>260</sup>

#### 4.3.1. Pelagic fishery resources

193. The provisions of Article 3 relating to capacity management in the decisions of the Commission were first drawn upon at COM02 in 2016. At that session the Commission revised its Pacific saury CMM adopted in 2015,<sup>261</sup> to i) acknowledge the provisions of the preambular paragraphs of the Convention in relation to capacity management, and ii) to separate the capacity management provisions of 2015-02 into those applying to the Convention Area and those applying to areas under national jurisdiction.<sup>262</sup> The Measure required Members to refrain from rapid expansion of the numbers of their fishing vessels fishing for Pacific saury to the levels existing at that time.
194. COM02 also adopted a CMM for Chub mackerel that included obligations for both Members and CNCPs. Rather than calling for constraints on “rapid expansion” as provided for in the Pacific saury Measure, the Chub mackerel Measure encouraged Members and CNCPs to refrain from “expansion” of the number of vessels authorised to fish from the “historical existing level” rather than the “existing level” as in the Pacific saury measure. The CMM requested Members participating in Chub mackerel fisheries in areas under national jurisdiction to take compatible measures.<sup>263</sup>
195. The Pacific saury Measure was revised at COM03 in 2017 to require Members fishing in the Convention Area to refrain from expanding the number of vessels authorised to fish for Pacific saury from the “historical existing level”.<sup>264</sup> Within areas under national jurisdiction, Members were to refrain from “rapid expansion” of the number of vessels authorised from the “historical existing level”.<sup>265</sup> Members fishing for Pacific saury in areas under national jurisdiction adjacent to the Convention Area were requested to take compatible measures.<sup>266</sup>

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<sup>259</sup> Convention, Article 3(f).

<sup>260</sup> Convention, Article 7 (a) and (b).

<sup>261</sup> CMM 2015-02 encourages Members to refrain from rapid expansion, in the Convention area, of the number of fishing vessels entitled to fly their flags and authorized to fish for Pacific saury from the existing level until the stock assessment by the SC and SC.

<sup>262</sup> COM02 Final Report, Annex O; CMM 2016-02 Pacific saury, paras 1 and 2. Note, the correct paragraph reference is 4, not 6, a cross referencing error in both CMM 2015-02 and CMM 2016-02

<sup>263</sup> CMM 2016-07, paras 1 and 2.

<sup>264</sup> CMM 2017-08, para 1.

<sup>265</sup> CMM 2017-08, para 2.

<sup>266</sup> CMM 2017-08, para 3.

#### 4.3.2. Bottom fisheries

196. At COM02, in discussion on conservation and management arrangements for bottom fisheries, and on the advice of the SC01<sup>267</sup>, Members agreed to, *inter alia*, “Limit fishing effort in bottom fisheries on the western part of the Convention Area to the level agreed in February 2007 in terms of the number of fishing vessels and other parameters which reflect the level of fishing effort, fishing capacity or potential impacts on marine ecosystems”.<sup>268</sup>
197. The “2007 level” was provided for in interim measures adopted at the 2<sup>nd</sup> Intergovernmental Meeting in February 2007 which included the “Establishment of new mechanisms for protection of VMEs and sustainable management of high seas bottom fisheries in the Northwestern Pacific Ocean”.<sup>269</sup> The Interim Measures set out two objectives: the sustainable management of fish stocks and the protection of VMEs. Among other provisions contained in the interim measures, participants agreed to limit fishing effort to the existing level and not to expand bottom fisheries into new areas while working on a long-term agreement to achieve the identified objectives.
198. Two proposals were tabled to TCC01 in 2016 by the NPFC Corresponding Group based on the Interim Measures. One was a draft proposal for a CMM for bottom fisheries in the Northwest Pacific Ocean and the other was a draft CMM for the protection of VMEs in the North-eastern Pacific Ocean<sup>270</sup>. TCC01 recommended that the Commission consider adoption of the CMMs on bottom fisheries and on VME protection<sup>271</sup>. Subsequently, COM02 in 2016 formally adopted two CMMs. One concerned the management of bottom fisheries and the protection of VMEs in the Northwestern Pacific Ocean<sup>272</sup>. The second concerned bottom fisheries and the protection of VMEs in the North-eastern Pacific Ocean.<sup>273</sup> Both CMMs provide for the limitation of fishing effort in the Convention Area.
199. CMM 2016-05 requires Members to limit fishing effort in bottom fisheries on the western part of the Convention Area to the level agreed in February 2007 in terms of the number of fishing vessels and other parameters which reflect the level of fishing effort, fishing capacity or potential impacts on marine ecosystems. It also provides that bottom fisheries do not expand into the western part of the Convention Area where no such fishing is currently occurring.<sup>274</sup>
200. CMM 2016-06 provides that the limit will be based on the historical average applying a baseline determined by the SC in terms of “the number of fishing vessels and other parameters which reflect the level of fishing effort, fishing capacity or potential impacts on marine ecosystems dependent on new SC advice”.<sup>275</sup>
201. The “Exploratory Fishery Protocol in the North Pacific Ocean” attached to both Measures, provides *inter alia* that, precautionary CMMs, including catch and effort controls, are essential during the exploratory phase of deep-sea fisheries and, further, that implementation of the

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<sup>267</sup> COM02 Final Report, para 13.

<sup>268</sup> COM02 Final Report, Annex P - CMM 2016-05, para 4A.

<sup>269</sup> 2<sup>nd</sup> Inter-governmental Meeting Summary Report, Attachment 6.

<sup>270</sup> NPFC-2016-TCC1-WP08 Rev.2a and 2b respectively.

<sup>271</sup> TCC01 Final Report, para 27.

<sup>272</sup> CMM 2016-05.

<sup>273</sup> CMM 2016-06.

<sup>274</sup> CMM 2016-05, para 4A and 4B.

<sup>275</sup> COM02 Final Report, Annex Q - CMM 2016-06, para 3(i).

Measures requires comprehensive monitoring of all fishing effort.<sup>276</sup> Related annexes specifying data requirements including the obligation to report on effort.<sup>277</sup> These annexes have been maintained unchanged in relation to these specific reporting requirements in subsequent revisions of the two bottom fishery Measures through to the current Measures.<sup>278</sup>

202. COM03 revised the two bottom fishing Measures at its session in 2017. There was no change to the provisions of para 4A of CMM 2016-05 in relation to the management of fishing capacity in the Northwest Pacific Ocean.<sup>279</sup> However, paragraph 3(i) of CMM 2016-06 was revised to provide that information in relation to historic levels of fishing capacity would be “based on information provided by Members in terms of number of fishing vessels or other parameters...”.<sup>280</sup> “Other parameters” were not specified. COM03 also revised the Pacific saury Measure to, among other refinements, include reference to the General Principles of Article 3 of the Convention relating to capacity management in its preamble.<sup>281</sup>
203. At the fourth, fifth and sixth sessions of the Commission, the fishing capacity-related provisions of the two bottom fishing Measures, the Pacific saury and Chub mackerel Measures remained unchanged.<sup>282</sup>

#### *4.3.3. Other fishery resources*

204. At COM05 in 2019, Members adopted a new Measure for Sablefish.<sup>283</sup> The preambular paragraphs acknowledge the provisions of Article 3 of the Convention (particularly Article 3 (b) and (f)) on capacity management. CMM 2019-10 restricts the current harvest of Sablefish in the eastern part of the Convention Area from expanding beyond the “existing historical level”.<sup>284</sup> The Measure also constrains Members with historical, but no current, harvest of Sablefish in the eastern part of the Convention Area, from expanding their fishery subject to relevant provisions of the Convention. Any development of new fishing activity is to be determined in accordance with *inter alia*, provisions of the Convention and, if in areas of national jurisdiction adjacent to the eastern part of the Convention Area, in accordance with the Exploratory Fishing Protocol attached to the bottom fishing and the protection of VMEs CMMs.<sup>285</sup> The CMM remained in place through 2021.

#### *4.3.4. Measures and management of capacity*

205. The Review Panel notes that the issue of measuring fishing capacity has received consideration in the TCC and the SC for some time. In 2018, TCC recommended the Commission develop better indicators of fishing effort.<sup>286</sup> In relation to this, Japan expressed concern over the fishing effort for Pacific saury and Chub mackerel and suggested the need to understand the number of vessels authorized to fish these species, and to revise CMM 2017-07 and CMM 2017-08 to require

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<sup>276</sup> CMM 2016-05, Annex I and CMM 2016-06, Annex I.

<sup>277</sup> CMM 2016-05, Annexes 2 and 5 and CMM 2016-06, Annexes 2 and 5.

<sup>278</sup> CMM 2021-05 and CMM 2021-06.

<sup>279</sup> COM03 Final Report, Annex K.

<sup>280</sup> COM03 Final Report, Annex L.

<sup>281</sup> COM03 Final Report, Annex O.

<sup>282</sup> Except para 2 of CMM 2018-08 which was made explicit to Japan and Russia (COM04 Final Report, Annex M).

<sup>283</sup> CMM 2019-10.

<sup>284</sup> CMM 2019-10, para 2.

<sup>285</sup> CMM 2019-06 and CMM 2019-05, Annex 1; CMM 2019-10, para 2-5.

<sup>286</sup> TCC03 Final Report, para 8.

Members to report this information.<sup>287</sup> Subsequently, at COM04 that year, the Commission extended CMM 2017-08 for Pacific saury with revisions to incorporate effort controls, measures to prevent the discard of catch, and measures to protect juvenile fish.<sup>288</sup>

206. The SC has also provided advice to the Commission, based on the work undertaken by the SSC TWG PSSA, that further management measures for avoiding increasing trends in the exploitation rate of Pacific saury and to sustain biomass, are required.<sup>289</sup>
207. The SC04 in 2019 discussed the need to report data for measuring effort and analysing trends in effort noting various factors that impact on the capacity to report such data including, for some species, the multi-gear nature of some fisheries which operate both within EEZs and in the Convention Area.<sup>290</sup>
208. Also in 2019, the Secretariat provided an update on the work to address fishing effort indicators by the SWG on Vessel Registry (SWG VR) to TCC04.<sup>291</sup> The Committee noted that the number of active vessels may be a better indicator of effort than the number of authorized vessels, which was the measure in CMM 2017-07 for Chub mackerel and CMM 2017-08 for Pacific saury. TCC04 recommended that the Commission “task TCC, working with SC, to develop advice on effort indicators, including for CMMs 2017-07 and 2017-08, that would effectively control fishing effort”.<sup>292</sup>
209. Detailed catch and effort (number of vessels) information can be found in the annual summary footprints for each of the NPFC priority fisheries on the Members’ page of NPFC website.<sup>293</sup> The Review Panel notes that, for the period to 2017, Members complied with the provisions of the Pacific saury and Chub mackerel Measures (CMM 2017-07 and CMM 2017-08 respectively) to not extend their fishing effort in terms of numbers of authorized vessels. However, in terms of the number of active vessels and days fished, fishing days varied from year to year. For example, one Member almost doubled the number of active fishing vessels in the Chub mackerel fishery in its EEZ between 2017 and 2018. This is not consistent with the provisions of CMM 2018-07 (paragraph 3). As noted at TCC04, the current definition of ‘effort’ based only on the number of authorized fishing vessels, or number of active vessels, are not efficient means to assess and monitor fishing mortality and the impact of fishing on stocks. This remains an issue for the TCC, SC and Commission to address. (See also Section 4.2.5).

#### *4.3.5. New entrants – capacity issues*

210. In 2019 the EU sought to apply for accession to the NPFC Convention.<sup>294</sup> The Commission tasked the SC, the TCC, and any of their relevant subsidiary bodies to review the application provided by the EU.<sup>295</sup> SC05 the following year noted that the EU’s Fisheries Operation Plan included plans to fish for Chub mackerel and other NPFC priority species. The SC noted that the current CMM for

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<sup>287</sup> TCC03 Final Report, para 11.

<sup>288</sup> COM04 Final Report, paras 27-29 and Annex M.

<sup>289</sup> SC04 Final Report, para 23.

<sup>290</sup> SC04 Final Report, paras 34-35 and 67.

<sup>291</sup> TCC04 Final Report, paras 16-17.

<sup>292</sup> TCC04 Final Report, para 18.

<sup>293</sup> <https://www.npfc.int/statistics>

<sup>294</sup> COM05 Final Report, para. 6.

<sup>295</sup> COM05 Final Report, paras 6-10).

Chub mackerel, CMM 2019-07, as well as CMMs for most NPFC priority species, are effort-based rather than catch-based, and that the EU's accession to the NPFC could result in increased fishing effort for these species. The SC suggested that catch-based measures may be more effective for ensuring the long-term sustainability of Chub mackerel and other priority species but recognized that it had not made enough progress in its stock assessment work to provide advice on such measures.<sup>296</sup>

211. At COM05 Russia initially objected to EU's accession and provided a statement, which, among other matters, referred to concerns relating to overfishing and the sustainability of NPFC fishery resources and the EU's proposal to introduce additional fishing capacity to the Chub mackerel fishery.<sup>297</sup> Subsequently, the First Special Meeting of the SC in 2021 noted that total effort in the Pacific saury fishery had steadily increased from 1995 to 2019 and that the number of active vessels in 2019 was the highest on record.<sup>298</sup> At the following Commission session in 2021, additional Members expressed concern at the size and capacity of the vessel proposed by the EU for fishing Chub mackerel.<sup>299</sup> Nevertheless Members invited the EU to accede to the NPFC Convention by consensus.<sup>300</sup>

#### *4.3.6. Review Panel's findings relating to capacity management*

212. In relation to pelagic fisheries, the "existing level" nor "historical existing level" in respect of either the CMM for Pacific saury or Chub mackerel, have not been elaborated. For Chub mackerel this provision was carried forward in each annual revision to the current version of the Measure, CMM 2019-07. Subsequently, by simply changing the species referred to, the same two paragraphs were replicated in CMM 2019-11 for Japanese sardine and Japanese flying squid. CMM 2019-11 was revised at the annual session of the Commission in 2020 to include Neon flying squid so that the same general provision referencing capacity applies to five species across three NPFC Measures.<sup>301</sup>
213. The Review Panel is concerned that the Commission's understanding of the "historic" or "existing" levels of fishing capacity for all fisheries harvesting NPFC fishery resources has not been clarified. It supports the advice provided by TCC04 in 2018 that the Commission "task TCC, working with SC, to develop advice on effort indicators."<sup>302</sup>
214. The Panel was also unable to verify how measures for NPFC fishery resources in areas under national jurisdiction are assessed for compatibility and efficacy.
215. Regarding bottom fisheries, there is no record to determine if the level provided for in interim measures adopted at the 2<sup>nd</sup> Intergovernmental Meeting in February 2007 was ever described and formally agreed. The Review Panel was unable to determine if the SC had reached consensus on the fishing effort baseline for the North-eastern Pacific Ocean or if the Commission had ever agreed to the limitation of effort for bottom fisheries in the Northwestern Pacific Ocean based on

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<sup>296</sup> SC05 Final Report, paras 22, 23 and 67(f).

<sup>297</sup> COM05, Final Report, para 12 and Annex E.

<sup>298</sup> SC-Special Final Report, para 11 and Annex D.

<sup>299</sup> COM06 Final Report, para 9.

<sup>300</sup> COM06 Final Report, paras 6-8. The latest EU Fisheries Operation Plan is contained in NPFC-2021-TCC05-OP1.

<sup>301</sup> COM06 Final Report, paras 47-48, Annex R - CMM 2020-11.

<sup>302</sup> TCC04 Final Report, para 18.



either i) the “level agreed in 2007” or ii) “other parameters which reflect the level of fishing effort, fishing capacity or potential impacts on marine ecosystems”. While “existing level” was apparently not defined, footprint data and information, in terms of the number of active vessels and the number of fishing operations (tows), have been provided to the SC, to facilitate the SC’s assessment if the “level” had been exceeded.

216. The level of fishing mortality associated with IUU fishing on all NPFC fishery resources is unknown. IUU fishing has the potential to significantly impact capacity management in NPFC fisheries adversely impacting on the sustainability of target stocks and compromising efforts to implement an ecosystem approach to management of NPFC fishery resources. This issue has been raised in Section 4.2 and is also an issue that will be covered further in Section 5.2.

#### *4.3.7. The Review Panel’s recommendations on capacity management*

Recommendation 4.3.1. That the Commission prioritize the development of Terms of Reference to contract appropriate technical expertise to assist with developing advice on effort indicators for fishing capacity for all fisheries harvesting NPFC fishery resources.

### **4.4. Fishing allocations and opportunities**

217. The functions of the Commission set out in Article 7, include to “determine the nature and extent of participation in existing fisheries, including through the allocation of fishing opportunities”;<sup>303</sup> establish by consensus the terms and conditions for any new fisheries in the Convention Area and the nature and extent of participation in such fisheries”;<sup>304</sup> and agree on the “means by which the fishing interests of new Contracting Parties may be accommodated in a manner consistent with the need to ensure the long-term sustainability of the fisheries resources”.<sup>305</sup> This is consistent with Article 3(h) of the Convention that any expansion of fishing effort or the development of new or exploratory fisheries is not to proceed without prior assessment of the impacts of those fishing activities on the long-term sustainability of fisheries resources.
218. The Commission has considered the allocation of fishing opportunities among existing Members or new interests through the CMMs for certain priority species, such as Pacific saury and Sablefish, and through its response to potential new entrants. However, there are currently no allocation criteria specified in either the Convention or in CMMs. Decisions are therefore taken on *an ad hoc* basis. These issues have become more pressing in recent years as it has become evident that recent fishing mortality is unsustainable for most priority fishery resources and new entrants (the European Union) have recently acceded to the NPFC Convention.

#### *4.4.1. Pacific saury*

219. At COM04 in 2018, the Commission adopted a provisional Measure for Pacific saury that provided that, until the Commission decided on the allocation of the TAC, each Member of the Commission shall ensure that the total catch of Pacific saury by its flag fishing vessels in 2020 will not exceed its reported catch in 2018 with the expectation that the total catch in the Convention Area will not

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<sup>303</sup> Convention, Article 7(f).

<sup>304</sup> Convention, Article 7(g).

<sup>305</sup> Convention, Article 7(h).

exceed 330,000 metric tons.<sup>306</sup> Members fishing for Pacific saury in areas under their jurisdiction adjacent to the Convention Area were able to divert part of their catch limit for areas under their jurisdiction to the catch by their flag vessels of Pacific saury in the Convention Area.<sup>307</sup> These provisions were to be subject to review and revision, as appropriate, based on the advice and recommendations from the SC.<sup>308</sup>

220. While it was envisaged that Members would consider the allocation of the TAC in the Convention Area in 2020,<sup>309</sup> this did not occur. In view of the stock situation for Pacific saury, the Commission agreed in 2021 to a reduction in catch of Pacific saury by 40% from a Member's 2018 reported catch.<sup>310</sup> Members also confirmed their commitment to advance an MSE process for Pacific saury, given the urgent need for effective management of the stock.<sup>311</sup> A joint SC-TCC-COM Small Working Group (SWG-MSE-PS) was established in 2021 to work towards establishing HCR for Pacific saury as an interim measure as soon as possible and to consider the establishment of a MP through a MSE process.<sup>312</sup>
221. Although the decision of COM06 to reduce the catch of Pacific saury by 40% was encouraging, the challenges ahead for NPFC in relation to allocation and the sharing of fishing opportunities are highlighted by i) the relatively early stages of discussions on establishing a MP including an MSE for Pacific saury, ii) the fact that allocation has not yet been taken up in that discussion, and iii) that other priority species require similar attention.
222. The SWG-MSE-PS held its first meeting in 2022, building on the work started at a "NPFC BCP/HCR/MSE Workshop" in 2019. The SWG-MSE-PS was advised that the current annual TAC for 2021-2022 specified in CMM 2021-08 for Pacific saury (333,750 tons) is greater than a TAC based on the  $F_{MSY}$  ( $B_{2021} * F_{MSY} = 192,804$  tons) and that the current biomass is lower than  $B_{MSY}$ . In the short term, a HCR that reduces the fishing mortality as biomass falls may increase the probability of achieving long-term sustainable use of Pacific saury (i.e. higher long-term catch closer to MSY of around 419,000 tons).<sup>313</sup> The SWG-MSE-PS agreed to conduct intersessional technical work on developing a concrete proposal for reference points and management objectives and developing and evaluating HCRs as a short-term task.<sup>314</sup> Although the SWG-MSE-PS is proceeding, it is still at the early stages of its work. Longer-term, the development of a MP process may facilitate agreement on allocation consistent with the longer-term sustainability of the fisheries resources.

#### *4.4.2. Other priority fisheries*

223. The Commission has approached the allocation of fishing opportunities in some other priority species through a stand-still mechanism. For example, in the case of Sablefish, Members adopted a CMM in 2019 which restricts the current harvest of Sablefish in the eastern part of the

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<sup>306</sup> CMM 2018-07, para 7.

<sup>307</sup> CMM 2018-07, para 9.

<sup>308</sup> CMM 2018-07, para 10.

<sup>309</sup> CMM 2019-08, para 6.

<sup>310</sup> COM06 Final Report, paras 49-51, CMM 2021-08, paras 6-10.

<sup>311</sup> COM06 Final Report, para 52.

<sup>312</sup> CMM 2021-08, para 15.

<sup>313</sup> SWG-MSE-PS-1, para 15.

<sup>314</sup> SWG-MSE-PS-1, para 29, 35 and Annex D.

Convention Area from expanding beyond the “existing historical level”.<sup>315</sup> Members with historical, but no current, harvest of Sablefish in the eastern part of the Convention Area, are constrained from expanding their fishery.<sup>316</sup> Any development of new fishing activity is to be determined in accordance with the Convention and, if in areas of national jurisdiction adjacent to the eastern part of the Convention Area, in accordance with the Exploratory Fishing Protocol attached to the CMM.<sup>317</sup> In the case of Chub mackerel, Members are required to refrain from expansion of their flag fishing vessels authorized to fish for Chub mackerel in the Convention Area from the historical existing level until the stock assessment by the SC has been completed.<sup>318</sup> Other Members without substantial harvest of Chub mackerel in the Convention Area are encouraged to refrain from expansion.<sup>319</sup>

#### *4.4.3. New entrants – fishing opportunities*

224. At COM06 in 2021, following review of the EU’s updated Fisheries Operation Plan by the SC and TCC, Members invited the EU to accede to the NPFC Convention by consensus.<sup>320</sup> Nevertheless, some Members remained apprehensive regarding the EU’s Plan, including the size and capacity of the proposed EU trawler, the potential impact of the EU’s proposed fishing activities on the Chub mackerel stock, and potentially on other pelagic species, and the proposed area of fishing operations. Japan, support by China, proposed attaching conditions to the EU Fishing Operations, including with respect to the catch limit for Chub mackerel.<sup>321</sup> The EU’s Fisheries Operation Plan is still under consideration by the SC and TCC.<sup>322</sup>

#### *4.4.4. Review Panel’s findings*

225. The Review Panel notes that NPFC identified priority species for management and stock assessments and that, since the entry into force of the Convention, NPFC’s capacity and resources have been fully extended establishing the parameters for the sustainability of the priority fishery resources. The Review Panel was also aware that establishing agreements among NPFC Members on a TAC for Pacific saury and its allocation has been challenging and expects similar challenges for other priority species.
226. Although it is commendable that the Commission invited the EU to become a Contracting Party to the NPFC, the discussion within the Commission highlights the tension between the desirability of inviting new entrants to join a RFMO, and concerns over the impact of any resulting fishing activities on the sustainability target fishery resources.
227. Similar discussions are likely to occur in future in considering the development aspirations of small island developing States. (See also Section 7.4). In response to a proposal tabled by Vanuatu at COM06,<sup>323</sup> the Commission is to consider the development aspirations of small island developing

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<sup>315</sup> CMM 2019-10, para 2.

