



*North Pacific Fisheries Commission*

*NPFC*

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# **Compendium of Active Conservation and Management Measures for the North Pacific Fisheries Commission**

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Last updated: 28 November 2017

## **COMPENDIUM OF ACTIVE CONSERVATION AND MANAGEMENT MEASURES FOR THE NORTH PACIFIC FISHERIES COMMISSION**

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## **EXPLANATORY NOTE**

The intent of this compendium is to create a quick reference to all Conservation and Management Measures of the Commission. Many RFMOs have such documents to provide rapid historical information on active and superseded CMMs.

It is proposed that in future, CMMs would be written in the format noted below, eg. Times Roman 12pt; justified; Title including Year, CMM number and Title as Heading 1 style - [NPFC 2016-01 – INFORMATION REQUIREMENTS FOR VESSEL REGISTRATION]. This latter facilitates updating this reference and also the table of contents to assist you as a ready reference in future.

We trust that this publication, updated annually when new conservation and management measures come into force will be of assistance to all Members of the Commission.



North Pacific Fisheries Commission

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North Pacific Fisheries Commission

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# **Third Annual NPFC Session**

**15 July 2017**

**Sapporo, Japan**

**Active CMMs**



North Pacific Fisheries Commission

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

*The North Pacific Fisheries Commission (NPFC),*

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

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

*Reaffirming* that Article 13, paragraph 1 of the Convention that members of the Commission shall take necessary measures to ensure that fishing vessels entitled to fly its flag operating in the Convention Area comply with the provisions of the Convention and measures adopted pursuant to the Convention and such vessels do not engage in any activities that undermine the effectiveness of such measures and do not conduct unauthorized fishing activities within areas under national jurisdiction of another State adjacent to the Convention Area,

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



*Also recognizing* that members of the Commission have the need to conduct transshipment with carrier vessels that are flagged to non-members,

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

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

**NPFC Vessel Registry**

1. Maintain a record of fishing vessels entitled to fly its flag and authorized to be used for fishing activities in the Convention Area in accordance with the information requirements in the Annex.
2. Provide annually by the end of February (same with the proposed deadline for Annual Reports) to the Commission, information in the Annex with respect to each fishing vessel entered in the record required to be maintained under the above paragraph and shall promptly notify the Commission of any modifications to this information.
3. Provide to the Commission, as part of the annual report required pursuant to Article 16 of the Convention, the names of the fishing vessels entered in the record that conducted fishing activities during the previous calendar year.
4. Also inform the Commission promptly of:
  - (a) any additions to the record; and
  - (b) any deletions from the record, specifying which of the following reasons is applicable:
    - (i) the voluntary relinquishment of the fishing authorization by the fishing vessel owner or operator;
    - (ii) the withdrawal or non-renewal of the fishing authorization issued in respect of the fishing vessel under Article 13 paragraph 2 of the Convention;
    - (iii) the fact that the fishing vessel concerned is no longer entitled to fly its flag;
    - (iv) the scrapping, decommissioning or loss of the fishing vessel concerned; or
    - (v) any other grounds, with a specific explanation provided.



**NPFC Interim Register of non-Member<sup>1</sup> Carrier Vessels**

5. The Commission hereby establishes an Interim Register of non-members (the “Interim Register”), applicable from 2017 to 2019.
6. Carrier vessels that are included by the Commission on the Interim Register shall be allowed to be used in the Convention Area to receive transshipments of fisheries resources caught in the Convention Area and from fishing vessels flying the flag of Commission members or Cooperating non-Contracting Parties.
7. Any Commission member or Cooperating non-Contracting Party may at any time submit to the Executive Secretary, in electronic format if possible, a list of any carrier vessels that it wishes to be included on the Interim Register. This List shall include the information requirements in the Annex.
8. The Commission member or Cooperating non-Contracting Parties recommending vessels to be included on the Register shall attest that the vessel or vessels being recommended are not vessels:
  - (a) with a history of illegal, unreported or unregulated (IUU) fishing, unless the ownership of the vessel has subsequently changed and the new owner has provided sufficient evidence demonstrating that the previous owner or operator has no legal, beneficial or financial interest in, or control of the vessels, or Commission members or Cooperating non-Contracting Parties concerned is satisfied that, having taken into account all relevant facts, the vessel is no longer engaged in or associated with IUU fishing;
  - (b) that are currently listed on any of the IUU vessel lists adopted by regional fishery management organizations (RFMOs);
  - (c) that were removed from the Interim Register pursuant to paragraph 15 within one year.
9. It shall be a condition for inclusion on the Interim Register that the owner or manager/operator of the vessel provides a written undertaking, addressed to the Commission, that the owner, manager/operator and master of the carrier vessel will fully comply with all applicable decisions of the Commission, including conservation and management measures. Any reference in Commission decisions

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



to member-flagged vessels shall be construed to include non-member flagged-vessels for the purposes of these written undertakings.

10. It shall be the responsibility of the owner or manager/operator to ensure that any such undertaking is compliant with domestic laws of its flag State.
11. The Secretariat will post on the Commission website a list of all the applicable conservation and management measures and other applicable Commission decisions that the written undertaking must cover. It will also be a condition that the owner, manager/operator or master of the carrier vessel will notify the Secretariat of any changes to the information provided under paragraph 7 within 15 days of the change.
12. Failure by the owner, manager/operator or master of a vessel on the Register to fully comply with applicable decisions of the Commission, including conservation and management measures, shall constitute an appropriate basis for placement of such vessel on the Commission's Draft IUU Vessel List in accordance with the relevant conservation and management measure for establishing the NPFC IUU Vessel list.
13. Within 7 business days of receipt of complete information for a carrier vessel under paragraphs 7 to 9, the Secretariat will include the vessel on the Interim Register and within 7 business days of receipt of any changes to such information, the Secretariat will include the updated information in the Interim Register. For each vessel, the Interim Register will include all the information listed in the Annex, a copy of the written undertaking provided under paragraph 9, and the Commission members or Cooperating non-Contracting Parties that requested inclusion of the vessel on the Interim Register.
14. As soon as possible after receipt of complete information under paragraph 7 to 9, the Secretariat shall notify the flag State and provide an opportunity for the flag State to convey its position for the inclusion of its vessel on the Interim Registry.
15. The Commission will periodically monitor the IUU vessel lists maintained by RFMOs. At any time that a vessel on the Interim Register is also on one of those IUU vessel lists, the Secretariat will:
  - (a) notify Commission member, Cooperating non-Contracting Parties and the owner of the vessel of its finding and that the vessel will be removed from the



- Interim Register, effective 30 days from the date of the notice; and
- (b) 30 days from the notice given under sub-paragraph (a), remove the vessel from the Register.
16. The Commission shall monitor the performance of the vessels on the Interim Register with respect to the written undertakings submitted under paragraph 9. If at any time a Commission member or Cooperating non-Contracting Party finds evidence that the owner, manager/operator or master of a vessel on the Register has failed to fully discharge those undertakings:
- (a) the Commission member or Cooperating non-Contracting Party shall immediately submit such evidence to the Secretariat;
  - (b) the Secretariat will immediately circulate such evidence to the Commission members or Cooperating non-Contracting Parties;
  - (c) the Commission shall review the evidence and decide whether or not to remove the vessel from the Interim Register. If the Commission is to next meet between 14 and 60 days after the circulation made under paragraph 15(b), such decision shall be made in the next session of the Commission, otherwise it shall be made in accordance with the Commission Rules of Procedure as they relate to inter-sessional decision-making;
  - (d) if the Commission decides to remove a vessel from the Interim Register, the Secretariat will notify the owner of the vessel of the decision within 7 days and remove the vessel from the Register 60 days after the Commission's decision.
  - (e) The Executive Secretary shall advise all Commission members or Cooperating non-Contracting Parties and the flag State of the completion of action taken under paragraph 16 (d).
17. The Interim Register shall expire 60 days after the Annual Regular Session of the Commission in 2019 unless the Commission decides otherwise at its Commission Meeting in 2019. The TCC will conduct a review in 2018 and 2019 of the non-member flagged fleet including an assessment of potential economic impacts to NPFC target fisheries resources in the Convention Area and unforeseen circumstances that could arise through prohibition of non-members carriers.

**General**

The Commission shall:



**North Pacific Fisheries Commission**

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18. Maintain its own record of the vessels based on the information provided to it pursuant to the above paragraphs 1-16 and make the record publicly available.
  
19. Also provide to any member of the Commission, upon request, information about any vessel entered on the Commission record that is not otherwise publicly available.
  
20. This CMM shall replace the NPFC CMM 15-01.



### Vessel Information Requirements

- a) Name of fishing vessel, registration number, previous names (if known), and port of registry;
- b) IMO number (if eligible);  
To allow the necessary time for members of the Commission to obtain an IMO number for eligible vessels that do not already have one, this point of this Annex on IMO number is effective as of 1 January 2018. As of this date, members of the Commission should, to the extent possible, ensure that all their fishing vessels that are registered on the NPFC Record of fishing vessels have IMO numbers issued to them. This point of this Annex on IMO number does not apply to vessel which are not eligible to receive IMO numbers.
- c) Name and address of owner or owners;
- d) Name and citizenship of master;
- e) Previous flag (if any);
- f) International Radio Call Sign;
- g) Vessel communication types and numbers including, when available, any satellite-based telephony or data services/devices;
- h) Side view color photograph of vessel showing full length of vessel and vessel name and markings;
- i) Where and when built;
- j) Type of vessel, as specified in standard abbreviations under the current FAO International Standard Statistical Classification of Fishery Vessels by Vessel Types (ISSCFV);
- k) Normal crew complement;
- l) Type of fishing method or methods, as specified in standard abbreviations under the current FAO International Standard Statistical Classification of Fishing Gear (ISSCFG);
- m) Length, including type of length and unit of measurement;
- n) Depth, including type of depth and unit of measurement;
- o) Beam, including type of beam and unit of measurement;
- p) Gross register tonnage, or gross tonnage (specify which);
- q) Power of main engine or engines, including unit of measurement;
- r) The nature of the authorization to fish granted by the flag State, such as type or method of fisheries authorized and main target species;
- s) Fish hold capacity, in cubic meters;
- t) Freezer type and capacity, including unit of measurement.



North Pacific Fisheries Commission

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**CMM 2017-02**

(Entered Into Force 28 November 2017)

**CONSERVATION AND MANAGEMENT MEASURE TO ESTABLISH A LIST OF  
VESSELS PRESUMED TO HAVE CARRIED OUT ILLEGAL, UNREPORTED AND  
UNREGULATED FISHING ACTIVITIES IN THE CONVENTION AREA OF THE  
NORTH PACIFIC FISHERIES COMMISSION**

*The North Pacific Fisheries Commission (NPFC):*

*Recalling* that the FAO Council adopted on 23 June 2001 an International Plan of Action to prevent, deter and eliminate illegal, unreported and unregulated fishing (IPOA-IUU). This plan stipulates that the identification of the vessels carrying out illegal, unreported and unregulated (IUU) fishing activities should follow agreed procedures and be applied in an equitable, transparent and non-discriminatory way;

*Concerned* that IUU fishing activities in the Convention Area undermine the effectiveness of the conservation measures adopted by the NPFC;

*Further concerned* that there is a possibility that vessel owners engaged in such fishing activities may have re-flagged their vessels to avoid compliance with NPFC measures;

*Determined* to address the challenge of an increase in IUU fishing activities by way of measures to be applied in respect to vessels, without prejudice to further measures adopted in respect of Members, Cooperating Non-Contracting Parties (CNCs) and non-Contracting Parties under the relevant NPFC instruments;

*Considering* the action undertaken in other regional fisheries organizations to address this issue;

*Conscious* of the need to address, as a matter of priority, the issue of vessels conducting IUU fishing activities;

*Noting* that efforts to prevent, deter and eliminate IUU fishing must be addressed in the light of all relevant international fisheries instruments and in accordance with other international obligations, including the rights and obligations established under the World Trade Organization (WTO) Agreement; and

*Recalling* Articles 13, 14, 15 and 17 of the Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean (hereinafter called the "Convention") regarding the flag State duties, port State duties, duties of fishing entities and provisions for compliance and enforcement;

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



### Identification of IUU activities

1. At each meeting, the Commission will identify those vessels which have engaged in fishing activities for species covered by the Convention within the Convention Area in a manner which has undermined the effectiveness of the Convention and the NPFC measures in force, and shall establish, and, as necessary, amend in subsequently, a list of such vessels (the IUU Vessel List), in accordance with the procedures and criteria set out in this conservation measure.
2. This identification shall be suitably documented, *inter alia*, on reports from Members/CNCPs relating to NPFC Conservation measures in force, trade information obtained on the basis of relevant trade statistics such as Food and Agriculture Organization of the United Nations (FAO) data, statistical documents and other national or international verifiable statistics, as well as any other information obtained from port States and/or gathered from the fishing grounds that is suitably documented. Information from Members/CNCPs should be provided in the format approved by the Commission.
3. For the purposes of this conservation measure, vessels fishing for species covered by the Convention are presumed to have carried out IUU fishing activities, as described in the IPOA on IUU fishing, in the Convention Area when a Member/CNCP presents suitably documented information that such vessels, *inter alia*:
  - a. Harvest species covered by the Convention in the Convention Area and are not on the NPFC record of authorized vessels or
  - b. Engage in fishing for fishery resources when the Member or CNCP, under whose flag the vessel is sailing, has exhausted or has no quotas, catch limit or effort allocation, including, if applicable, those received from another Member/CNCP under relevant NPFC conservation measures, or
  - c. Do not record or report their catches made in the Convention Area consistent with NPFC measures, or make false reports, or
  - d. Take and land undersized fish in contravention of relevant NPFC conservation measures, or
  - e. Fish in a closed area or during a closed season in contravention of relevant NPFC conservation measures, or
  - f. Use prohibited fishing gear in contravention of relevant NPFC conservation measures, or
  - g. Transship with, participate in joint fishing operations with, support or re-supply vessels included in the IUU Vessel List, or
  - h. Are without nationality and harvest species covered by the Convention in the Convention Area, or
  - i. Engage in any other fishing activities that undermine the provisions of the Convention or any other NPFC conservation measures.
4. If a Member/CNCP has not taken such measures as may be necessary so that fishing vessels entitled to fly its flag avoid conducting unauthorized fishing activities within areas under national jurisdiction of another State adjacent to the Convention Area in accordance with Article 13, the Member/CNCP, within whose areas under national jurisdiction the unauthorized fishing activities were conducted, may submit a proposal for listing the vessels on the draft IUU List if consultation with the Member/CNCP has not resolved the matter. Relevant procedures set out in paragraph 6 below shall apply for proposals under this paragraph.



5. If a Member/CNCP has information that a vessel is presumed to be carrying out IUU activities in the Convention Area during the years from the previous meeting to the current year, the Member/CNCP with such information is encouraged to provide that information as soon as possible to, and consult with, any Member/CNCP or non-Contracting Party that may have a vessel presumed to be carrying out IUU activities for clarification before providing that information to the Executive Secretary under the provisions of paragraph 6.

### **Information on alleged IUU fishing activities**

6. At least 70 days before the meeting of the Technical and Compliance Committee (TCC), Members/CNCPs shall transmit to the Executive Secretary their list of vessels presumed to be carrying out IUU activities in the Convention Area during the years from the previous meeting to the current year, accompanied by suitably documented information, as provided in para 2, concerning the presumption of this IUU activity.
7. Before or at the same time as transmitting a list of presumed IUU vessels to the Executive Secretary, the Member/CNCP shall notify, either directly or through the Executive Secretary, the relevant Member/CNCP/Non-Contracting Party of a vessel's inclusion on this list and provide a copy of the pertinent suitably documented information. The Member/CNCP/Non-Contracting Party shall promptly acknowledge receipt of the notification. If no acknowledgement is received within 10 days of the date of transmittal, the Executive Secretary, Member/CNCP shall retransmit the notification through an alternative means of communication.

### **Draft IUU Vessel List**

8. The Executive Secretary shall draw up a draft IUU Vessel List incorporating the lists of vessels and suitably documented information received pursuant to para 6, and any other suitably documented information at his disposal, and shall transmit it, together with all the supporting information provided, to all Members/CNCPs, as well as to non-Contracting Parties with vessels on the list, at least 55 days before the TCC's meeting except otherwise decided by the TCC.
9. The Executive Secretary shall request each Member/CNCP/non-Contracting Party with vessels on the draft IUU Vessel List to notify the owner of the vessels of their inclusion in that list, and of the consequences of their inclusion being confirmed in the IUU Vessel List.
10. Upon receipt of the draft IUU Vessel List, Members/CNCPs shall closely monitor the vessels included in that list in order to follow their activities and possible changes of name, flag or registered owner.
11. As appropriate, Members/CNCPs/non-Contracting Parties with vessels on the list should transmit, at least 10 days before the TCC's meeting, their comments to the Executive Secretary, including suitably documented information, showing that the vessels have fished in a manner consistent with NPFC conservation measures or have fished exclusively for species not covered by the Convention.



12. The Executive Secretary shall re-circulate the draft IUU Vessel List, 7 days in advance of the TCC's meeting, to the Members/CNCPs/non-Contracting Parties concerned, together with all the suitably documented information provided pursuant to paras 6 and 11 above.
13. Members/CNCPs/non-Contracting Parties may at any time submit to the Executive Secretary any additional suitably documented information regarding any vessels on the draft IUU Vessel List. The Executive Secretary shall circulate this additional information to all Members/CNCPs and to the non-Contracting Parties concerned immediately upon receipt of such information.

#### **Provisional and current IUU Vessel List**

14. The NPFC's IUU Vessel List adopted at the previous meeting of the Commission, as well as any new suitably documented information regarding this list, including intersessional amendments, shall be transmitted to Members/CNCPs and the non-Contracting Parties concerned in conjunction with the draft IUU Vessel List and materials outlined in para 8.
15. Members/CNCPs/non-Contracting Parties with vessels on the current NPFC IUU Vessel List should transmit at least 30 days before the meeting of the TCC, but may submit at any time, to the Executive Secretary suitably documented information regarding any of the vessels on the current NPFC IUU Vessel List, including, where appropriate, suitably documented information as provided for in paragraph 29. The Executive Secretary shall re-circulate the current NPFC IUU Vessel List two weeks in advance of the meeting of the TCC to the Members/CNCPs and non-Contracting Parties concerned, together with all the information provided pursuant to paragraph 14 and this paragraph.
16. At its meeting, the TCC shall:
  - a. following consideration of the draft IUU Vessel List and the suitably documented information circulated under paras 8, 12 and 13, adopt a Provisional IUU Vessel List; and
  - b. following consideration of the current NPFC IUU Vessel List and the suitably documented information circulated under paras 14 and 15, recommend to the Commission which, if any, vessels should be removed from the current NPFC IUU Vessel List.
17. The TCC shall not include a vessel on the Provisional IUU Vessel List if the Member/CNCP/non-Contracting Party, under whose flag the vessel is sailing, demonstrates that:
  - a. The vessel fished in a manner consistent with the Convention and NPFC Conservation Measures or have fished exclusively for species not covered by the NPFC Convention, or
  - b. Effective action has been taken in response to the IUU fishing activities in question, such as, *inter alia*, prosecution or the imposition of sanctions of adequate severity.
18. The TCC shall not include a vessel on the Provisional IUU Vessel List if the notifying Member/CNCP did not follow the provisions of para 7.
19. The TCC shall recommend removal of a vessel from the current NPFC IUU Vessel List only if the Member/CNCP/Non-Contracting Party, under whose flag the vessel is sailing, submits to the Executive Secretary the information provided in para 29 of this measure.



20. Following the examination referred to in para 16, the TCC shall submit the Provisional IUU Vessel List to the Commission for its consideration, and as appropriate, recommend any proposed changes to the current NPFC IUU Vessel List.
21. The draft IUU Vessel List, Provisional IUU Vessel List, and the NPFC IUU Vessel List shall contain the following details for each vessel:
  - a. name and previous names, if any;
  - b. flag and previous flags, if any;
  - c. owner and previous owners, including beneficial owners, if any;
  - d. operator and previous operators, if any;
  - e. call sign and previous call signs, if any;
  - f. Lloyds/IMO number, if any;
  - g. photographs, where available;
  - h. date first included on the IUU Vessel List;
  - i. summary of activities which justify inclusion of the vessel on the list, together with references to all relevant documents informing of and evidencing those activities; and
  - j. the date(s) and subsequent sightings of the vessels, if any, and any other related activities.

#### **NPFC IUU Vessel List**

22. At its meeting, the Commission shall review the Provisional IUU Vessel List, taking into account any new suitably documented information related to vessels on the Provisional IUU Vessel List, and any recommendations to amend the current NPFC IUU Vessel List made pursuant to paragraph 20 above, and adopt a new NPFC IUU Vessel List. To the maximum extent possible Members/CNCPs/non-Contracting Parties concerned shall provide any new suitably documented information at least two weeks before the meeting of the Commission.
23. Upon adopting the new NPFC IUU Vessel List, the Commission shall request Members/CNCPs/non-Contracting Parties with vessels on the NPFC IUU Vessel List to:
  - a. notify the owner of the vessels of its inclusion on the NPFC IUU Vessel List and the consequences that result from being included in the list, and
  - b. take all the necessary measures to eliminate these IUU fishing activities, including, if necessary, the withdrawal of the registration or the fishing licenses of these vessels, and to inform the Commission of the measures taken in this respect.
24. Members/CNCPs shall take all necessary non-discriminatory measures under their applicable legislation, international law and each Members/CNCPs' international obligations, and pursuant to paras 56 and 66 of the IPOA-IUU to:
  - a. remove or withdraw vessels on the NPFC IUU Vessel List from the NPFC Vessel Registry;
  - b. ensure that fishing vessels, support vessels, mother ships or cargo vessels flying their flag do not participate in any transshipment or joint fishing operations with, support or re-supply vessels on the NPFC IUU Vessel List;
  - c. prohibit the entry into their ports of vessels included on the NPFC IUU Vessel List, except in the case of investigation or *force majeure*;
  - d. prohibit the chartering of a vessel on the NPFC IUU Vessel List;
  - e. refuse to grant their flag to vessels on the NPFC IUU Vessel List, unless the ownership of the vessel has subsequently changed and the new owner has provided sufficient



- evidence demonstrating that the previous owner or operator has no legal, beneficial or financial interest in, or control of the vessels, or the Member concerned is satisfied that, having taken into account all relevant facts, the vessel is no longer engaged in or associated with IUU fishing activities;
- f. prohibit commercial transactions, imports, landings and/or transshipment of species covered by the Convention from vessels on the IUU Vessel List;
  - g. encourage traders, importers, transporters and others involved, to refrain from transactions in, and transshipment of, species covered by the Convention caught by vessels on the NPFC IUU Vessel List;
  - h. collect, and exchange with other Members/CNCPs, any appropriate information with the aim of searching for, controlling and preventing false import/export certificates for species covered by the Convention from vessels on the NPFC IUU Vessel List.
25. Members/CNCPs should cooperate with each other and other flag States to strengthen their legal, operational and institutional capacity to take action against their flagged vessels that have engaged in IUU fishing in the Area, including the imposition of adequate sanctions, as an alternative to de-flagging such vessels, thereby rendering such vessels without nationality.
26. The Executive Secretary shall take any measure necessary to ensure publicity of the NPFC IUU Vessel List, in a manner consistent with any applicable confidentiality requirements, including placing it on the NPFC website. Furthermore, the Executive Secretary shall transmit the NPFC IUU Vessel List to the FAO and to other regional fisheries organizations for the purposes of enhancing cooperation between the NPFC and these organizations aimed at preventing, deterring and eliminating IUU fishing.
27. Upon receipt of the final IUU vessel list established by another Regional Fisheries Management Organization (RFMO) and any other information regarding the list including its modification, the Executive Secretary shall circulate it to Members/CNCPs and shall place it on the NPFC website.
28. Without prejudice to the rights of Members/CNCPs and coastal states to take proper action, consistent with international law, including applicable WTO obligations, the Members/CNCPs shall not take any unilateral trade measures or other sanctions against vessels on the draft or Provisional IUU Vessel Lists, pursuant to paras 8 or 16, or that have been removed from the NPFC IUU Vessel List, pursuant to paras 19 and 22, on the grounds that such vessels are involved in IUU fishing activities.