<sup>316</sup> CMM 2019-10, para 3.

<sup>317</sup> CMM 2019-10, paras 4 and 5 and Annex 1.

<sup>318</sup> CMM 2019-07, para 1.

<sup>319</sup> CMM 2019-07, para 2.

<sup>320</sup> COM06 Final Report, paras 6-8. The latest EU Fisheries Operation Plan is contained in NPFC-2021-TCC05-OP1.

<sup>321</sup> COM06 Final Report, para 10, Annex D.

<sup>322</sup> COM06 Final Report, para 9.

<sup>323</sup> COM06 Final Report, para. 49.

States in revising the Pacific saury Measure.<sup>324</sup> The process and timeline for this to occur was not elaborated but this will introduce additional factors into NPFC negotiations on allocation and fishing opportunities.

228. Future consideration of fishing opportunities in the Commission is likely to continue to be challenging while there remain no criteria for the allocation of fishing opportunities and there is no MP that could assist both with promoting the long-term sustainability of fisheries resources and with the allocation of fishing opportunities.

#### 4.4.5. *The Review Panel's recommendations*

Recommendation 4.4.1. An agreed process for the allocation of fishing opportunities should be a long-term goal of the Commission.

### 4.5. Ecosystem approach to fisheries

#### 4.5.1. *Background*

229. One of the principal drivers for the establishment of international arrangements for cooperation on the conservation and management of the fisheries resources of the North Pacific Ocean in 2005 was the motivation for States responsible for fisheries operations in the region to avoid inconsistencies with the provisions of UNGA Resolutions relating to bottom fishing and the protection of VMEs, particularly Resolution 61/105.<sup>325</sup> In response, States participating in discussions that would eventually lead to the establishment of the NPFC considered the identification of VME indicator species and the assessment of SAI associated with bottom fisheries operating in the North Pacific Ocean as early as 2008 when the Interim Secretariat tabled draft standards and criteria to identify VMEs and to assess SAIs on VMEs and marine species to the fourth meeting of the SWG.<sup>326</sup> At the same session, Russia presented three working papers<sup>327</sup> on the likelihood of impacts on species associated with bottom trawl fisheries, including broad alfonsin, pencil cardinalfish, and dories<sup>328</sup>, net hang ups and net loss<sup>329</sup> and data on the locations of incidental coral captures.<sup>330</sup> SWG04 agreed that four Orders would be included in the list of corals for protection, to be reviewed and amended as necessary: Alcyonacea, Gorgonacea, Antipatharia, and Scleractinia. SWG04 also considered issues such as protocols for exploratory and new fisheries and the definition of an encounter with a VME.
230. On the advice provided through the SWG04, the Fifth Intergovernmental Meeting in December 2008 adopted “New Mechanisms for the Protection of VMEs and Sustainable Management of

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<sup>324</sup> CMM-2021-08, para. 17.

<sup>325</sup> UNGA Resolution 61/105. “Sustainable fisheries, including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related instruments”.

<sup>326</sup> 4<sup>th</sup> Scientific Working Group Meeting, SWG4/WP6.

<sup>327</sup> 4<sup>th</sup> Scientific Working Group Meeting, SWG4/WP 16, 17 and 18.

<sup>328</sup> Other bycatch in North Pacific bottom fishing operations reported to the Scientific Committee include: Oreo (*Allocyttus verrucosus*), Butterfish (*Hyperoglyphe japonica*), Mirror dory (*Zenopsis nebulosa*) and Rockfish (*Sebastidae spp.*) (SSC NPA2 Summary Report, 2017).

<sup>329</sup> 4<sup>th</sup> Scientific Working Group Meeting, SWG4/WP20.

<sup>330</sup> 4<sup>th</sup> Scientific Working Group Meeting, SWG4/WP19.

High Seas Bottom Fisheries in the Northwestern Pacific Ocean”<sup>331</sup>, “Draft Standards for an Observer Program” (for bottom fisheries)<sup>332</sup>, the SWG’s “Review of Procedures for the Bottom Fishing Activities”<sup>333</sup> and “Science-based standards and criteria for identification of VMEs and assessment of SAI on VMEs and marine species”.<sup>334</sup>

231. A proposed field guide for the identification of deep-water corals submitted by the United States<sup>335</sup> and Japan’s assessment and proposed interim measures for its bottom trawl fishery<sup>336</sup>, and bottom gillnet fishery<sup>337</sup>, taking account of associated and dependent species, and the need to protect VMEs, were discussed at SWG05. The United States also presented its assessment of information relating Southern Emperor and Northern Hawaiian Ridge (SE-NHR) fisheries, their impacts on target, associated and dependent species, and on benthic habitats.<sup>338</sup>
232. At the Sixth Intergovernmental Meeting, an “Exploratory Fishery Protocol”, forwarded by the SWG06, and the consequential changes to the “New Mechanism for Protection of VMEs and Sustainable Management of High Seas Bottom Fisheries in the Northwestern Pacific Ocean (Interim Measures)” were adopted. The Meeting was unable to finalize a “VME Encounter Protocol” forwarded by SWG06 because of disagreement over the threshold for triggering the protocol, in terms of quantity of indicator species, and proposals to close areas of seamounts (Colahan, C-H and Koko).
233. SWG07 in 2009 focused on new footprint data for bottom fishing operations, data sharing and future collaboration on an assessment of North Pacific armorhead, the definition of an encounter with VMEs (continued without resolution at SWG08 in 2010) and the possible extension of the “Interim Measures” to the entire North Pacific. Other than discussion on the extension of the “Interim Measures” to the entire North Pacific (other than FAO Area 61), “Interim Measures” did not receive substantive discussion in subsequent Intergovernmental Meetings in 2009 nor 2010.
234. The 10<sup>th</sup> Intergovernmental Meeting met in 2011 and adopted revised “New Interim Measures for the Protection of VMEs in the Northeast Pacific Ocean” and agreed on a definition of VMEs for the purposes of the “Interim Measures in the Northeast and Northwest Pacific” including the “Exploratory Fishery Protocol”. SWG09 considered VME encounter definitions and protocols and estimated catch rates for species of coral associated with the four Orders agreed at SWG04. SWG10 considered the outcomes of work undertaken by the Intersessional Working Group created to develop encounter protocols on VMEs in the Convention Area at the 10<sup>th</sup> Intergovernmental Meeting which highlighted i) the limited data that had been provided by participants, and ii) a lack of consensus among participants on next steps.
235. SWG11 continued discussion on the development of VME encounter protocols and considered the summary report from the SWG on science priorities for NPFC,<sup>339</sup> which had been developed during the Fourth Session of the Preparatory Conference. SWG11 agreed that it would focus on

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<sup>331</sup> 4<sup>th</sup> Scientific Working Group Meeting, SWG4/NWPBF5/WP15/Rev3.

<sup>332</sup> 4<sup>th</sup> Scientific Working Group Meeting, SWG4/WP10/Rev.

<sup>333</sup> 4<sup>th</sup> Scientific Working Group Meeting, SWG4/WP11/Rev.

<sup>334</sup> 4<sup>th</sup> Scientific Working Group Meeting, SWG4/NWPBF5/WP6/Rev.2.

<sup>335</sup> 5<sup>th</sup> Scientific Working Group Meeting, December 2008.

<sup>336</sup> 5<sup>th</sup> Scientific Working Group Meeting, SWG5/WP7/J1.

<sup>337</sup> 5<sup>th</sup> Scientific Working Group Meeting, SWG5/WP7/J2.

<sup>338</sup> 5<sup>th</sup> Scientific Working Group Meeting, SWG5/WP7/US.

<sup>339</sup> 11<sup>th</sup> Scientific Working Group Meeting, SWG11/WP6.

the four previously identified priority species (North Pacific armorhead, Splendid alfonsino, Pacific saury and squid) and that fisheries data should be submitted in accordance with the annual report format developed for the NPFC at the Third Session of the Preparatory Conference. The SWG agreed that data should be provided for all areas relevant to the assessment of a particular stock, including the high seas and waters under national jurisdiction.<sup>340</sup>

236. This background demonstrates that, for almost 10 years prior to the entry into force of the Convention, future NPFC participants were engaged in detailed discussion of a range of complex ecosystem-related issues associated with bottom fisheries operating in the Convention Area. On the other hand, there is little evidence that ecosystem issues associated with pelagic fisheries in the Convention Area was considered during this period.

#### *4.5.2. The ecosystem-related provisions of the Convention*

237. The Convention includes a significant number of obligations and actions associated with North Pacific marine ecosystem. Among other principles and background, the preambular paragraphs of the Convention make numerous references to international legal frameworks such as the UN Fish Stocks Agreement and the outcomes of negotiations in the United Nations (such as Resolutions 61/105, 64/72 and 60/31) relating to safeguarding marine ecosystems. It includes the protection of VMEs and associated species from SAIs of destructive fishing practices and the need to avoid adverse impacts on the marine environment, to preserve biodiversity, to maintain the integrity of marine ecosystems, and to minimize the risk of long-term or irreversible effects of fishing operations.

238. This is reinforced in Article 2 which states that the Objective of the Convention is:

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

239. The Convention provides that the Objective described at Article 2 will be achieved by adopting and implementing measures in accordance with the precautionary approach and an ecosystem approach to fisheries, and in accordance with the relevant rules of international law<sup>341</sup>. Elaborated at Article 3, Parties will take actions that include the assessment of impacts of fishing activities on species belonging to the same ecosystem or dependent upon or associated with the target stocks. Individually or collectively, as appropriate, actions shall include the adoption of CMMs to maintain or restore populations of species above levels at which their reproduction may become seriously threatened<sup>342</sup>, protecting biodiversity in the marine environment<sup>343</sup>, ensuring that any expansion of fishing effort, development of new or exploratory fisheries, or change in the gear used for existing fisheries, does not proceed without appropriate assessment<sup>344</sup>, and minimizing pollution and waste, discards, catch by lost or abandoned gear, and impacts on other species and

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<sup>340</sup> SWG07 Final Report, Item 7.

<sup>341</sup> Convention, Article 3(c).

<sup>342</sup> Convention, Article 3(d).

<sup>343</sup> Convention, Article 3(e).

<sup>344</sup> Convention, Article 3(h).

marine ecosystems through measures including, to the extent practicable, the development and use of selective, environmentally safe, and cost-effective fishing gear and techniques.<sup>345</sup>

240. The functions of the Commission in this regard, detailed at Article 7, provides for the adoption, where necessary, of CMMs for species belonging to the same ecosystem or dependent upon or associated with the target stocks<sup>346</sup> including to prevent SAI on VMEs<sup>347</sup> and management strategies for any fisheries resources and for species belonging to the same ecosystem or dependent upon or associated with the target stocks.<sup>348</sup>
241. In undertaking these functions, the Commission will seek the SC's advice.<sup>349</sup> It will also establish the terms and conditions for any experimental, scientific, and exploratory fishing activities on fisheries resources, VMEs, and species belonging to the same ecosystem or dependent upon or associated with the target stocks.<sup>350</sup> A list of indicator species for VMEs for which directed fishing shall be prohibited will also be maintained.<sup>351</sup>
242. To support the Commission in this endeavour, Article 10 of the Convention provides that the SC will, *inter alia*, assess the impacts of fishing activities on fisheries resources and species belonging to the same ecosystem or dependent upon or associated with the target stocks,<sup>352</sup> including processes and criteria to identify VMEs, where they occur or are likely to occur, and the location of bottom fisheries in relation to these areas or features,<sup>353</sup> establish science-based standards and criteria to determine if bottom fishing activities are likely to produce SAIs on VMEs or associated marine species and make recommendation for measures to avoid such impacts,<sup>354</sup> identify and advise the Commission on additional indicator species for VMEs for which directed fishing shall be prohibited,<sup>355</sup> review any assessments, determinations and management measures and make any necessary recommendations in order to attain the objective of the Convention<sup>356</sup>.
243. Further, Article 13(5) of the Convention requires each Member to prohibit its vessels from engaging in directed fishing on the following Orders: Alcyonacea, Antipatharia, Gorgonacea, and Scleractinia, as well as any other indicator species for VMEs identified by the SC and adopted by the Commission.
244. In addition, the Convention requires the Commission to cooperate with other organizations that have competence in relation to areas adjacent to the Convention Area or in respect of fisheries resources not covered by the Convention, species belonging to the same ecosystem or dependent upon or associated with the target stocks, and that have objectives that are consistent with and supportive of the objective of the NPFC Convention.<sup>357</sup>

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<sup>345</sup> Convention, Article 3(k).

<sup>346</sup> Convention, Article 7(1)(c).

<sup>347</sup> Convention, Article 7(1)(e).

<sup>348</sup> Convention, Article 7(1)(d).

<sup>349</sup> Convention, Article 7, Article 7(3)(c).

<sup>350</sup> Convention, Article 7, Article 7(3)(d).

<sup>351</sup> Convention, Article 7, Article 7(3)(e).

<sup>352</sup> Convention, Article 7, Article 10(4)(d).

<sup>353</sup> Convention, Article 7, Article 10(4)(e).

<sup>354</sup> Convention, Article 7, Article 10(4)(f).

<sup>355</sup> Convention, Article 7, Article 10(4)(g).

<sup>356</sup> Convention, Article 7, Article 10(4)(h).

<sup>357</sup> Convention, Article 21 (2 and 3).

#### 4.5.3. Ecosystem-related considerations since the Commission was established

245. Consistent with the Objective of the Convention concerning the protection of the marine ecosystems of the North Pacific in which fishery resources occur (Article 2), the Commission continued to dedicate significant attention to adverse impacts of bottom fisheries on VMEs once the Convention entered into force in 2015. There was no substantive discussion of ecosystem-related matters at COM01 but the Commission did adopt the consolidated recommendations of the SWG.<sup>358</sup> At COM02, in 2016, the Commission discussed two proposals: A “CMM for Bottom Fisheries in the Northwestern Pacific Ocean”<sup>359</sup> and a “CMM for Protection of VMEs in the North-eastern Pacific Ocean”.<sup>360</sup> Based on the discussion, COM02 adopted CMM 2016-05 “CMM for bottom fisheries and protection of VMEs in the Northwestern Pacific Ocean”<sup>361</sup> and CMM 2016-06 “CMM for bottom fisheries and protection of VMEs in the North-eastern Pacific Ocean”<sup>362</sup>. Both CMM 2016-05 and 2016-06 include the following annexes:
- Annex 1: An “Exploratory Fisheries Protocol” in the North Pacific Ocean which is based on the principal of a precautionary approach and specifies the data and information to be collected in association with new and exploratory fisheries.
  - Annex 2: which describes “Science-based standards and criteria for identification of VMEs and assessment of SAI on VMEs and marine species” including a sub-annex that provides examples of potential VME species groups, communities, and habitats as well as features that potentially support them and a template for reporting VME encounters.
  - Annex 3: which describes the “Scientific Committee’s assessment review procedures for bottom fishing activities”.
  - Annex 4: which provides the format of national report sections on development and implementation of scientific observer programs.
  - Annex 5: which describes “NPFC Bottom Fisheries Observer Program Standards: Scientific Component”. This details the type and format of scientific observer data to be collected. Section G of this Annex details “Data to be collected on Incidental Captures of Protected Species” including details of encounters with marine mammals, seabirds and reptiles.
246. TCC01 in 2016 considered a Technical and Compliance Committee Framework proposed by Canada.<sup>363</sup> The purpose of the Framework was to prioritize the work of the Commission and its subsidiary bodies over the following 5 years.<sup>364</sup> TCC01 endorsed the Framework<sup>365</sup> which was subsequently adopted as part of the TCC Report to COM02.<sup>366</sup>
247. The FAC considered the Secretariat’s work plan for 2017 at COM03. The Plan advised that the Secretariat was expected to support the SC in implementation of its Five-Year Research Plan which, *inter alia*, included “Stock assessments for target fisheries and bycatch species” and an “ecosystems approach to fisheries management”. It also provided for the Secretariat to “assist

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<sup>358</sup> COM01 Final Report, para 7.

<sup>359</sup> NPFC-2016-TCC01-WP08 (Rev 2a).

<sup>360</sup> NPFC-2016-TCC01-WP08 (Rev. 2b).

<sup>361</sup> COM02 Final Report, Annex P.

<sup>362</sup> COM02 Final Report, Annex Q.

<sup>363</sup> NPFC-2016-TCC01-WP03.

<sup>364</sup> TCC01 Final Report, Annex E.

<sup>365</sup> TCC01 Final Report, para 25.

<sup>366</sup> COM02 Final Report, para 17.



Members in standardization of bycatch species list and fish species identification guides”. These provisions have been maintained in the Secretariat’s annual work plan since.<sup>367</sup>

248. SC05 in 2020 endorsed the recommendation of the TWG CMSA that reporting requirements be changed such that Convention Area Chub mackerel fisheries be required to report bycatch of pelagic species (in weight or numbers, by species).<sup>368</sup>
249. TCC05 in 2021 considered a Fisheries Operation Plan that the EU had submitted to the Commission to describe its intentions regarding fishing for Chub Mackerel in the Convention Area should its application to accede to the Convention be successful<sup>369</sup>. At that session of TCC, some Members expressed concern about how to accommodate the EU’s fishing interests with those of existing Members of the NPFC who have historically fished for Chub mackerel in the Convention Area, and with the need to ensure the long-term sustainability of Chub mackerel, as well as in relation to bycatch mitigation of species other than fish<sup>370</sup>.
250. While COM02’s adoption of CMMs for bottom fishing and the protection of VMEs was the culmination of considerable work under the auspices of the SWG over many years, the reference to bycatch in the Framework endorsed by TCC, and adopted by the Commission at its second meeting, was the first formal acknowledgement by the Commission of future work relating to broader ecosystem considerations in pelagic fisheries in the North Pacific Ocean.
251. Although included on the agenda for discussion at TCC02 in 2017, apart from reference to a ‘framework’ associated with VMS, there was no further reference to the TCC Framework in TCC02 or following sessions of TCC. The subject appears to have been superseded by consideration of a TCC work plan. COM03 that year did discuss uncertainty associated with bycatch of Pacific saury in NPFC fisheries, but bycatch of species other than those identified as priority NPFC fishery resources and broader ecosystem considerations, as provided for at Article 2 of the Convention, appears to have received no attention.
252. With respect to the Secretariat’s work plans, while the Secretariat has certainly supported the SC in implementation of its Research Plan concerning stock assessments for target fisheries resources little attention has been applied to the bycatch related provisions of the Secretariat’s work plan.
253. Regarding the proposed Fisheries Operation Plan submitted in association with the EU’s intention to fish for Chub mackerel, the Review Panel was unable to verify that the level of concern expressed in the report of the TCC05 meeting in relation to the EU proposal with respect to bycatch is replicated in the practice that applies to the Chub mackerel fisheries of Members. As far as the Review Panel is aware, no concern has been expressed about bycatch of non-priority species by Members fishing for Chub mackerel.

#### *4.5.3.1. The Review Panel’s findings*

254. The Review Panel concludes that despite the acknowledgement of obligations associated with bycatch and broader ecosystem considerations through the adoption of various plans or

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<sup>367</sup> COM06 Final Report, Annex D.

<sup>368</sup> SC05 Final Report, paras 16 (d) and 64.

<sup>369</sup> NPFC-2021-TCC05-OP01.

<sup>370</sup> TCC05 Final Report, para 12.

frameworks, the Commission, its subsidiary bodies, and the Secretariat have focused their attention on priority fishery resources to date.

255. The Panel assesses that the NPFC has currently insufficient capacity to simultaneously implement plans and strategies relating to bycatch and broader ecosystem considerations and that progress addressing bycatch and broader ecosystem issues in NPFC will remain limited without the allocation of additional institutional resources.

#### 4.5.4. Ecosystem-related provisions of the Scientific Committee's Research Plans

256. The Scientific Committee's three Research Plans (2015-2017, 2017-2021 and 2021-2025) share three priority research areas:

1. Stock assessments for target fisheries and bycatch species
2. Ecosystem approach to fisheries management
3. Data collection, management, and security.

257. The Plans state that, in relation to an ecosystem approach to fisheries management, areas of work will include:

- Formulation of a work plan on how to implement the ecosystem approach to fisheries management in the Convention Area
- Vulnerable Marine Ecosystems
- Ecological interactions among species
- Ecosystem modelling
- The evaluation of impacts of fishing on fisheries resources and their ecosystem components, including bycatch species
- Other issues related to marine ecosystems including marine debris and pollution.

258. Consistent with Article 10 of the Convention, the 2017-2021 and 2021-2025 Research Plans provide, *inter alia*, for the review of existing NPFC standards on VME identification and data collection, including encounter protocols, determination of data requirements and identification of what data may be collected through commercial fishing operations, visual surveys of VMEs and development of a framework to conduct assessments of the impacts of bottom fishing on VMEs. The Research Plans advise that key work for the 2021-2025 period will include the development of combined bycatch taxa list and approval of a fish ID guide for scientific observers in the NW Pacific Ocean. Specific to action items associated with an ecosystem approach to fisheries management, the SC proposes that each year of the Plan will be concerned with understanding the ecological interactions among species and evaluating the impacts of fishing on fisheries resources and their ecosystem components, including bycatch species and discards<sup>371</sup>. SC04 in 2019 agreed to establish a SWG for the development of the combined bycatch taxa list for the Convention Area and the development of the fish identification guide for scientific observers for the North-western Pacific Ocean. The SC included this work in its work plan and its list of scientific projects.<sup>372</sup>

259. The SC Research Plan provides that, between 2021 and 2025, Members will evaluate the impacts of fishing on fisheries resources and their ecosystem components, including bycatch species and

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<sup>371</sup> See discussions on the 2017-2021 Research Plan at SC3 regarding the importance of bycatch issues reported to COM04 (COM04 Final Report, para 32).

<sup>372</sup> SC04 Final Report, paras 13, 17, Annex G and F respectively.

discards. The Plan also provides that data will be collated for bycatch species associated with Blue mackerel, Japanese sardine, Neon flying squid and Japanese flying squid fisheries and that baseline stock assessments of associated bycatch species will be developed.<sup>373</sup>

#### *4.5.5. The Review Panel's findings in relation to ecosystem-related considerations*

260. The Review Panel notes that an ecosystem approach to fisheries in the NPFC context has two distinct applications. One, implemented on entry into force of the Convention as an immediate response to the UNGA Resolutions, concerned bottom fisheries and the protection of VMEs in the North Pacific Ocean. The second concerns ecosystem considerations in pelagic fisheries.
261. In relation to bottom fishing, the Panel compliments the SC and the Commission for the scope and intent provided in the historic and current conservation measures relating to bottom fishing and the protection of VMEs (CMM 2021-05 and 2021-06 and their predecessors). However, the actual implementation of these measures does raise some issues requiring further review.
262. The Review Panel notes that there has never been a report of an encounter retrieving more than 50kg of VME<sup>374</sup>. This suggests that i) there are no VMEs in the areas fished (which is contrary to research and survey reports), and/or ii) that the threshold is too high relative to a low density of VME's, and/or iii) that VMEs are present but the fishing gear does not retain VME encounters for the full retrieval of gear, and/or iv) vessels and/or observers are not complying with reporting obligations. A review of the scientific aspects of the 50kg threshold was suggested at COM04.<sup>375</sup> Without an independent and impartial observer program, in combination with the absence of deterrents to non-compliance,<sup>376</sup> the current VME encounter reporting procedure appears ineffective and potentially undermines the objective of the Measures.
263. The second issue identified by the Review Panel concerns attention to the second part of the Objective of the Convention (Article 2) and the expressed intent for the implementation of the Convention to not only ensure the long-term conservation and sustainable use of the fisheries resources in the Convention Area but that this is to be achieved while protecting the marine ecosystems of the North Pacific Ocean in which these resources occur. In this regard, the assessment of the Review Panel is that ecosystem considerations in NPFC pelagic fisheries have received inadequate attention.
264. The Review Panel considers that the ecosystem-related provisions of the SC's Research Plans are relevant and appropriate. However, in regard to bottom fisheries and VMEs, in the Panel's assessment, there is no detail provided in either the Plan itself, nor in reports of annual meetings of the SC on the status of the Research Plan, which demonstrate that the actions provided for in the Plans are being attended to. Relevant actions reported by the SC are sparse and, apart from new proposals tabled by Canada in 2022 for initial consideration at the next TCC meeting, one related to shark finning<sup>377</sup> and the other concerned with pollution,<sup>378</sup> there is little evidence that

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<sup>373</sup> Refer SC06 Final Report, Annex I.

<sup>374</sup> CMM 2021-05, para G and CMM 2021-06, para 3(j).

<sup>375</sup> Refer to the Report of SC03 to COM04 (COM04 Final Report, para 11).

<sup>376</sup> The Review Panel was unable to collect information relating to reported infringements or prosecutions associated with non-compliance with these measures at the national level.

<sup>377</sup> NPFC-2022-TCC06-WP20.

<sup>378</sup> NPFC-2022-TCC06-WP19.

ecosystem considerations in NPFC fisheries are receiving strategic attention either at the national, or Commission, level.<sup>379</sup>

265. In discussions with NPFC stakeholders regarding this situation, several explained that the NPFC is a relatively small regional fisheries management body, with limited resources, and current efforts are focused on establishing effective conservation and management arrangements for priority fishery resources. In addition, the Review Panel was advised that, as most of NPFC fisheries use fishing gears with relatively high selectivity, bycatch of non-target species is not considered to be a major problem. Nevertheless, as one example, anonymous responses to the Review Panel's questionnaire reported that shark finning by NPFC authorised fishing vessels operating in the Convention Area has been identified by inspection vessels.
266. As the Commission approaches the end of its first decade, the inability to transparently verify the interaction of NPFC fisheries with species belonging to the same ecosystem or dependent upon or associated with the target stocks is not sustainable in the medium term. Nor is it defensible that these issues are sufficiently addressed in RFMOs with contiguous or overlapping areas of competence and therefore no action is required of NPFC. There should be efforts to focus on data collection procedures and obligations so that ecosystem-related interactions in NPFC pelagic fisheries can be characterized and assessed. Additional effort is also required to encourage Members to ensure compatible initiatives are supported and implemented in areas under national jurisdiction, with outcomes reported to the Commission.
267. A third matter concerns the provisions of the two bottom fishing and protection of VME Measures both of which contained significant detail relating to scientific reporting and monitoring procedures. While it is understandable that a variety of initiatives were consolidated in a single Measure in the early years of the Commission, the Review Panel proposes that the Commission consider separating provisions relating to target fishery resources (North Pacific armorhead and Splendid alfonsino) and some of the annexes that remain in the two CMMs and adopt them as either i) standalone CMMs, or ii) as policies or guidelines.
268. Candidate annexes for consideration include the "Exploratory Fishery Protocol", the "Science-based standards and criteria for identification of VMEs and assessment of SAIs on VMEs and marine species" and the "Scientific Observer Program". Successful completion of this exercise would streamline review and refinement in relation to the substantive CMM itself. In addition, in relation to the Scientific Observer Program, it would provide a sound foundation for eventual extension of the observer program to all NPFC fisheries.
269. In response to a proposal from the SSC VME3, SC03 agreed to continue working on, among other tasks, a review of the deep-sea bycatch species and that sponges and hydrocorals be assessed for SAIs in the Convention Area as VME indicator taxa.<sup>380</sup> Substantive discussion of this proposal was not recorded in the report of SC04 although that session did revise the data to be recorded by scientific observers by deleting the requirement to maintain a "Record of sensitive benthic species in the trawl catch, particularly vulnerable or habitat forming species such as sponges, sea-fans or

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<sup>379</sup> For example, the task of the small working group established in 2019 to develop a combined bycatch taxa list and fish identification guide for scientific observers is incomplete as is the collation of data for bycatch species associated with Spotted mackerel, Japanese sardine, Neon flying squid and Japanese flying squid fisheries and baseline stock assessments for associated bycatch species.

<sup>380</sup> SC03 Final Report, paras 32, 45.

corals”. Despite this, the requirement of the SC to “develop a guideline, species list and identification guide for benthic species (e.g. sponges, sea fans, corals) whose presence in a catch will indicate that fishing occurred in association with a VME” was retained.<sup>381</sup> The Review Panel encourages the SC to re-visit the recommendations of SC03 and SSC VME3,<sup>382</sup> and provide a transparent assessment of the value of including sponges and hydrocorals as VME indicator taxa in conjunction with Canada’s initiative to develop a quantitative method for the identification of VMEs in the North Pacific Ocean<sup>383</sup>.

270. Other than the Canadian proposals that were scheduled for discussion in 2022, the Commission has no CMMs relating to general environmental protection<sup>384</sup>, including measures associated with i) pollution and waste, ii) lost and discarded fishing gear<sup>385</sup>, or iii) interactions with marine mammals, seabirds or sharks (particularly in relation to shark finning). As many RFMOs have implemented Measures covering these subject areas it should be possible for NPFC to draw on the experience in other RFMOs to develop relevant Measures covering these issues for the NPFC Convention Area with relatively little effort.
271. In addition, unlike many other RFMOs, NPFC has no measure concerning fishing with long driftnets consistent with UN Resolutions 44/225, 45/197 and 46/215. SPRFMO has prohibited the use of large-scale pelagic driftnets and demersal fishing with gillnets in the Convention Area.<sup>386</sup> CCAMLR also adopted a Resolution relating to the prohibition driftnet fishing in the Convention Area in 1990,<sup>387</sup> and, in 2010, adopted an interim prohibition on deep sea gillnetting near the surface, in midwater or on the bottom.<sup>388</sup> In the North Pacific, NPAFC supports *Operation Driftnet* to enforce the United Nations ban on high seas driftnets. Many NPFC members participate in these organizations. The absence of an equivalent NPFC measure is despite TCC receiving evidence of the presence of long driftnets on vessels fishing in the Convention Area. The vessels concerned have been maintained on the NPFC IUU List for the period 2017-2021. To enhance NPFC’s international reputation as a competent RFMO, and harmonize NPFC provisions with global practice, the Review Panel encourages the Commission to incorporate action to address these deficiencies on the work program of the appropriate subsidiary bodies with a timeline for the adoption of appropriate CMMs.
272. Finally, although there is evidence of range shifts for priority NPFC fishery resources there is little indication that either the Commission, or the SC, has developed a strategy to formally assess the potential impacts of climate change on North Pacific fisheries and implications for the work and decisions of NPFC. There is no reference to climate-related research in the SC’s Research Plan (2021-2025). The only apparent references to climate-related matters in recent Reports from the

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<sup>381</sup> SC04 Final Report, Annex 5.

<sup>382</sup> SC03 Final Report. para 45.

<sup>383</sup> Reported in a response to the Review Panel’s questionnaire.

<sup>384</sup> Similar to CCAMLR’s CM 26-01

<sup>385</sup> As noted by an anonymous source among the responses to the Review Panel’s questionnaire, outside of the voluntary language in the Sablefish measure (CMM 2019-10), NPFC has not implemented measures relating to abandoned/lost fishing gear in the Convention Area. This is in spite of the issue being documented on numerous occasions (for example, see NPFC-2020-SSC BFME01-WP08, NPFC-2020-SSC BFME01-WP12, FAO Report on NPFC-FAO VME Meeting 2018).

<sup>386</sup> CMM 08-2019.

<sup>387</sup> Resolution 7/IX.

<sup>388</sup> CM 22-10.

SC or Commission are in the bibliographic sections of some of the species' profiles in the SC6 Summary Report<sup>389</sup> and in discussions relating to possible areas of cooperation with other organizations (PICES and FAO).<sup>390</sup>

#### *4.5.6. Review Panel's recommendations*

Recommendation 4.5.1. The implementation of the CMMs relating to bottom fishing and the protection of VMEs should be strengthened by requesting the:

- i) SC to undertake a review of the scientific aspects of the 50kg VME encounter threshold (including practices in other RFMOs) for possible revision;
- ii) SC to re-visit the recommendations of SC03 and SSC VME03 and provide a transparent assessment of the value of including sponges and hydrocorals as VME indicator taxa in conjunction with supporting an initiative to develop a quantitative method for the identification of VMEs; and
- iii) TCC to develop compliance-related reporting provisions for the Scientific Observer Program related to VME encounters, accompanied by a mechanism to deter non-compliance.

Recommendation 4.5.2. That the Commission and the SC develop strategies that address the lack of information needed to take ecosystem considerations into account for NPFC pelagic fisheries in the Convention Area, and include these in the SC's Research Plan, data collection procedures and obligations to better take into account ecosystem-related interactions, and how they might compare with compatible initiatives in areas under national jurisdiction.

Recommendation 4.5.3. That the Commission, at an early opportunity, develop and adopt CMMs addressing lost and discarded fishing gear, marine pollution and waste from fishing vessels, interactions with marine mammals, seabirds or sharks (particularly a prohibition on shark finning), and a prohibition on fishing with long driftnets in the NPFC Convention Area.

Recommendation 4.5.4. That the Commission recognize the importance of taking into account the known and anticipated impacts of climate change on the North Pacific Ocean ecosystem, including with respect to changes in the geographic and temporal distribution of stocks, notably Pacific saury.

Recommendation 4.5.5. That the SC make appropriate provision in its current Research Plan to address current deficiencies associated with addressing the impacts of climate change on NPFC ocean ecosystems and associated fisheries.

## **5. Compliance and Enforcement**

### **5.1. Introduction**

273. As one of the core principles and actions in giving effect to the objective of the NPFC Convention (the Convention), Article 3 (j) includes “[e]nsuring compliance with conservation and management measures and that sanctions applicable in respect of violations are adequate in

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<sup>389</sup> SC06 Final Report, Annex F and Annex N.

<sup>390</sup> COM06 Final Report, paras 41 and 58 respectively.

severity to be effective in securing compliance, to discourage violations wherever they occur and to deprive offenders of the benefits accruing from their illegal activities.” The decisions, measures and processes to ensure and support compliance with existing rules are a central aspect of RFMOs’ performance, and NPFC is no exception.

274. Consistent with the principle and actions stated in Article 3(j), some of the critical functions of the NPFC Commission concern ensuring compliance and enforcement with the Convention and existing CMMs. Under Article 7(2), one of the tasks of the Commission is to “adopt measures to ensure effective MCS”, as well as “compliance with and enforcement of” the provisions of the Convention and the measures adopted according to it. The same provision provides that, to such end, the Commission shall adopt decisions and develop procedures concerning (a) the regulation and monitoring of transshipments, (b) the establishment of an Observer Program, (c) boarding and inspection procedures, (d) cooperative mechanisms to ensure effective MCS and to prevent, deter and eliminate IUU fishing, (e) standards for reporting movements and activities using real-time satellite position-fixing transmitters for vessels, (f) procedures to notify entry into and exit from the Convention Area of fishing vessels, (g) market-related measures to prevent, deter and eliminate IUU fishing, and (h) procedures for reviewing compliance with the provisions of the NPFC Convention and the measures adopted under it.
275. In addition to the above, Article 13 describes the flag State duties. Members must not allow their vessels to operate in the Convention Area unless authorised by the appropriate national authority and must not conduct unauthorised fishing activities. Some of these duties are stated generally and must be further developed and implemented by decisions the Commission should adopt under Article 7(2) described above. They include the need to use real-time satellite position-fixing transmitters in the Convention Area, notify the Commission of the location of any transshipment of fisheries resources, place observers on board and the duty to accept boarding and inspection. Article 13(10) tasks the Commission to establish and maintain its record of fishing vessels.
276. Equally, Article 14 recognizes the rights and duties of coastal States to adopt measures to regulate the entrance and use of their ports. Each Member must “give effect to port State measures adopted by the Commission in relation to the entry and use of its ports by fishing vessels that have engaged in fishing activities in the Convention Area”, including for such matters such as landing and transshipment of fisheries resources, inspections of fishing vessels, documents, catch and gear on board, and use of port services.
277. Finally, under Article 17, on “Compliance and Enforcement”, each Commission Member is obligated to enforce the provisions of the Convention and any relevant decisions of the Commission. Members must investigate thoroughly any allegation that fishing vessels entitled to fly their flag have violated any of the provisions of the Convention or any CMM adopted by the Commission and take actions accordingly.
278. In assessing the NPFC’s performance related to compliance with, and enforcement of, the Convention and the Measures adopted under it, the Review Panel has considered two main issues. First, the manner and extension to which the NPFC has implemented the tasks imposed by the Convention in Articles 7(2), 13, 14 and parts of Article 17, all of which are aimed at ensuring Contracting Parties’ compliance with the Convention and the management measures adopted by the Commission. Second, after gathering information from meeting reports and documents, the Performance Review questionnaires, interviews with stakeholders and other sources, the Panel also considered how NPFC addresses incidents of non-compliance.

279. The Review Panel found it challenging to assess the second issue identified above, i.e., how Members and CNCs respond to cases of non-compliance. As is often the case in RFMOs, specific information on such matters is not always available or openly reflected in meeting reports. This is a matter that would likely improve once the NPFC Compliance Monitoring Scheme (CMS), adopted in 2019, becomes fully operational. That said, the Review Panel was able to use the information available to provide some specific commentary and recommendations in regard to compliance and enforcement.
280. The general conclusion is that the NPFC has much room for improvement on matters related to compliance and enforcement. NPFC has made some advances in recent years to adopt decisions, management measures and procedures to implement some key provisions of the Convention relating to these matters. However, the Review Panel believes that, notwithstanding NPFC being the youngest RFMO, it still lags behind other organizations in some critical aspects. They include the adoption of specific measures to support matters concerning MCS, impacting its overall performance to address actual incidents of non-compliance.
281. Article 7(2)(d) of the Convention also tasks the Commission to establish appropriate cooperative mechanisms for effective MCS to ensure enforcement of the CMMs adopted by the Commission, including means to prevent, deter and eliminate IUU fishing. Cooperation with other international organizations and RFMOs is a topic that Chapter 7 addresses.

## **5.2. Monitoring, Control and Surveillance measures**

282. Article 7(2) of the Convention states that the Commission shall establish “appropriate cooperative procedures for effective MCS of fishing and to ensure compliance with this Convention and the CMMs adopted by the Commission”.
283. In some respects, the Commission has been a leading RFMO in relation to the development and implementation of MCS measures. For example, it can boast an active scheme of high seas boarding and inspections which few other RFMOs have been able to implement. However, at the same time, NPFC has been slow to adopt some critical decisions to create the framework for a systematic and holistic MCS set of measures. In recent years, the Commission has made progress in implementing the tasks Article 7(2) mandates, including establishing a VMS system and adopting a framework for assessing compliance through a CMS. Yet considerable work is still required to demonstrate a solid commitment to Article 7(2) and other critical provisions of the Convention. NPFC lacks, for example, comprehensive measures to regulate transshipments, a regional Observer Program and common minimum standards for port State measures.
284. NPFC is aware of these shortcomings. In 2017 the TCC Small Working Group on Assessing Compliance started work with the aim of, among other things, defining TCC priorities. This SWG identified “a desire among Members to prioritize compliance reviews”.<sup>391</sup> Since then, the TCC and the Commission have made significant efforts to move forward with the adoption of MCS tools. However, only some MCS measures have been adopted and implemented. The Performance Review questionnaires also indicated awareness of the lack of a comprehensive system of MCS measures, as all responses indicated that NPFC has only “partially” adopted such measures and concluded that there are additional MCS measures needed.

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<sup>391</sup>TCC03 Final Report at p. 5.



285. However, adopting MCS measures is not enough. Effective MCS measures must be adapted and customised to monitor and ensure compliance with NPFC’s needs to detect and identify violations of the Measures that have been adopted. Responses to the questionnaires, in general, suggest that the Commission’s set of MCS measures needs more development to serve the overarching goal of detecting violations and ensuring compliance with the Convention and existing CMMs. The Review Panel finds that some of the tools established or currently in development must be further developed or improved. The Commission should also add other mechanisms to deter violations and ensure compliance. The Review Panel recommends that Members and CNCPs continue to develop a holistic system of MCS measures
286. The following sections present the Review Panel’s assessment of the development and implementation of MCS measures in line with Article 7(2) and other specific provisions of the Convention.

### *5.2.1. Regulation of transshipments*

287. Transshipment, or the direct transfer of any quantity of fish onboard from one vessel to another vessel regardless of the location of the event and without the fish being recorded as landed is a common practice in international fisheries that substantively reduces the costs of fishing operations.<sup>392</sup> However, when done without appropriate oversight, it can increase the risk of IUU-caught fish entering the supply chain and contribute to the overexploitation of fisheries resources, undermining sustainable fisheries and ocean conservation.<sup>393</sup> The likelihood that transshipments will facilitate IUU fishing has been recognized in the NPFC context where there is evidence of vessels on the NPFC IUU Vessel List engaging in transshipments with unregulated carrier vessels.<sup>394</sup> The potential link between transshipments and IUU fishing was specifically raised at the 2021 NPFC meeting.<sup>395</sup>
288. The risks associated with unregulated transshipments have prompted RFMOs to adopt management measures to set standards, conditions and procedural obligations, which States must fulfil in respect of vessels flying its flag and participating in transshipment. For example, IATTC, WCPFC and SPRFMO, regional organizations that regulate fishery resources in the Pacific, have all adopted rules to monitor and control this activity.<sup>396</sup> In addition, in 2016, the FAO initiated a global process, which included an Expert Consultation, to develop draft voluntary guidelines for regulating, monitoring and controlling transshipments. A member-led negotiation process through the convening of a Technical Consultation followed, adopting the Voluntary Guidelines for Transshipments on 7 July 2022. The Guidelines are now awaiting endorsement by the Thirty-fifth session of COFI and subsequent reporting to the FAO Conference in October 2022.

#### *5.2.1.1. The Review Panel’s assessment of transshipment*

289. Article 7(2)(a) of the Convention mandates the Commission to adopt “procedures for the regulation and monitoring of transshipment of fisheries resources and products of fisheries resources taken in the Convention Area, including notification to the Commission of the location

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<sup>392</sup>FAO Voluntary Guidelines for Transshipment adopted by the Technical Consultation on Voluntary Guidelines for Transshipment, June 2022.

<sup>393</sup>FAO 2020 *Transshipments: A Closer Look*, FAO Fisheries and Aquaculture Technical Paper No 661 at xiii.

<sup>394</sup> E.g. IUU Vessel List 2018, COM04 Final Report, Annex J, paras 189 to 193.

<sup>395</sup> COM06 Final Report, paras 5-6.

<sup>396</sup> See IATTC Resolution C-12-07, WCPFC CMM 2009-06, and SPRFMO CMM 12-2020.

and quantity of any transshipment”. Consistent with this provision, Article 13(4)(c) requires flag States to notify the Commission of the location of any transshipment of fisheries resources and products of fisheries resources taken in the Convention Area, pending the adoption by the Commission of procedures for the regulation and monitoring of transshipments according to Article 7, subparagraph 2(a).

290. Transshipments have been subject to NPFC’s consideration since its early years. In 2016, at the 2<sup>nd</sup> Commission meeting, on the advice of the 1<sup>st</sup> session of the TCC, adopted “interim procedures”, for use by all Members and non-Member carriers to require them to submit the relevant information to the flag member (CMM 2016-03 on the Interim Transshipment Procedures for the NPFC). It established “the elements and procedures for the regulation and monitoring transshipment of fisheries resources or products of fisheries resources taken through bottom fishing”. Paragraph 1 of CMM 2016-03 states that this is “an initial step”. The CMM (paragraph 2a) also provides that the same transshipment reporting procedures “will apply to all vessels transshipping fisheries resources and products of fisheries resources that were harvested in the Convention Area, regardless of where the transshipment occurs”.
291. CMM 2016-03 contains some minimal requirements but is unfit for adequately regulating and monitoring transshipments. It requires offloading and receiving vessels to provide advance notice to the flag State, including the product being transhipped and information on the event’s location. There are obligations of reporting for both the offloading and receiving vessels within 15 days after a transshipment event takes place, whereby they must provide the flag State with information concerning the date and time of the event, position, product description and the port of expected and actual landing. However, the approach of CMM 2016-03 does not envisage, for example, the requirement of prior authorisation for vessels involved in transshipments, observation, electronic monitoring, or direct reporting to the Secretariat. The Secretariat only receives an annual report at the end of February each year concerning transshipments undertaken during the previous year. This is insufficient to monitor and understand the extent and possible risks associated with transshipments in the Convention Area.
292. In 2018, the TCC discussions highlighted that “while the NPFC has measures to control and monitor” transshipments, “they are less robust than those of other (RFMOs)”, and noted the need to strengthen measures to oversee these activities.<sup>397</sup> Similar statements can be found in 2019, including recognition by the TCC and the request to the Commission to task the development of a “more robust CMM for Transshipment as a priority issue”.<sup>398</sup> In 2021, the TCC noted “the need to prioritize work to design and implement a monitoring and control system for at-sea transshipment activities”, also “recognizing the growing global focus on transshipment issues and the fact that the NPFC is behind other RFMOs in this regard.”<sup>399</sup>
293. The lack of a comprehensive framework for monitoring transshipments in NPFC was exacerbated by the fact that, until recently, carrier vessels flagged to non-Members (with no CNCP status) were allowed to undertake transshipments with fishing vessels flagged to Members and CNCPs. Under this regime, Members and CNCPs could use non-Member carrier vessels included on the Interim Register in the Convention Area to receive transshipments of fisheries resources caught in the

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<sup>397</sup> TCC03 Final Report, para 3.

<sup>398</sup> TCC04 Final Report, para 63.

<sup>399</sup> TCC04 Final Report, para 10.

Convention Area from fishing vessels flying the flag of Commission Members or CNCPs. The NPFC Interim Register of non-Member Carrier Vessels was operational until 2019.

#### *5.2.1.2. Review Panel's findings*

294. Despite the provisions of the Convention relating to the establishment of procedures for the regulation and monitoring of transshipment of fisheries resources and the relevance of monitoring transshipments, there is as yet no comprehensive transshipment measure in place in the NPFC. This loophole is particularly worrying because most fish caught in the Convention Area are transhipped.<sup>400</sup> The Review Panel believes that the Commission should adopt an appropriate CMM as a matter of priority. Such a scheme should take into account the FAO Voluntary Guidelines on Transshipments and the best practices already in place in other RFMOs. This should include alignment with the minimum standards offered by the FAO Guidelines, and appropriate coverage of all NPFC species caught in the Convention Area, regardless of where the transshipment occurs. The Review Panel welcomes the submission of a proposal to amend 2016-03 for consideration at the 6<sup>th</sup> TCC meeting (NPFC-2022-TCC06-WP23) as a positive development in this regard.

#### *5.2.1.3. Review Panel's recommendations*

Recommendation 5.2.1. That, as a priority, the Commission adopt a new comprehensive conservation and management measure to regulate and monitor transshipments.

#### *5.2.2. Observer Program*

295. Observers are a central element of RFMOs' management frameworks providing an effective means to monitor the exploitation of marine fishery resources. At-sea fisheries observers have traditionally been regarded as functional to fisheries management by collecting scientific data. Monitoring compliance with CMMs has often been left to at-sea inspectors. However, over time, observers have also come to play a role in monitoring compliance with fisheries regulations. Article 18(3)(f) UNFSA acknowledges observers' part in advancing compliance with fisheries regimes. It provides that flag States must adopt measures to ensure that vessels under their flag comply with regional standards, including "requirements for verifying the catch of target and non-target species through such means as observer programs, inspection schemes, unloading reports, supervision of transshipment and monitoring of landed catches and market statistics".
296. Today there is little doubt that observers play a crucial part in supporting fisheries management regimes. In practice, they not only serve a scientific function, but are part of MCS measures as a mechanism to monitor and potentially strengthen compliance with agreed rules. Their relevance can be seen in international (regional) observer programs and those operating at the national level. Observers all collect similar information designed to support the management of target fish stocks within agreed harvest levels and to minimise or mitigate the impacts of fishing upon non-target species.