#### **Modification of the NPFC IUU Vessel List**

29. Member/CNCPs/non-Contracting Parties with a vessel on the NPFC IUU Vessel List may request the removal of the vessel from the list at any time during the intersessional period by submitting to the Executive Secretary suitably documented information demonstrating that:
- a. it has adopted measures that will seek to ensure that the vessel complies with all NPFC measures; and
  - b. it will be able to assume effectively its duties with regards to the monitoring and control of the vessel's fishing activities in the Convention Area; and
  - c. it has taken effective action in response to the IUU fishing activities that resulted in the vessel's inclusion in the NPFC IUU Vessel List, including prosecution or the imposition of sanctions of adequate severity; or



- d. the vessel has changed ownership and that the new owner can establish that the previous owner no longer has any legal, financial or real interests in the vessel or exercises control over it, and that the new owner has not participated in IUU fishing activities.
30. The Executive Secretary will transmit the removal request, with all the supporting information, to the Members/CNCPs within 15 days following the receipt of the removal request. Members/CNCPs shall promptly acknowledge receipt of the removal request. If no acknowledgement is received within 10 days of the date of transmittal, the Executive Secretary shall retransmit the removal request and shall use additional means available to ensure the request has been received.
31. Each Commission Member shall examine the removal request and notify the Executive Secretary in writing of its decision, and the rationale therefore, regarding the removal of the vessel within 30 days following the notification by the Executive Secretary. Decisions on the request to remove the vessel shall be made in accordance with Rule 2 of the Rules of Procedure.
32. If Commission Members agree to the removal of the vessel from the NPFC IUU Vessel List within the period stipulated in para 31, the Executive Secretary will inform Members/CNCPs, and non-Contracting Parties concerned, FAO and other regional fisheries management organizations, and will remove the vessel from the NPFC IUU Vessel List, as published on the NPFC website.
33. If Commission Members disagree with the request for the removal of the vessel from the IUU Vessel List, the vessel will be maintained on the NPFC IUU Vessel List and the Executive Secretary will inform the Members/CNCPs/non-Contracting Parties that made the removal request.
34. A Member/CNCP with information indicating a change of name and/or an International Radio Call Sign (IRCS) of a vessel appearing on the NPFC IUU Vessel List shall, as soon as practicable, transmit such information to the Executive Secretary. The Executive Secretary shall communicate such information to all Members/CNCPs and, after verification\*, update the current NPFC IUU Vessel List on the NPFC website to reflect such information.

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

## **Review**

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

Annex A

## **NPFC Reporting Form for Illegal Activity**

Recalling NPFC CMM 2016 - 02 on *Establishing a list of vessels presumed to have carried out illegal, unreported and unregulated fishing activities in the Convention Area of North Pacific Fisheries Commission*, attached are details of illegal activity recorded in .....



**Details of Vessel**

- a. Name of vessel and previous names, if any;
- b. Flag of vessel and previous flags, if any;
- c. Owner and previous owner, including beneficial owners, if any;
- d. Operator of vessel and previous operators, if any;
- e. Call sign of vessel and previous call sign, if any;
- f. Lloyds/IMO number, if any;
- g. Photographs of the vessel, where available;
- h. Date vessel was first included on the IUU List;
- i. Summary of activities which justify inclusion of the vessel on the list, together with references to all relevant documents informing of and evidencing those activities (more detail in section 2)

**Details of elements contravened**

*(Indicate with an "X" the individual elements of CMM contravened, and provide relevant details including date, location, source of information. Additional information can be provided in an attachment, if necessary, and listed under section 3).*

Item	Definition	Indicate
a	Harvest species covered by the Convention in the Convention Area and are not on the NPFC record of authorized vessels	
b	Engage in fishing for fishery resources, when the Member or CNCP, under whose flag the vessel is sailing, has exhausted or has no quotas, catch limit or effort allocation, including, if applicable, those received from another Member/CNCP, under relevant NPFC conservation	
c	Do not record or report their catches made in the Convention Area consistent with NPFC Measures, or make false reports	
d	Take and land undersized fish in contravention of relevant NPFC conservation measures	
e	Fish in a closed area or during a closed season in contravention of relevant NPFC conservation measures	
f	Use prohibited fishing gear in contravention of relevant NPFC conservation measures	
g	Transship with, participate in joint fishing operations with, support or re-supply vessels included in the IUU vessels list	





h	Are without nationality and harvest species covered by the Convention in the Convention Area	
i	Engage in any other fishing activities that is in contravention of relevant NPFC conservation measures	
j	Are related to paragraph 4 of this conservation and management measures	

**Associated documents**

*(List here the associated documents that are appended e.g. boarding reports, court proceedings, photographs).*

**Recommended actions**

Item	Recommended actions	Indicate
A	Notification to NPFC Executive Secretary only. No further action is recommended	
B	Notification of illegal activity to NPFC Executive Secretary. Recommend notification of activity to flag Member/CNCP/non-Contracting Party	
C	Recommended for inclusion on NPFC IUU Vessel List	



**Information to be included in all NPFC IUU Vessel  
Lists (Draft, Provisional and Final)**

The Draft IUU Vessel List, as well as the Provisional and Final IUU Vessel Lists shall contain the following details, where available:

- a. Name of vessel and previous names, if any;
- b. Flag of vessel and previous flags, if any;
- c. Owner and previous owners, including beneficial owners, if any;
- d. Operator of vessel and previous operators, if any;
- e. Call sign of vessel and previous call signs, if any;
- f. Lloyds/IMO number, if any;
- g. Photographs of the vessel, where available;
- h. Date vessel was first included on the IUU Vessel List;
- i. Summary of activities which justify inclusion of the vessel on the List, together with references to all relevant documents informing of and evidencing those activities.



**CMM 2016-03**

(Entered Into Force 16 January 2017)

**CONSERVATION AND MANAGEMENT MEASURE ON THE  
INTERIM TRANSHIPMENT PROCEDURES FOR THE  
NORTH PACIFIC FISHERIES COMMISSION**

*The North Pacific Fisheries Commission (NPFC),*

*Noting that Article 7, Functions of the Commission, of the Convention on the Conservation and Management of the High Seas Fisheries Resources of the North Pacific Ocean states that the Commission ‘shall adopt measures to ensure effective monitoring, control and surveillance, as well as compliance with and enforcement of the provisions of this Convention’;*

*And further noting, that Paragraph 2 (a) further states that the Commission shall: ‘establish procedures for the regulation and monitoring of transshipment of fisheries resources and products of fisheries resources taken in the Convention Area, including notification to the Commission of the location and quantity of any transshipment’;*

**Adopts** the following interim conservation and management measure on transshipment procedures for the North Pacific Fisheries Commission:

1. Establish the elements and procedures for the regulation and monitoring of transshipment of fisheries resources or products of fisheries resources taken through bottom fishing (as an initial step), but not including research fishing, in the Convention Area. For the purposes of these procedures, research fishing means fishing activities that are part of a research project approved by the Scientific Committee
2. Procedures for the Monitoring and Regulation of Transshipment of Fisheries Resources and Products of Fisheries Resources Taken in the Convention Area
  - a. 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.
  - b. As specified under Article 13, Paragraph 8 of the Convention, the NPFC shall maintain a list of fishing vessels that are authorized to participate in fisheries in the Convention Area, and vessels will be added or removed from the list as necessary. Because transshipping is



considered “fishing” under the Convention, vessels not on the list are not authorized to transship fisheries resources and products of fisheries resources in the Convention Area.

- c. The Commission pursuant to the applicable CMM establishing the NPFC vessel registry further establishes an Interim Register of non-Member Carrier Vessels (the “Interim Register”) applicable from 2017 to 2019.

### 3. Transshipment Monitoring Measures

- a. For transshipments in the Convention Area, offloading and receiving vessels flying the flag of a Member of the Commission (known as the “Member”) must provide advance notice to that Member. The advance notice must contain identification information for the offloading and receiving vessels, information on the product being transshipped, and information on the location of the transshipment.
- b. Within 15 days after a transshipment has occurred, the **offloading** vessel must provide its flag member with a declaration of the transshipment that includes identification information for the offloading and receiving vessels and information on the product transshipped, including bottom fisheries:
  - i) Date and time of commencement of transshipment.
  - ii) Date and time of completion of transshipment.
  - iii) Position at commencement of transshipment (name of port, or if at sea, latitude and longitude to nearest 1/10th of a degree).
  - iv) Position at completion of transshipment (name of port, or if at sea, latitude and longitude to nearest 1/10th of a degree).
  - v) Description of product type by species (e.g. whole, frozen fish in 20 kg cartons).
  - vi) Number of cartons, net weight (kg) of product, by species.
  - vii) Total net weight of product transshipped (kg).
  - viii) Hold numbers in receiving vessel in which product is stowed.
  - ix) If at sea, next destination port of receiving vessel.
  - x) If at sea, next port arrival date estimate.
  - xi) Port(s) and estimate of date(s) transshipped product is expected to be landed.
- c. Within 15 days after a transshipment has occurred, the **receiving** vessel, except when flying the same flag as the offloading vessel, must provide the flag member of the offloading vessel with a declaration of the transshipment that includes identification information about the offloading and receiving vessels and information on the product that was transshipped, including:
  - i) Date and time of commencement of transshipment.
  - ii) Date and time of completion of transshipment.
  - iii) Position at commencement of transshipment (name of port, or if at sea, latitude



- and longitude to nearest 1/10th of a degree).
- iv) Position at completion of transshipment (name of port, or if at sea, latitude and longitude to nearest 1/10th of a degree).
  - v) Description of product type by species (e.g. whole, frozen fish in 20 kg cartons).
  - vi) Number of cartons, net weight (kg) of product, by species.
  - vii) Total net weight of product transshipped (kg).
  - viii) Hold numbers in receiving vessel in which product is stowed.
  - ix) Port(s) and estimate of date(s) transshipped product is expected to be landed.
  - x) Actual port(s) of landing.

#### **4. Member Reports**

Each Member and Cooperating Non-Contracting Party will provide a summary of the data collected in each year's transshipment declarations to the NPFC. The Scientific Committee and the Technical and Compliance Committee will recommend the specific data fields required to be included in the summary. The summary will be provided as an attachment to the Annual Report.



North Pacific Fisheries Commission

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**CMM 2016-04**

(Entered Into Force 16 January 2017)

**CONSERVATION AND MANAGEMENT MEASURE  
ON VESSELS WITHOUT NATIONALITY**

*The North Pacific Fisheries Commission (NPFC),*

*Recognising* that vessels without nationality operate without governance and oversight;

*Concerned* that fishing in the NPFC Area of Application (the Area) by vessels without nationality undermines the objective of the Convention and the work of the Commission;

*Noting* Article 92 and 94 of the United Nation Convention on the Law of the Sea (UNCLOS) relating to the status of ships and the duties of flag States;

*Recalling* that the FAO Council has adopted an International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated fishing (IUU fishing) and has recommended that States adopt measures consistent with international law in relation to fishing vessels without nationality involved in IUU fishing on the high seas;

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

1. A vessel without nationality is a vessel that, under international law, is not entitled to fly the flag of any State or, as referred to in Article 92 of UNCLOS, sails under the flag of two or more States, using them according to convenience.
2. Any fishing activities by a fishing vessel without nationality on the high seas of the Area shall be deemed to undermine the Convention and Commission conservation and management measures and shall constitute a serious violation in accordance with Article 17 of the Convention. These activities are deemed to be IUU fishing and therefore its information shall be provided by the Secretariat to the TCC according to para 5 of this CMM and shall constitute an appropriate basis for placement of such vessel on the Commissions Draft IUU List in accordance with the relevant CMM for establishing NPFC IUU Vessel List.



3. Members and Cooperating Non-Contracting Parties (CNCs) are encouraged to take effective action in accordance with international law, including, where appropriate, enforcement action, against vessels without nationality that are engaging, or have engaged, in fishing activities in the Area, and to prohibit the landing and transshipment of fish and fish products, and access to port services, by such vessels, except where such access is essential to the investigation, safety or health of the crew or the safety of the vessel.
4. Members and CNCs are encouraged to adopt necessary measures, including, where relevant, domestic legislation, to allow them to take the effective action referred to in paragraph 3 to prevent and deter vessels without nationality from engaging in fishing activities in the Area.
5. Members and CNCs are encouraged to share information about vessels suspected to be without nationality to assist in clarifying the status of such vessels, and about the activities of vessels without nationality to enable them to make informed decisions about action to prevent and deter such vessels from engaging in fishing activities in the Area. Any sightings of fishing vessels that are suspected of, or confirmed as being, without nationality that may be fishing in the high seas of the Area shall be reported to the Secretariat as soon as possible by the appropriate authorities of the member or CNC whose vessel or aircraft made the sighting. The Secretariat will circulate such information to all members and CNCs as soon as practicable, and will provide a report to the next meeting of the Technical and Compliance Committee of all such information provided.
6. For the effectiveness of this measure, the Commission shall cooperate with relevant regional organizations, especially with those regional fisheries management organizations with responsibility for fisheries in marine areas near or adjacent to the Convention Area.





**CMM 2017-05**

(Entered Into Force 28 November 2017)

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

*The North Pacific Fisheries Commission (NPFC),*

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

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

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

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

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

*Concerned* about possible adverse impacts of unregulated expansion of bottom fisheries on marine species and VMEs in the western part of the Convention Area.

*Adopts* the following Conservation and Management Measure:

1. Scope

A. Coverage

These Measures are to be applied to all bottom fishing activities throughout the high seas areas of the Northwestern Pacific Ocean, defined, for the purposes of this document, as those occurring in the Convention Area as set out in Article 4 of the Convention text



to the west of the line of 175 degrees W longitude (here in after called “the western part of the Convention Area”) including all such areas and marine species other than those species already covered by existing international fisheries management instruments, including bilateral agreements and Regional Fisheries Management Organizations or Arrangements.

#### B. Management target

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

### 2. General purpose

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

The objective of these Measures is to ensure the long-term conservation and sustainable use of the fisheries resources in the Convention Area while protecting the marine ecosystems of the North Pacific Ocean in which these resources occur. These measures shall set out to prevent significant adverse impacts on VMEs in the Convention Area of the North Pacific Ocean, acknowledging the complex dependency of fishing resources and species belonging to the same ecosystem within VMEs.

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

### 3. Principles

The implementation of this CMM shall:

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

### 4. Measures

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



A. Limit fishing effort in bottom fisheries on the western part of the Convention Area to the level agreed in February 2007 in terms of the number of fishing vessels and other parameters which reflect the level of fishing effort, fishing capacity or potential impacts on marine ecosystems.

B. Not allow bottom fisheries to expand into the western part of the Convention Area where no such fishing is currently occurring, in particular, by limiting such bottom fisheries to seamounts located south of 45 degrees North Latitude and refrain from bottom fisheries in other areas of the western part of the Convention Area covered by these measures and also not allow bottom fisheries to conduct fishing operation in areas deeper than 1,500m.

C. Notwithstanding subparagraphs A and B above, exceptions to these restrictions may be provided in cases where it can be shown that any fishing activity beyond such limits or in any new areas would not have significant adverse impacts (SAIs) on marine species or any VME. Such fishing activity is subject to an exploratory fishery protocol (Annex 1).

D. Any determinations pursuant to subparagraph C that any proposed fishing activity will not have SAIs on marine species or any VME are to be in accordance with the Science-based Standards and Criteria (Annex 2), which are consistent with the FAO International Guidelines for the Management of Deep-sea Fisheries in the High Seas.

E. Any determinations, by any flag state or pursuant to any subsequent arrangement for the management of the bottom fisheries in the areas covered by these measures, that fishing activity would not have SAIs on marine species or any VMEs, shall be made publicly available through agreed means.

F. Prohibit its vessels from engaging in directed fishing on the following orders: *Alcyonacea*, *Antipatharia*, *Gorgonacea*, and *Scleractinia* as well as any other indicator species for VMEs as may be identified from time to time by the SC and approved by the Commission.

G. Further, considering accumulated information regarding fishing activities in the western part of the Convention Area, in areas where, in the course of fishing operations, cold water corals more than 50Kg are encountered in one gear retrieval, Members of the Commission shall require vessels flying their flag to cease bottom fishing activities in that location. In such cases, the vessel shall not resume fishing activities until it has relocated a sufficient distance, which shall be no less than 2 nautical miles, so that additional encounters with VMEs are unlikely. All such encounters, including the location and the species in question, shall be



reported to the Secretariat, who shall notify the other Members of the Commission so that appropriate measures can be adopted in respect of the relevant site. It is agreed that the cold water corals include: *Alcyonacea*, *Antipatharia*, *Gorgonacea*, and *Scleractinia*.

H. C-H seamount and Southeastern part of Koko seamount, specifically for the latter seamount, the area South of 34 degrees 57 minutes North, East of the 400m isobaths, East of 171 degrees 54 minutes East, North of 34 degrees 50 minutes North, are closed precautionary for potential VME conservation. Fishing in these areas requires exploratory fishery protocol (Annex 1).

I. Ensure that the distance between the footrope of the gill net and sea floor is greater than 70 cm.

J. Apply a bottom fisheries closure from November to December

K. Limit annual catch of North Pacific armorhead to 15,000 tons for Japan

#### 5. Contingent Action

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

#### 6. Scientific Information

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

##### A. Collection of Information for purposes of defining the footprint

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



## B. Collection of Information

(i) Collection of scientific information from each bottom fishing vessel operating in the western part of the Convention Area.

- a. Catch and effort data
- b. Related information such as time, location, depth, temperature, etc.

(ii) As appropriate the collection of information from research vessels operating in the western part of the Convention Area.

- a. Physical, chemical, biological, oceanographic, meteorological, etc.
- b. Ecosystem surveys.

(iii) Collection of Observer Data

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

## 7. Control of bottom fishing vessels

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

## 8. Observers

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



## EXPLORATORY FISHERY PROTOCOL IN THE NORTH PACIFIC OCEAN

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

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

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

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

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

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



approach.

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

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

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

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

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

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



**Information to be provided before exploratory fisheries start**

1. A harvesting plan

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

2. A mitigation plan

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

3. A catch monitoring plan

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

4. A data collection plan

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





**Information to be included in the report**

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

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

1. Introduction

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

2. Purpose

(1) The purpose of the standards and criteria is to provide guidelines for each member of the Commission in identifying VMEs and assessing SAIs of individual bottom fishing activities<sup>2</sup> on VMEs or marine species in the Convention Area. Each member of the Commission, using the best information available, is to decide which species or areas are to be categorized as VMEs, identify areas where VMEs are known or likely to occur, and assess whether individual bottom fishing activities would have SAIs on such VMEs or marine species. The results of these tasks are to be submitted to and reviewed by the Scientific Committee with a view to reaching a common understanding among the members of the Commission.

(2) For the purpose of applying the standards and criteria, the bottom fisheries are defined as follows:

- (a) The fisheries are conducted in the Convention Area;
- (b) The total catch (everything brought up by the fishing gear) includes species that can only sustain low exploitation rates; and
- (c) The fishing gear is likely to contact the seafloor during the normal course of fishing operations

3. Definition of VMEs

(1) Although Paragraph 83 of UNGA Resolution 61/105 refers to seamounts, hydrothermal vents and cold water corals as examples of VMEs, there is no definitive list of specific species or areas that are to be regarded as VMEs.

(2) Vulnerability is related to the likelihood that a population, community or habitat will experience substantial alteration by fishing activities and how much time will be required for its recovery from such alteration. The most vulnerable ecosystems are those that are both easily disturbed and are very slow to recover, or may never recover. The vulnerabilities of populations, communities and habitats are to be assessed relative to specific threats. Some features, particularly ones that are physically fragile or inherently rare may be vulnerable to most forms of disturbance, but the vulnerability of some populations, communities and habitats may vary greatly depending on the type of fishing gear used or the kind of disturbance experienced. The risks to a marine ecosystem are determined by its vulnerability, the probability of a threat occurring and the mitigation means applied to the threat. Accordingly, the FAO Guidelines only provide examples of potential vulnerable species groups, communities and habitats as well as features that potentially support them (Annex 2.1).

<sup>2</sup> “individual bottom fishing activities” means fishing activities by each fishing gear. For example, if ten fishing vessels operate bottom trawl fishing in a certain area, the impacts of the fishing activities of these vessels on the ecosystem are to be assessed as a whole rather than on a vessel-by-vessel basis. It should be noted that if the total number or capacity of the vessels using the same fishing gear has increased, the impacts of the fishing activities are to be assessed again.

(3) A marine ecosystem is to be classified as vulnerable based on its characteristics. The following list of characteristics is used as criteria in the identification of VMEs.

- (a) Uniqueness or rarity - an area or ecosystem that is unique or that contains rare species whose loss could not be compensated for by other similar areas. These include:
  - (i) Habitats that contain endemic species;
  - (ii) Habitats of rare, threatened or endangered species that occur in discrete areas;
  - (iii) Nurseries or discrete feeding, breeding, or spawning areas
- (b) Functional significance of the habitat – discrete areas or habitats that are necessary for the survival, function, spawning/reproduction or recovery of fish stocks, particular life-history stages (e.g. nursery grounds or rearing areas), or of rare, threatened or endangered marine species.
- (c) Fragility – an ecosystem that is highly susceptible to degradation by anthropogenic activities
- (d) Life-history traits of component species that make recovery difficult – ecosystems that are characterized by populations or assemblages of species with one or more of the following characteristics:
  - (i) Slow growth rates
  - (ii) Late age of maturity
  - (iii) Low or unpredictable recruitment
  - (iv) Long-lived
- (e) Structural complexity – an ecosystem that is characterized by complex physical structures created by significant concentrations of biotic and abiotic features. In these ecosystems, ecological processes are usually highly dependent on these structured systems. Further, such ecosystems often have high diversity, which is dependent on the structuring organisms.

(4) Management response may vary, depending on the size of the ecological unit in the Convention Area. Therefore, the spatial extent of the ecological unit is to be decided first. That is, whether the ecological unit is the entire Area, or the current fishing ground, namely, the Emperor Seamount and Northern Hawaiian Ridge area (hereinafter called “the ES-NHR area”), or a group of the seamounts within the ES-NHR area, or each seamount in the ES-NHR area, is to be decided using the above criteria.