#### *5.2.2.1. The Review Panel's assessment of Observer Program*

297. Article 7(2)(b) of the Convention tasks the Commission to adopt measures to ensure effective MCS, as well as compliance with and enforcement of the provisions of this Convention and management measures, including the development and implementation of a North Pacific Ocean Fisheries Observer Program "taking into account relevant international standards and guidelines".

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<sup>400</sup> Some interventions point to 85%. See TCC04 Final Report, par. 10.

Under Article 13(4), each Member shall place observers on board fishing vessels entitled to fly its flag operating in the Convention Area “in accordance with the Observer Program” which shall be established in accordance with Article 7, subparagraph 2(b). The same provision states that fishing vessels engaged in bottom fishing in the Convention Area “shall have one hundred (100) percent coverage under the Observer Program”, but vessels involved in other types of fishing activities in the Convention Area “shall have a level of observer coverage as the Commission may decide”.

298. The extensive and detailed CMM 2016-05 for Bottom Fisheries and Protection of VMEs in the Northwestern Pacific Ocean and CMM 2016-06 for Bottom Fisheries and Protection of VMEs in the Northeastern Pacific Ocean, including its Annexes 1, 2, 4 and 5, implement the duty the Convention envisaged in Article 7(2)(b). These Measures contemplate wide-ranging requirements for the placement of observers and the information they must collect. They have served the Commission well for the purpose of gathering relevant scientific data. However, they only apply to bottom fisheries, which are relatively small (5-6 vessels) compared to other fisheries regulated by NPFC. These Measures also exhibit some aspects that deserve further consideration. For example, they rely on national programs but fall short of establishing a regional program in the Convention Area and lack a formal process for accreditation that would ensure common standards for national observer programs contributing to NPFC fisheries monitoring and regulation. NPFC has long been aware of these and other limitations regarding the work of observers. The SC recognized in 2017 the need “of developing a standardized protocol and data collection templates, as well as training and outreach programs, for ensuring the same standard of data collection by all observers”.<sup>401</sup> CMM 2016-05 and CMM 2016-06 have been revised (in 2017, 2018, 2019, 2016-05 only in 2021) but they maintain their original scope and rationale.

#### *5.2.2.2. Review Panel’s findings*

299. There is no fully developed regional observer program in NPFC. The SC has reviewed the existing NPFC observer programs and those of other RFMOs to prompt a discussion on the matter,<sup>402</sup> but Members have been unable to develop a full proposal for debate. Given the central role that observers perform in gathering scientific data and supporting the implementation and compliance with RFMOs’ management measures, the Review Panel urges the Commission to establish a comprehensive NPFC Observer Program for all NPFC fisheries. Failure to do so puts the NPFC out of step with comparable RFMOs and with international best practice.
300. There are several issues the Commission should consider in its future deliberations. This includes whether the Regional Observer Program should rely on national programs accredited under the Commission’s standards. Under this option, it is pivotal to establish the process for obtaining, maintaining and revoking accreditation. There are also issues concerning the participants in those programs: training, capacity building, if applicable, how to protect the data collected by observers and the requirements to ensure that observers are independent and impartial. Appropriate observer coverage is also essential, as is a clear recognition of the rights and duties of observers and crew on board. Finally, the Review Panel also notes that several other RFMOs have been working to address the issue of observer safety and encourages the Commission to consider adding this element to future discussions.

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<sup>401</sup> SC02 Final Report, para 48 and COM03 Final Report, Annex E, para 48.

<sup>402</sup> NPFC-2018-SC03-WP03 (Rev.1).

301. As mentioned above, the Observer Program need not be limited to scientific data collection only. NPFC CMMs provide that observers can and should support the monitoring of compliance with existing management measures, at least implicitly. For example, CMM 2021-09 on High Seas Boarding and Inspections procedures states in paragraph 10(d) that “[w]hile not limiting efforts to ensure compliance by all vessels, priority for boarding and inspection efforts pursuant to these procedures may be given to” fishing vessels “without observers on board if so required by the Convention, Article 7.2 (b)”. Equally, paragraph 8 of CMM 2019-13 for the CMS also recognizes the role of observers’ reports in supporting the preparation of the Draft Compliance Report. The TCC noted that other RFMOs’ observer programs are primarily set up for science. However, it still recommended to the Commission that “there is a need and desire among Members to continue to consider the compliance components of an observer program”.<sup>403</sup>

#### *5.2.2.3. Review Panel’s recommendations*

Recommendation 5.2.2. That the Commission adopts, as a matter of priority, a Regional Observer Program that includes all fisheries and is based on a common understanding of the role and function of observers and common templates for the collection of scientific fisheries data and monitoring compliance with CMMs.

#### *5.2.3. Boarding and inspections procedures*

302. Inspections at sea are one of the most effective methods to detect infringements and ensure compliance with RFMO measures. They allow an in-situ mechanism for qualified, professional officers of a Member State to witness the operations of a fishing vessel flagged to another Member or CNCP and identify actions or omissions that may amount to non-compliance incidents.
303. Boarding and inspection procedures were one of the central issues discussed at the Conference that negotiated UNFSA in 1995. Articles 21 and 22 UNFSA were a ground-breaking development in international fisheries law, establishing a detailed regime for at-sea inspections and prompting several RFMOs to develop their regional schemes. However, regional implementation of these provisions has never been easy. The costs and logistics associated with boarding and inspection procedures make it difficult for most States to broadly implement this MCS measure. Equally, some States remain reluctant to accept boarding and inspections as they do not accept armed inspectors boarding their fishing vessels. It is not surprising that only a handful of RFMOs has been able to develop a fully-fledged and active system of at-sea boarding and inspections. Considering its relatively short existence, it is remarkable that NPFC is one of them.

#### *5.2.3.1. Review Panel’s assessment of boarding and inspection procedures*

304. Article 7(2)(c) of the Convention tasks the Commission to adopt “procedures for the boarding and inspection of fishing vessels in the Convention Area”. Article 17(6) states that “boarding and inspection of fishing vessels in the Convention Area, as well as any subsequent enforcement action, shall be conducted in accordance with the procedures set out in Articles 21 and 22 UNFSA, and any such additional practical procedures decided by the Commission”.
305. The Commission adopted its Scheme in 2017 through CMM 2017-09 on High Seas Boarding and Inspection Procedures, which entered into force on 28 November that year. In 2018, the Commission further implemented its Scheme by adopting an impressive set of supporting

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<sup>403</sup> TCC03 Final Report, para 19.

instruments through its Implementation Plan, including a template for boarding reports and a standard questionnaire. In 2021, after safety concerns were raised, the Commission added broader ladder requirements, now embedded in CMM 2021-09 (Annex A).

#### *5.2.3.2. Review Panel's findings*

306. NPFC is to be commended for adopting a comprehensive High Seas Boarding and Inspection Scheme and an impressive set of instruments to operationalise it. This is particularly remarkable considering that NPFC is the youngest RFMO and that it is often the case that the regulation of boarding and inspection at sea is a sensitive issue among RFMO Members. NPFC, and specifically some of its Members, must also be commended for the high number of procedures they undertake regularly. The Review Panel observes that part of the success of the Scheme follows from the careful tailoring of the current Measure to the needs and challenges the Commission identified and agreed upon.
307. However, further work would benefit some aspects of the boarding and inspection Scheme practice. An apparent issue is that some vessels in the recent past have not allowed boarding and inspection. The Commission would need to consider issuing clarifications to avoid boarding and inspection denials for COVID-related reasons.
308. A second concern is that debriefings show, at least *prima facie*, serious violations of existing CMMs. Under Article 17(4) of the Convention, in the event of a serious violation, the flag State must order the fishing vessel to cease operations and, in appropriate cases, call on the fishing vessel to leave the Convention Area immediately. The remedial actions in this provision are challenging to reconcile with a formal TCC or Commission decision on whether the incident amounts to a serious violation. The Commission should consider how to give Article 17(4) a practical application that still serves the purpose of deterring such infringements from occurring, including by, for example, tasking the TCC with outlining the appropriate circumstances in which fishing is to cease and a vessel ordered to return to port.
309. The third issue of concern, identified by the Review Panel, relates to the flow of information from high seas boarding and inspection reports and the work of the TCC and the Commission. The reports suggest that it is not always the case that the possible infringements observed by at-sea inspectors are further discussed at the TCC and the Commission, even though some violations may justify the inclusion of a vessel in the Draft IUU Vessel List. Section 5.2.7 considers follow-up on infringements further.

#### *5.2.3.3. Review Panel's recommendations*

Recommendation 5.2.3. That the Commission adopt procedures to implement Article 17(4) of the Convention and clarify the circumstances in which fishing is to cease and vessels ordered to port for 'serious violations'.

Recommendation 5.2.4. That information from high seas boarding and inspections be used, subject to data management rules, to inform assessments under the Compliance Monitoring Scheme and the preparation of the Draft IUU Vessel List.

#### *5.2.4. IUU vessel listing and the issue of vessels without nationality*

310. The blacklisting of vessels and the consequential application of punitive measures is one of the most common RFMO practices against IUU fishing. Regional approaches evolved under the call of the 2001 FAO International Plan of Action to Prevent, Deter and Eliminate IUU Fishing (IPOA-

IUU), perhaps the most influential non-binding instrument contributing to the global fight against IUU fishing activities. The IPOA-IUU provides that States, acting through RFMOs, “should take action to strengthen and develop innovative ways, in conformity with international law, to prevent, deter, and eliminate IUU fishing” (paragraph 80). The IPOA-IUU encourages States and RFMOs to develop and maintain records of vessels engaged in or supporting IUU fishing in the area of competence of the relevant RFMO (paragraph 80.5). It also tasks States and RFMOs to define circumstances in which vessels will be presumed to have engaged in, or to have supported, IUU fishing (paragraph 80.11).

311. After the adoption of the IPOA-IUU in the early 2000s several RFMOs, such as ICCAT and IOTC, began adopting their IUU listing schemes. Over time, most RFMOs followed the practice of blacklisting vessels engaged in IUU fishing, whether they were flagged to Members or non-Member States. They have all applied similar punitive measures, from denying registration and fishing authorisations to blocking access to their ports and markets. RFMOs have adopted similar substantive and procedural regulations for approving their IUU Lists, and NPFC is no exception. Article 1(k) of the Convention expressly refers to IUU fishing as described in the FAO IPOA-IUU.
312. According to the FAO IPOA-IUU, fishing activities conducted by vessels without nationality, or stateless vessels, are unregulated IUU fishing. States should take measures consistent with international law in relation to vessels without nationality on the high seas involved in IUU fishing (paragraph 20). NPFC has particular issues with stateless vessels as evidenced by the number of such vessels on the NPFC IUU Vessel List. This is discussed further below.

#### *5.2.4.1. Review Panel’s assessment of IUU vessel listing and stateless vessels*

313. Agreement on a conservation measure which provides a framework for adopting an IUU Vessel List was among the first accomplishments of NPFC. It was adopted in 2016 at the 1<sup>st</sup> TCC meeting and the 2<sup>nd</sup> meeting of the Commission (CMM 2016-02). The same year the TCC recommended, and the Commission adopted, the CMM to address the problem of vessels without nationality (CMM 2016-04). The IUU Vessel List CMM was amended in 2017 to encourage the exchange of information regarding vessels presumably engaged in IUU fishing. The same year NPFC adopted its first IUU Vessel List. The current text of this CMM was adopted in 2019 (CMM 2019-02).
314. The IUU CMM follows a similar structure as those in other RFMOs.<sup>404</sup> The activities that justify inclusion on the IUU List contain several types of infractions, including engaging in “any other fishing activities that undermine the provisions of the Convention or any other NPFC conservation measure” (paragraph 3i). The procedure is structured in three stages: preliminary identification by all means available and inclusion on the Draft List by the Executive Secretary (including information gathered by the Secretariat under paragraph 8), discussion at the TCC and adoption of the Provisional List and assessment by the Commission and adoption of the Final List.
315. Paragraph 24 of CMM 2019-02 sets out a comprehensive list of actions Members must take against vessels included on the IUU List. CMM 2019-02 also contemplates rules for the delisting of IUU vessels. It has some original provisions that may perform a valuable role in deterring illegal fishing beyond the Convention Area. For example, according to paragraph 4 the coastal State may propose a vessel for inclusion on the IUU vessel list if bilateral discussions with the flag State do not solve

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<sup>404</sup>In the Pacific context, see for example WCPFC and SPRFMO.

the matter. However, the measure lacks one innovative mechanism used in several RFMOs: the cross-listing of vessels included in other RFMOs' IUU Vessel Lists.

316. CMM 2016-04 concerns stateless vessels. It has not been amended since its adoption. Considering that the IPOA-IUU regards vessels without nationality as a type of unregulated fishing, CMM 2016-04 simply provides encouragement for Members to take enforcement actions against these vessels (paragraph 3). This CMM also calls on Members to amend their domestic legislation to prevent and deter vessels without nationality from engaging in fishing activities in the Convention Area (paragraph 4). Paragraph 5 encourages Members and CNCPs to share information on the matter, to clarify the status of such vessels, and enable Members to make informed decisions about action to prevent and deter such vessels from engaging in fishing activities in the Convention Area.

#### *5.2.4.2. Review Panel's findings*

317. The NPFC adopted, at an early stage after its establishment, a CMM establishing a process to establish the NPFC IUU Vessel List. Since 2017, the Commission has worked successfully to deliver an IUU Vessel List at every annual meeting. However, the Review Panel highlights two aspects. First, examining the IUU listing processes undertaken by NPFC since 2017 and their outcomes cast a clear picture. In the four assessments the Commission has undertaken under the IUU listing process (2017, 2018, 2019 and 2021), all the vessels included on the Final IUU Vessel List appear to be without nationality. Therefore, it fair to conclude that stateless vessels are one of the main IUU problems NPFC faces.
318. In this context, the lack of information about the operations of the stateless vessels included in the annual IUU Vessel List is a concerning finding. The discussions among Members recorded in the Annual Reports suggest that Members do not have much hard evidence about the provenance of these vessels, although some interventions point out that they – or some of them – may operate from the ports of NPFC Members. Several vessels on the IUU Vessel List also appear to be duplicates. The Commission should consider ways to find out more about these vessels, their activities and the ports they frequent by using all the MCS tools available, including AIS data. Significantly, there is no information about beneficial ownership of any of the listed vessels. As the experience in other RFMOs shows, a central point in dealing with stateless vessels (and similarly, with non-cooperative flags of convenience) is obtaining details of beneficial owners and other operational agents behind these operations and the ports where they seek shelter and trade. If NPFC is genuinely determined to address this worrying issue effectively, it must deploy political will and all the means available, to develop intelligence and encourage individual actions by all Commission Members. The Review Panel invites the Commission to consider all possible measures and tools to cooperate to address the acute problem of stateless vessels found operating in the Convention Area, as such IUU activities continuously undermine the effectiveness of CMMs and the efforts to achieve the objective of the Convention.
319. A second aspect to note is the relationship between high seas boarding and inspection events and how the outcomes of such inspections can feed into the discussion of the IUU listing process and compliance mechanisms in general. Once the CMS is fully implemented, it is expected that relevant information arising from at-sea inspections will contribute to identifying infringements and treating them accordingly. However, the mechanisms are already in place when it comes to the IUU Vessel List. Yet it appears that possible violations by vessels flagged to Commission Members, as described by inspectors, do not lead to the inclusion of such vessels on the Draft IUU



Vessel List. The examination of high seas boarding and inspection reports suggests infringements of existing CMMs could have justified the inclusion of the vessel on the Draft IUU Vessel List.

320. The Secretariat's role is a central issue in drafting the IUU lists and for the process efficiency. The Review Panel notes that paragraphs 2 and 8 of CMM 2019-02 are ambiguous as to whether the Secretariat may include a vessel on the Draft List, even if Members do not request such inclusion. The Review Panel considers that the IUU listing process would benefit from the Secretariat performing a supporting role by identifying possible vessels for the Draft List that the TCC and the Commission would later discuss.

#### *5.2.4.3. Review Panel's recommendations*

Recommendation 5.2.5: That the Commission adopts a long-term strategy to address the problem of vessels without nationality engaged in IUU fishing, with specific steps for finding and collecting information about each vessel, including on beneficiaries of their fishing activities and their operational aspects.

Recommendation 5.2.6: That the Commission make full use of the information arising from at-sea inspections, including the possibility of vessels being included on the Draft IUU Vessel List.

Recommendation 5.2.7: That the Commission develop processes for the reciprocal recognition of the IUU Vessel Lists of other RFMOs.

#### *5.2.5. Vessel Monitoring System*

321. A VMS system is one of the quintessential MSC measures in any RFMO. Under the IPOA-IUU, States should undertake comprehensive and effective MCS of fishing by implementing a VMS, "in accordance with the relevant national, regional or international standards, including the requirement for vessels under their jurisdiction to carry VMS on board". As a critical element of flag State responsibility, Article 13(4) of the Convention provides that each Contracting Party shall require fishing vessels that are entitled to fly its flag and that are engaged in fishing activities in the Convention Area: (a) to use real-time satellite position-fixing transmitters while in the Convention Area following procedures developed under Article 7, subparagraph 2(e); and (b) to notify the Commission of their intention to enter and exit the Convention Area under procedures developed according to Article 7, subparagraph 2(f).
322. The first discussions to establish a VMS system for NPFC started in 2017 at the TCC. An intersessional SWG was established. After working in 2017, 2018 and 2019, the Commission developed and adopted a CMM on VMS.<sup>405</sup> However, the Measure needed further refinement, and the TCC and the Commission have worked on it from 2019 to date.

##### *5.2.5.1. Review Panel's findings*

323. In designing the VMS as an MCS tool for NPFC, the Commission sought to minimize costs to Members and their fishing industries while making Members responsible for the conduct of their nationals and fleets. The system, therefore, allows Members to use existing VMS systems as long as they can provide the data required in the necessary format and time through the VMS provider to the regional system. This approach is common among RFMOs. For these purposes, CLS, the

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<sup>405</sup> COM05 Final Report, Annex N.

VMS provider appointed by the Commission, was required to adapt its capability to accept inputs from each of the Member's VMS system to display on the Regional NPFC-VMS.

324. Negotiations for a CMM establishing and regulating the VMS among Commission Members resulted in a hybrid system combining a new VMS housed at the Secretariat that draws on Members' existing systems. Accordingly, the Commission adopted the Guidelines on minimum standards for mobile transmitting units or MTUs.<sup>406</sup> However, in case of faulty MTUs, Members could mandate their vessels to report manually to the Member's Fisheries Monitoring Center (FMC) or the Secretariat (paragraph 16), and Members may require the vessels to report directly to the regional system (paragraph 17). However, direct reporting by vessels to the regional system would mean by-passing the FMCs, which does not seem to be the intention of the CMM. Such direct reporting may also incur additional communication costs for the Secretariat.
325. There are other operational aspects that the Commission should further elaborate. For example, the current CMM does not elaborate on measures to prevent tampering with units. Equally, there are no rules to access VMS data to support high seas boarding and inspections, a central element for planning these operations.

#### *5.2.5.2. Review Panel's recommendations*

Recommendation 5.2.8: That the Commission consider adopting arrangements to prevent tampering with mobile transmitting units for accessing VMS data held by the Secretariat and to make VMS data available to support decisions of Members regarding the planning and conduct of high seas boarding and inspection.

#### *5.2.6. Market-related measures*

326. Market-related measures, sometimes described more generically as trade-related measures, are important tools States and RFMOs have at their disposal to prevent and deter IUU fishing. Depending on the definitions applied, they vary in shape and scope. They include eco-labels and soft- or hard-law documentation schemes and the more radical prohibitions of imports of fishery products originating from vessels or flag States that fail in their obligations to control IUU fishing by their vessels or nationals.
327. Some market-related measures are widely accepted but only adopted in a handful of RFMOs and similar organizations, such as catch documentation schemes. Other trade measures have slowly become recognized over time, such as prohibiting market access in cases of serious IUU fishing. Admittedly, they entail considerable costs of implementation, which can be a barrier to developing these tools, irrespective of how effective they are under certain circumstances.

#### *5.2.6.1. Review Panel's findings*

328. Article 7(2)(g) of the Convention states that the Commission shall "establish, where appropriate, non-discriminatory market-related measures consistent with international law to prevent, deter and eliminate IUU fishing". To date, the Commission has not adopted any market-related measures, nor have there been any proposals for market-based measures. Responses to the questionnaires suggest they are not a priority for Members at this stage. Likewise, meeting reports do not identify any Members wishing to prioritise the development of market-related measures in the NPFC context.

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<sup>406</sup> Annex to CMM 2021-12.

329. It is therefore fair to conclude that adopting trade-related measures is either not necessary yet or that these measures are not as urgent as other MCS measures. The records of discussion in the TCC and Commission reports suggest that other MCS measures have more urgency for the Commission. That said, the fact that Members have not tabled, discussed and adopted market-related measures does not mean they are irrelevant. The domestic performance of some NPFC Members points to the relative importance they attach to these measures, which they apply as a requirement for access to their markets. Yet these individual preferences do not seem to have reached a broader consensus for adoption more generally in NPFC.

#### *5.2.6.2. Review Panel's recommendations*

Recommendation 5.2.9: That the Commission focus on developing, improving and implementing other more urgent MCS tools and postpone the development of regional market-related measures at this time.

#### *5.2.7. Follow-up on infringements*

330. Follow-up on infringements is a central element of flag State responsibility. The practice of RFMOs is to establish mechanisms among Members that specify the consequences associated with infringements, thus facilitating the exchange of information regarding possible cases of non-compliance. These mechanisms, known as compliance monitoring systems or schemes (CMS), are often structured in three stages. In the first stage, the RFMO secretariat gathers relevant information from different sources, which Members and CNCPs receive and review. In the second step, Members and CNCPs investigate and respond to the issues presented. In the third stage, all the information available, including replies by relevant States to possible infringements, are subsequently reviewed and assessed at the annual RFMO meeting. The organization's compliance body often recommends remedial and other actions to the Commission. The range of obligations considered in such processes varies, but the practice of RFMOs suggests that they tend to expand the scope of the compliance mechanisms as their schemes mature.
331. More generally, compliance monitoring systems are designed to support States' actions to implement their international obligations under fisheries conventions. They are critical to integrating different sources of information on possible infringements, providing a broad picture of how Members implement their commitments, defining priority areas and identifying elements of CMMs that might benefit from review. Compliance schemes allow Members to access and share information about non-compliance situations and progressively generate common criteria and standards for addressing them.
332. Compliance mechanisms consistent with Article 10(h) of the UNFSA provide that States must "establish appropriate cooperative mechanisms for effective monitoring, control, surveillance and enforcement". Where there are alleged violations of conventional obligations or existing management measures, Article 20(3) UNFSA provides that the flag State may undertake investigations directly, or in cooperation with other States or RFMOs. Information on the progress and outcome of the investigations "shall be provided to all States having an interest in, or affected by, the alleged violation".

#### *5.2.7.1. Review Panel's assessment of follow-up on infringements*

333. Article 17 of the Convention also relates to this critical aspect of compliance and enforcement. Paragraphs (2), (3) and (4) provide that each Member of the Commission "shall, either on its own initiative or at the request of any other Member of the Commission and when provided with the

relevant information, investigate fully any allegation that fishing vessels entitled to fly its flag have violated any of the provisions of this Convention or any CMM adopted by the Commission”.

334. When there is sufficient information available in respect of an alleged violation by a fishing vessel entitled to fly its flag, the Member concerned “shall take appropriate actions in accordance with its laws and regulations, including instituting proceedings without delay and, where appropriate”, including ordering the vessel to cease operations, to leave the Convention Area immediately and even detain the ship concerned. Critically, the Member must “ensure that the vessel concerned does not engage in fishing activities in the Convention Area for fisheries resources until such time as all outstanding sanctions imposed by that Member in respect of the violation have been complied with.”
335. Article 17 paragraphs (8) and (9) further state that all investigations and judicial proceedings to be undertaken by the Member concerned are to be carried out expeditiously. Sanctions imposed “shall be adequate in severity to be effective in securing compliance and to discourage violations wherever they occur and shall deprive offenders of the benefits accruing from their illegal activities”. Reporting on the progress of any investigation “must be provided to the Member of the Commission making the request and to the Commission as soon as practicable and in any case within two months of the request.” A report on the outcome of the investigation shall be provided to the Commission Member making the request and to the Commission when the investigation is completed.
336. Establishing a CMS has been on NPFC’s list of tasks, including under its Work Plan, since at least 2018. The first CMS measure was adopted in 2019, with the overarching goal of implementing Articles 7, 13 and 17 of the Convention. CMM 2019-13 has many elements that are common to similar schemes adopted by other RFMOs. It is designed to identify cases of non-compliance by Members and CNCPs and to inform the Commission of areas where technical assistance and capacity building may be needed. It also aims at identifying aspects of CMMs that may require amendment for effective implementation. It has the common objective of determining responses to non-compliance and monitoring corrective actions to resolve outstanding instances of non-compliance (paragraph 2).
337. The NPFC-CMS follows the three-stage structure identified above. One positive aspect is outlined in paragraph 15 of the Measure. It provides that each compliance assessment shall be decided by consensus, but when consensus cannot be reached, the Provisional Compliance Report must indicate majority and minority views. A Member or CNCP may not block an agreement on its compliance assessment. However, the same logic is not followed for the adoption of the Final Compliance Report.
338. One negative aspect of the first CMS adopted in 2019 was its limited scope. Annex II, on the obligations to be assessed, only included CMM 2019-05 (Bottom Fisheries) and 2019-08 (Pacific Saury). However, paragraph 22 of CMM 2019-13 provides that Annex II will be reviewed annually and may be amended considering factors such as the priorities of the Commission or the risks associated with non-compliance to the long-term objectives of the Convention. At the 2021 meeting, the TCC recommended that a comprehensive list of obligations under a wider array of existing CMMs be assessed as part of the CMS process. While Annex II of CMM 2019-13 was not formally amended; Annex L of the 2021 6<sup>th</sup> Commission Meeting Report established a “List of Reporting Obligations for 2022”. There is also a sunset clause in paragraph CMM 2019-13, which states that the CMM “shall expire three years after its entry into force”.

339. An issue that requires further action is the Compliance Status Table in Annex I. Although it is clear and offers sensible alternatives to Members when adopting decisions, it lacks a distinction within categories of non-compliance. RFMO practice establishes criteria and mechanisms to address instances of persistent, repeated or severe non-compliance and applies measures accordingly, such as demanding specific action plans from States involved and agreeing on special penalties. Such distinctions facilitate difficult discussions and boosts compliance and enforcement in the long term.

#### *5.2.7.2. Review Panel's findings*

340. The Review Panel commends the adoption of the CMS in CMM 2019-13. It acknowledges that the Measure contains the structure and process to serve the goals for which these mechanisms are established. The Scheme is, in principle, fit for purpose and should become one of the pillars upon which the Commission ensures compliance and enforcement with NPFC obligations. Equally, the Review Panel acknowledges the first CMS assessment was tabled at the 5<sup>th</sup> meeting of the TCC in 2021, where no infringements were found.<sup>407</sup>

341. However, the Review Panel also notes that in light of the limited scope of Annex II of CMM 2019-13 and the list of obligations or “audit points” to be assessed as agreed by the Commission in 2021, it is inevitable that the Scheme has not been thoroughly tested. It remains to be seen how the TCC and the Commission will handle a longer and more complex list of obligations –like those in most other RFMOs – and how it will deal with actual instances of non-compliance.

342. On a related issue, the Review Panel wishes to note that one of the risks to the CMS and similar mechanisms is that they can quickly become almost entirely based on self-assessments provided by Members and CNCs. To date the Secretariat has relied wholly on self-assessment by Members and CNCs to assess compliance with existing CMMs. The Commission may wish to consider all the tools at its disposal to ensure that data is collected through MCS measures so that the CMS is robust and meaningful and Members’ assessments are based on independently verifiable information.

343. In this context, the Commission may benefit from developing a template for the Secretariat to undertake the task of collecting the relevant data for the implementation report of the CMMs included in the CMS. Also, transiting from manual to automated reporting would facilitate the Secretariat’s work and performance and benefit the TCC and the Commission.

344. A similar benefit would follow from reconsidering the CMS final decisions as provided in the Compliance Status Table discussed above. Stating that the Commission will have “consideration of further responses” to address cases of non-compliance is too general. The identification of distinctions according to the severity of non-compliance incidents would facilitate discussions and any responding remedial actions.

345. That said, the Review Panel expects that once it becomes entirely operational and includes a substantive list of obligations to assess, the CMS should serve the overarching purpose for which it was established. It should also become a helpful tool for collating different sources of data regarding possible infringements. In fact, without the CMS, it is often the case that the Annual Reports offer little information about investigations into alleged violations or actual sanctions. This does not necessarily mean that Members have not addressed some instances of IUU fishing

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<sup>407</sup>NPFC-2021-TCC05-WP09 (Rev.3).

or other infringements. However, it is not always clear from the TCC and Commission reports whether a breach has occurred and as a result, whether there were investigations into alleged violations.

346. In this context, the Commission may wish to apply all MCS tools and technologies at NPFC's disposal in order to better integrate compliance information. One example, highlighted in Section 5.2.3 concerns high seas boarding and inspection procedures and the outcome of such inspections. Since 2019, several reports from at-sea inspections record instances of possible non-compliance. They may offer information that flag States should thoroughly investigate and report to the TCC and the Commission. However, they have not made it into the CMS. Such alleged infringements include those concerning the marking of vessels, failure to show a licence on board, and failure to record catches. Equally, the Commission should consider data flowing from other technologies that NPFC currently does not utilize, but that could shed light on suspicious activities or possible infringements, such as AIS.
347. Finally, as mentioned in other parts of this Report, the Review Panel wishes to note that the Commission would benefit from reducing manual reporting and transit to e-reporting where possible. Such a development would significantly facilitate and streamline the CMS process and other compliance tasks.
348. NPFC is at a transition point in the implementation of the CMS. The agreement adopted in 2021 concerning the obligations to be covered by the CMS should be incorporated into Annex II of CMM 2019-13 and become a permanent feature. Equally, the Commission should consider amending the sunset clause so the current CMM does not expire in 2022 and instead focus on improving the CMS as it learns from experience over time.

#### *5.2.7.3. Review Panel's recommendations*

Recommendation 5.2.10: That the Commission continue to implement and improve its CMS, including by integrating, in the best possible way, all the MCS instruments at its disposal in order to supplement self-reporting by Members and CNCPs with verifiable data and information.

Recommendation 5.2.11: That the Commission migrate from manual to automated reporting to gather compliance and enforcement data, in order to facilitate the CMS process.

Recommendation 5.2.12: That the Commission establish criteria and mechanisms to address instances of persistent, repeated or serious non-compliance and apply measures accordingly, such as demanding specific action plans from States involved and a specified schedule of appropriate penalties or sanctions.

### **5.3. Flag State Duties and the requirements for Vessel Registration**

349. Article 13 specifies flag State duties under the Convention. Under paragraph (1), Members must ensure that the fishing vessels entitled to fly their flag comply with the provisions of the Convention and measures adopted according to it and do not conduct unauthorized fishing activities within areas under the national jurisdiction of another State adjacent to the Convention Area. Under Article 13(2), Members shall not allow any fishing vessel entitled to fly its flag to be used for fishing activities in the Convention Area unless authorised by the appropriate authority.
350. Equally, Article 13 paragraphs (4), (6) and (7) set out other flag State duties regarding reporting the position of transshipments, the placement of observers and accepting boarding and inspection.

Members must require fishing vessels that are entitled to fly their flag and that engage in fishing activities in the Convention Area to use real-time satellite position-fixing transmitters while in the Convention Area and to notify the Commission of their intention to enter and exit the Convention Area, in accordance with procedures developed under Article 7, subparagraph 2(e) and (f). Members must also notify the Commission of the location of any transshipment of fisheries resources and products of fisheries resources taken in the Convention Area, pending the adoption by the Commission of procedures for the regulation and monitoring of transshipments under Article 7, subparagraph 2(a).

351. As part of flag State duties, Members must place observers on board fishing vessels entitled to fly their flag operating in the Convention Area in accordance with the Observer Program. Such a Program shall be established under Article 7, subparagraph 2(b), except that fishing vessels engaged in bottom fishing in the Convention Area shall have 100% coverage. Members shall ensure that fishing vessels under their flag accept boarding by duly authorized inspectors in accordance with procedures for the boarding and inspection of fishing vessels in the Convention Area adopted by the Commission under Article 7, subparagraph 2(c).
352. Finally, Article 13 paragraphs (8) and (9) establish the obligations concerning the Commission's Vessel Registry. Each Member must maintain a record of fishing vessels entitled to fly its flag and authorized to be used for fishing activities in the Convention Area following the information requirements, rules, standards, and procedures adopted by the Commission. Members must provide annually to the Commission information, as decided by the Commission, concerning each fishing vessel entered in the record and promptly notify the Commission of any modifications to this information. Each Member must promptly inform the Commission of any additions and deletions from the record, including reasons for such changes. Equally, the Commission must maintain its record of fishing vessels based on the information provided by Members under paragraphs (8) and (9). The Commission shall make this record publicly available, taking into account the need to protect the confidentiality of personal information, consistent with the domestic practice of each Contracting Party.

#### *5.3.1. Review Panel's assessment of flag State duties*

353. There are multiple connections between the Convention's mandate to adopt MCS measures in Article 7(2) and the extent to which Members must implement flag and port State duties in Articles 13, 14 and 17. The difficulties associated with the lack of specific CMMs have already been discussed in previous sections and will not be repeated here. Some of them directly relate to flag State responsibilities, such as the regulation and monitoring of transshipments, the placement of observers and the scope of the CMS scheme. Because these Measures have not been adopted or have not been fully implemented, it is not possible to assess how flag States fulfil their duties regarding these obligations. Other relevant CMMs for flag State performance, such as the IUU listing process, have their problems, which this chapter also discussed and assessed. In this context, this section will examine how the record of vessels, one of the primary measures in promoting flag State responsibility as recognized in Article 16, has been implemented.
354. The requirements for vessel registration were among the first issues to be addressed by the Commission. CMM 2015-01 was adopted at the 1<sup>st</sup> Commission meeting ("Information Requirements for Vessel Registration"). The Vessel Registry was amended again in 2016, 2018,

2019 and 2021, streamlining its requirements and including, among other conditions, the FAO standards for marking and identifying fishing vessels.<sup>408</sup>

355. However, until 2019, NPFC also allowed for an interim mechanism to enable Members and CNCPs to submit a list of carrier vessels flagged to non-Members that were permitted to conduct transshipments with fishing vessels of Members or CNCPs. Such an interim regime was an exception to the practice of most RFMOs, and it represented a risk as the carrier flag State was not a party or cooperating State with NPFC. This exception was not renewed in 2021.

### *5.3.2. Review Panel's findings*

356. After years of discussions and revisions, except for a few issues outlined below, CMM 2021-01 "Information Requirements for Vessel Registration" appears to be fit for purpose. Although some operations of vessels not included in the Registry have occurred, these incidents are generally triggered by poor oversight from flag States. At the same time, Members in general duly investigate these incidents according to their domestic legislation, even though the information on the follow-up actions is not always provided promptly and only occurs if the vessel is included in the Draft IUU Vessel List.
357. The Review Panel believes that the Commission would benefit from clarifying and considering some improvements to the requirements for vessel registration. First, on the conditions themselves: not all conditions appear equally relevant, and some may be redundant. Second, the vessel register information is entered by the Member and later confirmed by the Secretariat. However, the Member can edit the data, and there is no requirement to advise the Secretariat. This loophole may create confusion and duplicate information. Third, the Commission should clarify the registration requirements for the vessels undertaking bunkering activities in the Convention Area. As bunkering supports fishing activities, it falls into the definition of "fishing" under Article 1(h) of the Convention ("any operation at sea in direct support of, or in preparation for, any activity" regarded as fishing). Therefore, there is no reason to exclude bunkering from the general obligations applicable to vessel registration. Finally, the Commission should, as a matter of priority, confirm the duty to have an IMO number for vessel registration by deleting the words "pending" in CMM 2021-01, Annex I, field "i".

### *5.3.3. Review Panel's recommendations*

Recommendation 5.3.1: That the Commission review the requirements for vessel registration to avoid demanding unnecessary information and to improve the registration process to prevent duplication and confusion.

Recommendation 5.3.2: That the Commission clarify that all vessels undertaking support activities in the Convention Area, including bunkering, should comply with vessel registration requirements.

Recommendation 5.3.3: That the Commission confirm the duty to have an IMO number for vessel registration by amending Annex I of CMM 2021-01.

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<sup>408</sup> FAO. 1989. Standard Specifications for the. Marking and Identification of Fishing Vessels. FAO, Rome. 69 pages.



#### **5.4. Port State duties and minimum standards**

358. Measures adopted and implemented by the port State are a central pillar to combat IUU fishing. In this context, port access means admission of foreign fishing vessels to ports or offshore terminals for, *inter alia*, refuelling, re-supplying, transshipping and landing (IPOA-IUU, paragraph 53). These are critical activities for operators seeking to improve the economic viability of their fishing operations. Therefore, by regulating access to their ports and inspecting vessels allowed to enter and use them, States can substantively reduce the risks of IUU catches crossing borders, thereby deterring illegal activities in the long term.
359. The importance of port States in the global architecture against IUU fishing led to the adoption of the FAO 2009 Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (the PSM Agreement). It establishes minimum standards based on a simple approach: States must demand, receive and assess information before deciding whether they grant access to their ports and then inspect those vessels that may have been involved in IUU fishing. States parties to the PSM Agreement and those that have not ratified it yet but regard the Agreement and port State measures more generally as crucial tools to fight IUU fishing have pushed for changes at the regional level. They have prompted RFMOs to follow a similar path by adopting standard rules for their Members to grant access to their ports, including minimum standards for inspections, sharing information and building capacity.
360. The practice of RFMOs confirms that port State measures are a critical MSC tool to prevent IUU fishing. In the Pacific Ocean, for example, IATTC (Resolution C-21-07, WCPFC (CMM 2017-02) and SPRFMO (CMM 7-2022) have all adopted minimum standards, seeking consistency with the PSM Agreement. In NPFC, Article 14 of the Convention recognizes the right and duty of coastal States to adopt measures to regulate the entrance and use of their ports. It implicitly provides that each Member must “give effect to port State measures adopted by the Commission in relation to the entry and use of its ports by fishing vessels that have engaged in fishing activities in the Convention Area”.

##### *5.4.1. Review Panel’s findings*

361. Despite the text of Article 14 of the Convention, the fact that all NPFC Contracting Parties except one are also parties to the FAO 2009 PSM Agreement, and the extensive practice of RFMOs worldwide, NPFC has yet to adopt a common scheme defining the minimum standards for PSM. Members and stakeholders have recognized this loophole in their questionnaire responses.
362. The reasons for NPFC not having a regional measure are only speculative. Perhaps Members feel that their national legislation is enough to adequately build a regional, common front on port State measures, particularly those that have ratified and implemented the PSM Agreement. Others may sense that their obligations under other RFMOs have already advanced the implementation of domestic port State controls. However, the lack of common standards prevents Members from having a valuable tool to combat IUU fishing. For example, a standard scheme would facilitate an understanding of the frequency of foreign vessels’ visits to ports, enable designated ports for compliance purposes, and facilitate the exchange of information on requests for access and inspections. It would also help address the issue of stateless vessels operating in the Convention Area as Members could share information and take appropriate actions to prevent such vessels from seeking shelter, supplies and markets through Member States’ ports.

363. The Review Panel agrees that it would be desirable to make improvements in this area in line with the approach taken in other comparable RFMOs. The Commission should consider adopting a PSM scheme which establishes minimum standards for port inspections. That CMM should promote consistency with the FAO 2009 PSM Agreement and notification and inspection regimes across the Convention Area. The future NPFC PSM scheme should also consider a robust mechanism for the exchange of information on possible IUU vessels seeking access to NPFC ports so that Members can adequately deny such vessels the benefits of IUU fishing.

#### *5.4.2. Review Panel's recommendations*

Recommendation 5.4.1: That the Commission adopt, as a matter of priority, a conservation and management measure specifying minimum standards for port inspections, consistent with the FAO 2009 Port State Measures Agreement.

### **5.5. Measures to deter nationals from engaging in IUU fishing**

364. The pivotal role of the flag State in international fisheries does not mean there are no other jurisdictional links that States can assert on the high seas. Paragraph 18 of the IPOA-IUU provides that States should “take measures or cooperate to ensure that nationals subject to their jurisdiction do not support or engage in IUU fishing”. Admittedly, not every RFMO has adopted a common scheme to implement the States’ duty to prevent their nationals – both legal and natural persons – from engaging in IUU fishing. Yet some regional experiences, like the measures enacted by CCAMLR in the late 2000s, eventually proved a helpful tool to support other actions to fight IUU fishing by flags of convenience and vessels without nationality.
365. Article 17(7) of the Convention provides that, without prejudice to the priority of the responsibility of the flag State, “each member of the Commission, in accordance with its laws, shall: (a) to the greatest extent possible, take measures and cooperate to ensure compliance by its nationals, and fishing vessels owned, operated or controlled by its nationals, with the provisions of this Convention and any conservation and management measures adopted by the Commission”. The same provision states that “(b) either on its own initiative or at the request of any other member of the Commission and when provided with the relevant information, promptly investigate any alleged violation by its nationals, or fishing vessels owned, operated or controlled by its nationals, of the provisions of this Convention or any conservation and management measures adopted by the Commission”.

#### *5.5.1. Review Panel's findings*

366. No standard approach to implementing the obligations under Article 17(7) appears in sight for NPFC. Neither the TCC nor the Commission has discussed any proposal in this regard. The Commission has not taken steps to review the implementation of this provision either. However, Members should not disregard mechanisms to make these obligations operational. Considering the high number of IUU fishing sightings in the form of stateless vessels operating in the Convention Area, measures binding States to exert responsibility through the nationality link could play a role in deterring these activities. The Review Panel notes that the Convention tasks Member States to take measures and cooperate to ensure compliance by its nationals with the provisions of this Convention. Although it is not a matter of priority for the Commission, Members may wish to implement a scheme in the medium term to prevent their nationals from engaging in IUU fishing, including on board stateless vessels. Considering the extension and seriousness of the IUU

operations of stateless vessels, any measures or tools that could contribute to addressing the problem should be explored by the Commission, including actions taken by the State of the nationality to deter captains and crews from engaging in IUU activities.

#### *5.5.2. Review Panel's recommendations*

Recommendation 5.5.1: That the Commission consider the development of a specific scheme to implement the obligations under Article 17(7) so that Members and CNCPs take adequate measures to prevent their nationals from engaging in IUU fishing activities.

## **6. Decision-making and Dispute Settlement**

### **6.1. Decision-making**

367. Article 8 of the NPFC Convention provides:

1. As a general rule, the Commission shall make its decisions by consensus.
2. Except where this Convention expressly provides that a decision shall be taken by consensus, if the Chairperson considers that all efforts to reach consensus have been exhausted:
  - a. decisions of the Commission on questions of procedure shall be taken by a majority of Members of the Commission casting affirmative or negative votes; and
  - b. decisions on questions of substance shall be taken by a three-quarters majority of Members of the Commission casting affirmative or negative votes.
3. When the issue arises as to whether a question is one of substance or not, that question shall be treated as one of substance.
4. No decisions shall be taken unless there is a quorum of two-thirds of the Members of the Commission present at the time the decision is to be taken.

368. This decision-making process requires consensus decision-making for specific decisions as set out in the Convention, namely decision making on the terms and conditions for any new fisheries in the Convention Area and the nature and extent of participation in such fisheries,<sup>409</sup> on the budget, and on the formula for contributions.<sup>410</sup> For all other decisions, if Members are unable to agree, there is the possibility to move to a vote. However, to date there have been no instances in the NPFC where a decision has been taken by vote.

369. Decisions become binding on Members 90 days after notification of its adoption, except where a Member objects under Article 9 of the Convention on the grounds that the decision is inconsistent with the provisions of the NPFC Convention, the 1982 UN Law of the Sea Convention or the 1995 UN Fish Stocks Agreement, or that the decision unjustifiably discriminates in form or in fact against the objecting Member. Where this occurs, the objecting Member must provide an explanation of the grounds for its objection and must also adopt and implement alternative measures that are equivalent in effect to the decision to which it has objected. Any other Member may request a meeting of the Commission to review the decision to which the objection has been presented, to which must be invited two or more experts who are nationals of non-members of the

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<sup>409</sup> Article 10 (1)(g).

<sup>410</sup> NPFC Convention, Article 12.

Commission and who have sufficient knowledge of international law related to fisheries and of the operation of regional fisheries management organizations to provide advice to the Commission on the matter in question. The Commission considers whether the grounds for the objection are justified and whether the alternative measures adopted are equivalent in effect to the decision to which the objection has been presented. If the Commission decides, presumably using the decision-making procedure in the Convention, that the grounds are not justified and that the alternative measures are not equivalent, the objecting Members is faced with three alternatives: present different alternatives; implement the decision, or pursue dispute settlement under Article 19 of the NPFC Convention.