#### 4. Identification of potential VMEs

##### (1) Fished seamounts

###### (a) Identification of fished seamounts

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

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

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

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

After identifying the fished seamounts or fished areas of seamounts, it is necessary to assess whether each fished seamount is a VME or contains VMEs in accordance with the criteria in 3 above, individually or in combination using the best available scientific and technical information as well as Annex 2.1. A variety of data would be required to conduct such assessment, including pictures of seamounts taken by an ROV camera or drop camera, biological samples collected through research



activities and observer programs, and detailed bathymetry map. Where site-specific information is lacking, other information that is relevant to inferring the likely presence of VMEs is to be used.

(2) New fishing areas

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

5. Assessment of SAIs on VMEs or marine species

(1) Significant adverse impacts are those that compromise ecosystem integrity (i.e., ecosystem structure or function) in a manner that: (i) impairs the ability of affected populations to replace themselves; (ii) degrades the long-term natural productivity of habitats; or (iii) causes, on more than a temporary basis, significant loss of species richness, habitat or community types. Impacts are to be evaluated individually, in combination and cumulatively.

(2) When determining the scale and significance of an impact, the following six factors are to be considered:

- (a) The intensity or severity of the impact at the specific site being affected;
- (b) The spatial extent of the impact relative to the availability of the habitat type affected;
- (c) The sensitivity/vulnerability of the ecosystem to the impact;
- (d) The ability of an ecosystem to recover from harm, and the rate of such recovery;
- (e) The extent to which ecosystem functions may be altered by the impact; and
- (f) The timing and duration of the impact relative to the period in which a species needs the habitat during one or more life-history stages.

(3) Temporary impacts are those that are limited in duration and that allow the particular ecosystem to recover over an acceptable timeframe. Such timeframes are to be decided on a case-by-case basis and be on the order of 5-20 years, taking into account the specific features of the populations and ecosystems.

(4) In determining whether an impact is temporary, both the duration and the frequency with which an impact is repeated is to be considered. If the interval between the expected disturbances of a habitat is shorter than the recovery time, the impact is to be considered more than temporary.

(5) Each member of the Commission is to conduct assessments to establish if bottom fishing activities are likely to produce SAIs in a given seamount or other VMEs. Such an impact assessment is to address, *inter alia*:

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

(6) Impact assessments are to consider, as appropriate, the information referred to in these Standards and Criteria, as well as relevant information from similar or related fisheries, species and ecosystems.

(7) Where an assessment concludes that the area does not contain VMEs or that significant adverse impacts on



VMEs or marine species are not likely, such assessments are to be repeated when there have been significant changes to the fishery or other activities in the area, or when natural processes are thought to have undergone significant changes.

**6. Proposed conservation and management measures to prevent SAIs**

As a result of the assessment in 5 above, if it is considered that individual fishing activities are causing or likely to cause SAIs on VMEs or marine species, the member of the Commission is to adopt appropriate conservation and management measures to prevent such SAIs. The member of the Commission is to clearly indicate how such impacts are expected to be prevented or mitigated by the measures.

**7. Precautionary approach**

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

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

**8. Template for assessment report**

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

**ANNEX 2.1**

**EXAMPLES OF POTENTIAL VULNERABLE SPECIES GROUPS, COMMUNITIES AND HABITATS AS WELL AS FEATURES THAT POTENTIALLY SUPPORT THEM**

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

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

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

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

<b>a.</b>	submerged edges and slopes (e.g., corals and sponges),
<b>b.</b>	summits and flanks of seamounts, guyots, banks, knolls, and hills (e.g., corals, sponges, xenophyphores),
<b>c.</b>	canyons and trenches (e.g., burrowed clay outcrops, corals),



d.	hydrothermal vents (e.g., microbial communities and endemic invertebrates), and
e.	cold seeps (e.g., mud volcanoes, microbes, hard substrates for sessile invertebrates).

ANNEX 2.2

**TEMPLATE FOR REPORTS ON IDENTIFICATION OF VMEs AND ASSESSMENT OF IMPACTS CAUSED BY INDIVIDUAL FISHING ACTIVITIES ON VMEs OR MARINE SPECIES**

1. Name of the member of the Commission
2. Name of the fishery (e.g., bottom trawl, bottom gillnet, bottom longline, pot)
3. Status of the fishery (existing fishery or exploratory fishery)
4. Target species
5. Bycatch species
6. Recent level of fishing effort (every year at least since 2002)
  - (1) Number of fishing vessels
  - (2) Tonnage of each fishing vessel
  - (3) Number of fishing days or days on the fishing ground
  - (4) Fishing effort (total operating hours for trawl, # of hooks per day for long-line, # of pots per day for pot, total length of net per day for gillnet)
  - (5) Total catch by species
  - (6) Names of seamounts fished or to be fished
7. Fishing period
8. Analysis of status of fishery resources
  - (1) Data and methods used for analysis
  - (2) Results of analysis
  - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties
9. Analysis of status of bycatch species resources
  - (1) Data and methods used for analysis
  - (2) Results of analysis
  - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties
10. Analysis of existence of VMEs in the fishing ground
  - (1) Data and methods used for analysis
  - (2) Results of analysis
  - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties
11. Impact assessment of fishing activities on VMEs or marine species including cumulative impacts, and identification of SAIs on VMEs or marine species, as detailed in Section 5 above, Assessment of SAIs on VMEs or marine species
12. Other points to be addressed
13. Conclusion (whether to continue or start fishing with what measures, or stop fishing)



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

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



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

### **Report Components**

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

#### **A. Observer Training**

An overview of observer training conducted, including:

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

#### **B. Scientific Observer Programme Design and Coverage**

Details of the design of the observer programme, including:

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

Details of observer coverage of the above fleets, including:

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





### **C. Observer Data Collected**

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

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

### **D. Tag Return Monitoring**

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

### **E. Problems Experienced**

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



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

**TYPE AND FORMAT OF SCIENTIFIC OBSERVER DATA TO BE COLLECTED**

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

1. Vessel and observer details are to be recorded only once for each observed trip.
  
2. The following vessel data are to be collected for each observed trip:
  - a) Current vessel flag.
  - b) Name of vessel.
  - c) Name of the Captain.
  - d) Name of the Fishing Master.
  - e) Registration number.
  - f) International radio call sign (if any).
  - g) Lloyd's / IMO number (if allocated).
  - h) Previous Names (if known).
  - i) Port of registry.
  - j) Previous flag (if any).
  - k) Type of vessel.
  - l) Type of fishing method(s).
  - m) Length (m).
  - n) Beam (m).
  - o) Gross register tonnage (international tonnage).
  - p) Power of main engine(s) (kilowatts).
  - q) Hold capacity (cubic metres).
  - r) Record of the equipment on board which may affect fishing power factors (navigational equipment, radar, sonar systems, weather fax or satellite weather receiver, sea-surface temperature image receiver, Doppler current monitor, radio direction finder).
  - s) Total number of crew (all staff, excluding observers).
  
3. The following observer data are to be collected for each observed trip:
  - a) Observer's name.
  - b) Observer's organisation.



- c) Date observer embarked (UTC date).
- d) Port of embarkation.
- e) Date observer disembarked (UTC date).
- f) Port of disembarkation.

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

1. Data are to be collected on an un-aggregated (tow by tow) basis for all observed trawls.
2. The following data are to be collected for each observed trawl tow:
  - a) Tow start date (UTC).
  - b) Tow start time (UTC).
  - c) Tow end date (UTC).
  - d) Tow end time (UTC).
  - e) Tow start position (Lat/Lon, 1 minute resolution).
  - f) Tow end position (Lat/Lon, 1 minute resolution).
  - g) Type of trawl, bottom or mid-water.
  - h) Type of trawl, single, double or triple.
  - i) Height of net opening (m).
  - j) Width of net opening (m).
  - k) Mesh size of the cod-end net (stretched mesh, mm) and mesh type (diamond, square, etc).
  - l) Gear depth (of footrope) at start of fishing (m).
  - m) Bottom (seabed) depth at start of fishing (m).
  - n) Gear depth (of footrope) at end of fishing (m).
  - o) Bottom (seabed) depth at end of fishing (m).
  - p) Status of the trawl operation (no damage, lightly damaged\*, heavily damaged\*, other (specify)). \*Degree may be evaluated by time for repairing (<=1hr or >1hr)
  - q) Duration of estimated period of seabed contact (minute)
  - r) Intended target species.
  - s) Catch of all species retained on board, split by species, in weight (to the nearest kg).
  - t) Estimate of the amount (weight or volume) of all living marine resources discarded, split by species.
  - u) Record of the numbers by species of all marine mammals, seabirds or reptiles caught.
  - v) Record of sensitive benthic species in the trawl catch, particularly vulnerable or habitat-forming species such as sponges, sea-fans or corals.



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

1. Data are to be collected on an un-aggregated (set by set) basis for all observed bottom gillnet sets.
  
2. The following data are to be collected for each observed bottom gillnet set:
  - a) Set start date (UTC).
  - b) Set start time (UTC).
  - c) Set end date (UTC).
  - d) Set end time (UTC).
  - e) Set start position (Lat/Lon, 1 minute resolution).
  - f) Set end position (Lat/Lon, 1 minute resolution).
  - g) Net panel (“tan”) length (m).
  - h) Net panel (“tan”) height (m).
  - i) Net mesh size (stretched mesh, mm) and mesh type (diamond, square, etc)
  - j) Bottom depth at start of setting (m).
  - k) Bottom depth at end of setting (m).
  - l) Number of net panels for the set.
  - m) Number of net panels retrieved.
  - n) Number of net panels actually observed during the haul.
  - o) Actually observed catch of all species retained on board, split by species, in weight (to the nearest kg).
  - p) An estimation of the amount (numbers or weight) of marine resources discarded, split by species, during the actual observation.
  - q) Record of the actually observed numbers by species of all marine mammals, seabirds or reptiles caught.
  - r) Intended target species.
  - s) Catch of all species retained on board, split by species, in weight (to the nearest kg).
  - t) Estimate of the amount (weight or volume) of all marine resources discarded\* and dropped-off, split by species. \* Including those retained for scientific samples.
  - u) Record of the numbers by species of all marine mammals, seabirds or reptiles caught (including those discarded and dropped-off).



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

1. Data are to be collected on an un-aggregated (set by set) basis for all observed longline sets.
2. The following fields of data are to be collected for each set:
  - a) Set start date (UTC).
  - b) Set start time (UTC).
  - c) Set end date (UTC).
  - d) Set end time (UTC).
  - e) Set start position (Lat/Lon, 1 minute resolution).
  - f) Set end position (Lat/Lon, 1 minute resolution).
  - g) Total length of longline set (m).
  - h) Number of hooks for the set.
  - i) Bottom (seabed) depth at start of set.
  - j) Bottom (seabed) depth at end of set.
  - k) Number of hooks actually observed during the haul.
  - l) Intended target species.
  - m) Actually observed catch of all species retained on board, split by species, in weight (to the nearest kg).
  - n) An estimation of the amount (numbers or weight) of marine resources discarded\* or dropped-off, split by species, during the actual observation. \* Including those retained for scientific samples.
  - o) Record of the actually observed numbers by species of all marine mammals, seabirds or reptiles caught (including those discarded and dropped-off).

#### **E. Length-Frequency Data to Be Collected**

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



2. The numbers of fish to be measured for each species and distribution of samples across area and month strata should be determined, to ensure that samples are properly representative of species distributions and size ranges.

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

1. The following biological data are to be collected for representative samples of the main target species and, time permitting, for other main by-catch species contributing to the catch:
  - a) Species
  - b) Length (to the nearest mm), with record of the type of length measurement used.
  - c) Length and depth in case of North Pacific armorhead.
  - d) Sex (male, female, immature, unsexed)
  - e) Maturity stage (immature, mature, ripe, ripe-running, spent)
2. Representative stratified samples of otoliths are to be collected from the main target species and, time permitting, from other main by-catch species regularly occurring in catches. All otoliths to be collected are to be labelled with the information listed in 1 above, as well as the date, vessel name, observer name and catch position.
3. Where specific trophic relationship projects are being conducted, observers may be requested to also collect stomach samples from certain species. Any such samples collected are also to be labelled with the information listed in 1 above, as well as the date, vessel name, observer name and catch position.
4. Observers may also be required to collect tissue samples as part of specific genetic research programmes implemented by the SC.
5. Observers are to be briefed and provided with written length-frequency and biological sampling protocols and priorities for the above sampling specific to each observer trip.

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

1. Flag members operating observer programs are to develop, in cooperation with the SC, lists and identification guides of protected species or species of concern (seabirds, marine mammals or marine reptiles) to be monitored by observers.
2. The following data are to be collected for all protected species caught in fishing operations:



- a) Species (identified as far as possible, or accompanied by photographs if identification is difficult).
- b) Count of the number caught per tow or set.
- c) Life status (vigorous, alive, lethargic, dead) upon release.
- d) Whole specimens (where possible) for onshore identification. Where this is not possible, observers may be required to collect sub-samples of identifying parts, as specified in biological sampling protocols.

## **H. Detection of Fishing in Association with Vulnerable Marine Ecosystems**

1. The SC is to develop a guideline, species list and identification guide for benthic species (e.g. sponges, sea fans, corals) whose presence in a catch will indicate that fishing occurred in association with a vulnerable marine ecosystem (VME). All observers on vessels are to be provided with copies of this guideline, species list and ID guide.
2. For each observed fishing operation, the following data are to be collected for all species caught, which appear on the list of vulnerable benthic species:
  - a) Species (identified as far as possible, or accompanied by a photograph where identification is difficult).
  - b) An estimate of the quantity (weight (kg) or volume (m<sup>3</sup>)) of each listed benthic species caught in the fishing operation.
  - c) An overall estimate of the total quantity (weight (kg) or volume (m<sup>3</sup>)) of all invertebrate benthic species caught in the fishing operation.
  - d) Where possible, and particularly for new or scarce benthic species which do not appear in ID guides, whole samples should be collected and suitable preserved for identification on shore.

## **I. Data to be collected for all Tag Recoveries**

1. The following data are to be collected for all recovered fish, seabird, mammal or reptile tags:
  - a) Observer name.
  - b) Vessel name.
  - c) Vessel call sign.
  - d) Vessel flag.
  - e) Collect, label (with all details below) and store the actual tags for later return to the tagging agency.
  - f) Species from which tag recovered.



- g) Tag colour and type (spaghetti, archival).
- h) Tag numbers (The tag number is to be provided for all tags when multiple tags were attached to one fish. If only one tag was recorded, a statement is required that specifies whether or not the other tag was missing)
- i) Date and time of capture (UTC).
- j) Location of capture (Lat/Lon, to the nearest 1 minute)
- k) Animal length / size (to the nearest cm) with description of what measurement was taken (such as total length, fork length, etc).
- l) Sex (F=female, M=male, I=indeterminate, D=not examined)
- m) Whether the tags were found during a period of fishing that was being observed (Y/N)
- n) Reward information (e.g. name and address where to send reward)

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

## **J. Hierarchies for Observer Data Collection**

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



- Basic biological data (sex, maturity) for target species.
  - Check for presence of tags.
  - Otoliths (and stomach samples, if being collected) for target species.
  - Basic biological data for by-catch species.
  - Biological samples of by-catch species (if being collected)
  - Photos
3. The monitoring of catches and biological sampling procedures should be prioritised among species groups as follows:

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

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

#### **K. Coding Specifications to be used for Recording Observer Data**

1. Unless otherwise specified for specific data types, observer data are to be collected in accordance with the same coding specifications as specified in this Annex.
2. Coordinated Universal Time (UTC) is to be used to describe times.
3. Degrees and minutes are to be used to describe locations.
4. The following coding schemes are to be used:
  - a) Species are to be described using the FAO 3 letter species codes.
  - b) Fishing methods are to be described using the International Standard Classification of Fishing Gear (ISSCFG - 29 July 1980) codes.
  - c) Types of fishing vessel are to be described using the International Standard Classification of Fishery Vessels (ISSCFV) codes.



5. Metric units of measure are to be used, specifically:
  - a) Kilograms are to be used to describe catch weight.
  - b) Metres are to be used to describe height, width, depth, beam or length.
  - c) Cubic metres are to be used to describe volume.
  - d) Kilowatts are to be used to describe engine power.

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

*The North Pacific Fisheries Commission (NPFC):*

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

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

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

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

*Hereby adopt* the following Conservation and Management Measure (CMM) for bottom fisheries of the Northeastern Pacific Ocean while working to develop and implement other permanent management arrangements to govern these and other fisheries in the North Pacific Ocean.

**Scope**

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

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

2. The implementation of these Measures shall:
  - a. be based on the best scientific information available in accordance with existing international laws and agreements including UNCLOS and other relevant international instruments,

- b. establish appropriate and effective conservation and management measures,
- c. be in accordance with the precautionary approach, and
- d. incorporate an ecosystem approach to fisheries management.

3. Actions by Members of the Commission

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

- a. Conduct the assessments called for in paragraph 83(a) of UNGA Resolution 61/105, in a manner consistent with the FAO Guidelines and the Standards and Criteria included in Annex 2;
- b. Submit to the SC their assessments conducted pursuant to subparagraph (a) of this paragraph, including all relevant data and information in support of any such assessment, and receive advice and recommendations from the SC, in accordance with the procedures in Annex 3;
- c. Taking into account all advice and recommendations received from the SC, determine whether the fishing activity or operations of the vessel in question are likely to have a significant adverse impact on any vulnerable marine ecosystem;
- d. If it is determined that the fishing activity or operations of the vessel or vessels in question would have a significant adverse impact on vulnerable marine ecosystems, adopt conservation and management measures to prevent such impacts on the basis of advice and recommendations of the SC, which are subject to adoption by the Commission;
- e. Ensure that if any vessels are already engaged in bottom fishing, that such assessments have been carried out in accordance with paragraph 119(a)/UNGA RES 2009, the determination called for in subparagraph (c) of this paragraph has been rendered and, where appropriate, managements measures have been implemented in accordance with the advice and recommendations of the SC, which are subject to adoption by the Commission;
- f. Further ensure that they will only authorize fishing activities on the basis of such assessments and any comments and recommendations from the SC;
- g. Prohibit its vessels from engaging in directed fishing on the following orders: *Alcyonacea*, *Antipatharia*, *Gorgonacea*, and *Scleractinia* as well as any other indicator species for vulnerable marine ecosystems as may be identified from time to time by the SC and approved by the Commission;
- h. In respect of areas where vulnerable marine ecosystems are known to occur or are likely to occur, based on the best available scientific information, ensure that bottom fishing activities do not proceed unless conservation and management measures have been established to prevent significant adverse impacts on vulnerable marine ecosystems;
- i. Limit fishing effort in bottom fisheries on the Eastern part of the Convention Area to the level of a historical average (baseline to be determined through consensus in the SC based on information to be provided by Members) in terms of the number of fishing vessels and other parameters which reflect the level of fishing effort, fishing capacity or potential impacts on marine ecosystems dependent on new SC advice;
- j. Further, considering accumulated information regarding fishing activities in the Eastern part of the Convention Area, in areas where, in the course of fishing operations, cold water corals or other indicator species as identified by the SC that exceed 50Kg are encountered in one gear retrieval, Members of the Commission shall require vessels flying their flag to cease bottom fishing activities in that location. In such cases, the vessel shall not resume fishing activities until it has relocated a sufficient distance, which shall be no less than 2 nautical miles, so that additional encounters with VMEs are unlikely. All such encounters, including the location and the species in question, shall be reported to the Secretariat, who shall notify the other Members of the Commission so that appropriate measures can be adopted in respect of the relevant site. It is agreed that the cold water corals include: *Alcyonacea*, *Antipatharia*,

*Gorgonacea*, and *Scleractinia*, as well as any other indicator species for vulnerable marine ecosystems as may be identified from time to time by the SC and approved by the Commission.

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

#### Control of Bottom Fishing Vessels

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

#### Scientific Committee (SC)

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

#### Scientific Information

8. The Members shall provide all available information as required by the Commission for any current or historical fishing activity by their flag vessels, including the number of vessels by gear type, size of vessels (tons), number of fishing days or days on the fishing grounds, total catch by species, areas fished (names or coordinates of seamounts), and information from scientific observer programmes (see Annexes 4 and 5) to the NPFC Secretariat as soon as possible and no later than one month prior to SC meeting. The Secretariat will make such information available to SC.
9. Scientific research activities for stock assessment purposes are to be conducted in accordance with a research plan that has been provided to SC prior to the commencement of such activities.

**EXPLORATORY FISHERY PROTOCOL IN THE NORTH PACIFIC OCEAN**

1. From 1 January 2009, all bottom fishing activities in new fishing areas and areas where fishing is prohibited in a precautionary manner or with bottom gear not previously used in the existing fishing areas, are to be considered as “exploratory fisheries” and to be conducted in accordance with this protocol.
2. Precautionary conservation and management measures, including catch and effort controls, are essential during the exploratory phase of deep sea fisheries. Implementation of a precautionary approach to sustainable exploitation of deep sea fisheries shall include the following measures:
  - i. precautionary effort limits, particularly where reliable assessments of sustainable exploitation rates of target and main by-catch species are not available;
  - ii. precautionary measures, including precautionary spatial catch limits where appropriate, to prevent serial depletion of low-productivity stocks;
  - iii. regular review of appropriate indices of stock status and revision downwards of the limits listed above when significant declines are detected;
  - iv. measures to prevent significant adverse impacts on vulnerable marine ecosystems; and
  - v. comprehensive monitoring of all fishing effort, capture of all species and interactions with VMEs.
3. When a member of the Commission would like to conduct exploratory fisheries, it is to follow the following procedure:
  - (1) Prior to the commencement of fishing, the member of the Commission is to circulate the information and assessment in Appendix 1.1 to the members of the Scientific Committee (SC) for review and to all members of the Commission for information, together with the impact assessment. Such information is to be provided to the other members at least 30 days in advance of the meeting at which the information shall be reviewed.
  - (2) The assessment in (1) above is to be conducted in accordance with the procedure set forth in “Science-based Standards and Criteria for Identification of VMEs and Assessment of Significant Adverse Impacts on VMEs and Marine Species (Annex 2)”, with the understanding that particular care shall be taken in the evaluation of risks of the significant adverse impact on vulnerable marine ecosystems (VMEs), in line with the precautionary approach.
  - (3) The SC is to review the information and the assessment submitted in (1) above in accordance with “SC Assessment Review Procedures for Bottom Fishing Activities (Annex 3).”
  - (4) The exploratory fisheries are to be permitted only where the assessment concludes that they would not have significant adverse impacts (SAIs) on marine species or any VMEs and on the basis of comments and recommendations of SC. Any determinations, by any Member of the Commission or the SC, that the exploratory fishing activities would not have SAIs on marine species or any VMEs, shall be made publicly available through the NPFC website.
4. The member of the Commission is to ensure that all vessels flying its flag conducting exploratory fisheries are equipped with a satellite monitoring device and have an observer on board at all times.
5. Within 3 months of the end of the exploratory fishing activities or within 12 months of the

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

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

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

## **Appendix 1.1**

### **Information to be provided before exploratory fisheries start**

1. A harvesting plan
  - Name of vessel
  - Flag member of vessel
  - Description of area to be fished (location and depth)
  - Fishing dates
  - Anticipated effort
  - Target species
  - Bottom fishing gear-type used
  - Area and effort restrictions to ensure that fisheries occur on a gradual basis in a limited geographical area.
2. A mitigation plan
  - Measures to prevent SAIs to VMEs that may be encountered during the fishery
3. A catch monitoring plan
  - Recording/reporting of all species brought onboard to the lowest possible taxonomic level
  - 100% satellite monitoring
  - 100% observer coverage
4. A data collection plan
  - Data is to be collected in accordance with “Type and Format of Scientific Observer Data to be Collected” (Annex 5)

## **Appendix 1.2**

### **Information to be included in the report**

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



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

1. Introduction

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

2. Purpose

(1) The purpose of the standards and criteria is to provide guidelines for each member of the Commission in identifying VMEs and assessing SAIs of individual bottom fishing activities<sup>3</sup> on VMEs or marine species in the Convention Area. Each member of the Commission, using the best information available, is to decide which species or areas are to be categorized as VMEs, identify areas where VMEs are known or likely to occur, and assess whether individual bottom fishing activities would have SAIs on such VMEs or marine species. The results of these tasks are to be submitted to and reviewed by the Scientific Committee with a view to reaching a common understanding among the members of the Commission.

(2) For the purpose of applying the standards and criteria, the bottom fisheries are defined as follows:

- (a) The fisheries are conducted in the Convention Area;
- (b) The total catch (everything brought up by the fishing gear) includes species that can only sustain low exploitation rates; and
- (c) The fishing gear is likely to contact the seafloor during the normal course of fishing operations

3. Definition of VMEs

(1) Although Paragraph 83 of UNGA Resolution 61/105 refers to seamounts, hydrothermal vents and cold water corals as examples of VMEs, there is no definitive list of specific species or areas that are to be regarded as VMEs.

(2) Vulnerability is related to the likelihood that a population, community or habitat will experience substantial alteration by fishing activities and how much time will be required for its recovery from such alteration. The most vulnerable ecosystems are those that are both easily disturbed and are very slow to recover, or may never recover. The vulnerabilities of populations, communities and habitats are to be assessed relative to specific threats. Some features, particularly ones that are physically fragile or inherently rare may be vulnerable to most forms of disturbance, but the vulnerability of some populations, communities and habitats may vary greatly depending on the type of fishing gear used or the kind of disturbance experienced. The risks to a marine ecosystem are determined by its vulnerability, the probability of a threat occurring and the mitigation means applied to the threat. Accordingly, the FAO Guidelines only provide examples of potential vulnerable species groups, communities and habitats as well as features that potentially support them (Annex 2.1).

(3) A marine ecosystem is to be classified as vulnerable based on its characteristics. The following list of characteristics is used as criteria in the identification of VMEs.

- (a) Uniqueness or rarity - an area or ecosystem that is unique or that contains rare species whose loss could not be compensated for by other similar areas. These include:
  - (i) Habitats that contain endemic species;
  - (ii) Habitats of rare, threatened or endangered species that occur in discrete areas;

<sup>3</sup> “individual bottom fishing activities” means fishing activities by each fishing gear. For example, if ten fishing vessels operate bottom trawl fishing in a certain area, the impacts of the fishing activities of these vessels on the ecosystem are to be assessed as a whole rather than on a vessel-by-vessel basis. It should be noted that if the total number or capacity of the vessels using the same fishing gear has increased, the impacts of the fishing activities are to be assessed again.

- (iii) Nurseries or discrete feeding, breeding, or spawning areas
- (b) Functional significance of the habitat – discrete areas or habitats that are necessary for the survival, function, spawning/reproduction or recovery of fish stocks, particular life-history stages (e.g. nursery grounds or rearing areas), or of rare, threatened or endangered marine species.
- (c) Fragility – an ecosystem that is highly susceptible to degradation by anthropogenic activities
- (d) Life-history traits of component species that make recovery difficult – ecosystems that are characterized by populations or assemblages of species with one or more of the following characteristics:
  - (i) Slow growth rates
  - (ii) Late age of maturity
  - (iii) Low or unpredictable recruitment
  - (iv) Long-lived
- (e) Structural complexity – an ecosystem that is characterized by complex physical structures created by significant concentrations of biotic and abiotic features. In these ecosystems, ecological processes are usually highly dependent on these structured systems. Further, such ecosystems often have high diversity, which is dependent on the structuring organisms.

(4) Management response may vary, depending on the size of the ecological unit in the Convention Area. Therefore, the spatial extent of the ecological unit is to be decided first. For example, whether the ecological unit is a group of seamounts, or an individual seamount in the Convention Area, is to be decided using the above criteria.

#### 4. Identification of potential VMEs

##### (1) Fished seamounts

###### (a) Identification of fished seamounts

It is reported that two types of fishing gear are currently used by members of the Commission in the NE area, namely long-line hook and long-line trap. The footprint of the bottom fisheries (fished seamounts) is identified based on the available fishing record. The following seamounts have been identified as fished seamounts at some point in the past: Brown Bear, Cobb, Warwick, Eickelberg, Pathfinder, Miller, Murray, Cowie, Surveyor, Pratt, and Durgin. It is important to establish, to the extent practicable, a time series of where and when these gears have been used in order to assess potential long-term effects on any existing VMEs.

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

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

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

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

##### (2) New fishing areas

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

#### 5. Assessment of SAIs on VMEs or marine species

(1) Significant adverse impacts are those that compromise ecosystem integrity (i.e., ecosystem structure or function) in a manner that: (i) impairs the ability of affected populations to replace themselves; (ii) degrades the long-term natural productivity of habitats; or (iii) causes, on more than a temporary basis, significant loss of species richness, habitat or community types. Impacts are to be evaluated individually, in combination and cumulatively.

(2) When determining the scale and significance of an impact, the following six factors are to be considered:

- (a) The intensity or severity of the impact at the specific site being affected;
- (b) The spatial extent of the impact relative to the availability of the habitat type affected;
- (c) The sensitivity/vulnerability of the ecosystem to the impact;
- (d) The ability of an ecosystem to recover from harm, and the rate of such recovery;
- (e) The extent to which ecosystem functions may be altered by the impact; and
- (f) The timing and duration of the impact relative to the period in which a species needs the habitat during one or more life-history stages.

(3) Temporary impacts are those that are limited in duration and that allow the particular ecosystem to recover over an acceptable timeframe. Such timeframes are to be decided on a case-by-case basis and be on the order of 5-20 years, taking into account the specific features of the populations and ecosystems.

(4) In determining whether an impact is temporary, both the duration and the frequency with which an impact is repeated is to be considered. If the interval between the expected disturbances of a habitat is shorter than the recovery time, the impact is to be considered more than temporary.

(5) Each member of the Commission is to conduct assessments to establish if bottom fishing activities are likely to produce SAIs in a given seamount or other VMEs. Such an impact assessment is to address, *inter alia*:

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

(6) Impact assessments are to consider, as appropriate, the information referred to in these Standards and Criteria, as well as relevant information from similar or related fisheries, species and ecosystems.

(7) Where an assessment concludes that the area does not contain VMEs or that significant adverse impacts on VMEs or marine species are not likely, such assessments are to be repeated when there have been significant changes to the fishery or other activities in the area, or when natural processes are thought to have undergone significant changes.

#### 6. Proposed conservation and management measures to prevent SAIs

As a result of the assessment in 5 above, if it is considered that individual fishing activities are causing or likely to cause SAIs on VMEs or marine species, the member of the Commission is to adopt appropriate conservation and management measures to prevent such SAIs. The member of the Commission is to clearly indicate how such impacts are expected to be prevented or mitigated by the measures.

#### 7. Precautionary approach

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

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

**8. Template for assessment report**

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

**ANNEX 2.1**

**EXAMPLES OF POTENTIAL VULNERABLE SPECIES GROUPS, COMMUNITIES AND HABITATS AS WELL AS FEATURES THAT POTENTIALLY SUPPORT THEM**

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

Examples of species groups, communities and habitat forming species that are documented or considered sensitive and potentially vulnerable to deep-sea fisheries in the high-seas, and which may contribute to forming VMEs:	
<b>a.</b>	certain coldwater corals, e.g., reef builders and coral forest including: stony corals (scleractinia), alcyonaceans and gorgonians (octocorallia), black corals (antipatharia), and hydrocorals (stylasteridae),
<b>b.</b>	Some types of sponge dominated communities,
<b>c.</b>	communities composed of dense emergent fauna where large sessile protozoans (xenophyophores) and invertebrates (e.g., hydroids and bryozoans) form an important structural component of habitat, and
<b>d.</b>	seep and vent communities comprised of invertebrate and microbial species found nowhere else (i.e., endemic).

Examples of topographical, hydrophysical or geological features, including fragile geological structures, that potentially support the species groups or communities, referred to above:	
<b>a.</b>	submerged edges and slopes (e.g., corals and sponges),
<b>b.</b>	summits and flanks of seamounts, guyots, banks, knolls, and hills (e.g., corals, sponges, xenophyphores),
<b>c.</b>	canyons and trenches (e.g., burrowed clay outcrops, corals),
<b>d.</b>	hydrothermal vents (e.g., microbial communities and endemic invertebrates), and
<b>e.</b>	cold seeps (e.g., mud volcanoes, microbes, hard substrates for sessile invertebrates).

**ANNEX 2.2**

**TEMPLATE FOR REPORTS ON IDENTIFICATION OF VMEs AND ASSESSMENT OF IMPACTS CAUSED BY INDIVIDUAL FISHING ACTIVITIES ON VMEs OR MARINE SPECIES**

1. Name of the member of the Commission
2. Name of the fishery (e.g., bottom trawl, bottom gillnet, bottom longline, pot)
3. Status of the fishery (existing fishery or exploratory fishery)
4. Target species
5. Bycatch species
6. Recent level of fishing effort (every year at least since 2002)
  - (1) Number of fishing vessels
  - (2) Tonnage of each fishing vessel
  - (3) Number of fishing days or days on the fishing ground
  - (4) Fishing effort (total operating hours for trawl, # of hooks per day for long-line, # of pots per day for pot, total length of net per day for gillnet)
  - (5) Total catch by species
  - (6) Names of seamounts fished or to be fished
7. Fishing period
8. Analysis of status of fishery resources
  - (1) Data and methods used for analysis
  - (2) Results of analysis
  - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties

9. Analysis of status of bycatch species resources
  - (1) Data and methods used for analysis
  - (2) Results of analysis
  - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties
10. Analysis of existence of VMEs in the fishing ground
  - (1) Data and methods used for analysis
  - (2) Results of analysis
  - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties
11. Impact assessment of fishing activities on VMEs or marine species including cumulative impacts, and identification of SAIs on VMEs or marine species, as detailed in Section 5 above, Assessment of SAIs on VMEs or marine species
12. Other points to be addressed
13. Conclusion (whether to continue or start fishing with what measures, or stop fishing)

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

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

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

**Report Components**

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

**A. Observer Training**

An overview of observer training conducted, including:

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

**B. Scientific Observer Programme Design and Coverage**

Details of the design of the observer programme, including:

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

Details of observer coverage of the above fleets, including:

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

**C. Observer Data Collected**

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

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

**D. Tag Return Monitoring**

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

**E. Problems Experienced**

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



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

**TYPE AND FORMAT OF SCIENTIFIC OBSERVER DATA TO BE COLLECTED**

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

1. Vessel and observer details are to be recorded only once for each observed trip.
2. The following vessel data are to be collected for each observed trip:
  - a) Current vessel flag.
  - b) Name of vessel.
  - c) Name of the Captain.
  - d) Name of the Fishing Master.
  - e) Registration number.
  - f) International radio call sign (if any).
  - g) Lloyd's / IMO number (if allocated).
  - h) Previous Names (if known).
  - i) Port of registry.
  - j) Previous flag (if any).
  - k) Type of vessel.
  - l) Type of fishing method(s).
  - m) Length (m).
  - n) Beam (m).
  - o) Gross register tonnage (international tonnage).
  - p) Power of main engine(s) (kilowatts).
  - q) Hold capacity (cubic metres).
  - r) Record of the equipment on board which may affect fishing power factors (navigational equipment, radar, sonar systems, weather fax or satellite weather receiver, sea-surface temperature image receiver, Doppler current monitor, radio direction finder).
  - s) Total number of crew (all staff, excluding observers).
3. The following observer data are to be collected for each observed trip:
  - a) Observer's name.
  - b) Observer's organisation.
  - c) Date observer embarked (UTC date).
  - d) Port of embarkation.
  - e) Date observer disembarked (UTC date).
  - f) Port of disembarkation.

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

1. Data are to be collected on an un-aggregated (tow by tow) basis for all observed trawls.
2. The following data are to be collected for each observed trawl tow:
  - a) Tow start date (UTC).
  - b) Tow start time (UTC).
  - c) Tow end date (UTC).
  - d) Tow end time (UTC).

- e) Tow start position (Lat/Lon, 1 minute resolution).
- f) Tow end position (Lat/Lon, 1 minute resolution).
- g) Type of trawl, bottom or mid-water.
- h) Type of trawl, single, double or triple.
- i) Height of net opening (m).
- j) Width of net opening (m).
- k) Mesh size of the cod-end net (stretched mesh, mm) and mesh type (diamond, square, etc).
- l) Gear depth (of footrope) at start of fishing (m).
- m) Bottom (seabed) depth at start of fishing (m).
- n) Gear depth (of footrope) at end of fishing (m).
- o) Bottom (seabed) depth at end of fishing (m).
- p) Status of the trawl operation (no damage, lightly damaged\*, heavily damaged\*, other (specify)). \*Degree may be evaluated by time for repairing (<=1hr or >1hr)
- q) Duration of estimated period of seabed contact (minute)
- r) Intended target species.
- s) Catch of all species retained on board, split by species, in weight (to the nearest kg).
- t) Estimate of the amount (weight or volume) of all living marine resources discarded, split by species.
- u) Record of the numbers by species of all marine mammals, seabirds or reptiles caught.
- v) Record of sensitive benthic species in the trawl catch, particularly vulnerable or habitat-forming species such as sponges, sea-fans or corals.

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

1. Data are to be collected on an un-aggregated (set by set) basis for all observed bottom gillnet sets.
2. The following data are to be collected for each observed bottom gillnet set:
  - a) Set start date (UTC).
  - b) Set start time (UTC).
  - c) Set end date (UTC).
  - d) Set end time (UTC).
  - e) Set start position (Lat/Lon, 1 minute resolution).
  - f) Set end position (Lat/Lon, 1 minute resolution).
  - g) Net panel ("tan") length (m).
  - h) Net panel ("tan") height (m).
  - i) Net mesh size (stretched mesh, mm) and mesh type (diamond, square, etc)
  - j) Bottom depth at start of setting (m).
  - k) Bottom depth at end of setting (m).
  - l) Number of net panels for the set.
  - m) Number of net panels retrieved.
  - n) Number of net panels actually observed during the haul.
  - o) Actually observed catch of all species retained on board, split by species, in weight (to the nearest kg).
  - p) An estimation of the amount (numbers or weight) of marine resources discarded, split by species, during the actual observation.
  - q) Record of the actually observed numbers by species of all marine mammals, seabirds or reptiles caught.
  - r) Intended target species.
  - s) Catch of all species retained on board, split by species, in weight (to the nearest kg).
  - t) Estimate of the amount (weight or volume) of all marine resources discarded\* and dropped-off, split by species. \* Including those retained for scientific samples.

- u) Record of the numbers by species of all marine mammals, seabirds or reptiles caught (including those discarded and dropped-off).

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

1. Data are to be collected on an un-aggregated (set by set) basis for all observed longline sets.
2. The following fields of data are to be collected for each set:
  - a) Set start date (UTC).
  - b) Set start time (UTC).
  - c) Set end date (UTC).
  - d) Set end time (UTC).
  - e) Set start position (Lat/Lon, 1 minute resolution).
  - f) Set end position (Lat/Lon, 1 minute resolution).
  - g) Total length of longline set (m).
  - h) Number of hooks for the set.
  - i) Bottom (seabed) depth at start of set.
  - j) Bottom (seabed) depth at end of set.
  - k) Number of hooks actually observed during the haul.
  - l) Intended target species.
  - m) Actually observed catch of all species retained on board, split by species, in weight (to the nearest kg).
  - n) An estimation of the amount (numbers or weight) of marine resources discarded\* or dropped-off, split by species, during the actual observation. \* Including those retained for scientific samples.
  - o) Record of the actually observed numbers by species of all marine mammals, seabirds or reptiles caught (including those discarded and dropped-off).

**E. Length-Frequency Data to Be Collected**

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

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

1. The following biological data are to be collected for representative samples of the main target species and, time permitting, for other main by-catch species contributing to the catch:
  - a) Species
  - b) Length (to the nearest mm), with record of the type of length measurement used.
  - c) Length and depth in case of North Pacific armorhead.
  - d) Sex (male, female, immature, unsexed)

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

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

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

**H. Detection of Fishing in Association with Vulnerable Marine Ecosystems**

- 1. The SC is to develop a guideline, species list and identification guide for benthic species (e.g. sponges, sea fans, corals) whose presence in a catch will indicate that fishing occurred in association with a vulnerable marine ecosystem (VME). All observers on vessels are to be provided with copies of this guideline, species list and ID guide.
- 2. For each observed fishing operation, the following data are to be collected for all species caught, which appear on the list of vulnerable benthic species:
  - a) Species (identified as far as possible, or accompanied by a photograph where identification is difficult).
  - b) An estimate of the quantity (weight (kg) or volume (m<sup>3</sup>)) of each listed benthic species caught in the fishing operation.
  - c) An overall estimate of the total quantity (weight (kg) or volume (m<sup>3</sup>)) of all invertebrate benthic species caught in the fishing operation.
  - d) Where possible, and particularly for new or scarce benthic species which do not appear in ID guides, whole samples should be collected and suitable preserved for identification on shore.

## **I. Data to be collected for all Tag Recoveries**

1. The following data are to be collected for all recovered fish, seabird, mammal or reptile tags:
  - a) Observer name.
  - b) Vessel name.
  - c) Vessel call sign.
  - d) Vessel flag.
  - e) Collect, label (with all details below) and store the actual tags for later return to the tagging agency.
  - f) Species from which tag recovered.
  - g) Tag colour and type (spaghetti, archival).
  - h) Tag numbers (The tag number is to be provided for all tags when multiple tags were attached to one fish. If only one tag was recorded, a statement is required that specifies whether or not the other tag was missing)
  - i) Date and time of capture (UTC).
  - j) Location of capture (Lat/Lon, to the nearest 1 minute)
  - k) Animal length / size (to the nearest cm) with description of what measurement was taken (such as total length, fork length, etc).
  - l) Sex (F=female, M=male, I=indeterminate, D=not examined)
  - m) Whether the tags were found during a period of fishing that was being observed (Y/N)
  - n) Reward information (e.g. name and address where to send reward)

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

## **J. Hierarchies for Observer Data Collection**

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

- Basic biological data for by-catch species.
  - Biological samples of by-catch species (if being collected)
  - Photos
3. The monitoring of catches and biological sampling procedures should be prioritised among species groups as follows:

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

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

#### **K. Coding Specifications to be used for Recording Observer Data**

1. Unless otherwise specified for specific data types, observer data are to be collected in accordance with the same coding specifications as specified in this Annex.
2. Coordinated Universal Time (UTC) is to be used to describe times.
3. Degrees and minutes are to be used to describe locations.
4. The following coding schemes are to be used:
  - a. Species are to be described using the FAO 3 letter species codes.
  - b. Fishing methods are to be described using the International Standard Classification of Fishing Gear (ISSCFG - 29 July 1980) codes.
  - c. Types of fishing vessel are to be described using the International Standard Classification of Fishery Vessels (ISSCFV) codes.
5. Metric units of measure are to be used, specifically:
  - a. Kilograms are to be used to describe catch weight.
  - b. Metres are to be used to describe height, width, depth, beam or length.
  - c. Cubic metres are to be used to describe volume.
  - d. Kilowatts are to be used to describe engine power.

**CONSERVATION AND MANAGEMENT MEASURE  
FOR CHUB MACKEREL**

*The North Pacific Fisheries Commission (NPFC),*

*Recognizing* that outcomes of the small *ad hoc* workshop for the scientific analysis of chub mackerel stock were presented to the Scientific Committee (SC) in April 2017 and the SC recommended to establish the Technical Working Group (TWG) on chub mackerel stock assessment;

*Noting* that CMM 2016-07 states the SC will complete the stock assessment of chub mackerel as soon as practicable, even if such assessment is provisional, and provide advice and recommendations to the Commission in accordance with Article 10, paragraph 4(b) of the Convention;

*Reaffirming* the General Principles provided in Article 3 of the Convention, in particular, paragraph (h) stipulating that any expansion of fishing effort does not proceed without prior assessment of the impacts of those fishing activities on the long-term sustainability of fisheries resources;

*Recalling* that concern was expressed on an adverse impact on the stock of chub mackerel given the rapid increase in vessels that appear to be fishing for chub mackerel in the Convention Area, as articulated in paragraphs 9 and 10 of Report of the 1st Meeting of the Technical and Compliance Committee;

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

1. Members of the Commission and Cooperating non-Contracting Parties (CNCP) with substantial harvest of chub mackerel in the Convention Area shall refrain from expansion, in the Convention area, of the number of fishing vessels entitled to fly their flags and authorized to fish for chub mackerel based on the number of vessels from the historical existing level until the stock assessment by the SC has been completed.
2. Members and Cooperating non-Contracting Parties without substantial harvest of chub mackerel in the Convention Area are encouraged to refrain from expansion, in the Convention area, of the number of fishing vessels entitled to fly their flags and authorized to fish for chub mackerel from the historical existing level until the stock assessment by the SC has been completed.

3. Members of the Commission participating in chub mackerel fisheries in areas under national jurisdiction adjacent to the Convention area are requested to take compatible measures in paragraph 1.
4. Members of the Commission and CNCP shall ensure that fishing vessels flying their flag operating in the Convention Area to fish chub mackerel are to be equipped with an operational vessel monitoring system that is activated at all times.
5. Members of the Commission and CNCPs shall provide their data on chub mackerel separated by the Convention Area and the areas under national jurisdiction adjacent to the Convention Area in accordance with the data requirements adopted by the Commission in the Annual Report by the end of February, every year. The Commission shall review such information at the annual meeting of every year.
6. Members of the Commission and CNCPs shall cooperate to take necessary measures including sharing information, in order to accurately understand the situation and eliminate IUU fishing for chub mackerel.
7. The SC and its subsidiary TWG on chub mackerel stock assessment will complete the stock assessment of chub mackerel as soon as possible in accordance with the terms of reference agreed at the TWG CM meeting in December 2017, even if such assessment is provisional, and provide advice and recommendations to the Commission in accordance with Article 10, paragraph 4(b) of the Convention. For the purpose of this, the TWG will meet in December 2017 and in 2018.
8. After chub mackerel stock assessment has been completed, the provisions in Paragraph 1 shall be reviewed by the Commission and those provisions shall not be a precedent to hinder those Members who are not harvesting substantial amounts of chub mackerel in the Convention Area to develop their own chub mackerel fisheries in the Convention Area noting the Commission shall regularly review chub mackerel harvests in the Convention Area by all Members.
9. This management measure shall expire and be replaced by the measure to be adopted by the Commission based on the advice and recommendations from the Scientific Committee.
10. This CMM is an amendment of the NPFC CMM 2016-07.