370. Article 9 of the Convention has not been used by the NPFC, but it provides an alternative procedure where the Commission seeks to take a decision by vote to which a Member objects. In this regard it is similar to the Conventions establishing the Western and Central Pacific Fisheries Commission (WCPFC) and the South Pacific Regional Fisheries Organization (SPRFMO). The main difference, however, is that instead of an independent Review Panel making findings and recommendations, the NPFC Convention provides for the Commission to receive advice from independent experts, and to decide the matter itself using the decision-making procedures in the Convention. Article 9 therefore cannot be characterised as a limited form of dispute resolution found in those other Conventions and which has been used by Members of SPRFMO. Rather, the NPFC procedures provide a means for the Members of the Commission to resolve objections to decisions of the Commission taken by majority vote.
371. Allowing the possibility of voting where all efforts to reach consensus have been exhausted can facilitate the adoption of conservation and management measures to overcome the objections of one Member. However, there is a clear practice within NPFC of consensus decision-making and NPFC Members appear to support making all efforts to reach consensus. This promotes harmony within the organization and a willingness to implement decisions of the Commission. On the other hand, the disadvantages of consensus decision-making are well-known. Consensus decision-making may draw out the decision-making process and can lead to decisions based on the lowest common denominator.
372. The NPFC has a range of subsidiary bodies which can facilitate decision-making by the Commission. The SC's subsidiary SSCs and TWGs and SWGs appear, from published reports, to provide a useful channel of information and advice from the technical experts to the SC, and then to the Commission. It was noted in a questionnaire response that the SC strives for consensus in decisions related to its scientific activities and recommendations to the Commission. Disagreements among Members have been addressed in the past through contracting an external expert to review the science, tasking an appropriate SWG to undertake further discussion and make recommendations, or the issue is revisited during a special meeting of the SC, as occurred in relation to the Pacific Saury stock assessment in January 2021. If there are different views among Members, these are reflected in the final SC report.
373. The NPFC TCC also has two SWG on Planning and Development and on Operations which report annually at the TCC meeting. Previously there were four SWG: the TCC SWG on Vessel Registry; the TCC SWG on VMS; the TCC SWG on Assessing Compliance and the TCC SWG of Operational Enforcement.<sup>411</sup> In 2019 TCC recommended that the Commission consider

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<sup>411</sup> This SWG was established in 2018: TCC03, Final Report, para 18; COM04, Final Report, para 19.

streamlining the four SWGs into two (policy/planning and operational enforcement).<sup>412</sup> TCC, like the SC, strives to make its recommendations by consensus.<sup>413</sup>

374. The Review Panel was not able to fully assess the operations or effectiveness of the TCC SWGs because their reports are not public. TCC03 made a number of recommendations based on the work of three of the SWG, which suggests that they can facilitate the work of the Commission.<sup>414</sup> However, two years later TCC05 discussed the need to progress work on monitoring and control of at-sea transshipments and noted “the need to develop a work plan for the SWG that balances making progress on the relevant tasks and not overburdening participants”.<sup>415</sup> An interviewee suggested that the SWG did not contribute significantly to efficient decision-making. Progress in the SWG is affected by the virtual nature of the meetings. In 2019 TCC04 recommended that the Commission consider having the TCC SWG meetings occur as face-to-face meetings.<sup>416</sup> COM06 accepted the recommendations of TCC04, however, meetings of the SWGs continue to operate virtually, recognising of course this has been the only option in the last two years due to the COVID-19 pandemic.
375. The Review Panel considers that SWG can operate effectively to facilitate decision-making, but they need to have clear work programs and timetables for completion of intersessional work. The use of a facilitator to guide the SWG and where possible in-person meetings can be used to make progress. A questionnaire respondent noted that intersessional TCC SWG were not open to observers, an issue that was also raised at TCC05 in February 2021.<sup>417</sup> Greater openness of TCC SWG as well as transparency in their outputs could help to bring about more efficient and effective input into TCC recommendations and Commission decisions.
376. The Review Panel was not able to observe a Commission meeting as the scheduled 2022 meeting was postponed. However, it appears from interviews and questionnaire responses that the NPFC tends to adopt informal processes to reach consensus decisions. The Panel was advised that decisions are often taken in small groups with limited membership, and then the decision is brought to the Commission plenary for adoption. The Review Panel recognizes that sensitive discussions may need to take place in small groups in order to reach consensus among those most affected, assuming the consensus holds once the issue is brought back to plenary. Such small group processes are an effective method of reaching decisions on contentious matters. However, some interviewees suggested that it was not clear whether there was any benefit from using closed decision-making processes, given the limited progress in NPFC over the last few years on some important issues. On the other hand, without such processes, progress may have been further limited.
377. According to the Terms of Reference, the Review Panel is to consider the extent to which the NPFC has transparent and consistent decision-making procedures that facilitate the adoption of conservation and management measures in a timely and effective manner. Although most questionnaire responses from Members considered that decision-making processes were effective, a few of the responses questioned the timeliness and transparency of decision-making. One

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<sup>412</sup> TCC04, Final Report, para 79; COM05, Final Report, para 25.

<sup>413</sup> TCC, Terms of Reference, COM05, Final Report, Annex I.

<sup>414</sup> TCC03 Final Report, paras 14-18.

<sup>415</sup> TCC05 Final Report, para 26.

<sup>416</sup> TCC04, Final Report, para 79.

<sup>417</sup> TCC05 Final Report, para 51.

respondent observed that “decisions can often take too much time before adopting appropriate measures”. Another suggested the use of regular scheduled meetings to assist in consensus building and better decision-making. Some interviewees suggested that increased transparency can lead to better decisions because it expands the range of ideas and information on which Members can base their decisions.

#### *6.1.1. Review Panel’s findings relating to decision-making*

378. The Review Panel acknowledges the effectiveness of the consensus first/vote later approach used in the NPF Convention, and notes that the Members of NPFC strive to achieve consensus decision-making in the Commission and subsidiary bodies. The NPFC uses informal discussions as a way to achieve consensus, but in doing so care should be taken that the decision-making processes are as transparent as possible. The Review Panel also acknowledges that there is a necessary balance between facilitating timely and effective decision-making through informal small group processes, and the transparency of those processes.
379. The NPFC uses various procedural mechanisms to progress effective recommendations from the subsidiary bodies to the Commission, including small group processes to discuss and make recommendations, the use of external experts, and independent consultant advisers. The SC uses these mechanisms to good effect, but progress in TCC SWG is slower. The Review Panel encourages the continued use of these mechanisms, together with others such as the use of facilitators to make progress in TCC SWG.

#### *6.1.2. Review Panel’s recommendations on decision-making*

Recommendation 6.1.1. That the work of the TCC SWGs be facilitated by having clear work programs and timetables for completion of intersessional work, reporting against work programs in annual reports to TCC, and meetings are held where feasible in person in order to expedite progress on difficult issues in the work program.

## **6.2. Dispute Settlement**

380. The NPFC Convention has a dispute resolution procedure which is provided for in Article 19:
- a) Contracting Parties shall cooperate in order to prevent disputes and shall use their best endeavours to resolve any disputes by amicable means which may include, where a dispute is of a technical nature, referring the dispute to an *ad hoc* expert panel.
  - b) In any case where a dispute is not resolved through the means set out in paragraph 1, the provisions relating to the settlement of disputes set out in Part VIII of the 1995 Agreement shall apply, *mutatis mutandis*, to any dispute between the Contracting Parties.
  - c) Paragraph 2 shall not affect the status Contracting Party in relation to the 1995 Agreement or the 1982 Convention.
381. These provisions are broadly consistent with those found in the constituent documents of other RFMOs, such as WCPFC and SPRFMO. They have not been used to date. However, there is nothing to suggest that the mechanisms are not adequate for resolving any future disputes among Members.

### *6.2.1. Review Panel's findings*

382. The Review Panel notes that the Article 19 dispute settlement process has never been used since the NPFC Convention entered into force but considers it is adequate for resolving disputes among Members.

## **7. International Cooperation**

### **7.1. Relationship to cooperating non-Members**

383. Article 20 of the Convention provides for the Commission to cooperate with non-Parties to the Convention, including by requesting non-Contracting Parties whose vessels fish in the Convention Area to become party to the Convention or to agree to cooperate fully in the implementation of CMMs adopted by the Commission. Members of the Commission are obliged to exchange information on the activities of fishing vessels of non-Contracting Parties that are engaged in fishing in the Convention Area and to take measures to deter activities of such vessels which undermine the effectiveness of applicable CMMs. Members of the Commission are also to take appropriate measures to preventing their flag vessels from transferring their registration to non-Contracting Parties for the purpose of avoiding compliance with the Convention.
384. In order to facilitate cooperation with non-Parties, the Commission has adopted rules to recognize the status of Cooperating non-Contracting Party (CNCP).<sup>418</sup> Rule 10 of the Rules of Procedure sets out the process for recognition of CNCPs. Each year, the Executive Secretary contacts all non-Contracting Parties whose vessels fish in the Convention Area and those known to have an interest in fishing in the Convention Area, to request them to become a Contracting Party or attain the status of CNCP. Requests for CNCP status must include its reasons for seeking CNCP status, and other relevant information to support the status, including full data on historical catches and a commitment to cooperate fully in the implementation of the CMMs adopted by the Commission and an explicit commitment to accept high seas boarding and inspections in accordance with the Commission's procedures. A CNCP applicant is encouraged to make a financial contribution commensurate with what it would be assessed should it become a Contracting Party. CNCP status is reviewed by TCC and accorded by the Commission on a bi-annual basis. A CNCP seeking to renew its CNCP status must comply with Commission requirements to ensure compliance with NPFC CMMs. Once CNCP status is granted, the CNCP is to comply with all CMMs adopted by the Commission; provide all data Members of the Commission are required to submit; inform the Commission annually of the measures it takes to ensure compliance by its vessels with the Commission's CMMs; respond in a timely manner to alleged violations of CMMs adopted by the Commission and any alleged IUU activities of vessels flying its flag, and accept boarding in accordance with the Commission's high seas boarding and inspection procedures. Following the granting of CNCP status, the Commission may determine how the participatory rights of CNCPs will be limited by the CMMs adopted by the Commission. CNCPs that fail to comply with any of the CMMs adopted by the Commission are deemed to have undermined the effectiveness of the CMMs adopted by the Commission and may be subject to sanctions. This may include the revocation of CNCP status.

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<sup>418</sup> This was done at the third Commission meeting: COM03 Final Report, para 48.

385. Only one State has been granted CNCP status – Panama. It was granted CNCP status in July 2019 for one year.<sup>419</sup> This was reviewed at the following Commission meeting in February 2021, and CNCP status granted, to be reviewed at the next Commission meeting, expected in 2023.<sup>420</sup>
386. There has been discussion over the years in TCC and the Commission on CNCP status which, according to the Rules of Procedure is to be granted on a bi-annual basis. At COM02 in 2016, the Commission decided that further consideration was needed on whether the Commission should accord CNCP status on a bi-annual basis or an annual basis.<sup>421</sup> The meeting reports do not show that this was considered further by the Commission. However, CNCP status is accorded to Panama on an annual basis.
387. In 2016 Ukraine presented a proposal to conduct fishing activities in the Convention Area.<sup>422</sup> It attended the Commission meeting the following year and repeated its intention to conduct fishing activities, in particular crab, squid and finfish fisheries, in the Convention Area.<sup>423</sup> It proposed cooperation with the NPFC as a CNCP and the Secretariat was charged with coordination with Ukraine on this.<sup>424</sup> Ukrainian interest in this appeared to wane in the following year (2018).<sup>425</sup> There is no evidence to suggest that Ukrainian vessels have historically, or currently are, conducting fishing activities in the Convention Area.

#### *7.1.1. Review Panel's findings*

388. The Review Panel is to consider the extent to which the NPFC facilitates cooperation between Members and CNCPs, including by encouraging them to become Members. The questionnaire responses did not indicate that there were any concerns over cooperation between Members and CNCPs. There were mixed views among questionnaire respondents as to whether the NPFC had encouraged Panama to become a Member of NPFC. A more substantive issue is the consistent application of the requirements for approving CNCP status, which should be standardised.

#### *7.1.2. Review Panel's recommendations*

389. Recommendation 7.1.1: That the Commission decide whether to grant CNCP status on a biannual or an annual basis and apply a consistent approach to the granting of CNCP status.

### **7.2. Relationship to non-cooperating non-Members**

390. Concerns have been expressed over the years on the extent of fishing activities by non-parties to the NPFC Convention. For example, at TCC01 in 2016 Japan referred to its paper on Vessels Sighted in the Convention Area by Japan's Fisheries Enforcement Vessels,<sup>426</sup> and expressed its concern that almost 200 foreign vessels were sighted just outside of Japan's EEZ.<sup>427</sup> Russia voiced

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<sup>419</sup> COM05 Final Report, para 13.

<sup>420</sup> COM06 Final Report, para 14.

<sup>421</sup> COM02 Final Report, para 35.

<sup>422</sup> COM02 Final Report, para 30.

<sup>423</sup> COM03 Final Report, para 49.

<sup>424</sup> Ibid.

<sup>425</sup> TCC03, Final Report, para 34.

<sup>426</sup> NPFC-2016-TCC01-IP05.

<sup>427</sup> TCC01 Final Report, para 9.



similar concerns.<sup>428</sup> Again at TCC02 Japan reported 288 vessels sighted in 2016 in the Convention Area, of which, 68 were suspected to be IUU vessels.<sup>429</sup> Of these, Japan noted presumed instances where vessels had changed their names and cases of multiple vessels having the same name and three digit registration number.<sup>430</sup> Seven cases of two vessels with the same name and three digit registration number were addressed and the seven illegal vessels added to the IUU Vessel List.<sup>431</sup>

391. The High Seas Boarding and Inspection Procedures provide for authorized inspection vessels to engage in surveillance aimed at identifying fishing vessels of non-Members undertaking fishing activities on the high seas in the Convention area.<sup>432</sup> TCC03 recommended to the Commission that the Secretariat develop and maintain a list of vessels identified through HSBI surveillance.<sup>433</sup> This is included on the secure side of the website.
392. Unauthorised activities in the Convention Area are also related to transshipment which is significant in the NPFC Convention Area and involves carrier vessels from a number of different flags. As noted in Section 5.3 the Commission established an Interim Vessel Register in CMM 2019-01 on vessel registration requirements which was applicable from 2017 until 2019 and permitted Members to use non-member carrier vessels included on the Interim Register to receive transshipments of fisheries resources caught in the Convention Area from fishing vessels flying the flag of Members. The Interim Non-Member Carrier Vessel Register was due to expire in 2019. The Secretariat reported that it had sent two letters to flag States of non-Member carrier vessels in August and again in October 2018 to note the proposed expiration of the Interim Register to encourage them to become CNCPs. In response Panama made an application for CNCP status and Liberia made an inquiry indicating its interest in applying for CNCP status. Liberia did not pursue this request. Other than Panama and Liberia, no other non-Member carriers responded to the letters from the Secretariat.<sup>434</sup> The Commission decided to extend the Interim Register until 31 August 2020.<sup>435</sup> This exemption therefore no longer applies. There are currently at least three non-Member, non-CNCP flag States with unauthorized carrier vessels operating in the Convention Area.<sup>436</sup>

### *7.2.1. Review Panel's findings*

393. The issue of IUU fishing in the NPFC Convention Area is of concern, as has been noted in Chapter 5. There are acknowledged instances of unauthorized carrier vessels operating in the NPFC Convention Area. Although the problem of IUU fishing in NPFC appears to be significant, there is a lack of serious efforts to encourage the flag States of vessels that undertake fishing or transshipment activities in the Convention Area to seek CNCP status. Given the role that transshipment plays in the NPFC Convention Area, this should be addressed by the Commission. Efforts could include tasking the Secretariat to re-new efforts to contact all non-Contracting Parties

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<sup>428</sup> TCC01 Final Report, para 10.

<sup>429</sup> TCC02, Final Report, para 21.

<sup>430</sup> Ibid.

<sup>431</sup> TCC 02 Final Report, para 26.

<sup>432</sup> CMM 2017-09, para 43.

<sup>433</sup> TCC03, Final Report, para 48(t).

<sup>434</sup> TCC04 Final Report, para 30.

<sup>435</sup> COM05 Final Report, para 23.

<sup>436</sup> It is not clear to the Review Panel whether these vessels are supporting the operations of Members' fishing vessels.

whose vessels fish or tranship in the Convention Area and those known to have an interest in fishing in the Convention Area, to request them to become a Contracting Party or attain CNCP status. If the flag States do not do so, the vessels concerned should be included on the NPFC IUU Vessel List. Members whose flag vessels utilise the services of vessels that are flagged to non-Contracting Parties should take appropriate domestic action to prohibit the utilisation of those services.

#### *7.2.2. Review Panel's recommendations*

Recommendation 7.2.1: That the Commission task the Secretariat to contact the flag States of fishing vessels and carrier vessels that are not authorized to fish in the Convention Area and those known to have an interest in fishing in the Convention Area and encourage them to seek CNCP status in NPFC and for the Secretariat to provide the Commission with an annual report on such outreach and on non-cooperating non-Member activities.

Recommendation 7.2.2: That the Commission revise CMM 2016-03 to require Members to prohibit vessels flying their flag from utilising the services, including transshipment services, of vessels that are flagged to non-contracting parties that are not CNCPs in the Convention Area.

Recommendation 7.2.3: That where carrier vessels of non-contracting Parties and non-CNCPs are confirmed to have undertaken transshipment in the NPFC Convention Area of fisheries resources managed by NPFC, the vessels concerned should be placed on the NPFC IUU Vessel List in accordance with IUU vessel listing procedures.

### **7.3. Cooperation with other international organizations**

394. Article 21 of the NPFC Convention requires the Commission to cooperate with the FAO and relevant regional organizations or arrangements, especially with those with responsibility for fisheries in marine areas near or adjacent to the Convention Area. Article 21 envisages cooperation in a number of different areas: taking into account the conservation and management measures of RFMOs in adjacent areas in respect of species belonging to the same ecosystem; utilizing existing institutions to achieve the objective of the Convention; and cooperating in enforcement activities. The overall objective is to develop cooperative working relationships with intergovernmental organizations that can contribute to its work and with adjacent RFMOs.
395. The topic of cooperation with other organizations was raised at the 1<sup>st</sup> Scientific Committee meeting which noted that there are two levels of cooperation:<sup>437</sup>
- a) Mutual observers to each other's meetings to strengthen scientific information exchange and cooperation; and
  - b) Higher level and more formal cooperation through a memorandum of understanding whereby there is cooperation and active exchange of information or cooperative actions between organizations.
396. Subsequently the SC recommended that Members engage in more proactive cooperation with other organizations.<sup>438</sup> It has included activities relating to cooperation with other organizations in its

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<sup>437</sup> SC01 Final Report, para 42.

<sup>438</sup> SC02 Final Report, para 69.

Research Plans, including the current Plan (2021-2025). The Commission agreed to enhance cooperation with other organizations in order to complement the objectives and activities of the NPFC.<sup>439</sup>

397. NPFC has strong cooperative relationships with the North Pacific Marine Science Organization (PICES) and the North Pacific Anadromous Fish Commission (NPAFC) as well as with the Food and Agriculture Organization (FAO). It is seeking to develop its relationships with other international organizations, particularly adjacent or overlapping RFMOs.
398. Cooperation with PICES in the scientific field appears to have been excellent. In 2017 the NPFC and PICES established a joint PICES-NPFC Study Group to identify opportunities for scientific cooperation between the two organizations.<sup>440</sup> The Study Group developed a NPFC-PICES Framework for Enhanced Scientific Collaboration in the North Pacific which identified three broad areas of joint interest on which collective progress was anticipated over the following five years: (i) support for stock assessment for priority species; (ii) vulnerable marine ecosystems; and (iii) ecosystem approach to fisheries, with the first two being high priority areas for cooperation.<sup>441</sup> Mechanisms for collaboration have included joint workshops and symposia, and observer/expert participation in each other's meetings. This demonstrates a structured approach to cooperation between NPFC and PICES which appears to be valued by both sides.
399. NPFC and NPAFC signed a Memorandum of Cooperation (MOC) in May 2019. The MOC provides for cooperation on matters of common interest (such as stocks and by-catch) including exchange of data and information, collaboration on research efforts on species of mutual interest and implementation of CMMs. NPFC may also share certain information about salmon bycatch or retention of salmon with the NPAFC, on a voluntary basis.<sup>442</sup> TCC has indicated that this data sharing is for the scientific purposes, rather than compliance purposes.<sup>443</sup> There has also been interest in a multinational research survey on salmon in the North Pacific and the potential for cooperation in NPAFC on air surveillance of the North Pacific by the NPAFC to combat IUU fishing in the Convention Area.<sup>444</sup> Again there is a structured approach to cooperation between NPFC and NPAFC. Both the SC and TCC have reviewed a draft five-year Work plan to implement NPAFC/NPFC Memorandum of Cooperation, 2021-2025, proposed by the Executive Director of the NPAFC, and incorporated the SC-related items,<sup>445</sup> and the compliance-related matters into the MoC Work Plan.<sup>446</sup> The Secretariat is to liaise with NPAFC to continue work to finalize the Plan.<sup>447</sup> NPFC maintains a NPFC-NPAFC facility on the NPFC website for information sharing between the two organizations.
400. NPFC is also part of the FAO Areas Beyond National Jurisdiction (ABNJ) Deep Seas Project and engages in cooperation on the management of deep-sea fisheries and protection of marine ecosystem. FAO shared its information on the VME ecosystem database with the SSC VME and

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<sup>439</sup> COM03, Final Report, para 43.

<sup>440</sup> COM03, Final Report, Annex G.

<sup>441</sup> SC04, Final Report, Annex K; COM05, Final Report, para 42.

<sup>442</sup> Memorandum of Cooperation, NPFC and NPAFC.

<sup>443</sup> TCC04 Final Report, para 51.

<sup>444</sup> COM04, Final Report, para 39.

<sup>445</sup> SC06 Final Report, paras 49, 50 and Annex P.

<sup>446</sup> TCC05 Final Report, Annex D.

<sup>447</sup> TCC05 Final Report, para 16; COM06 Final Report, para 35.

encouraged NPFC to actively participate in the database development exercise.<sup>448</sup> A NPFC/FAO workshop was held in March 2018, which provided a strong foundation for VME-related work.<sup>449</sup> SC4 has also endorsed the use of FAO's publicly-available VME Map as a template for developing the NPFC's own VME map.<sup>450</sup> The SC has considered and supported the NPFC entering into an arrangement with FAO's Fisheries and Resources Monitoring System (FIRMS) Partnership.<sup>451</sup> Collaboration between NPFC and the FAO Global Record of Fishing Vessels on a project to use AIS data technology for scientific analyses has been supported,<sup>452</sup> as well as possible collaboration with FAO in relation to sharing vessel data for the Global Record of Fishing Vessels.<sup>453</sup>

401. The Commission has recognized the potential value of cooperation with other organizations, such as WCPFC, SPRFMO, NAFO and IATTC, but agreed that any such cooperation must contribute to the mission of the NPFC.<sup>454</sup> Progress has been made in cooperative arrangements with SPRFMO, WCPFC, and IATTC.<sup>455</sup> Some of these have been delayed as a result of the COVID-19 pandemic and the reduced bandwidth to consider substantive issues during virtual meetings.

#### *7.3.1. Review Panel's findings*

402. The Review Panel appreciates that the NPFC has entered into structured collaborative relationships with PICES and NPAFC which are valuable and have good potential. There may be a need for care, as noted in a questionnaire response, that cooperation plans are not overly ambitious. The NPFC Convention Area is adjacent to, or overlaps, the areas of competence of other RFMOs in the Pacific Ocean. There has been little attention paid to the compatibility of procedures and processes between NPFC and these other RFMOs nor to enhancing common standards for fleets. The Review Panel considers that cooperation with these other organizations requires bolstering, not only in the area of science, but also in the area of compliance, including by providing sufficient funding for this purpose. This should extend where feasible to the sharing of information and exploring opportunities to collaborate on the development of information management systems. In general, however, cooperation with other organizations must contribute to the mission of the NPFC.

#### *7.3.2. Review Panel's recommendations*

Recommendation 7.3.1: That the Commission task the Executive Secretary, in consultation with Members, to develop a prioritized program of work to strengthen practical cooperation with other organizations, including on data sharing and data management. This should include collaboration with WCPFC and IATTC as a priority.

Recommendation 7.3.2: That in addition to the development of any necessary formal linkages through MOUs, the Secretariat be encouraged to engage informally with staff in other RFMOs, including through the IMCS Network, to learn and share experiences of operational activities.

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<sup>448</sup> SC01 Final Report, para 9.

<sup>449</sup> SC03 Final Report, para 6 and 37.

<sup>450</sup> SC04 Final Report, para 10.

<sup>451</sup> SC05 Final Report, para 54 and 55; SC06 Final Report, para 51 and 52.

<sup>452</sup> SC05 Final Report, para 59.

<sup>453</sup> TCC04 Final Report, para 40 and SC06 Final Report, para 55-56.

<sup>454</sup> COM04 Final Report, para 42.

<sup>455</sup> COM05 Final Report, paras 46-48.