**CMM 2017-08**

(Entered Into Force 28 November 2017)

**CONSERVATION AND MANAGEMENT MEASURE  
FOR PACIFIC SAURY**

*The North Pacific Fisheries Commission (NPFC),*

*Recognizing* that Small Scientific Committee (SSC) for Pacific saury and the Scientific Committee (SC) completed the provisional stock assessment including Maximum Sustainable Yield (MSY) in accordance with the timeframe specified in CMM 15-02;

*Following* the recommendation by the SC in 2017 that CMM 15-02 is maintained in its current form and fishing efforts in 2018 will not be expanded, or that the Commission develop a new management measure based on the stock status and MSY mentioned in the SC and SSC reports, with a consideration of the uncertainties, and the recommendation by the TCC in 2017 that there is a need to improve the precision of the assessment of compliance with CMM 15-02, and such work should be done intersessionally to allow discussion at the 3<sup>rd</sup> TCC meeting;

*Reaffirming* the General Principles, Article 3 of the Convention, in particular, paragraph (b) stipulating that measures are adopted, based on the best scientific information available, to ensure that fisheries resources are maintained at or restored to levels capable of producing maximum sustainable yield, and paragraph (f) stipulating that preventing or eliminating overfishing and excess fishing capacity and ensuring that levels of fishing effort or harvest levels are based on the best scientific information available and do not exceed those commensurate with the sustainable use of the fisheries resources;

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

1. Members of the Commission, not described under Paragraph 2, and that are currently fishing for Pacific saury shall refrain from expansion, in the Convention Area, of the number of fishing vessels entitled to fly their flags and authorized to fish for Pacific saury from the historical existing level.
2. Members fishing for Pacific saury in areas of their jurisdiction that are adjacent to the Convention area shall refrain from rapid expansion, in the Convention Area, of the number of fishing vessels entitled to fly their flags and authorized to fish for Pacific saury from the historical existing level.
3. Members of the Commission participating in Pacific saury fisheries in areas under national jurisdiction adjacent to the Convention Area are, in accordance with relevant provisions of Article 3 of the Convention, requested to take compatible measures in paragraph 2.
4. Members of the Commission shall ensure that fishing vessels flying its flag operating in the Convention area to fish Pacific saury be equipped with an operational vessel monitoring system that is activated at all times.
5. The SC and its subsidiary SSC for Pacific saury will continue their work to improve the current stock assessment and other analysis, and provide advice and recommendations to

the Commission at the next Commission meeting in 2018 in accordance with Article 10, subparagraph 4(b) of the Convention.

6. This CMM shall not be a precedent to hinder those Members which presently do not engage in Pacific saury fisheries in the Convention Area to develop their own Pacific saury fisheries in the Convention Area.
7. This CMM is an amendment of the NPFC CMM 15-02 and shall be effective for one year, subject to review at the next Commission meeting in 2018.

**CONSERVATION AND MANAGEMENT MEASURE FOR  
HIGH SEAS BOARDING AND INSPECTION PROCEDURES FOR THE  
NORTH PACIFIC FISHERIES COMMISSION (NPFC)**

1. The following procedures are established by the North Pacific Fisheries Commission, in accordance with Article 7, paragraph 2-c of its Convention, to govern high seas boarding and inspection of fishing vessels in the Convention Area.

**Definitions**

2. For the purposes of interpreting and implementing these procedures, the following definitions shall apply:

- a. “Convention” means the Convention on the Conservation and Management of High Seas Fisheries resources in the North Pacific Ocean;
- b. “Commission” means the North Pacific Fisheries Commission (NPFC) established under Article 5 of the Convention;
- c. “Authorities of the Inspection Vessel” means the authorities of the Contracting Party under whose jurisdiction the inspection vessel is operating;
- d. “Authorities of the Fishing Vessel” means the authorities of the Member of the Commission under whose jurisdiction the fishing vessel is operating;
- e. “Authorized inspection vessel” means any vessel included in the Commission’s register of vessels as authorized to engage in boarding and inspection activities pursuant to these procedures;
- f. “Authorized inspector” means inspectors employed by the authorities responsible for boarding and inspection included in the Commission register and authorized to conduct boarding and inspection activities pursuant to these procedures;
- g. “Fishing activity” means the activities established under Article 1 (i) of the Convention;
- h. “Fishing vessels” means any vessel described under Article 1 (j) of the Convention.

**PURPOSE**

3. Boarding and inspection and related activities conducted pursuant to these procedures shall be for the purpose of ensuring compliance with the provisions of the Convention and conservation and management measures adopted by the Commission and in force.

**AREA OF APPLICATION**

4. These procedures shall apply throughout the Convention Area, which consists of the high seas areas of the North Pacific Ocean as specified in Article 4 of the Convention.

**GENERAL RIGHTS AND OBLIGATIONS**

5. Each Contracting Party may, subject to the provisions of these procedures, carry out boarding and inspection on the high seas of fishing vessels engaged in or reported to have engaged in a fishery regulated pursuant to the Convention.

6. These procedures shall also apply in their entirety as between a Contracting Party and a Fishing Entity, subject to a notification to that effect to the Commission from the parties concerned.

7. Each Member of the Commission shall ensure that vessels flying its flag accept boarding and inspection by authorized inspectors in accordance with these procedures. Such authorized inspectors shall comply with these procedures in the conduct of any such activities.

## **GENERAL PRINCIPLES**

8. These procedures are intended to implement and give effect to, and are to be read consistently with, Article 7.2.c and Article 17.6 of the Convention.

9. These procedures shall be implemented in a transparent and non-discriminatory manner, taking into account, *inter alia*:

- a. such factors as the presence of observers on board a vessel and the frequency and results of past inspections; and
- b. the full range of measures to monitor compliance with the provisions of the Convention and agreed conservation and management measures, including inspection activities carried out by the authorities of Members of the Commission in respect of their own flag vessels.

10. While not limiting efforts to ensure compliance by all vessels, priority for boarding and inspection efforts pursuant to these procedures may be given to:

- a. fishing vessels that are not on the NPFC Record of Fishing Vessels and are flagged to Members of the Commission;
- b. fishing vessels reasonably believed to engage or to have been engaged in any activity in contravention of the Convention or any conservation and management measure adopted thereunder;
- c. fishing vessels that are entitled to fly the flag of a Member of the Commission that does not dispatch patrol vessels to the area of application to monitor its own fishing vessels;
- d. fishing vessels without observers on board if so required by the Convention, Article 7.2b;
- e. fishing vessels with a known history of violating conservation and management measures adopted by international agreement or any domestic laws and regulations.

11. The Commission shall keep the implementation of these procedures under review.

12. The interpretation of these procedures shall rest with the Commission.

## **PARTICIPATION**

13. The Commission shall maintain a register of all authorized inspection vessels and authorities or inspectors. Only vessels and authorities or inspectors listed on the Commission's register are authorized under these procedures to board and inspect fishing vessels of Commission Members and Cooperating Non-Contracting Parties on the high seas within the Convention Area.

14. Each Contracting Party that intends to carry out boarding and inspection activities pursuant to these procedures shall so notify the Commission, through the Executive Secretary, and shall provide the following:

- a. with respect to each inspection vessel it assigns to boarding and inspection activities under these procedures:
  - i) details of the vessel (name, description, photograph, registration number, port of registry (and, if different from the port of registry, port marked on the vessel hull), international radio call sign and communication capability);
  - ii) An example of the credentials issued to the inspectors by its authorities;

- iii) notification that the inspection vessel is clearly marked and identifiable as being on government service;
  - iv) notification that the crew has received and completed training in carrying out boarding and inspection activities at sea in accordance with any standards and procedures as may be adopted by the Commission.
- b. with respect to inspectors it assigns pursuant to these procedures:
- i) the names of the authorities responsible for boarding and inspection;
  - ii) notification that such authorities' inspectors are fully familiar with the fishing activities to be inspected and the provisions of the Convention and conservation and management measures in force; and
  - iii) notification that such authorities' inspectors have received and completed training in carrying out boarding and inspection activities at sea in accordance with any standards and procedures as may be adopted by the Commission.

15. Where military vessels are used as a platform for the conduct of boarding and inspection, the authorities of the inspection vessel shall ensure that the boarding and inspection is carried out by inspectors fully trained in fisheries enforcement procedures and duly authorized for this purpose under national laws, and that boardings from such military vessels and inspectors conform to the procedures contained within these Boarding and Inspection Procedures.

16. Authorized inspection vessels and inspectors notified by Contracting Parties pursuant to paragraph 14 shall be included on the Commission register once the Executive Secretary confirms that they meet the requirements of that paragraph.

17. To enhance the effectiveness of the Commission's boarding and inspection procedures, and to maximize the use of trained inspectors, Contracting Parties may identify opportunities to place authorized inspectors on inspection vessels of another Contracting Party. Where appropriate, Contracting Parties should seek to conclude bilateral arrangements to this end or otherwise facilitate communication and coordination between them for the purpose of implementing these procedures.

18. The Executive Secretary shall ensure that the register of authorized inspection vessels and authorities or inspectors is at all times available to all Members of the Commission and shall immediately circulate any changes therein. Updated lists shall be posted on the Commission website. Each Member of the Commission shall take necessary measures to ensure that these lists are circulated in a timely manner to each of its fishing vessels operating in the Convention Area.

## **PROCEDURES**

19. The Commission shall develop an NPFC inspection flag, which shall be flown by authorized inspection vessels, in clearly visible fashion.

20. Authorized inspectors shall carry an approved identity card identifying the inspector as authorized to carry out boarding and inspection procedures under the auspices of the Commission and in accordance with these procedures.

21. An authorized inspection vessel that intends to board and inspect a fishing vessel on the high seas that is engaged in or reported to have engaged in a fishery regulated pursuant to the Convention shall, prior to initiating the boarding and inspection:

- a. make best efforts to establish contact with the fishing vessel by radio, by the appropriate International Code of Signals or by other accepted means of alerting the vessel;

- b. provide the information to identify itself as an authorized inspection vessel - name, registration number, international radio call sign and contact frequency;
- c. communicate to the master of the vessel its intention to board and inspect the vessel under the authority of the Commission and pursuant to these procedures; and
- d. initiate notice through the authorities of the inspection vessel of the boarding and inspection to the authorities of the fishing vessel.

22. In carrying out boarding and inspection pursuant to these procedures, the authorized inspection vessel and authorized inspectors shall make their best efforts to communicate with the master of the fishing vessels in a language that the master can understand. In order to facilitate communications between the inspectors and the master of the vessel, the Commission shall develop a standardized multi-language questionnaire, which shall be circulated to all Contracting Parties with authorized inspection vessels.

23. Authorized inspectors shall have the authority to inspect the vessel, its license, gear, equipment, records, facilities, fish and fish products and any relevant documents necessary to verify compliance with the conservation and management measures in force pursuant to the Convention.

24. Boarding and inspection pursuant to these procedures shall:

- a. be carried out in accordance with internationally accepted principles of good seamanship so as to avoid risks to the safety of fishing vessels and crews;
- b. be conducted as much as possible in a manner so as not to interfere unduly with the lawful operation of the fishing vessel;
- c. take reasonable care to avoid action that would adversely affect the quality of the catch; and
- d. not be conducted in such manner as to constitute harassment of a fishing vessel, its officers or crew.

25. In the conduct of a boarding and inspection, the authorized inspectors shall:

- a. present their identity card to the master of the vessel and a copy of the text of the relevant measures in force pursuant to the Convention in the relevant area of the high seas;
- b. not interfere with the master's ability to communicate with the authorities of the fishing vessel;
- c. complete the inspection of the vessel within 4 (four) hours unless evidence of a serious violation is found;
- d. collect and clearly document any evidence they believe indicates a violation of measures in force pursuant to the Convention;
- e. provide to the master prior to leaving the vessel a copy of an interim report on the boarding and inspection including any objection or statement which the master wishes to include in the report;
- f. promptly leave the vessel following completion of the inspection if they find no evidence of a serious violation; and
- g. provide a full report on the boarding and inspection to the authorities of the fishing vessel, pursuant to paragraph 31, which shall also include any master's statement.

26. During the conduct of a boarding and inspection, the master of the fishing vessel shall:

- a. follow internationally accepted principles of good seamanship so as to avoid risks to the safety of authorized inspection vessels and inspectors;
- b. accept and facilitate prompt and safe boarding by the authorized inspectors;
- c. cooperate with and assist in the inspection of the vessel pursuant to these procedures;
- d. not assault, resist, intimidate, interfere with, or unduly obstruct or delay the inspectors in the performance of their duties;

- e. allow the inspectors to communicate with the crew of the inspection vessel, the authorities of the inspection vessel, any embarked observers, as well as with the authorities of the fishing vessel being inspected;
- f. provide the inspectors onboard with reasonable facilities, including, where appropriate, food and accommodation; and
- g. facilitate safe disembarkation by the inspectors.

27. If the master of a fishing vessel refuses to allow an authorized inspector to carry out a boarding and inspection in accordance with these procedures, such master shall offer an explanation of the reason for such refusal. The authorities of the inspection vessel shall immediately notify the authorities of the fishing vessel, as well as the Commission, of the master's refusal and any explanation.

28. The authorities of the fishing vessel, unless generally accepted international regulations, procedures and practices relating to safety at sea make it necessary to delay the boarding and inspection, shall direct the master to accept the boarding and inspection. If the master does not comply with such direction, the Member shall suspend the vessel's authorization to fish and order the vessel to return immediately to port. The Member shall immediately notify the authorities of the inspection vessel and the Commission of the action it has taken in these circumstances.

#### **USE OF FORCE**

29. The use of force shall be prohibited except when and to the degree necessary to ensure the safety of the inspectors during the conduct of their boarding and inspection activities. The degree of force used shall not exceed that reasonably required in the circumstances.

30. Any incident involving the use of force shall be immediately reported to the authorities of the fishing vessel, as well as to the Executive Secretary for distribution to the Commission.

#### **INSPECTION REPORTS**

31. Authorized inspectors shall prepare a full report on each boarding and inspection they carry out pursuant to these procedures in accordance with a format specified by the Commission. The authorities of the inspection vessel from which the boarding and inspection was carried out shall transmit a copy of the boarding and inspection report to the authorities of the fishing vessel being inspected, as well as the Commission, within 3 (three) full working days of the completion of the boarding and inspection. Where it is not possible for the authorities of the inspection vessel to provide such report to the authorities of the fishing vessel within this timeframe, the authorities of the inspection vessel shall inform the authorities of the fishing vessel and shall specify the time period within which the report will be provided.

32. Such report shall include the names and authority of the inspectors and clearly identify any observed activity or condition that the authorized inspectors believe to be a violation of the Convention or conservation and management measures in force and indicate the nature of specific factual evidence of such violation.

#### **SERIOUS VIOLATIONS**

33. In the case of any boarding and inspection of a fishing vessel during which the authorized inspectors observe an activity or condition that would constitute a serious violation, as defined in

paragraph 38, the authorities of the inspection vessels shall immediately notify the authorities of the fishing vessel, directly as well as through the Commission.

34. Upon receipt of a notification under paragraph 33, the authorities of the fishing vessels shall without delay:

- a. assume their obligation to investigate and, if the evidence warrants, take enforcement action against the fishing vessel in question and so notify the authorities of the inspection vessel, as well as the Commission; or
- b. authorize the authorities of the inspection vessel to complete investigation of the possible violation and so notify the Commission.

35. In the case of 34(a) above, the authorities of the inspection vessel shall provide, as soon as practicable, the specific evidence collected by the authorized inspectors to the authorities of the fishing vessel.

36. In the case of 34(b) above, the authorities of the inspection vessel shall provide the specific evidence collected by the authorized inspectors, along with the results of their investigation, to the authorities of the fishing vessel immediately upon completion of the investigation.

37. Upon receipt of a notification pursuant to paragraph 33, the authorities of the fishing vessel shall make best effort to respond without delay and in any case no later than within 3 (three) full working days.

38. For the purposes of these procedures, a serious violation means the following violations of the provisions of the Convention or conservation and management measures adopted by the Commission:

- a. fishing without a valid license, permit or authorization issued by the Member whose flag the fishing vessel is entitled to fly, in accordance with Article 13 of the Convention;
- b. significant failure to maintain records of catch and catch-related data in accordance with the Commission's reporting requirements or significant misreporting of such catch and/or catch-related data;
- c. fishing in a closed area;
- d. fishing during a closed season;
- e. intentional taking or retention of species in contravention of any applicable conservation and management measure adopted by the Commission;
- f. significant violation of catch limits or quotas in force pursuant to the Convention;
- g. using prohibited fishing gear;
- h. falsifying or intentionally concealing the markings, identity or registration of a fishing vessel;
- i. concealing, tampering with or disposing of evidence relating to investigation of a violation;
- j. multiple violations which taken together constitute a serious disregard of measures in force pursuant to the Commission;
- k. refusal to accept a boarding and inspection, other than as provided in paragraphs 27 and 28;
- l. assault, resist, intimidate, sexually harass, interfere with, or unduly obstruct or delay an authorized inspector; and
- m. intentionally tampering with or disabling the vessel monitoring system;
- n. such other violations as may be determined by the Commission, once these are included and circulated in a revised version of these procedures.



## **ENFORCEMENT**

39. Any evidence obtained as a result of a boarding and inspection pursuant to these procedures with respect to violation by a fishing vessel of the Convention or conservation and management measures adopted by the Commission and in force shall be referred to the authorities of the fishing vessel for action in accordance with Article 17 of the Convention.

40. For the purposes of these procedures, the authorities of the fishing vessels shall regard interference by their fishing vessels, captains or crew with an authorized inspector or an authorized inspection vessel in the same manner as any such interference occurring within its exclusive jurisdiction.

## **ANNUAL REPORTS**

41. Contracting Parties that authorize inspection vessels to operate under these procedures shall report annually to the Commission on the boarding and inspections carried out by its authorized inspection vessels, as well as upon possible violations observed.

42. Contracting Parties shall include in their annual statement of compliance within their Annual Report to the Commission under Article 16 of the Convention action that they have taken in response to boarding and inspections of their fishing vessels that resulted in observation of alleged violations, including any proceedings instituted and sanctions applied.

## **OTHER PROVISIONS**

43. Authorized inspection vessels, while carrying out activities to implement these procedures, shall engage in surveillance aimed at identifying fishing vessels of non-Members undertaking fishing activities on the high seas in the Convention area. Any such vessels identified shall be immediately reported to the Executive Secretary for distribution to the Commission.

44. The authorized inspection vessel shall attempt to inform any fishing vessel identified pursuant to paragraph 43 that has been sighted or identified as engaging in fishing activities that are undermining the effectiveness of Convention and that this information will be sent to the Executive Secretary for distribution to the Members of the Commission and the non-Member whose flag the fishing vessel is entitled to fly of the vessel in question.

45. If warranted, the authorized inspectors may request permission from the fishing vessel and/or the non-Member whose flag the vessel is entitled to fly to board a vessel identified pursuant to paragraph 43. If the vessel master or the vessel's non-Member whose flag the vessel is entitled to fly consents to a boarding, the findings of any subsequent inspection shall be transmitted to the Executive Secretary. The Executive Secretary shall distribute this information to all Commission Members as well as to the non-Member whose flag the vessel is entitled to fly.

46. Contracting Parties shall be liable for damage or loss attributable to their action in implementing these procedures when such action is unlawful or exceeds that reasonably required in the light of available information.

## **COMMISSION COORDINATION AND OVERSIGHT**

47. Authorized inspection vessels in the same operational area should seek to establish regular contact for the purpose of sharing information on areas in which they are patrolling, on sightings

and on boarding and inspections they have carried out, as well as other operational information relevant to carrying out their responsibilities under these procedures.

48. The Commission shall keep under continuous review the implementation and operation of these procedures, including review of annual reports relating to these procedures provided by Members. In applying these procedures, Contracting Parties may seek to promote optimum use of the authorized inspection vessels and authorized inspectors by:

- a. identifying priorities by area and/or by fishery for boarding and inspections pursuant to these procedures;
- b. ensuring that boarding and inspection on the high seas is fully integrated with the other monitoring, compliance and surveillance tools available pursuant to the Convention;
- c. ensuring non-discriminatory distribution of boarding and inspections on the high seas among fishing vessels of Members of the Commission without compromising the opportunity of Contracting Parties to investigate possible serious violations; and
- d. taking into account high seas enforcement resources assigned by Members of the Commission to monitor and ensure compliance by their own fishing vessels, particularly for small boat fisheries whose operations extend onto the high seas in areas adjacent to waters under their jurisdiction.

## **SETTLEMENT OF DISAGREEMENTS**

49. In the event of a disagreement concerning the application or implementation of these procedures, the parties concerned shall consult in an attempt to resolve the disagreement.

50. If the disagreement remains unresolved following the consultations, the Executive Secretary of the Commission shall, at the request of the parties concerned, and with the consent of the Commission, refer the disagreement to the Technical and Compliance Committee (TCC). The TCC shall establish a panel of five representatives, acceptable to the parties to the disagreement, to consider the matter.

51. A report on the disagreement shall be drawn up by the panel and forwarded through the TCC Chair to the Executive Secretary for distribution to the Commission within two months of the TCC meeting at which the case is reviewed.

52. Upon receipt of such report, the Commission may provide appropriate advice with respect to any such disagreement for the consideration of the Members concerned.

53. Application of these provisions for the settlement of disagreements shall be non-binding. These provisions shall not prejudice the rights of any Member to use the dispute settlement procedures provided in the Convention.