#### 7.4. Special requirements of Developing States

403. Unlike the Conventions establishing some other RFMOs, such as WCPFC and SPRMO, there is no provision in the NPFC Convention which requires the Commission to give full recognition to the special requirements of developing State Contracting Parties in the region, in particular small island developing States, in relation to the conservation and management of fishery resources in the Convention Area. Although the NPFC Convention does not specifically include such a provision, Article 24 of the UN Fish Stocks Agreement is relevant and provides for recognition of the special requirements of developing states, while Article 25 sets out the forms of cooperation with developing countries, including enhancing their ability to develop their fisheries and providing assistance to improve conservation and management and monitoring, control, surveillance and enforcement. Article 28 of the NPFC Convention makes clear that the rights, jurisdiction and duties of Parties to the UN Fish Stocks Agreement are not to be prejudiced by the Convention.
404. The Performance Review criteria provide that the Review is to assess:
- Extent to which the NPFC recognizes the special needs of developing States and pursues forms of cooperation with developing States, including with respect to fishing allocations or opportunities, taking into account UNFSA Articles 24 and 25, and the Code of Conduct of Responsible Fisheries Article 5.
405. NPFC has one Member which is a small island developing State: Vanuatu. At its meeting in 2021 the SC “noted that Vanuatu is a small island developing state which is still developing its fishery, and that Vanuatu urges the SC to consider its aspirations when making recommendations to the Commission”.<sup>456</sup> At COM06 in 2021, Vanuatu presented a proposal to amend CMM 2019-08 for Pacific Saury to take into consideration the interests of small island developing States when revising the CMM in future (NPFC-2021-COM06-IP04).<sup>457</sup> The Commission adopted a revised CMM for Pacific Saury which included the following paragraph:
17. Consideration should be given to development aspirations of small island developing States in accordance with international law in revising this CMM.

##### *7.4.1. Review Panel’s findings*

406. The special requirements of small island developing States has not received much attention in the NPFC. This may be due to the impression, which the Review Panel has heard expressed, that Vanuatu is operating in the NFPC as a fishing nation, not as a small island developing State. The NPFC Convention does not require the Commission to give full recognition of the special requirements of developing States, and in particular small island developing States, but this is recognized in the UN Fish Stocks Agreement and the Code of Conduct for Responsible Fisheries. The UN Fish Stocks Agreement draws no distinction between small islands developing States that are fishing nations and those that are not, and indeed is explicit in requiring cooperation to assist small island developing States to enable them to participate in high seas fisheries.

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<sup>456</sup> SC05 Final Report, para 13.

<sup>457</sup> COM06 Final Report, para 50.

#### *7.4.2. Review Panel's recommendations*

Recommendation 7.4.1. That the Commission demonstrate consideration of the special requirements of developing States, in particular SIDS, in its decision-making.

### **7.5. Transparency**

407. Article 18 of the Convention requires the Commission to promote transparency in its decision making processes and other activities carried out under the Convention. It provides for representatives from intergovernmental organizations and non-governmental organizations concerned with matters relevant to the implementation of this Convention to be afforded the opportunity to participate in the meetings of the Commission and its subsidiary bodies as observers and as provided for in the Rules of Procedure, which shall not be overly restrictive in this respect. Intergovernmental organizations and non-governmental organizations are to be given timely access to pertinent information subject to the rules and procedures that the Commission may adopt. Article 18 also provides that any conservation, management and other measures or matters that are decided by the Commission or subsidiary bodies shall be made publicly available unless otherwise decided by the Commission.
408. Rule 9 of the Commission Rules of Procedure provides for the participation of observers of non-Members which participated in the Multilateral Meetings on the Management of High Seas Fisheries in the North Pacific Ocean,<sup>458</sup> have jurisdiction over waters adjacent to the Convention Area, or which have an interest in the work of the Commission and are invited by the Commission; the FAO, specialised agencies, RFMOs, and other intergovernmental organizations (IGOs), independent experts and other advisers invited by the Commission; and non-governmental organizations (NGOs) accredited by the Commission in accordance with the Rules of Procedure. NGOs must request to participate as an observer 60 days in advance of a meeting and provide required information including a description of its mission, how its mission and activities are related to the work of the Commission. Participation is accepted unless a simple majority of Members objects within 30 days of the opening of the meeting. Observer status remains in effect for future meetings unless the Commission decides otherwise.
409. The Rules of Procedure also provide for the participation of observers in similar terms to other RFMOs. Observers are able to participate in all meetings, including subsidiary bodies, unless they are closed meetings. They are able to present information papers to meetings, make oral statements upon invitation of the Chair, are to be given timely access to all documents subject to the terms of the confidentiality rules that the Commission may decide and may make submissions for consideration during the preparation of meeting reports. There are some restrictions on their participation, such as no recording of the meeting, no press statements during the meeting on agenda items under discussion, and no disclosure of information acquired during the meeting until after its adjournment. The Executive Secretary may also limit the number of participants from each NGO accredited to participate as an observer, taking into account the total number of NGOs wishing to participate and the capacity of the meeting room. The Commission may require NGOs

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<sup>458</sup> This applies until their respective ratification, acceptance, approval, accession or expression of firm commitment becomes effective in accordance with Article 25 or the Annex of the Convention.

to pay reasonable fees to cover costs attributable to their attendance. However, the Commission has agreed not to apply a fee to observers.<sup>459</sup>

410. The number of observers participating in meetings of the Commission has varied from year to year and not all observers attend each year. Five IGOs and nine NGOs covering a range of fishing and environmental interests have obtained observer status.
411. The Convention's transparency provisions are generally consistent with Article 12 of the UN Fish Stocks Agreement and paragraph 7.1.9 of the FAO Code of Conduct on Responsible Fisheries which strongly encourages transparency in fisheries management and decision-making. The Commission may invite independent experts to attend meetings, which is a useful mechanism to facilitate resolution of issues.
412. Although the Convention and the Rules of Procedure are sound, their implementation hampers the full participation of observers. Concerns over transparency was a consistent refrain both in the questionnaire responses and in interviews.
413. This led a group of NGOs to write to the Executive Secretary and Chair of the NPFC in March 2020 expressing concerns over the level of transparency being applied by NPFC, and to an observer paper tabled at TCC05 on the issue.<sup>460</sup> The issues raised included that observers were not permitted access to all meetings of the Commission and subsidiary bodies, including informal meetings; meeting documents were not made publicly available on the NPFC website in good time before meetings, and compliance reports were not made available to observers.<sup>461</sup> At TCC05 some Members noted the importance of transparency and supported the general intentions of the NGOs.<sup>462</sup> TCC05 recommended that the Commission, give consideration to the observation by Pew and other NGOs,<sup>463</sup> but this was not substantively discussed at COM06. Interim Rules relating to Transparency for TCC have been tabled for consideration by TCC06 when this is held.<sup>464</sup>

#### *7.5.1. Review Panel's findings on transparency*

414. In the view of the Review Panel, transparency and the effective participation of observers in the work of an RFMO is crucial for the good governance and legitimacy of the organization. Transparency assists decision-making through broadening the access of Members to ideas and information. It helps to promote public awareness of the organization, public confidence in the organization and support for its work. Transparency is enhanced when decisions, meeting reports and scientific analysis of an RFMO are openly available.<sup>465</sup>
415. Transparency is less of an issue for SC than for TCC. TCC's small working groups, which discuss new or amended measures and the implementation of existing measures, are not open to observers. The lack of transparency is sometimes justified on confidentiality grounds. However, concerns over confidentiality of data can be resolved through open and transparent data security protocols. The signing of confidentiality agreements by observers prior to receipt of confidential documents

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<sup>459</sup> COM03 Final Report, para 47.

<sup>460</sup> NPFC-2021-COM06-OP02.

<sup>461</sup> TCC05 Final Report, para 51.

<sup>462</sup> TCC05 Final Report, para 52.

<sup>463</sup> Ibid.

<sup>464</sup> NPFC-2022-TCC06-WP17.

<sup>465</sup> The issues with regard to the website are examined in Chapter 8.

would address such concerns. The Review Panel encourages the development and adoption of a transparency policy which balances concerns over confidentiality with the need for open and transparent decision-making processes and which applies across the Commission and its subsidiary bodies.

#### *7.5.2. Review Panel's recommendations*

Recommendation 7.5.1. That Commission adopt, on advice of TCC, data security protocols which would enable observers, on signing of confidentiality agreements, to have access to data and information and access to meetings where such data and information is discussed.

Recommendation 7.5.2. That the Commission agree to the principle that meetings, including subsidiary body meetings, will be open to observers subject to rules of procedure which support that principle and are closed to observers only when strictly necessary.

## **8. Financial and Administrative Issues**

### **8.1. Availability of resources for NPFC activities**

416. Article 12 of the NPFC Convention provides for the Commission to adopt by consensus an annual budget for each of the next two years, based on a draft prepared by the Executive Secretary. Members' contributions to the budget are determined according to a formula which was initially agreed at the Second Session of the Preparatory Conference in February 2012,<sup>466</sup> before being adopted as part of the Financial Regulations at the 1<sup>st</sup> Commission meeting.<sup>467</sup> The formula provides that:<sup>468</sup>
- (a) 35 percent of the budget is divided equally among members of the Commission;
  - (b) 55 percent of the budget is divided proportionally among members of the Commission based on a three-year average of the total catches by weight in the Convention Area of the species covered by the Convention; and
  - (c) 10 percent of the budget shall be divided proportionally among the Member's based on each Member's Gross Domestic Product (GDP) per capita.
417. To account in part for the additional costs of hosting the Secretariat in Tokyo, it was agreed at COM01 in 2015 that Japan would pay an annual fixed contribution of 44 million yen.<sup>469</sup> This fixed payment has continued on the same basis to date. Contributions from Members to the budget have remained stable over the last 5 years. Members consider that this is consistent with principle of ensuring that their contributions do not increase from previous levels.<sup>470</sup> Members consistently pay their contributions in a timely manner. No significant issues have been brought to the attention of the Commission regarding any Member being in arrears.

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<sup>466</sup> Report Second Session of the Preparatory Conference of the NPFC, para 5.

<sup>467</sup> COM01 Final Report, para 6(a).

<sup>468</sup> Financial Regulations, reg. 12.

<sup>469</sup> COM01 Final Report, para 6(c).

<sup>470</sup> Draft Commission Budgets 2022-2025, NPFC-2022-FAC05-WP01 at p. 5.



418. The agreed budget for the year 2016 was JPY 134 million,<sup>471</sup> and for 2017 was JPY 141 million.<sup>472</sup> From 2018 until 2021 the annual budget was JPY 157 million. There is a projected increase in the annual budget for the years 2022 to 2026 to JPY 164 million. The increase is solely attributable to the additional contribution from the EU as a new Member of the NPFC.
419. The Financial Regulations provide for the excess of appropriations over expenditures in a budget year to be transferred to the Working Capital Fund or designated for a specific purpose as determined by the Commission.<sup>473</sup> Transfers to the Working Capital Fund are capped at an amount equivalent to the funds required to sustain the Commission's operation for a set number of months, as recommended by the NPFC auditors.<sup>474</sup> If the Working Capital Fund exceeds this cap the Commission may decide to refund to Members the excess amount accrued in the Working Capital Fund.<sup>475</sup>
420. Budget surpluses have accrued in over the last several years. The surplus in 2018 amounted to JPY 42.9 million, JPY 24.5 million yen in 2019; and JPY 43.6 million in 2020. Additional surpluses are expected in 2021 and 2022 due to NPFC meetings being held virtually. Most of these funds have been transferred to the Working Capital Fund. In 2017 and 2018 the auditors recommended that the Working Capital Fund be capped at 6 months of operational expenses,<sup>476</sup> and this was accepted by the Commission.<sup>477</sup> Due to successive surpluses the Working Capital Fund had increased to JPY 156.7 million by the start of 2022, approximately 12 months of operating expenditures.<sup>478</sup> Additional unspent funds from the annual budget which do not go to the Working Capital Fund are transferred to the Special Project Fund, which had a balance of JPY 36.5 million at the start of 2022.
421. The establishment of a Special Projects Fund was envisaged in reg 24 of the NPFC Financial Regulations and agreed at COM03.<sup>479</sup> The objectives of the Special Projects Fund are to address special science and compliance initiatives, especially costly non-recurring projects such as the establishment of key tools for science, compliance and management, including database development and set-up; observer program set up; and regional VMS set up.<sup>480</sup> This is a useful initiative, with a clear policy on its use. However, despite some encouragement, there have been no applications to the Special Projects Fund to date. Members appear to have preferred to bear the cost of their own projects themselves. Nevertheless, the Special Projects Fund provides a useful avenue of funding for a one-off project, such as a joint survey of Pacific saury by all Members participating in the fishery.
422. Financial resources can also be supplemented by voluntary contributions. The Financial Regulations provide for the acceptance of voluntary contributions from Members and non-

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<sup>471</sup> COM02 Final Report, page 109.

<sup>472</sup> FAC01 Final Report, Annex F.

<sup>473</sup> Financial Regulations, reg. 18.

<sup>474</sup> Financial Regulations, reg. 22.

<sup>475</sup> Financial Regulations, reg. 25.

<sup>476</sup> Annual Financial Statement and Auditor Report, 31 March 2017, NPFC-2017-FAC01-IP02; Annual Financial Statement and Auditor Report, 31 March 2018, NPFC-2018-FAC02-IP01.

<sup>477</sup> COM04 Final Report, para 21, accepting the recommendations of FAC02.

<sup>478</sup> NPFC-2022-FAC05-WP01 Draft Commission Budgets 2022-2025.

<sup>479</sup> NPFC-2017- FAC01-WP02; COM03 Final Report, para 27.

<sup>480</sup> FAC01 Final Report, Annex D.

Members, if consistent with the policies, aims, and activities of the Commission.<sup>481</sup> Voluntary contributions were received from the USA in 2018 (JPY 4.4 million) and from China in 2019 (JPY 2.2 million) and in 2021 (JPY 2.4 million). In addition, Panama, as a CNCP, made a voluntary contribution of JPY 7.1 million in 2021.

423. Members have consistently applied a cautious approach to increasing budgets. For example, in 2019, in response to a suggestion that contributions might be reduced, the FAC noted that although there was a surplus in the budget for 2019, it would be prudent to keep the overall budgetary contribution at a similar level in 2020-2022 so as to maintain the robustness of the NPFC and its Secretariat.<sup>482</sup>
424. The NPFC Financial Regulations provide some flexibility with regard to financial management which include mechanisms to smooth out annual contributions through transfers of funds from the Working Capital Fund to the Operating Fund, the ability to fund discrete projects through the Special Projects Fund, and the facilitation of transfers between budget categories.<sup>483</sup> As the Working Capital Fund supports a healthy budget balance, there has not been the need to use these other mechanisms to account for the variability in annual expenditures. In addition, due to the apparent reluctance of Members to increase contributions, contributions tend to determine budgets; budgets are not necessarily based on needs. One respondent to the questionnaire made the following comment with which we agree:

The level of funding annually available is based on a formula for contributions by members, rather than on the needs of the NPFC to address all of the activities required to fulfil the objectives of the Commission. While there is currently a surplus of funds due to COVID related reductions in spending, it's not clear whether the formula-based funding will be sufficient to sustain the activities of the Commission in the long term.

425. In a typical year about 50 percent of the budget is spent on personnel costs. During the Preparatory Conference it was envisaged that the Secretariat would be small, comprising a minimum of three professional staff and one General Services staff.<sup>484</sup> The staff complement now consists of three professional staff and two General Services staff. This staffing level is supplemented by interns and secondments.
426. Two years after its establishment, the Commission contracted a consultant familiar with the institutional and corporate arrangements of RFBs to provide recommendations on NPFC staffing, remuneration and a performance review system. The Commission had decided at its third meeting to recruit a Finance Officer. The consultant recommended that the positions of Executive Assistant and Finance Officer be combined on the grounds that it was difficult to justify a full-time Finance Officer at the Secretariat.<sup>485</sup> However the Commission, on the recommendation of FAC02, decided not to accept this recommendation, or to continue with the recruitment of a Finance Officer.

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<sup>481</sup> Financial Regulations, reg. 26.

<sup>482</sup> FAC03 Final Report at para 8.

<sup>483</sup> Financial Regulations, reg. 19.

<sup>484</sup> Record of the 3<sup>rd</sup> Session of the Preparatory Conference for the NPFC at para 7a and Attachment 3.

<sup>485</sup> Edward Kremzer, Consultancy Report: Staffing, Remuneration and Performance Review, July 2018, NPFC-2018-FAC02-WP03, p. 15-16.

Instead, they decided to procure any support for financial work from an external service provider under the overall direction of the Executive Secretary.<sup>486</sup>

427. Until August 2021 a part-time external contractor provided financial assistance to the Secretariat. However, it has proven difficult to hire a competent finance expert with English language skills on a short-term basis, especially as NPFC remuneration is less than that provided by local companies. As the Secretariat's ongoing financial accounting needs are not substantial,<sup>487</sup> the current practice is for financial accounting to be handled within current Secretariat resources by the Executive Assistant and Executive Secretary. Expenditures are checked against the budget monthly, but for internal purposes only. Before the end of the financial year, a contracted internal auditor ensures that the financial statements prepared by the Executive Secretary are in order. These are reviewed by the external auditor and the audited figures are presented to the Commission at the annual meeting.
428. The arrangements for the provision of financial support to the Secretariat are not sustainable in the longer term. There is a lack of financial expertise within the Secretariat which hinders the timeliness of assessing expenditures against budgets and in presenting up-to-date expenditure figures to the Commission. Despite significant budget surpluses, the lack of financial expertise at the Secretariat means that NPFC has not developed an investment policy in order to achieve a reasonable low-risk return on those surpluses.
429. An examination of the questionnaire responses shows diverse views of Members on whether the level of funding available to the Secretariat is sufficient to achieve the aims of the NPFC. There is general agreement that it is not a question of the level of funds available to the Secretariat, but the staffing resources available to effectively use the funds that are available.
430. As the NPFC has expanded its program of work, the Secretariat resources have not kept pace. One respondent noted that if additional demands are placed on the Secretariat to implement additional MCS measures, such as regional VMS and transshipment management, the current funding level to the Secretariat and its staffing levels may not be sufficient. The Review Panel concurs with this assessment. Where the Commission adopts CMMs which are associated with additional responsibilities for the Secretariat, there should be a transparency process to ensure that the Secretariat support necessary for the implementation of the CMM is made clear at the time of the CMM's adoption.<sup>488</sup>
431. The Secretariat resources are supplemented to some extent through the NPFC intern and secondment program. The internship program helps early-career professionals to gain experience and knowledge of Commission operations and assists in increasing the capacity of the NPFC Secretariat.<sup>489</sup> Interns receive JPY 200,000 per month to assist with living and accommodation costs. Internships are approved annually by the Commission. While the acceptance of interns would usually be a matter for the Executive Secretary of an RFMO, the Commission justifies its role because it makes a part payment to interns and for this reason it approves their acceptance.

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<sup>486</sup> COM04 Final Report, FAC02 Final Report, para 11.

<sup>487</sup> Approximately 700 transactions/documents per annum.

<sup>488</sup> This would require proponent Members to consult with the Secretariat regarding cost implications in advance of the tabling of a proposal for the Commission's consideration. Provisional budgets would incorporate any such costings, subject to adoption of the CMM by the Commission.

<sup>489</sup> See <https://www.npfc.int/internship>.

432. Secondments are for mid-level or senior technical specialists from Member countries who spend up to one year at the Commission.<sup>490</sup> Participants in the secondment programme are also approved by the Commission. A Japanese secondee has been approved to provide assistance on compliance issues for 12 months commencing in 2022. Secondees are a useful alternative to increasing staff numbers. Secondments, especially at middle levels, can be a win-win: drawing from the secondee's experience to assist with work program activities at the Secretariat and giving the secondee the opportunity to learn the operations of NPFC and, more broadly, RFMOs. The Review Panel supports this continuing.
433. Notwithstanding the intern and secondment programs, the Secretariat staff resources are insufficient for NPFC to undertake additional responsibilities. There is also a question of how best to ensure that the Secretariat has the right capabilities, including in the area of finance and administration, to ensure that it fulfils the expectations of the Commission. The next Executive Secretary should give early attention to this issue.

#### *8.1.1. Review Panel's findings*

434. The Review Panel acknowledges that the formula for Member contributions was agreed at an early stage of the Preparatory Conference. It has endured over the last decade and provides financial stability in the contributions of Members. Members of NPFC pay their contributions in full and in a timely manner and this is to be commended. The consistency in the annual budgets ensures that Members know their expected contributions from year to year. However, this has the consequence that it is difficult to increase the budget to address specific issues, such as staffing. Despite this, there have been budget surpluses in recent years, which have been allocated to the Working Capital Fund and the Special Projects Fund.
435. The NPFC Secretariat is a lean organization. It gains additional staff resources from the intern and secondment programs, which are valuable and should be continued. However, there is a question whether the current staff establishment is sustainable in the longer term. If additional demands are placed on the Secretariat to implement additional measures the current funding level to the Secretariat and its staffing levels may not be sufficient and will require review. The NPFC has a number of important tasks to accomplish in the near term, in particular the development of MPs and HCR for NPFC priority stocks, and the further development of the suite of MCS measures that are international best practice for RFMOs. This will require additional dedication from Members, including personnel and financial resources, so that the NPFC can fulfil all the objectives for the organization set out in the Convention.

#### *8.1.2. Review Panel's recommendations*

Recommendation 8.1.1: That the Commission encourage the SC and TCC to develop proposals for funding consideration from funds set aside in the Special Projects Fund.

Recommendation 8.1.2. That the Commission, through NPFC Members, increase efforts to advance the Commission's work, in particular the development of Management Procedures (MPs) and Harvest Control Rules (HCR) for NPFC priority stocks, and the adoption and implementation of priority MCS measures.

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<sup>490</sup> See <https://www.npfc.int/secondment>.

Recommendation 8.1.3: That proposals for new or revised conservation and management measures be accompanied by costings associated with additional responsibilities for the Secretariat to provide the support necessary for the implementation of the CMM and that this be endorsed by the Commission for inclusion in the budget at the time of the CMM's adoption.

Recommendation 8.1.4: That the new Executive Secretary undertake a review of staffing levels in the Secretariat, capabilities, and needs of the organization, with a view to presenting comprehensive proposals on staffing to the Commission in 2024.

## **8.2. Efficiency and cost effectiveness**

436. Members generally consider that the NPFC efficiently and effectively manages the financial and human resources available to it. The Secretariat has hardworking staff who have adapted to the additional duties required of them as the organization has grown and have demonstrated flexibility in responding to extraordinary circumstances such as COVID-19. The NPFC auditors have consistently given the NPFC a clean audit and this is commendable. There are, however, a few issues that have been identified concerning the preparation of financial reports, assessment against work plans, staff performance, remuneration of professional staff, and website management.
437. It has been suggested that the financial reports of expenditure against budgets are not as expeditiously presented to Members as would normally be expected. The adoption of budgets without actual expenditures for the prior year being finalised requires necessary readjustment of the budget.<sup>491</sup> This may be due in part to the Commission meeting occurring towards the end of the NPFC financial year and to the desire to wait for audited accounts before providing Members with details of expenditures against appropriations. Best practice is to include financial expenditures that are as up-to-date as possible, together with outstanding anticipated commitments, when considering budget proposals.
438. The Secretariat produces an annual work plan to accompany its annual budget proposal.<sup>492</sup> As TCC and FAC meetings are held in conjunction with the Commission meeting it is not possible to incorporate the TCC work plan in the Secretariat's work plan. To address this, the FAC requested that the TCC develop a rolling two-year work plan.<sup>493</sup> The Secretariat reports to the Commission against the work plan to each meeting of the FAC.<sup>494</sup> Aside from the work plan there is no other organizational document which sets out the goals and objectives of the organization, the strategic priorities of the organization or Secretariat, or the tasks of the organization and the Secretariat. Such a document would flow into individual staff work plans and would assist in an objective annual performance review.
439. The 2018 Consultancy recommended that the NPFC develop a Strategic Plan for the Commission, which was endorsed by FAC02 and COM04.<sup>495</sup> At the request of FAC02, the Secretariat presented the proposed process and timeline for the development of a Strategic Plan, as well as a template

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<sup>491</sup> For example, COM04 adopted the 2019 budget, but this was adjusted in light of actual expenditures in 2018: FAC02 Final Report, para 8; COM04 Final Report, para 21.

<sup>492</sup> As requested at the 1<sup>st</sup> FAC Special Working Group: COMM2, Annex H, at para 11.