**APPENDIX I**

**HISTORY OF ALL CONSERVATION AND MANAGEMENT MEASURES ADOPTED BY THE COMMISSION, 2015 TO 2017**

<b>Conservation Management Measure</b>	<b>Conservation and Management Measure</b>	<b>Status</b>	<b>Superseded by</b>
<b>2016</b>			
CMM 2016-01	CMM ON INFORMATION REQUIREMENTS FOR VESSEL REGISTRATION	ACTIVE	
CMM 2017-02	CMM TO ESTABLISH A LIST OF VESSELS PRESUMED TO HAVE CARRIED OUT IUU FISHING ACTIVITIES IN THE CONVENTION AREA	ACTIVE	
CMM 2016-03	CMM ON THE INTERIM TRANSHIPMENT PROCEDURES FOR THE NORTH PACIFIC FISHERIES COMMISSION (NPFC)	ACTIVE	
CMM 2016-04	CMM ON VESSELS WITHOUT NATIONALITY	ACTIVE	
CMM 2017-05	CMM ON BOTTOM FISHERIES AND PROTECTION OF VMEs IN THE NORTH WEST PACIFIC OCEAN	ACTIVE	
CMM 2017-06	CMM FOR BOTTOM FISHERIES AND PROTECTION OF VMEs IN THE NORTH EAST PACIFIC OCEAN	ACTIVE	
CMM 2017-07	CMM FOR CHUB MACKEREL	ACTIVE	
CMM 2017-08	CMM FOR PACIFIC SAURY	ACTIVE	
CMM 2017-09	CMM FOR HIGH SEAS BOARDING AND INSPECTION PROCEDURES FOR THE NORTH PACIFIC FISHERIES COMMISSION (NPFC)	ACTIVE	

<b>Superseded CMMs</b>			
<b>2015</b>			
CMM 15-01	CMM ON INFORMATION REQUIREMENTS FOR VESSEL REGISTRATION	Superseded	CMM 2016-01 (16 January 2017)
<b>Superseded CMMs</b>			
<b>2016</b>			
CMM 15-02	CMM FOR PACIFIC SAURY	Superseded	CMM 2017-08 (28 November 2017)
CMM 2016-02	CMM TO ESTABLISH A LIST OF VESSELS PRESUMED TO HAVE CARRIED OUT IUU FISHING ACTIVITIES IN THE CONVENTION AREA	Superseded	CMM 2017-02 (28 November 2017)
CMM 2016-05	CMM ON BOTTOM FISHERIES AND PROTECTION OF VMEs IN THE NORTH WEST PACIFIC OCEAN	Superseded	CMM 2017-05 (28 November 2017)
CMM 2016-06	CMM FOR BOTTOM FISHERIES AND PROTECTION OF VMEs IN THE NORTH EAST PACIFIC OCEAN	Superseded	CMM 2017-06 (28 November 2017)
CMM 2016-07	CMM FOR CHUB MACKEREL	Superseded	CMM 2017-07 (28 November 2017)

## **SUPERSEDED CMMs**



**CMM 15-01**

(Entered Into Force 18 October 2015)

Superseded 16 January 2017)

## **INFORMATION REQUIREMENTS FOR VESSEL REGISTRATION**

The North Pacific Fisheries Commission (NPFC),

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

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

**Reaffirming** that Article 13, paragraph 1 of the Convention that members of the Commission shall take necessary measures to ensure that fishing vessels entitled to fly its flag operating in the Convention Area comply with the provisions of the Convention and measures adopted pursuant to the Convention and such vessels do not engage in any activities that undermine the effectiveness of such measures and do not conduct unauthorized fishing activities within areas under national jurisdiction of another State adjacent to the Convention Area,

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

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

For the purpose of the effective implementation of the Convention, each member of the Commission shall:

1. Maintain a record of fishing vessels entitled to fly its flag and authorized to be used for fishing activities in the Convention Area in accordance with the information requirements in the Annex,
2. Provide annually by the end of February (same with the proposed deadline for Annual Reports) to the Commission, information in the Annex with respect to each fishing vessel entered in the record required to be maintained under the above paragraph and shall promptly notify the Commission of any modifications to this information,

3. Provide to the Commission, as part of the annual report required pursuant to Article 16 of the Convention, the names of the fishing vessels entered in the record that conducted fishing activities during the previous calendar year.
4. Also inform the Commission promptly of:
  - (a) any additions to the record; and
  - (b) any deletions from the record, specifying which of the following reasons is applicable:
    - (i) the voluntary relinquishment of the fishing authorization by the fishing vessel owner or operator;
    - (ii) the withdrawal or non-renewal of the fishing authorization issued in respect of the fishing vessel under Article 13 paragraph 2 of the Convention;
    - (iii) the fact that the fishing vessel concerned is no longer entitled to fly its flag;
    - (iv) the scrapping, decommissioning or loss of the fishing vessel concerned; or
    - (v) any other grounds, with a specific explanation provided.

The Commission shall:

5. Maintain its own record of the vessels based on the information provided to it pursuant to the above paragraphs 1-4 and make the record publicly available.
6. Also provide to any member of the Commission, upon request, information about any vessel entered on the Commission record that is not otherwise publicly available.



**Vessel Information Requirements**

- a). Name of fishing vessel, registration number, previous names (if known), and port of registry;
- b). Name and address of owner or owners;
- c). Name and citizenship of master;
- d). Previous flag (if any);
- e). International Radio Call Sign;
- f). Vessel communication types and numbers including, when available, any satellite-based telephony or data services/devices;
- g). Side view color photograph of vessel showing full length of vessel and vessel name and markings;
- h). Where and when built;
- i). Type of vessel, as specified in standard abbreviations under the current FAO International Standard Statistical Classification of Fishery Vessels by Vessel Types (ISSCFV);
- j). Normal crew complement;
- k). Type of fishing method or methods, as specified in standard abbreviations under the current FAO International Standard Statistical Classification of Fishing Gear (ISSCFG);
- l). Length, including type of length and unit of measurement;
- m). Depth, including type of depth and unit of measurement;
- n). Beam, including type of beam and unit of measurement;
- o). Gross register tonnage, or gross tonnage (specify which);
- p). Power of main engine or engines, including unit of measurement;
- q). The nature of the authorization to fish granted by the flag State, such as type or method of fisheries authorized and main target species;
- r). Fish hold capacity, in cubic meters\*;
- s). Freezer type and capacity, including unit of measurement\*.

\*At this time, China is unable to collect information for items r) and s) listed in the Annex of Vessel Information Requirements consistent with the domestic regulations of China. China will make efforts to improve the corresponding regulations to meet the requirements by NPFC.



**CMM 15-02**

(Entered Into Force 18 October 2015

Superseded 28 November 2017)

## **CONSERVATION AND MANAGEMENT MEASURE FOR PACIFIC SAURY**

*The North Pacific Fisheries Commission (NPFC),*

*Recognizing* that the work has been undertaken to conduct stock assessment in the Small Scientific Working Group (SSWG) on Pacific saury under the Scientific Working Group (SWG), which will be succeeded by Small Scientific Committee (SSC) for Pacific saury and the Scientific Committee (SC),

*Reaffirm* the General Principles, Article 3 of the Convention,

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

1. Members of the Commission shall refrain from rapid expansion, in the Convention area, of the number of fishing vessels entitled to fly their flags and authorized to fish for Pacific saury from the existing level until the stock assessment by the small scientific committee and the SC has been completed as mentioned in the paragraph 6 below.
  2. Members of the Commission participating in Pacific saury fisheries in areas under national jurisdiction adjacent to the Convention area are requested to take compatible measures in paragraph 1.
  3. Members of the Commission shall ensure that fishing vessels flying its flag operating in the Convention area to fish Pacific saury be equipped with an operational vessel monitoring system that is activated at all times, no later than 31 December 2015.
  4. The Commission shall strongly request the States that participated in the Multilateral Meetings on the Management of High Seas Fisheries in the North Pacific Ocean which have not yet completed their domestic procedures for ratification, acceptance or approval of the Convention to agree to apply this Conservation and Management Measures.
- 
1. The Commission shall draw the attention of any non-Contracting Party to the Convention to any activity undertaken by its nationals or fishing vessels entitled to fly its flag that have participated in fishing activities for Pacific saury in the Convention Area in accordance with Article 20, paragraph 2 and shall request the non-Contracting Party to take necessary actions in accordance with Article 20, paragraph 3 of the Convention.
- 
1. The SC and its subsidiary SSC for Pacific saury will complete the stock assessment by 2017, even if such assessment is provisional, and provide advice and recommendations to the Commission in accordance with Article 10, subparagraph 4(b) of the Convention. For the purpose of this, the SSC for Pacific saury will meet in March 2016 and 2017.
  2. This management measure shall expire and be replaced by the measure adopted by the Commission in 2017 after the availability of recommendations from the SC in 2017.



**CMM 2016-02**

(Entered Into Force 16 January 2017

Superseded 28 November 2017)

**CONSERVATION AND MANAGEMENT MEASURE TO ESTABLISH A LIST OF VESSELS PRESUMED TO HAVE CARRIED OUT ILLEGAL, UNREPORTED AND UNREGULATED FISHING ACTIVITIES IN THE CONVENTION AREA OF THE NORTH PACIFIC FISHERIES COMMISSION**

*The North Pacific Fisheries Commission (NPFC):*

*Recalling* that the FAO Council adopted on 23 June 2001 an International Plan of Action to prevent, deter and eliminate illegal, unreported and unregulated fishing (IPOA-IUU). This plan stipulates that the identification of the vessels carrying out illegal, unreported and unregulated (IUU) fishing activities should follow agreed procedures and be applied in an equitable, transparent and non-discriminatory way;

*Concerned* that IUU fishing activities in the Convention Area undermine the effectiveness of the conservation measures adopted by the NPFC;

*Further concerned* that there is a possibility that vessel owners engaged in such fishing activities may have re-flagged their vessels to avoid compliance with NPFC measures;

*Determined* to address the challenge of an increase in IUU fishing activities by way of measures to be applied in respect to vessels, without prejudice to further measures adopted in respect of Members, Cooperating Non-Contracting Parties (CNCs) and non-Contracting Parties under the relevant NPFC instruments;

*Considering* the action undertaken in other regional fisheries organizations to address this issue;

*Conscious* of the need to address, as a matter of priority, the issue of vessels conducting IUU fishing activities;

*Noting* that efforts to prevent, deter and eliminate IUU fishing must be addressed in the light of all relevant international fisheries instruments and in accordance with other international obligations, including the rights and obligations established under the World Trade Organization (WTO) Agreement; and

*Recalling* Articles 13, 14, 15 and 17 of the Convention on the Conservation and Management of High Seas Fisheries Resources in the North Pacific Ocean (hereinafter called the "Convention") regarding the flag State duties, port State duties, duties of fishing entities and provisions for compliance and enforcement;

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

**Identification of IUU activities**

1. At each meeting, the Commission will identify those vessels which have engaged in fishing

- activities for species covered by the Convention within the Convention Area in a manner which has undermined the effectiveness of the Convention and the NPFC measures in force, and shall establish, and, as necessary, amend in subsequently, a list of such vessels (the IUU Vessel List), in accordance with the procedures and criteria set out in this conservation measure.
2. This identification shall be suitably documented, *inter alia*, on reports from Members/CNCPs relating to NPFC Conservation measures in force, trade information obtained on the basis of relevant trade statistics such as Food and Agriculture Organization of the United Nations (FAO) data, statistical documents and other national or international verifiable statistics, as well as any other information obtained from port States and/or gathered from the fishing grounds that is suitably documented. Information from Members/CNCPs should be provided in the format approved by the Commission.
  3. For the purposes of this conservation measure, vessels fishing for species covered by the Convention are presumed to have carried out IUU fishing activities, as described in the IPOA on IUU fishing, in the Convention Area when a Member/CNCP presents suitably documented information that such vessels, *inter alia*:
    - a. Harvest species covered by the Convention in the Convention Area and are not on the NPFC record of authorized vessels or
    - b. Engage in fishing for fishery resources when the Member or CNCP, under whose flag the vessel is sailing, has exhausted or has no quotas, catch limit or effort allocation, including, if applicable, those received from another Member/CNCP under relevant NPFC conservation measures, or
    - c. Do not record or report their catches made in the Convention Area consistent with NPFC measures, or make false reports, or
    - d. Take and land undersized fish in contravention of relevant NPFC conservation measures, or
    - e. Fish in a closed area or during a closed season in contravention of relevant NPFC conservation measures, or
    - f. Use prohibited fishing gear in contravention of relevant NPFC conservation measures, or
    - g. Tranship with, participate in joint fishing operations with, support or re-supply vessels included in the IUU Vessel List, or
    - h. Are without nationality and harvest species covered by the Convention in the Convention Area, or
    - i. Engage in any other fishing activities that undermine the provisions of the Convention or any other NPFC conservation measures.
  4. If a Member/CNCP has not taken such measures as may be necessary so that fishing vessels entitled to fly its flag avoid conducting unauthorized fishing activities within areas under national jurisdiction of another State adjacent to the Convention Area in accordance with Article 13, the Member/CNCP, within whose areas under national jurisdiction the unauthorized fishing activities were conducted, may submit a proposal for listing the vessels on the draft IUU List if consultation with the Member/CNCP has not resolved the matter. Relevant procedures set out in paragraph 5 below shall apply for proposals under this paragraph.

**Information on alleged IUU fishing activities**

5. At least 70 days before the meeting of the Technical and Compliance Committee (TCC),

Members/CNCs shall transmit to the Executive Secretary their list of vessels presumed to be carrying out IUU activities in the Convention Area during the years from the previous meeting to the current year, accompanied by suitably documented information, as provided in para 2, concerning the presumption of this IUU activity.

6. Before or at the same time as transmitting a list of presumed IUU vessels to the Executive Secretary, the Member/CNCP shall notify, either directly or through the Executive Secretary, the relevant Member/CNCP/Non-Contracting Party of a vessel's inclusion on this list and provide a copy of the pertinent suitably documented information. The Member/CNCP/Non-Contracting Party shall promptly acknowledge receipt of the notification. If no acknowledgement is received within 10 days of the date of transmittal, the Executive Secretary, Member/CNCP shall retransmit the notification through an alternative means of communication.

#### **Draft IUU Vessel List**

7. The Executive Secretary shall draw up a draft IUU Vessel List incorporating the lists of vessels and suitably documented information received pursuant to para 5, and any other suitably documented information at his disposal, and shall transmit it, together with all the supporting information provided, to all Members/CNCs, as well as to non-Contracting Parties with vessels on the list, at least 55 days before the TCC's meeting except otherwise decided by the TCC.
8. The Executive Secretary shall request each Member/CNCP/non-Contracting Party with vessels on the draft IUU Vessel List to notify the owner of the vessels of their inclusion in that list, and of the consequences of their inclusion being confirmed in the IUU Vessel List.
9. Upon receipt of the draft IUU Vessel List, Members/CNCs shall closely monitor the vessels included in that list in order to follow their activities and possible changes of name, flag or registered owner.
10. As appropriate, Members/CNCs/non-Contracting Parties with vessels on the list should transmit, at least 10 days before the TCC's meeting, their comments to the Executive Secretary, including suitably documented information, showing that the vessels have fished in a manner consistent with NPFC conservation measures or have fished exclusively for species not covered by the Convention.
11. The Executive Secretary shall re-circulate the draft IUU Vessel List, 7 days in advance of the TCC's meeting, to the Members/CNCs/non-Contracting Parties concerned, together with all the suitably documented information provided pursuant to paras 5 and 10 above.
12. Members/CNCs/non-Contracting Parties may at any time submit to the Executive Secretary any additional suitably documented information regarding any vessels on the draft IUU Vessel List. The Executive Secretary shall circulate this additional information to all Members/CNCs and to the non-Contracting Parties concerned immediately upon receipt of such information.

#### **Provisional and current IUU Vessel List**

13. The NPFC's IUU Vessel List adopted at the previous meeting of the Commission, as well as any new suitably documented information regarding this list, including intersessional amendments, shall be transmitted to Members/CNCs and the non-Contracting Parties

- concerned in conjunction with the draft IUU Vessel List and materials outlined in para 7.
14. Members/CNCPs/non-Contracting Parties with vessels on the current NPFC IUU Vessel List should transmit at least 30 days before the meeting of the TCC, but may submit at any time, to the Executive Secretary suitably documented information regarding any of the vessels on the current NPFC IUU Vessel List, including, where appropriate, suitably documented information as provided for in paragraph 28. The Executive Secretary shall re-circulate the current NPFC IUU Vessel List two weeks in advance of the meeting of the TCC to the Members/CNCPs and non-Contracting Parties concerned, together with all the information provided pursuant to paragraph 13 and this paragraph.
  15. At its meeting, the TCC shall:
    - a. following consideration of the draft IUU Vessel List and the suitably documented information circulated under paras 7, 11 and 12, adopt a Provisional IUU Vessel List; and
    - b. following consideration of the current NPFC IUU Vessel List and the suitably documented information circulated under paras 13 and 14, recommend to the Commission which, if any, vessels should be removed from the current NPFC IUU Vessel List.
  16. The TCC shall not include a vessel on the Provisional IUU Vessel List if the Member/CNCP/non-Contracting Party, under whose flag the vessel is sailing, demonstrates that:
    - a. The vessel fished in a manner consistent with the Convention and NPFC Conservation Measures or have fished exclusively for species not covered by the NPFC Convention, or
    - b. Effective action has been taken in response to the IUU fishing activities in question, such as, *inter alia*, prosecution or the imposition of sanctions of adequate severity.
  17. The TCC shall not include a vessel on the Provisional IUU Vessel List if the notifying Member/CNCP did not follow the provisions of para 6.
  18. The TCC shall recommend removal of a vessel from the current NPFC IUU Vessel List only if the Member/CNCP/Non-Contracting Party, under whose flag the vessel is sailing, submits to the Executive Secretary the information provided in para 28 of this measure.
  19. Following the examination referred to in para 15, the TCC shall submit the Provisional IUU Vessel List to the Commission for its consideration, and as appropriate, recommend any proposed changes to the current NPFC IUU Vessel List.
  20. The draft IUU Vessel List, Provisional IUU Vessel List, and the NPFC IUU Vessel List shall contain the following details for each vessel:
    - a. name and previous names, if any;
    - b. flag and previous flags, if any;
    - c. owner and previous owners, including beneficial owners, if any;
    - d. operator and previous operators, if any;
    - e. call sign and previous call signs, if any;
    - f. Lloyds/IMO number, if any;
    - g. photographs, where available;
    - h. date first included on the IUU Vessel List;
    - i. summary of activities which justify inclusion of the vessel on the list, together with



- references to all relevant documents informing of and evidencing those activities; and
- j. the date(s) and subsequent sightings of the vessels, if any, and any other related activities.

### **NPFC IUU Vessel List**

21. At its meeting the Commission shall review the Provisional IUU Vessel List, taking into account any new suitably documented information related to vessels on the Provisional IUU Vessel List, and any recommendations to amend the current NPFC IUU Vessel List made pursuant to paragraph 19 above, and adopt a new NPFC IUU Vessel List. To the maximum extent possible Members/CNCPs/non-Contracting Parties concerned shall provide any new suitably documented information at least two weeks before the meeting of the Commission.
22. Upon adopting the new NPFC IUU Vessel List, the Commission shall request Members/CNCPs/non-Contracting Parties with vessels on the NPFC IUU Vessel List to:
  - a. notify the owner of the vessels of its inclusion on the NPFC IUU Vessel List and the consequences that result from being included in the list, and
  - b. take all the necessary measures to eliminate these IUU fishing activities, including, if necessary, the withdrawal of the registration or the fishing licenses of these vessels, and to inform the Commission of the measures taken in this respect.
23. Members/CNCPs shall take all necessary non-discriminatory measures under their applicable legislation, international law and each Members/CNCPs' international obligations, and pursuant to paras 56 and 66 of the IPOA-IUU to:
  - a. remove or withdraw vessels on the NPFC IUU Vessel List from the NPFC Vessel Registry;
  - b. ensure that fishing vessels, support vessels, mother ships or cargo vessels flying their flag do not participate in any transshipment or joint fishing operations with, support or re-supply vessels on the NPFC IUU Vessel List;
  - c. prohibit the entry into their ports of vessels included on the NPFC IUU Vessel List, except in the case of investigation or *force majeure*;
  - d. prohibit the chartering of a vessel on the NPFC IUU Vessel List;
  - e. refuse to grant their flag to vessels on the NPFC IUU Vessel List, unless the ownership of the vessel has subsequently changed and the new owner has provided sufficient evidence demonstrating that the previous owner or operator has no legal, beneficial or financial interest in, or control of the vessels, or the Member concerned is satisfied that, having taken into account all relevant facts, the vessel is no longer engaged in or associated with IUU fishing activities;
  - f. prohibit commercial transactions, imports, landings and/or transshipment of species covered by the Convention from vessels on the IUU Vessel List;
  - g. encourage traders, importers, transporters and others involved, to refrain from transactions in, and transshipment of, species covered by the Convention caught by vessels on the NPFC IUU Vessel List;
  - h. collect, and exchange with other Members/CNCPs, any appropriate information with the aim of searching for, controlling and preventing false import/export certificates for species covered by the Convention from vessels on the NPFC IUU Vessel List.
24. Members/CNCPs should cooperate with each other and other flag States to strengthen their legal, operational and institutional capacity to take action against their flagged vessels that have engaged in IUU fishing in the Area, including the imposition of adequate sanctions,

as an alternative to de-flagging such vessels, thereby rendering such vessels without nationality.

25. The Executive Secretary shall take any measure necessary to ensure publicity of the NPFC IUU Vessel List, in a manner consistent with any applicable confidentiality requirements, including placing it on the NPFC website. Furthermore, the Executive Secretary shall transmit the NPFC IUU Vessel List to the FAO and to other regional fisheries organizations for the purposes of enhancing cooperation between the NPFC and these organizations aimed at preventing, deterring and eliminating IUU fishing.
26. Upon receipt of the final IUU vessel list established by another Regional Fisheries Management Organization (RFMO) and any other information regarding the list including its modification, the Executive Secretary shall circulate it to Members/CNCPs and shall place it on the NPFC website.
27. Without prejudice to the rights of Members/CNCPs and coastal states to take proper action, consistent with international law, including applicable WTO obligations, the Members/CNCPs shall not take any unilateral trade measures or other sanctions against vessels on the draft or Provisional IUU Vessel Lists, pursuant to paras 7 or 15, or that have been removed from the NPFC IUU Vessel List, pursuant to paras 18 and 21, on the grounds that such vessels are involved in IUU fishing activities.

#### **Modification of the NPFC IUU Vessel List**

28. Member/CNCPs/non-Contracting Parties with a vessel on the NPFC IUU Vessel List may request the removal of the vessel from the list at any time during the intersessional period by submitting to the Executive Secretary suitably documented information demonstrating that:
  - a. it has adopted measures that will seek to ensure that the vessel complies with all NPFC measures; and
  - b. it will be able to assume effectively its duties with regards to the monitoring and control of the vessel's fishing activities in the Convention Area; and
  - c. it has taken effective action in response to the IUU fishing activities that resulted in the vessel's inclusion in the NPFC IUU Vessel List, including prosecution or the imposition of sanctions of adequate severity; or
  - d. the vessel has changed ownership and that the new owner can establish that the previous owner no longer has any legal, financial or real interests in the vessel or exercises control over it, and that the new owner has not participated in IUU fishing activities.
29. The Executive Secretary will transmit the removal request, with all the supporting information, to the Members/CNCPs within 15 days following the receipt of the removal request. Members/CNCPs shall promptly acknowledge receipt of the removal request. If no acknowledgement is received within 10 days of the date of transmittal, the Executive Secretary shall retransmit the removal request and shall use additional means available to ensure the request has been received.
30. Each Commission Member shall examine the removal request and notify the Executive Secretary in writing of its decision, and the rationale therefore, regarding the removal of the vessel within 30 days following the notification by the Executive Secretary. Decisions on the request to remove the vessel shall be made in accordance with Rule 2 of the Rules

of Procedure.

31. If Commission Members agree to the removal of the vessel from the NPFC IUU Vessel List within the period stipulated in para 30, the Executive Secretary will inform Members/CNCs, and non-Contracting Parties concerned, FAO and other regional fisheries management organizations, and will remove the vessel from the NPFC IUU Vessel List, as published on the NPFC website.
32. If Commission Members disagree with the request for the removal of the vessel from the IUU Vessel List, the vessel will be maintained on the NPFC IUU Vessel List and the Executive Secretary will inform the Members/CNCs/non-Contracting Parties that made the removal request.
33. A Member/CNCP with information indicating a change of name and/or an International Radio Call Sign (IRCS) of a vessel appearing on the NPFC IUU Vessel List shall, as soon as practicable, transmit such information to the Executive Secretary. The Executive Secretary shall communicate such information to all Members/CNCs and, after verification<sup>\*</sup>, update the current NPFC IUU Vessel List on the NPFC website to reflect such information.

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

#### **Review**

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

Annex A

### **NPFC Reporting Form for Illegal Activity**

Recalling NPFC CMM 2016 - 02 on *Establishing a list of vessels presumed to have carried out illegal, unreported and unregulated fishing activities in the Convention Area of North Pacific Fisheries Commission*, attached are details of illegal activity recorded in .....

#### **Details of Vessel**

- a. Name of vessel and previous names, if any;
- b. Flag of vessel and previous flags, if any;
- c. Owner and previous owner, including beneficial owners, if any;
- d. Operator of vessel and previous operators, if any;
- e. Call sign of vessel and previous call sign, if any;
- f. Lloyds/IMO number, if any;
- g. Photographs of the vessel, where available;
- h. Date vessel was first included on the IUU List;
- i. Summary of activities which justify inclusion of the vessel on the list, together with references to all relevant documents informing of and evidencing those activities (more detail in section 2)

#### **Details of elements contravened**

*(Indicate with an "X" the individual elements of CMM contravened, and provide relevant details including date, location, source of information. Additional information can be provided in an attachment, if necessary, and listed under section 3).*

<b>Item</b>	<b>Definition</b>	<b>Indicate</b>
a	Harvest species covered by the Convention in the Convention Area and are not on the NPFC record of authorized vessels	
b	Engage in fishing for fishery resources, when the Member or CNCP, under whose flag the vessel is sailing, has exhausted or has no quotas, catch limit or effort allocation, including, if applicable, those received from another Member/CNCP, under relevant NPFC conservation measures	
c	Do not record or report their catches made in the Convention Area consistent with NPFC Measures, or make false reports	
d	Take and land undersized fish in contravention of relevant NPFC conservation measures	
e	Fish in a closed area or during a closed season in contravention of relevant NPFC conservation measures	
f	Use prohibited fishing gear in contravention of relevant NPFC conservation measures	
g	Tranship with, participate in joint fishing operations with, support or re-supply vessels included in the IUU vessels list	
h	Are without nationality and harvest species covered by the Convention in the Convention Area	
i	Engage in any other fishing activities that is in contravention of relevant NPFC conservation measures	
j	Are related to paragraph 4 of this conservation and management measures	

### **Associated documents**

*(List here the associated documents that are appended e.g. boarding reports, court proceedings, photographs).*

### **Recommended actions**

<b>Item</b>	<b>Recommended actions</b>	<b>Indicate</b>
A	Notification to NPFC Executive Secretary only. No further action is recommended	
B	Notification of illegal activity to NPFC Executive Secretary. Recommend notification of activity to flag Member/CNCP/non-Contracting Party	
C	Recommended for inclusion on NPFC IUU Vessel List	

**Information to be included in all NPFC IUU Vessel Lists  
(Draft, Provisional and Final)**

The Draft IUU Vessel List, as well as the Provisional and Final IUU Vessel Lists shall contain the following details, where available:

- a. Name of vessel and previous names, if any;
- b. Flag of vessel and previous flags, if any;
- c. Owner and previous owners, including beneficial owners, if any;
- d. Operator of vessel and previous operators, if any;
- e. Call sign of vessel and previous call signs, if any;
- f. Lloyds/IMO number, if any;
- g. Photographs of the vessel, where available;
- h. Date vessel was first included on the IUU Vessel List;
- j. Summary of activities which justify inclusion of the vessel on the List, together with references to all relevant documents informing of and evidencing those activities.



**CMM 2016-05**

(Entered Into Force 16 January 2017)

Superseded 28 November 2017)

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

*The North Pacific Fisheries Commission (NPFC),*

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

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

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

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

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

*Concerned* about possible adverse impacts of unregulated expansion of bottom fisheries on marine species and VMEs in the western part of the Convention Area.

*Adopts* the following Conservation and Management Measure:

1. Scope

A. Coverage

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

B. Management target

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



## 2. General purpose

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

The objective of these Measures is to ensure the long-term conservation and sustainable use of the fisheries resources in the Convention Area while protecting the marine ecosystems of the North Pacific Ocean in which these resources occur. These measures shall set out to prevent significant adverse impacts on VMEs in the Convention Area of the North Pacific Ocean, acknowledging the complex dependency of fishing resources and species belonging to the same ecosystem within VMEs.

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

## 3. Principles

The implementation of this CMM shall:

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

## 4. Measures

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

A. Limit fishing effort in bottom fisheries on the western part of the Convention Area to the level agreed in February 2007 in terms of the number of fishing vessels and other parameters which reflect the level of fishing effort, fishing capacity or potential impacts on marine ecosystems.

B. Not allow bottom fisheries to expand into the western part of the Convention Area where no such fishing is currently occurring, in particular, by limiting such bottom fisheries to seamounts located south of 45 degrees North Latitude and refrain from bottom fisheries in other areas of the western part of the Convention Area covered by these measures and also not allow bottom fisheries to conduct fishing operation in areas deeper than 1,500m.

C. Notwithstanding subparagraphs A and B above, exceptions to these restrictions may be provided in cases where it can be shown that any fishing activity beyond such limits or in any new areas would not have significant adverse impacts (SAIs) on marine species or any VME. Such fishing activity is subject to an exploratory fishery protocol (Annex 1).

D. Any determinations pursuant to subparagraph C that any proposed fishing activity will not have SAIs on marine species or any VME are to be in accordance with the Science-based Standards and Criteria (Annex 2), which are consistent with the FAO

International Guidelines for the Management of Deep-sea Fisheries in the High Seas.

E. Any determinations, by any flag state or pursuant to any subsequent arrangement for the management of the bottom fisheries in the areas covered by these measures, that fishing activity would not have SAIs on marine species or any VMEs, shall be made publicly available through agreed means.

F. Prohibit its vessels from engaging in directed fishing on the following orders: Alcyonacea, Antipatharia, Gorgonacea, and Scleractinia as well as any other indicator species for VMEs as may be identified from time to time by the SC and approved by the Commission.

G. Further, considering accumulated information regarding fishing activities in the western part of the Convention Area, in areas where, in the course of fishing operations, cold water corals more than 50Kg are encountered in one gear retrieval, Members of the Commission shall require vessels flying their flag to cease bottom fishing activities in that location. In such cases, the vessel shall not resume fishing activities until it has relocated a sufficient distance, which shall be no less than 2 nautical miles, so that additional encounters with VMEs are unlikely. All such encounters, including the location and the species in question, shall be reported to the Secretariat, who shall notify the other Members of the Commission so that appropriate measures can be adopted in respect of the relevant site. It is agreed that the cold water corals include: Alcyonacea, Antipatharia, Gorgonacea, and Scleractinia.

H. C-H seamount and Southeastern part of Koko seamount are closed precautionary for potential VME conservation. Fishing in these areas requires exploratory fishery protocol (Annex 1).

I. Ensure that the distance between the footrope of the gill net and sea floor is greater than 70 cm.

J. Apply a bottom fisheries closure from November to December

K. Limit annual catch of North Pacific armorhead to 15,000 tons for Japan

#### 5. Contingent Action

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

#### 6. Scientific Information

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

B. Collection of Information for purposes of defining the footprint

In implementing paragraphs 4A and 4B, the Members of the Commission shall provide

for each year, the number of vessels by gear type, size of vessels (tons), number of fishing days or days on the fishing grounds, total catch by species, and areas fished (names of seamounts) to the Secretariat. The Secretariat shall circulate the information received to the other Members consistent with the approved Interim Data Handling and Data Sharing Protocol. To support assessments of the fisheries and refinement of conservation and management measures, Members of the Commission are to provide update information on an annual basis.

**B. Collection of Information**

(i) Collection of scientific information from each bottom fishing vessel operating in the western part of the Convention Area.

- a. Catch and effort data
- b. Related information such as time, location, depth, temperature, etc.

(ii) As appropriate the collection of information from research vessels operating in the western part of the Convention Area.

- a. Physical, chemical, biological, oceanographic, meteorological, etc.
- b. Ecosystem surveys.

(iii) Collection of Observer Data

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

**7. Control of bottom fishing vessels**

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

**8. Observers**

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

## **EXPLORATORY FISHERY PROTOCOL IN THE NORTH PACIFIC OCEAN**

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

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

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

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

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

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

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

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

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

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

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

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

## **Appendix 1.1**

### **Information to be provided before exploratory fisheries start**

1. A harvesting plan
  - Name of vessel
  - Flag member of vessel
  - Description of area to be fished (location and depth)
  - Fishing dates
  - Anticipated effort
  - Target species
  - Bottom fishing gear-type used
  - Area and effort restrictions to ensure that fisheries occur on a gradual basis in a limited geographical area.
2. A mitigation plan
  - Measures to prevent SAIs to VMEs that may be encountered during the fishery
3. A catch monitoring plan
  - Recording/reporting of all species brought onboard to the lowest possible taxonomic level
  - 100% satellite monitoring
  - 100% observer coverage
4. A data collection plan
  - Data is to be collected in accordance with “Type and Format of Scientific Observer Data to be Collected” (Annex 5)

**Information to be included in the report**

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

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

1. Introduction

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

2. Purpose

(1) The purpose of the standards and criteria is to provide guidelines for each member of the Commission in identifying VMEs and assessing SAIs of individual bottom fishing activities<sup>4</sup> on VMEs or marine species in the Convention Area. Each member of the Commission, using the best information available, is to decide which species or areas are to be categorized as VMEs, identify areas where VMEs are known or likely to occur, and assess whether individual bottom fishing activities would have SAIs on such VMEs or marine species. The results of these tasks are to be submitted to and reviewed by the Scientific Committee with a view to reaching a common understanding among the members of the Commission.

(2) For the purpose of applying the standards and criteria, the bottom fisheries are defined as follows:

- (a) The fisheries are conducted in the Convention Area;
- (b) The total catch (everything brought up by the fishing gear) includes species that can only sustain low exploitation rates; and
- (c) The fishing gear is likely to contact the seafloor during the normal course of fishing operations

3. Definition of VMEs

(1) Although Paragraph 83 of UNGA Resolution 61/105 refers to seamounts, hydrothermal vents and cold water corals as examples of VMEs, there is no definitive list of specific species or areas that are to be regarded as VMEs.

(2) Vulnerability is related to the likelihood that a population, community or habitat will experience substantial alteration by fishing activities and how much time will be required for its recovery from such alteration. The most vulnerable ecosystems are those that are both easily disturbed and are very slow to recover, or may never recover. The vulnerabilities of populations, communities and habitats are to be assessed relative to specific threats. Some features, particularly ones that are physically fragile or inherently rare may be vulnerable to most forms of disturbance, but the vulnerability of some populations, communities and habitats may vary greatly depending on the type of fishing gear used or the kind of disturbance experienced. The risks to a marine ecosystem are determined by its vulnerability, the probability of a threat occurring and the mitigation means applied to the threat. Accordingly, the FAO Guidelines only provide examples of potential vulnerable species groups, communities and habitats as well as features that potentially support them (Annex 2.1).

(3) A marine ecosystem is to be classified as vulnerable based on its characteristics. The following list of characteristics is used as criteria in the identification of VMEs.

<sup>4</sup> “individual bottom fishing activities” means fishing activities by each fishing gear. For example, if ten fishing vessels operate bottom trawl fishing in a certain area, the impacts of the fishing activities of these vessels on the ecosystem are to be assessed as a whole rather than on a vessel-by-vessel basis. It should be noted that if the total number or capacity of the vessels using the same fishing gear has increased, the impacts of the fishing activities are to be assessed again.

(a) Uniqueness or rarity - an area or ecosystem that is unique or that contains rare species whose loss could not be compensated for by other similar areas. These include:

- (i) Habitats that contain endemic species;
- (ii) Habitats of rare, threatened or endangered species that occur in discrete areas;
- (iii) Nurseries or discrete feeding, breeding, or spawning areas

(b) Functional significance of the habitat – discrete areas or habitats that are necessary for the survival, function, spawning/reproduction or recovery of fish stocks, particular life-history stages (e.g. nursery grounds or rearing areas), or of rare, threatened or endangered marine species.

(c) Fragility – an ecosystem that is highly susceptible to degradation by anthropogenic activities

(d) Life-history traits of component species that make recovery difficult – ecosystems that are characterized by populations or assemblages of species with one or more of the following characteristics:

- (i) Slow growth rates
- (ii) Late age of maturity
- (iii) Low or unpredictable recruitment
- (iv) Long-lived

(e) Structural complexity – an ecosystem that is characterized by complex physical structures created by significant concentrations of biotic and abiotic features. In these ecosystems, ecological processes are usually highly dependent on these structured systems. Further, such ecosystems often have high diversity, which is dependent on the structuring organisms.

(4) Management response may vary, depending on the size of the ecological unit in the Convention Area. Therefore, the spatial extent of the ecological unit is to be decided first. That is, whether the ecological unit is the entire Area, or the current fishing ground, namely, the Emperor Seamount and Northern Hawaiian Ridge area (hereinafter called “the ES-NHR area”), or a group of the seamounts within the ES-NHR area, or each seamount in the ES-NHR area, is to be decided using the above criteria.

#### 4. Identification of potential VMEs

##### (1) Fished seamounts

###### (a) Identification of fished seamounts

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

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

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

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

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

##### (2) New fishing areas



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

#### 5. Assessment of SAIs on VMEs or marine species

(1) Significant adverse impacts are those that compromise ecosystem integrity (i.e., ecosystem structure or function) in a manner that: (i) impairs the ability of affected populations to replace themselves; (ii) degrades the long-term natural productivity of habitats; or (iii) causes, on more than a temporary basis, significant loss of species richness, habitat or community types. Impacts are to be evaluated individually, in combination and cumulatively.

(2) When determining the scale and significance of an impact, the following six factors are to be considered:

- (a) The intensity or severity of the impact at the specific site being affected;
- (b) The spatial extent of the impact relative to the availability of the habitat type affected;
- (c) The sensitivity/vulnerability of the ecosystem to the impact;
- (d) The ability of an ecosystem to recover from harm, and the rate of such recovery;
- (e) The extent to which ecosystem functions may be altered by the impact; and
- (f) The timing and duration of the impact relative to the period in which a species needs the habitat during one or more life-history stages.

(3) Temporary impacts are those that are limited in duration and that allow the particular ecosystem to recover over an acceptable timeframe. Such timeframes are to be decided on a case-by-case basis and be on the order of 5-20 years, taking into account the specific features of the populations and ecosystems.

(4) In determining whether an impact is temporary, both the duration and the frequency with which an impact is repeated is to be considered. If the interval between the expected disturbances of a habitat is shorter than the recovery time, the impact is to be considered more than temporary.

(5) Each member of the Commission is to conduct assessments to establish if bottom fishing activities are likely to produce SAIs in a given seamount or other VMEs. Such an impact assessment is to address, *inter alia*:

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

(6) Impact assessments are to consider, as appropriate, the information referred to in these Standards and Criteria, as well as relevant information from similar or related fisheries, species and ecosystems.

(7) Where an assessment concludes that the area does not contain VMEs or that significant adverse impacts on VMEs or marine species are not likely, such assessments are to be repeated when there have been significant changes to the fishery or other activities in the area, or when natural processes are thought to have undergone significant changes.

**6. Proposed conservation and management measures to prevent SAIs**

As a result of the assessment in 5 above, if it is considered that individual fishing activities are causing or likely to cause SAIs on VMEs or marine species, the member of the Commission is to adopt appropriate conservation and management measures to prevent such SAIs. The member of the Commission is to clearly indicate how such impacts are expected to be prevented or mitigated by the measures.

**7. Precautionary approach**

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

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

**8. Template for assessment report**

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

**ANNEX 2.1**

**EXAMPLES OF POTENTIAL VULNERABLE SPECIES GROUPS, COMMUNITIES AND HABITATS AS WELL AS FEATURES THAT POTENTIALLY SUPPORT THEM**

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

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

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

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

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

**TEMPLATE FOR REPORTS ON IDENTIFICATION OF VMEs AND ASSESSMENT OF IMPACTS CAUSED BY INDIVIDUAL FISHING ACTIVITIES ON VMEs OR MARINE SPECIES**

1. Name of the member of the Commission
2. Name of the fishery (e.g., bottom trawl, bottom gillnet, bottom longline, pot)
3. Status of the fishery (existing fishery or exploratory fishery)
4. Target species
5. Bycatch species
6. Recent level of fishing effort (every year at least since 2002)
  - (1) Number of fishing vessels
  - (2) Tonnage of each fishing vessel
  - (3) Number of fishing days or days on the fishing ground
  - (4) Fishing effort (total operating hours for trawl, # of hooks per day for long-line, # of pots per day for pot, total length of net per day for gillnet)
  - (5) Total catch by species
  - (6) Names of seamounts fished or to be fished
7. Fishing period
8. Analysis of status of fishery resources
  - (1) Data and methods used for analysis
  - (2) Results of analysis
  - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties
9. Analysis of status of bycatch species resources
  - (1) Data and methods used for analysis
  - (2) Results of analysis
  - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties
10. Analysis of existence of VMEs in the fishing ground
  - (1) Data and methods used for analysis
  - (2) Results of analysis
  - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties
11. Impact assessment of fishing activities on VMEs or marine species including cumulative impacts, and identification of SAIs on VMEs or marine species, as detailed in Section 5 above, Assessment of SAIs on VMEs or marine species
12. Other points to be addressed
13. Conclusion (whether to continue or start fishing with what measures, or stop fishing)

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

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

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

### **Report Components**

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

#### **A. Observer Training**

An overview of observer training conducted, including:

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

#### **B. Scientific Observer Programme Design and Coverage**

Details of the design of the observer programme, including:

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

Details of observer coverage of the above fleets, including:

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

#### **C. Observer Data Collected**

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

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

**D. Tag Return Monitoring**

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

**E. Problems Experienced**

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

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

**TYPE AND FORMAT OF SCIENTIFIC OBSERVER DATA TO BE COLLECTED**

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

1. Vessel and observer details are to be recorded only once for each observed trip.
2. The following vessel data are to be collected for each observed trip:
  - a) Current vessel flag.
  - b) Name of vessel.
  - c) Name of the Captain.
  - d) Name of the Fishing Master.
  - e) Registration number.
  - f) International radio call sign (if any).
  - g) Lloyd's / IMO number (if allocated).
  - h) Previous Names (if known).
  - i) Port of registry.
  - j) Previous flag (if any).
  - k) Type of vessel.
  - l) Type of fishing method(s).
  - m) Length (m).
  - n) Beam (m).
  - o) Gross register tonnage (international tonnage).
  - p) Power of main engine(s) (kilowatts).
  - q) Hold capacity (cubic metres).
  - r) Record of the equipment on board which may affect fishing power factors (navigational equipment, radar, sonar systems, weather fax or satellite weather receiver, sea-surface temperature image receiver, Doppler current monitor, radio direction finder).
  - s) Total number of crew (all staff, excluding observers).
3. The following observer data are to be collected for each observed trip:
  - a) Observer's name.
  - b) Observer's organisation.
  - c) Date observer embarked (UTC date).
  - d) Port of embarkation.
  - e) Date observer disembarked (UTC date).
  - f) Port of disembarkation.

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

1. Data are to be collected on an un-aggregated (tow by tow) basis for all observed trawls.
2. The following data are to be collected for each observed trawl tow:
  - a) Tow start date (UTC).

- b) Tow start time (UTC).
- c) Tow end date (UTC).
- d) Tow end time (UTC).
- e) Tow start position (Lat/Lon, 1 minute resolution).
- f) Tow end position (Lat/Lon, 1 minute resolution).
- g) Type of trawl, bottom or mid-water.
- h) Type of trawl, single, double or triple.
- i) Height of net opening (m).
- j) Width of net opening (m).
- k) Mesh size of the cod-end net (stretched mesh, mm) and mesh type (diamond, square, etc).
- l) Gear depth (of footrope) at start of fishing (m).
- m) Bottom (seabed) depth at start of fishing (m).
- n) Gear depth (of footrope) at end of fishing (m).
- o) Bottom (seabed) depth at end of fishing (m).
- p) Status of the trawl operation (no damage, lightly damaged\*, heavily damaged\*, other (specify)). \*Degree may be evaluated by time for repairing (<=1hr or >1hr)
- q) Duration of estimated period of seabed contact (minute)
- r) Intended target species.
- s) Catch of all species retained on board, split by species, in weight (to the nearest kg).
- t) Estimate of the amount (weight or volume) of all living marine resources discarded, split by species.
- u) Record of the numbers by species of all marine mammals, seabirds or reptiles caught.
- v) Record of sensitive benthic species in the trawl catch, particularly vulnerable or habitat-forming species such as sponges, sea-fans or corals.

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

1. Data are to be collected on an un-aggregated (set by set) basis for all observed bottom gillnet sets.
2. The following data are to be collected for each observed bottom gillnet set:
  - a) Set start date (UTC).
  - b) Set start time (UTC).
  - c) Set end date (UTC).
  - d) Set end time (UTC).
  - e) Set start position (Lat/Lon, 1 minute resolution).
  - f) Set end position (Lat/Lon, 1 minute resolution).
  - g) Net panel ("tan") length (m).
  - h) Net panel ("tan") height (m).
  - i) Net mesh size (stretched mesh, mm) and mesh type (diamond, square, etc)
  - j) Bottom depth at start of setting (m).
  - k) Bottom depth at end of setting (m).
  - l) Number of net panels for the set.
  - m) Number of net panels retrieved.
  - n) Number of net panels actually observed during the haul.
  - o) Actually observed catch of all species retained on board, split by species, in weight (to the nearest kg).



- p) An estimation of the amount (numbers or weight) of marine resources discarded, split by species, during the actual observation.
- q) Record of the actually observed numbers by species of all marine mammals, seabirds or reptiles caught.
- r) Intended target species.
- s) Catch of all species retained on board, split by species, in weight (to the nearest kg).
- t) Estimate of the amount (weight or volume) of all marine resources discarded\* and dropped-off, split by species. \* Including those retained for scientific samples.
- u) Record of the numbers by species of all marine mammals, seabirds or reptiles caught (including those discarded and dropped-off).

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

1. Data are to be collected on an un-aggregated (set by set) basis for all observed longline sets.
2. The following fields of data are to be collected for each set:
  - a) Set start date (UTC).
  - b) Set start time (UTC).
  - c) Set end date (UTC).
  - d) Set end time (UTC).
  - e) Set start position (Lat/Lon, 1 minute resolution).
  - f) Set end position (Lat/Lon, 1 minute resolution).
  - g) Total length of longline set (m).
  - h) Number of hooks for the set.
  - i) Bottom (seabed) depth at start of set.
  - j) Bottom (seabed) depth at end of set.
  - k) Number of hooks actually observed during the haul.
  - l) Intended target species.
  - m) Actually observed catch of all species retained on board, split by species, in weight (to the nearest kg).
  - n) An estimation of the amount (numbers or weight) of marine resources discarded\* or dropped-off, split by species, during the actual observation. \* Including those retained for scientific samples.
  - o) Record of the actually observed numbers by species of all marine mammals, seabirds or reptiles caught (including those discarded and dropped-off).

#### **E. Length-Frequency Data to Be Collected**

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

2. The numbers of fish to be measured for each species and distribution of samples across area and month strata should be determined, to ensure that samples are properly representative of species distributions and size ranges.