<sup>493</sup> FAC01 Final Report, para 9.

<sup>494</sup> FAC01 Final Report, para 8; FAC02 Final Report, para 7; FAC03 Final Report, para 9 and FAC04 Final Report, para 5.

<sup>495</sup> FAC02 Final Report, para 11; COM04 Final Report, para 21.

for the draft plan containing vision, mission, goals and objectives.<sup>496</sup> This was endorsed by the Commission.<sup>497</sup> However, it has not been developed further by the Commission.

440. It was suggested to the Review Panel during interviews that this was due in part to Members giving priority to other issues on the agenda of the Commission. It may also be due to the difficulty of reaching agreement on a Strategic Plan for an organization, as compared with a plan for the Secretariat. A Corporate Plan is a valuable management tool that assists in ensuring that the Secretariat's role in supporting the work of the Commission is clearly described, expectations and accountabilities are elaborated, and staff and financial resources appropriately allocated. The Review Panel encourages the Commission to complete the process initiated in 2018 and for the Secretariat to develop and the Commission adopt a Corporate Plan for the Secretariat.
441. In response to the Consultant's recommendation on the development of a performance review system, FAC02 recommended that the Commission task the Secretariat to develop a plan for implementing a 360-degree performance review involving mutual performance reviews among Secretariat staff.<sup>498</sup> In adopting the plan,<sup>499</sup> COM06 accepted the FAC03 recommendation that the individual assessments would be shared between the NPFC Chair, NPFC Vice-Chair and the individual staff member, prior to a summary analyses being released to the heads of delegation to assist in capacity development of the Secretariat staff.<sup>500</sup>
442. In this way, from January 2020, the Commission has involved itself in 360 degree performance reviews of all staff, not just the Executive Secretary as is normally the case. Performance reviews in other organizations are usually within the competence of the Executive Secretary. The involvement of Heads of Delegation may serve to disempower the Executive Secretary from having full responsibility and accountability for the performance of his or her staff. The Review Panel is of the view that this role should rest solely with the Executive Secretary, who would report, as appropriate, to the Commission as part of the annual report on the operations of the Secretariat from the Executive Secretary.
443. The Review Panel was advised of some apparent anomalies in the setting of staff remuneration levels and allowances. This has arisen in three main areas: the setting of salaries at a fixed rate of Japanese yen to the US dollar, the implementation of full UN ICSC salary and benefits; and the treatment of allowances associated with staff accommodation.
444. The salary of professional NPFC staff was based on the United Nations pay scale in US dollars at the time of recruitment, converted to yen at an exchange rate of 124.36 of Japanese yen to the US dollar. As weakened exchange rates in the first years of Commission's operation impacted on the purchasing power of professional staff, the First meeting of the FAC Special Working Group in 2016 recommended that staff be paid a set amount in Japanese yen to avoid exchange rate issues.<sup>501</sup> Following consideration of options, it was decided to peg the exchange rate at 124.36 JPY to 1

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<sup>496</sup> NPFC-2019-COM05-WP10.

<sup>497</sup> COM05 Final Report, para 50.

<sup>498</sup> FAC02 Final Report, para 11.

<sup>499</sup> NPFC-FAC03-2019-WP05 and FAC03 Final Report, para 15.

<sup>500</sup> COM06 Final Report rev 1, para 43. FAC04 Final Report, para 10.

<sup>501</sup> 1st Meeting of the Finance and Administration Special Working Group, Final Report, para 10.

USD.<sup>502</sup> This addressed the immediate issue, but it may pose issues in the future if the JPY to USD exchange rate moves in the other direction, as is already occurred.

445. The implementation of the UN ICSC salary and benefits is also an anomaly where the principle is to adopt UN ICSC salary and benefits, but the reality is not quite the same. The 2018 Consultancy recommended that the Commission consider implementation of full UN ICSC Salary and Benefits, including the Accommodation Subsidy and also the special requirements in Tokyo for two yearly rental renewal costs. In the context of decisions on the exchange rate for professional staff, the Commission decided not to adopt a post adjustment allowance or professional staff, that was one of the options.<sup>503</sup> The special requirements in Tokyo for the two yearly rental renewal costs have not been implemented, although the Review Panel acknowledges the accommodation benefits that the NPFC provides to its professional staff.
446. These apparent anomalies suggest that the Commission may at times take ad hoc decisions to address an immediate issue, but without taking into account the broader consequences of the decision. While this is not unusual, it would be preferable if a more principled approach were taken to the setting of salaries and allowances to ensure fair treatment of all staff.
447. The Review Panel identified issues with regard to meeting documents, meeting reports, intersessional communications and their inclusion on the NPFC website. Some of these issues relate to transparency, which is addressed in Chapter 7. The following section deals with the efficient use of the NPFC website.
448. At FAC02 in 2017, the NPFC Document Rules were developed and accepted by the Commission.<sup>504</sup> These provide the following:
- The Secretariat will upload submitted documents to the Meetings page of the NPFC website which will be accessible for Members only. After the adoption of documents at the Annual Meeting, documents will be posted in the public area of the NPFC website. Documents determined to contain sensitive information shall remain on the Members' Area of the webpage.
449. The following year at COM04 the Commission requested the SC and the TCC to hold further discussions on the management of meeting documents, meeting reports and intersessional communications on the NPFC website, and requested the FAC to conduct an intersessional review of the rules of procedure on records and reports and present its recommendations to the next Commission meeting.<sup>505</sup> These requests do not appear to have been taken up subsequently.
450. The importance of ensuring that the website contains relevant information, not only for Members but also for observers and the public, remains an issue. Although the Final Report of meetings are made available on the public side of the NPFC website, most meeting documents, even following conclusion of the meeting, are not available without a login. This also applies to intersessional decision-making. As a result of the pandemic there has been increasing use of intersessional decision-making. Although Members are advised of intersessional decisions, the decisions are not placed on the public section of the website or made available to observers. Nor are Circulars to

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<sup>502</sup> FAC02 Final Report, para 11.

<sup>503</sup> NPFC-2017-FAC01-WP04.

<sup>504</sup> FAC01 Final Report, Annex K; COM03 Final Report, para 28.

<sup>505</sup> COM04 Final Report, para 35.

Members made available on the website. The lack of information on the website constrains participation by observers in the work of the NPFC and hampers the use of the website as a tool for public diplomacy.

#### *8.2.1. Review Panel's findings*

451. The Review Panel commends the NPFC for routinely receiving a clean audit report and considers that the NPFC efficiently and effectively manages the financial and human resources available to it. There are, however, a few issues that have been identified by the Review Panel. Financial reports of expenditures are not as expeditiously presented to Members as would normally be the case. The Secretariat would benefit from having a Corporate Plan which sets out the actions required, and identifies the resources available, to support the Commission. The Secretariat has hardworking staff who have adapted to additional duties required of them. The Review Panel invites the Commission to assign responsibility for 360 degree performance reviews for all staff to the Executive Secretary. There are also issues with making relevant information available to the public on the NPFC website.

#### *8.2.2. Review Panel's recommendations*

Recommendation 8.2.1: That the Commission task the Secretariat to develop a Corporate Plan to better inform the work of the NPFC Secretariat, to assist in ensuring financial and staff resources are appropriate in relation to expectations and to assist with the monitoring of the Secretariat's performance.

Recommendation 8.2.2: That the Commission review the NPFC Document Rules with a view to ensuring that the website contains all information on past meetings, including the documents submitted, on the outcomes of intersessional decision-making and all other relevant information for Members, observers and the public.



## ANNEX 1: REVIEW CRITERIA

The purpose of the performance review is to evaluate the Commission's performance against comprehensive criteria provided by the Commission and more generally against the objectives and principles set out in the Convention. The criteria presented in the table below are mostly those recommended by the tuna RFMOs meeting held in 2007 and are currently being used by most RFMOs. However, they may be modified by the Review Panel in accordance with the characteristics of NPFC. The Review Panel shall provide recommendations for the Commission on how to improve its performance with respect to the review criteria. The methodology for carrying out the review by the Review Panel in general consists of a set number of meetings among the Panel members, intersessional analyses of information through interviews, desk studies based on documents collected, and assignment of tasks for each panelist by the Chair. In addition, some consultations will be held in the margins of other regional or international meetings where panel members are present or readily available for a meeting. The review panel meetings will be guided by the Chair selected from amongst the members of the Panel and assisted by the Secretariat. The information used by the Panel come from various sources, but interviews with various stakeholders involved in the Commission's activities are one of the basic steps to ensure the Panel can collect relevant information regarding the overall performance of the organization against its objectives and the principles of the Convention, international instruments and established best practices. The Panel develops a questionnaire based on the criteria, which is then addressed to all stakeholders, including Members, Cooperating non-Contracting Parties, and observers. The Panel then interviews the chairs of various committees on how the committees worked, resulting in the Panel's suggestions for strengthening the organization. The Panel can meet stakeholders in person or via electronic means. Additional information can also be sought from the Commission's website and directly from the Secretariat.

CRITERIA	GENERAL CRITERIA	DETAILED CRITERIA
CONSERVATION AND MANAGEMENT	Adoption of conservation and management measures	<ul style="list-style-type: none"> <li>• Extent to which the NPFC has adopted measures for both target stocks and nontarget species that ensures long-term conservation and sustainable use of the fisheries resources based on the best scientific evidence available</li> <li>• Extent to which the NPFC has taken due account of the need to protecting biodiversity in the marine environment, including by preventing significant adverse impacts on vulnerable marine ecosystems, taking into account any relevant international standards or guidelines including the FAO International Guidelines (Art 3 (e));</li> <li>• Extent to which the NPFC has adopted measures to minimizing pollution and waste originating from fishing vessels, discards, catch by lost or abandoned gear, and impacts on other species and marine ecosystems through measures including, to the extent practicable, the development and use of selective, environmentally safe, and cost-effective fishing gear and techniques (Art 3 (k)).</li> </ul>

		<ul style="list-style-type: none"> <li>• Extent to which consistent/compatible management measures have been adopted as set out in Article 7 of the 1995 UN Fish Stocks Agreement (Art 3 (i)) and other pertinent international legislation adopted by the Commission and its Members.</li> <li>• Extent to which NPFC adopts measures and processes compatible with other RFMOs in the Pacific Ocean Basin, especially those with overlapping jurisdictions.</li> </ul>
	Data collection and sharing	<ul style="list-style-type: none"> <li>• Extent to which the NPFC has agreed formats, specifications and timeframes for data submission, taking into account UNFSA Annex I (Art 16.1).</li> <li>• Extent to which NPFC Members and CNCs, individually or through the NPFC, collect and share complete and accurate fisheries data concerning target stocks and non-target species and other relevant data in a timely manner (Art 16.1 (a)(b)).</li> </ul>
		<ul style="list-style-type: none"> <li>• Extent to which fishing data and fishing vessel data are gathered by the RFMO and shared among members and other RFMOs (Art 16.1. (c) (d)).</li> <li>• Extent to which the NPFC is addressing any gaps in the collection and sharing of data as required</li> <li>• Extent to which the NPFC has set security and confidentiality standards and rules for sharing of sensitive science and operational/compliance data (Art 16.4).</li> </ul>
	Capacity management	<ul style="list-style-type: none"> <li>• Extent to which the NPFC has taken actions to prevent or eliminate overfishing and excess fishing capacity, and ensuring that levels of fishing effort or harvest levels are based on the best scientific information available and do not exceed those commensurate with the sustainable use of the fisheries resources (Art 3 (f))</li> </ul>
	Fishing allocations and opportunities	<ul style="list-style-type: none"> <li>• Extent to which the NPFC agrees on the allocation of allowable catch or levels of fishing effort, including taking into account requests for participation from new Contracting Parties as reflected in UNFSA Article 11 (Art 7 (b), 7 (e), (f))</li> </ul>
	Ecosystem approach to fisheries	<ul style="list-style-type: none"> <li>• Extent to which the NPFC decisions take account of and incorporate an ecosystem approach to fisheries and precautionary approach (Art 2 (c))</li> </ul>
COMPLIANCE AND ENFORCEMENT	Flag States duties	<ul style="list-style-type: none"> <li>• Extent to which the NPFC Members are fulfilling their duties as Flag States under the Convention and other international instruments, including, inter alia, the 1982 Law of the Sea Convention, 1995 UN Fish Stocks Agreement and the 1993 FAO Compliance Agreement, as applicable (Art 13).</li> </ul>

	Port State measures	<ul style="list-style-type: none"> <li>• Extent to which the NPFC has adopted measures relating to the exercise of the rights and duties of its members as port States, in accordance with international law, to promote the effectiveness of subregional, regional, and global conservation and management measures (Art 14)</li> </ul>
	Monitoring, control and surveillance (MCS)	<ul style="list-style-type: none"> <li>• Extent to which the NPFC has adopted integrated MCS measures including vessel monitoring system (Article 7.2 (e), High Seas Boarding and Inspection Scheme (Article 17.6), Observer Program (Article 7.2 (b)), and Transshipment Verification and Regulation (Article 7.2 (a))), and other standards for verification of fisheries data (Article 10(1(d)), including the use of emerging MCS tools and technologies.</li> <li>• Extent to which these measures are effectively implemented.</li> </ul>
	Follow-up on infringements	<ul style="list-style-type: none"> <li>• Extent to which the NPFC, its Members and Cooperating Non-Contracting Parties follow up on infringements to conservation and management measures, and other decisions of the Commission, and report back to the Commission.</li> </ul>
	Market-related measures	<ul style="list-style-type: none"> <li>• Extent to which the NPFC has adopted non-discriminatory market-related measures consistent with international law to prevent, deter and eliminate IUU fishing (Art 7.2 (g))</li> </ul>
	Cooperative mechanisms to detect and deter non-compliance	<ul style="list-style-type: none"> <li>• Extent to which the NPFC has established adequate cooperative mechanisms to both monitor compliance and detect and deter non-compliance with RFMOs and the International Community (e.g., compliance committees, vessel lists, sharing of information about non-compliance)</li> </ul>
SCIENCE	Status of living marine resources	<ul style="list-style-type: none"> <li>• Status of North Pacific fish stocks under the purview of the NPFC in relation to the maximum sustainable yield (Art 3. (b))</li> <li>• Trends in the abundance of those stocks</li> <li>• Status of species belonging to the same ecosystem or dependent upon or associated with the target species (Art 3 (d))</li> </ul>
	Quality and provision of scientific advice	<ul style="list-style-type: none"> <li>• Extent to which the NPFC provides and acts based on the best scientific advice relevant to the North Pacific living marine resources under its purview, as well as to the effects of fishing on the marine ecosystems in which these resources occur (Art 7.1, 10.1)</li> </ul>
	Long-term planning and research	<ul style="list-style-type: none"> <li>• Extent to which the NPFC adopts and regularly reviews a long-term strategy for the Scientific Committee to implement (Art 10.4).</li> </ul>

	Best available science	<ul style="list-style-type: none"> <li>• Extent to which best available science is used by the Scientific Committee</li> </ul>
DECISION MAKING AND DISPUTE SETTLEMENT	Decision-making	<ul style="list-style-type: none"> <li>• Extent to which the NPFC has transparent and consistent decision-making procedures that facilitate the adoption of conservation and management measures in a timely and effective manner (Art 8)</li> </ul>
	Dispute settlement	<ul style="list-style-type: none"> <li>• Extent to which the NPFC has established adequate mechanisms for resolving disputes among Members (Art 19)</li> </ul>
INTERNATIONAL COOPERATION	Relationship to cooperating non-Members	<ul style="list-style-type: none"> <li>• Extent to which the NPFC facilitates cooperation between Members and non-Contracting Parties, including through requesting to become a Contracting Parties or to implement NPFC conservation and management measures.</li> </ul>
	Relationship to non-cooperating non-Members	<ul style="list-style-type: none"> <li>• Extent to which the NPFC takes measures consistent with this Convention and other relevant international legal instruments to deter the activities of fishing vessels of non-Contracting Parties to this Convention that undermine the effectiveness of conservation and management measures adopted by the Commission (Art 20.4).</li> </ul>
	Cooperation with other international organizations	<ul style="list-style-type: none"> <li>• Extent to which the NPFC cooperates with Regional Fisheries Management Organizations, United Nations bodies and other international organizations addressing fisheries and ecosystems such as PICES, FAO, and the network of Regional Fishery Body Secretariats.</li> <li>• Extent to which there is compatibility of procedures and processes with other relevant RFMOs, especially those in the Pacific Ocean Basin, and more specifically those with overlapping jurisdictions to facilitate management, exchange of information between organizations and enhance common standards for the involved industry fleets.</li> </ul>
	Special requirements of Developing States	<ul style="list-style-type: none"> <li>• Extent to which the NPFC recognizes the special needs of developing States and pursues forms of cooperation with developing States, including with respect to fishing allocations or opportunities, taking into account UNFSA Articles 24 and 25, and the Code of Conduct of Responsible Fisheries Article 5.</li> </ul>
	Transparency	<ul style="list-style-type: none"> <li>• Extent to which the NPFC is operating in a transparent manner, as reflected in UNFSA Article 12 and the Code of Conduct for Responsible Fisheries Article 7.1.9 (Art 18)</li> <li>• Extent to which the NPFC decisions, meeting reports, scientific advice upon which decisions are made, and other relevant materials are made publicly available in a timely fashion (Art 16.2).</li> </ul>

FINANCIAL AND ADMINISTRATIVE ISSUES	Availability of resources for NPFC activities	<ul style="list-style-type: none"> <li>• Extent to which financial and other resources are made available to achieve the aims of the NPFC and to implement the NPFC’s decisions</li> <li>• Extent to which current finance and administrative practices meet international standards.</li> </ul>
	Efficiency and cost effectiveness	<ul style="list-style-type: none"> <li>• Extent to which the NPFC is efficiently and effectively managing its human and financial resources, including those of the Secretariat.</li> </ul>

## **ANNEX 2: Biographies of the Performance Review Panel**

### **Penelope RIDINGS, PhD, International Lawyer and Honorary Professor (Chair)**

She provides advice on international law, oceans and fisheries, and the environment and is currently Legal Advisor to the Western and Central Pacific Fisheries Commission and Member of the International Law Commission. Previously she was a lawyer and diplomat with the New Zealand Ministry of Foreign Affairs and Trade, including as the Ministry's chief International Legal Adviser. She has represented New Zealand in regional and multilateral negotiations, including WCPFC, FAO Port State Measures and marine biodiversity beyond national jurisdiction, and at regional fisheries management meetings, including WCPFC, SPRFMO and CCAMLR, bilateral legal and fisheries talks, and international dispute settlement. She was Chair of the First Performance Review of SPRFMO.

### **Huang-chih CHIANG, PhD, Professor of Law, College of Law, National Taiwan University**

Completing his undergraduate studies in law at NTU and receiving his LL.M. at the University of Washington (Seattle), Professor Huang-Chih Chiang holds a Ph.D. in international law from the University of London (QMW). He specializes in public international law, international human rights law and the law of the sea. Professor Huang-Chih Chiang has published three books, *International Law and Taiwan*, *Introduction to Public International Law and Law of the Sea* (2 volumes), as well as numerous articles in esteemed Taiwanese legal journals. Professor Chiang has been serving as legal advisor of Taiwanese delegation to various international fisheries management organizations, including NPFC, CCSBT, WCPFC, SIOFA etc. He also engaged in numerous bilateral fisheries negotiations between Taiwan and other States.

### **Quentin HANICH, PhD, A/Professor, University of Wollongong**

Quentin Hanich leads the Fisheries Governance Research Program at the Australian National Centre for Ocean Resources and Security (ANCORS), University of Wollongong, where he is a Nippon Foundation Ocean Nexus Chair. A/Prof Hanich has worked widely throughout the Asia Pacific region in various international research partnerships focusing on ocean governance and emerging technologies, marine conservation, fisheries management, and international development. He has chaired international working groups at treaty meetings, facilitated inter-governmental workshops, and advised Ministerial meetings and national delegations. In addition to his roles at the University of Wollongong, A/Prof Hanich is the Editor-in-Chief of the highly ranked Elsevier journal *Marine Policy*, a Principal Investigator in the Nippon Foundation funded Ocean Nexus Program, a research partner with the Japanese Fisheries Research and Education Agency and Global Fishing Watch, and a research partner with the Korean Maritime Institute.

### **James IANELLI, PhD, NOAA**

Jim's fishery experience began with fieldwork on tunas in the late 1970s for the Secretariat of the Pacific Community and the Inter-American Tropical Tuna Commission where he developed their lab based in Panama. He earned a PhD in 1993 from the University of Washington after various jobs and for the last 30+ years, he has been an active member of NOAA's Alaska Fisheries Science Center's stock assessment team. He serves as Chair of the Gulf of Alaska groundfish Plan Team for the North Pacific Fishery Management Council. His research interests include developing statistical approaches for ecosystem and fisheries conservation management. He is an affiliate

professor at the University of Washington and the University of Maine and serves the Scientific Advisory Panel for the Commission for the Conservation of Southern Bluefin Tuna (since 1999). He continues to Chair the South Pacific Regional Fisheries Management Organization's Scientific Committee.

**Joji MORISHITA, PhD, Professor, Tokyo University of Marine Science and Technology**

He has been Involved in international oceans and fisheries issues since 1982 as a representative of the Government of Japan, covering bilateral fisheries access and trade negotiations with several countries, meetings of RFMO/As including CCAMLR, CCSBT, and NPFC, multilateral fisheries conferences including FAO COFI, APEC Fisheries WG, and also CBD, CITES, and UN General Assembly Informal Consultations on the sustainable fisheries resolution, the Meeting on High Seas Fisheries in the Central Arctic Ocean, IUCN Congress, and other international ocean and environmental meetings. He was Japan's Commissioner to the International Whaling Commission (IWC) from 2013 to 2018 and served as IWC's Chair from 2016 to 2018. He was also the Chair of the NPFC Scientific Committee from 2015 to 2019. He is currently Commissioner to the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR).

**Siquan Tian, PhD, Professor, Fisheries Sciences at Shanghai Ocean University**

He has served as the Director of Science and Technology Division of Shanghai Ocean University. His research interests are focused on fisheries dynamics population, fisheries stock assessment, fisheries management and fisheries Oceanography. Particular interest is in conservation and management of international fisheries resources. He has been involved in the multilateral negotiations of NPFC fisheries as an adviser of China's government delegation and the head of China's delegation for SC meetings of NPFC since 2010. He had also attended the scientific meetings of other RFMOs which includes IOTC, SIOFA, ICCAT and SPRFMO.

**Osvaldo URRUTIA, PhD, Lecturer and FAO Consultant**

Dr Urrutia (PhD Victoria University of Wellington, LL.M University College London) is a national of Chile, a lecturer in international law and law of the sea at P. Universidad Católica de Valparaíso and a consultant for the Food and Agriculture Organization of the United Nations. As a legal adviser of the Government of Chile for nearly twenty years, Mr Urrutia was involved in international ocean and fisheries affairs and negotiations, including the work of several global and regional organisations. He served as the chairperson of the Commission of the South Pacific Regional Fisheries Management Organisation (SPRFMO) and as chair of the compliance committees in the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) and SPRFMO.

**Andrew Wright, Consultant**

Andrew Wright has 30 years of experience in multilateral processes associated with marine resource conservation and management. His professional career includes substantial experience in tropical fisheries with a focus on large scale industrial fisheries for highly migratory tuna and billfish and artisanal and subsistence fisheries targeting coral reef-associated resources in the Western and Central Pacific. He has held senior executive posts in the Pacific Islands Forum Fisheries Agency based in Solomon Islands, was the inaugural Executive Director of the Western and Central Pacific Fisheries Commission based in Micronesia, and was the Executive Secretary at the Commission for the Conservation and Management of Antarctic Marine Living Resources (CCAMLR) between 2010 and 2018. Since he has been active as a freelance consultant.