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

1. The following biological data are to be collected for representative samples of the main target species and, time permitting, for other main by-catch species contributing to the catch:
  - a) Species
  - b) Length (to the nearest mm), with record of the type of length measurement used.
  - c) Length and depth in case of North Pacific armorhead.
  - d) Sex (male, female, immature, unsexed)
  - e) Maturity stage (immature, mature, ripe, ripe-running, spent)
2. Representative stratified samples of otoliths are to be collected from the main target species and, time permitting, from other main by-catch species regularly occurring in catches. All otoliths to be collected are to be labelled with the information listed in 1 above, as well as the date, vessel name, observer name and catch position.
3. Where specific trophic relationship projects are being conducted, observers may be requested to also collect stomach samples from certain species. Any such samples collected are also to be labelled with the information listed in 1 above, as well as the date, vessel name, observer name and catch position.
4. Observers may also be required to collect tissue samples as part of specific genetic research programmes implemented by the SC.
5. Observers are to be briefed and provided with written length-frequency and biological sampling protocols and priorities for the above sampling specific to each observer trip.

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

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

## **H. Detection of Fishing in Association with Vulnerable Marine Ecosystems**

2. The SC is to develop a guideline, species list and identification guide for benthic species (e.g. sponges, sea fans, corals) whose presence in a catch will indicate that fishing occurred in association with a vulnerable marine ecosystem (VME). All observers on vessels are to be provided with copies of this guideline, species list and ID guide.
3. For each observed fishing operation, the following data are to be collected for all species caught, which appear on the list of vulnerable benthic species:
  - a) Species (identified as far as possible, or accompanied by a photograph where identification is difficult).
  - b) An estimate of the quantity (weight (kg) or volume (m<sup>3</sup>)) of each listed benthic species caught in the fishing operation.
  - c) An overall estimate of the total quantity (weight (kg) or volume (m<sup>3</sup>)) of all invertebrate benthic species caught in the fishing operation.
  - d) Where possible, and particularly for new or scarce benthic species which do not appear in ID guides, whole samples should be collected and suitable preserved for identification on shore.

## **I. Data to be collected for all Tag Recoveries**

1. The following data are to be collected for all recovered fish, seabird, mammal or reptile tags:
  - a) Observer name.
  - b) Vessel name.
  - c) Vessel call sign.
  - d) Vessel flag.
  - e) Collect, label (with all details below) and store the actual tags for later return to the tagging agency.
  - f) Species from which tag recovered.
  - g) Tag colour and type (spaghetti, archival).
  - h) Tag numbers (The tag number is to be provided for all tags when multiple tags were attached to one fish. If only one tag was recorded, a statement is required that specifies whether or not the other tag was missing)
  - i) Date and time of capture (UTC).
  - j) Location of capture (Lat/Lon, to the nearest 1 minute)
  - k) Animal length / size (to the nearest cm) with description of what measurement was taken (such as total length, fork length, etc).
  - l) Sex (F=female, M=male, I=indeterminate, D=not examined)
  - m) Whether the tags were found during a period of fishing that was being observed (Y/N)
  - n) Reward information (e.g. name and address where to send reward)

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

## **J. Hierarchies for Observer Data Collection**

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

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

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

**K. Coding Specifications to be used for Recording Observer Data**

1. Unless otherwise specified for specific data types, observer data are to be collected in accordance with the same coding specifications as specified in this Annex.
2. Coordinated Universal Time (UTC) is to be used to describe times.
3. Degrees and minutes are to be used to describe locations.
4. The following coding schemes are to be used:
  - a) Species are to be described using the FAO 3 letter species codes.
  - b) Fishing methods are to be described using the International Standard Classification of Fishing Gear (ISSCFG - 29 July 1980) codes.
  - c) Types of fishing vessel are to be described using the International Standard Classification of Fishery Vessels (ISSCFV) codes.
5. Metric units of measure are to be used, specifically:
  - a) Kilograms are to be used to describe catch weight.
  - b) Metres are to be used to describe height, width, depth, beam or length.
  - c) Cubic metres are to be used to describe volume.
  - d) Kilowatts are to be used to describe engine power.

**CMM 2016-06**

(Entered Into Force 16 January 2017

Superseded 28 November 2017)

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

*The North Pacific Fisheries Commission (NPFC):*

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

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

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

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

*Hereby adopt* the following Conservation and Management Measure (CMM) for bottom fisheries of the Northeast Pacific Ocean while working to develop and implement other permanent management arrangements to govern these and other fisheries in the North Pacific Ocean.

**Scope**

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

including bilateral agreements and Regional Fisheries Management Organizations or Arrangements.

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

2. The implementation of these Measures shall:
  - a. be based on the best scientific information available in accordance with existing international laws and agreements including UNCLOS and other relevant international instruments,
  - b. establish appropriate and effective conservation and management measures,
  - c. be in accordance with the precautionary approach, and
  - d. incorporate an ecosystem approach to fisheries management. Actions by Members of the Commission
3. Members of the Commission will take the following actions in respect of vessels operating under its Flag or authority in the area covered by these Measures:
  - a. Conduct the assessments called for in paragraph 83(a) of UNGA Resolution 61/105, in a manner consistent with the FAO Guidelines and the Standards and Criteria included in Annex 2;
  - b. Submit to the SC their assessments conducted pursuant to subparagraph (a) of this paragraph, including all relevant data and information in support of any such assessment, and receive advice and recommendations from the SC, in accordance with the procedures in Annex 2;
  - c. Taking into account all advice and recommendations received from the SC, determine whether the fishing activity or operations of the vessel in question are likely to have a significant adverse impact on any vulnerable marine ecosystem;
  - d. If it is determined that the fishing activity or operations of the vessel or vessels in question would have a significant adverse impact on vulnerable marine ecosystems, adopt conservation and management measures to prevent such impacts on the basis of advice and recommendations of the SC, which are subject to adoption by the Commission;
  - e. Ensure that if any vessels are already engaged in bottom fishing, that such assessments have been carried out in accordance with paragraph 119(a)/UNGA RES 2009, the determination called for in subparagraph (c) of this paragraph has been rendered and, where appropriate, managements measures have been implemented in accordance with the advice and recommendations of the SC, which are subject to adoption by the Commission;
  - f. Further ensure that they will only authorize fishing activities on the basis of such assessments and any comments and recommendations from the SC;
  - g. Prohibit its vessels from engaging in directed fishing on the following orders: Alcyonacea, Antipatharia, Gorgonacea, and Scleractinia as well as any other indicator species for vulnerable marine ecosystems as may be identified from time to time by the SC and approved by the Commission;
  - h. In respect of areas where vulnerable marine ecosystems are known to occur or are

likely to occur, based on the best available scientific information, ensure that bottom fishing activities do not proceed unless conservation and management measures have been established to prevent significant adverse impacts on vulnerable marine ecosystems;

- i. Limit fishing effort in bottom fisheries on the Eastern part of the Convention Area to the level of a historical average (baseline to be determined through consensus in the SC) in terms of the number of fishing vessels and other parameters which reflect the level of fishing effort, fishing capacity or potential impacts on marine ecosystems dependent on new SC advice;
  - j. Further, considering accumulated information regarding fishing activities in the Eastern part of the Convention Area, in areas where, in the course of fishing operations, cold water corals or other indicator species as identified by the SC that exceed 50Kg are encountered in one gear retrieval, Members of the Commission shall require vessels flying their flag to cease bottom fishing activities in that location. In such cases, the vessel shall not resume fishing activities until it has relocated a sufficient distance, which shall be no less than 2 nautical miles, so that additional encounters with VMEs are unlikely. All such encounters, including the location and the species in question, shall be reported to the Secretariat, who shall notify the other Members of the Commission so that appropriate measures can be adopted in respect of the relevant site. It is agreed that the cold water corals include: Alcyonacea, Antipatharia, Gorgonacea, and Scleractinia, as well as any other indicator species for vulnerable marine ecosystems as may be identified from time to time by the SC and approved by the Commission.
4. All assessments and determinations by any Member as to whether fishing activity would have significant adverse impacts on vulnerable marine ecosystems, as well as measures adopted in order to prevent such impacts, will be made publicly available through agreed means.

#### Control of Bottom Fishing Vessels

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

#### Scientific Committee (SC)

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

#### Scientific Information

8. The Members shall provide all available information as required by the Commission for any current or historical fishing activity by their flag vessels, including the number of vessels by gear type, size of vessels (tons), number of fishing days or days on the fishing grounds, total catch by species, and areas fished (names or coordinates of seamounts) to the NPFC Secretariat as soon as possible and no later than one month prior to SC meeting. The Secretariat will make such information available to SC.



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

## **EXPLORATORY FISHERY PROTOCOL IN THE NORTH PACIFIC OCEAN**

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

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

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

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

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

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

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

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

4. The member of the Commission is to ensure that all vessels flying its flag conducting exploratory fisheries are equipped with a satellite monitoring device and have an observer on board at all times.
5. Within 3 months of the end of the exploratory fishing activities or within 12 months of the commencement of fishing, whichever occurs first, the member of the Commission is to provide a report of the results of such activities to the members of the SC and all members of the Commission. If the SC meets prior to the end of this 12 month period, the member of the Commission is to provide an interim report 30 days in advance of the SC meeting. The information to be included in the report is specified in Appendix 1.2.
6. The SC is to review the report in 5 above, and decide whether the exploratory fishing activities had SAIs on marine species or any VME. The SC then is to send its recommendations to the Commission on whether the exploratory fisheries can continue and whether additional management measures shall be required if they are to continue. The Commission is to strive to adopt conservation and management measures to prevent SAIs on marine species or any VMEs. If the Commission is not able to reach consensus on any such measures, each fishing member of the Commission is to adopt measures to avoid any SAIs on VMEs.
7. Members of the Commission shall only authorize continuation of exploratory fishing activity, or commencement of commercial fishing activity, under this protocol on the basis of comments and recommendations of the SC.

## **Appendix 1.1**

### **Information to be provided before exploratory fisheries start**

1. A harvesting plan
  - Name of vessel
  - Flag member of vessel
  - Description of area to be fished (location and depth)
  - Fishing dates
  - Anticipated effort
  - Target species
  - Bottom fishing gear-type used
  - Area and effort restrictions to ensure that fisheries occur on a gradual basis in a limited geographical area.
2. A mitigation plan
  - Measures to prevent SAIs to VMEs that may be encountered during the fishery
3. A catch monitoring plan
  - Recording/reporting of all species brought onboard to the lowest possible taxonomic level
  - 100% satellite monitoring
  - 100% observer coverage
4. A data collection plan
  - Data is to be collected in accordance with “Type and Format of Scientific Observer Data to be Collected” (Annex 5)

**Appendix 1.2**

**Information to be included in the report**

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

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

1. Introduction

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

2. Purpose

(1) The purpose of the standards and criteria is to provide guidelines for each member of the Commission in identifying VMEs and assessing SAIs of individual bottom fishing activities<sup>5</sup> on VMEs or marine species in the Convention Area. Each member of the Commission, using the best information available, is to decide which species or areas are to be categorized as VMEs, identify areas where VMEs are known or likely to occur, and assess whether individual bottom fishing activities would have SAIs on such VMEs or marine species. The results of these tasks are to be submitted to and reviewed by the Scientific Committee with a view to reaching a common understanding among the members of the Commission.

(2) For the purpose of applying the standards and criteria, the bottom fisheries are defined as follows:

- (a) The fisheries are conducted in the Convention Area;
- (b) The total catch (everything brought up by the fishing gear) includes species that can only sustain low exploitation rates; and
- (c) The fishing gear is likely to contact the seafloor during the normal course of fishing operations

3. Definition of VMEs

(1) Although Paragraph 83 of UNGA Resolution 61/105 refers to seamounts, hydrothermal vents and cold water corals as examples of VMEs, there is no definitive list of specific species or areas that are to be regarded as VMEs.

(2) Vulnerability is related to the likelihood that a population, community or habitat will experience substantial alteration by fishing activities and how much time will be required for its recovery from such alteration. The most vulnerable ecosystems are those that are both easily disturbed and are very slow to recover, or may never recover. The vulnerabilities of populations, communities and habitats are to be assessed relative to specific threats. Some features, particularly ones that are physically fragile or inherently rare may be vulnerable to most forms of disturbance, but the vulnerability of some populations, communities and habitats may vary greatly depending on the type of fishing gear used or the kind of disturbance experienced. The risks to a marine ecosystem are determined by its vulnerability, the probability of a threat occurring and the mitigation means applied to the threat. Accordingly, the FAO Guidelines only provide examples of potential vulnerable species groups, communities and habitats as well as features that potentially support them (Annex 2.1).

(3) A marine ecosystem is to be classified as vulnerable based on its characteristics. The following list of characteristics is used as criteria in the identification of VMEs.

<sup>5</sup> “individual bottom fishing activities” means fishing activities by each fishing gear. For example, if ten fishing vessels operate bottom trawl fishing in a certain area, the impacts of the fishing activities of these vessels on the ecosystem are to be assessed as a whole rather than on a vessel-by-vessel basis. It should be noted that if the total number or capacity of the vessels using the same fishing gear has increased, the impacts of the fishing activities are to be assessed again.

- (a) Uniqueness or rarity - an area or ecosystem that is unique or that contains rare species whose loss could not be compensated for by other similar areas. These include:
  - (i) Habitats that contain endemic species;
  - (ii) Habitats of rare, threatened or endangered species that occur in discrete areas;
  - (iii) Nurseries or discrete feeding, breeding, or spawning areas
- (b) Functional significance of the habitat – discrete areas or habitats that are necessary for the survival, function, spawning/reproduction or recovery of fish stocks, particular life-history stages (e.g. nursery grounds or rearing areas), or of rare, threatened or endangered marine species.
- (c) Fragility – an ecosystem that is highly susceptible to degradation by anthropogenic activities
- (d) Life-history traits of component species that make recovery difficult – ecosystems that are characterized by populations or assemblages of species with one or more of the following characteristics:
  - (i) Slow growth rates
  - (ii) Late age of maturity
  - (iii) Low or unpredictable recruitment
  - (iv) Long-lived
- (e) Structural complexity – an ecosystem that is characterized by complex physical structures created by significant concentrations of biotic and abiotic features. In these ecosystems, ecological processes are usually highly dependent on these structured systems. Further, such ecosystems often have high diversity, which is dependent on the structuring organisms.

(4) Management response may vary, depending on the size of the ecological unit in the Convention Area. Therefore, the spatial extent of the ecological unit is to be decided first. That is, whether the ecological unit is the entire Area, or the current fishing ground, namely, the Emperor Seamount and Northern Hawaiian Ridge area (hereinafter called “the ES-NHR area”), or a group of the seamounts within the ES-NHR area, or each seamount in the ES-NHR area, is to be decided using the above criteria.

#### 4. Identification of potential VMEs

##### (1) Fished seamounts

###### (a) Identification of fished seamounts

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

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

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

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

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

(2) New fishing areas

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

5. Assessment of SAIs on VMEs or marine species

(1) Significant adverse impacts are those that compromise ecosystem integrity (i.e., ecosystem structure or function) in a manner that: (i) impairs the ability of affected populations to replace themselves; (ii) degrades the long-term natural productivity of habitats; or (iii) causes, on more than a temporary basis, significant loss of species richness, habitat or community types. Impacts are to be evaluated individually, in combination and cumulatively.

(2) When determining the scale and significance of an impact, the following six factors are to be considered:

- (a) The intensity or severity of the impact at the specific site being affected;
- (b) The spatial extent of the impact relative to the availability of the habitat type affected;
- (c) The sensitivity/vulnerability of the ecosystem to the impact;
- (d) The ability of an ecosystem to recover from harm, and the rate of such recovery;
- (e) The extent to which ecosystem functions may be altered by the impact; and
- (f) The timing and duration of the impact relative to the period in which a species needs the habitat during one or more life-history stages.

(3) Temporary impacts are those that are limited in duration and that allow the particular ecosystem to recover over an acceptable timeframe. Such timeframes are to be decided on a case-by-case basis and be on the order of 5-20 years, taking into account the specific features of the populations and ecosystems.

(4) In determining whether an impact is temporary, both the duration and the frequency with which an impact is repeated is to be considered. If the interval between the expected disturbances of a habitat is shorter than the recovery time, the impact is to be considered more than temporary.

(5) Each member of the Commission is to conduct assessments to establish if bottom fishing activities are likely to produce SAIs in a given seamount or other VMEs. Such an impact assessment is to address, *inter alia*:

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

(6) Impact assessments are to consider, as appropriate, the information referred to in these Standards and Criteria, as well as relevant information from similar or related fisheries, species and ecosystems.

(7) Where an assessment concludes that the area does not contain VMEs or that significant adverse impacts on VMEs or marine species are not likely, such assessments are to be repeated when there have been significant changes to the fishery or other activities in the area, or when natural processes are thought to have undergone significant changes.

6. Proposed conservation and management measures to prevent SAIs

As a result of the assessment in 5 above, if it is considered that individual fishing activities are causing or likely to cause SAIs on VMEs or marine species, the member of the Commission is to adopt appropriate conservation and management measures to prevent such SAIs. The member of the Commission is to clearly indicate how such impacts are expected to be prevented or mitigated by the measures.

**7. Precautionary approach**

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

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

**8. Template for assessment report**

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

**ANNEX 2.1**

**EXAMPLES OF POTENTIAL VULNERABLE SPECIES GROUPS, COMMUNITIES AND HABITATS AS WELL AS FEATURES THAT POTENTIALLY SUPPORT THEM**

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

Examples of species groups, communities and habitat forming species that are documented or considered sensitive and potentially vulnerable to deep-sea fisheries in the high-seas, and which may contribute to forming VMEs:	
<b>a.</b>	certain coldwater corals, e.g., reef builders and coral forest including: stony corals (scleractinia), alcyonaceans and gorgonians (octocorallia), black corals (antipatharia), and hydrocorals (stylasteridae),
<b>b.</b>	Some types of sponge dominated communities,
<b>c.</b>	communities composed of dense emergent fauna where large sessile protozoans (xenophyophores) and invertebrates (e.g., hydroids and bryozoans) form an important structural component of habitat, and
<b>d.</b>	seep and vent communities comprised of invertebrate and microbial species found nowhere else (i.e., endemic).

Examples of topographical, hydrophysical or geological features, including fragile geological structures, that potentially support the species groups or communities, referred to above:	
<b>a.</b>	submerged edges and slopes (e.g., corals and sponges),
<b>b.</b>	summits and flanks of seamounts, guyots, banks, knolls, and hills (e.g., corals, sponges, xenophyphores),
<b>c.</b>	canyons and trenches (e.g., burrowed clay outcrops, corals),
<b>d.</b>	hydrothermal vents (e.g., microbial communities and endemic invertebrates), and
<b>e.</b>	cold seeps (e.g., mud volcanoes, microbes, hard substrates for sessile invertebrates).



**TEMPLATE FOR REPORTS ON IDENTIFICATION OF VMEs AND ASSESSMENT OF IMPACTS CAUSED BY INDIVIDUAL FISHING ACTIVITIES ON VMEs OR MARINE SPECIES**

1. Name of the member of the Commission
2. Name of the fishery (e.g., bottom trawl, bottom gillnet, bottom longline, pot)
3. Status of the fishery (existing fishery or exploratory fishery)
4. Target species
5. Bycatch species
6. Recent level of fishing effort (every year at least since 2002)
  - (1) Number of fishing vessels
  - (2) Tonnage of each fishing vessel
  - (3) Number of fishing days or days on the fishing ground
  - (4) Fishing effort (total operating hours for trawl, # of hooks per day for long-line, # of pots per day for pot, total length of net per day for gillnet)
  - (5) Total catch by species
  - (6) Names of seamounts fished or to be fished
7. Fishing period
8. Analysis of status of fishery resources
  - (1) Data and methods used for analysis
  - (2) Results of analysis
  - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties
9. Analysis of status of bycatch species resources
  - (1) Data and methods used for analysis
  - (2) Results of analysis
  - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties
10. Analysis of existence of VMEs in the fishing ground
  - (1) Data and methods used for analysis
  - (2) Results of analysis
  - (3) Identification of uncertainties in data and methods, and measures to overcome such uncertainties
11. Impact assessment of fishing activities on VMEs or marine species including cumulative impacts, and identification of SAIs on VMEs or marine species, as detailed in Section 5 above, Assessment of SAIs on VMEs or marine species
12. Other points to be addressed
13. Conclusion (whether to continue or start fishing with what measures, or stop fishing)

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

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

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

### **Report Components**

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

#### **A. Observer Training**

An overview of observer training conducted, including:

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

#### **B. Scientific Observer Programme Design and Coverage**

Details of the design of the observer programme, including:

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

Details of observer coverage of the above fleets, including:

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

#### **C. Observer Data Collected**

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

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

**D. Tag Return Monitoring**

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

**E. Problems Experienced**

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

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

**TYPE AND FORMAT OF SCIENTIFIC OBSERVER DATA TO BE COLLECTED**

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

1. Vessel and observer details are to be recorded only once for each observed trip.
2. The following vessel data are to be collected for each observed trip:
  - a) Current vessel flag.
  - b) Name of vessel.
  - c) Name of the Captain.
  - d) Name of the Fishing Master.
  - e) Registration number.
  - f) International radio call sign (if any).
  - g) Lloyd's / IMO number (if allocated).
  - h) Previous Names (if known).
  - i) Port of registry.
  - j) Previous flag (if any).
  - k) Type of vessel.
  - l) Type of fishing method(s).
  - m) Length (m).
  - n) Beam (m).
  - o) Gross register tonnage (international tonnage).
  - p) Power of main engine(s) (kilowatts).
  - q) Hold capacity (cubic metres).
  - r) Record of the equipment on board which may affect fishing power factors (navigational equipment, radar, sonar systems, weather fax or satellite weather receiver, sea-surface temperature image receiver, Doppler current monitor, radio direction finder).
  - s) Total number of crew (all staff, excluding observers).
3. The following observer data are to be collected for each observed trip:
  - a) Observer's name.
  - b) Observer's organisation.
  - c) Date observer embarked (UTC date).
  - d) Port of embarkation.
  - e) Date observer disembarked (UTC date).
  - f) Port of disembarkation.

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

1. Data are to be collected on an un-aggregated (tow by tow) basis for all observed trawls.
2. The following data are to be collected for each observed trawl tow:
  - a) Tow start date (UTC).

- b) Tow start time (UTC).
- c) Tow end date (UTC).
- d) Tow end time (UTC).
- e) Tow start position (Lat/Lon, 1 minute resolution).
- f) Tow end position (Lat/Lon, 1 minute resolution).
- g) Type of trawl, bottom or mid-water.
- h) Type of trawl, single, double or triple.
- i) Height of net opening (m).
- j) Width of net opening (m).
- k) Mesh size of the cod-end net (stretched mesh, mm) and mesh type (diamond, square, etc).
- l) Gear depth (of footrope) at start of fishing (m).
- m) Bottom (seabed) depth at start of fishing (m).
- n) Gear depth (of footrope) at end of fishing (m).
- o) Bottom (seabed) depth at end of fishing (m).
- p) Status of the trawl operation (no damage, lightly damaged\*, heavily damaged\*, other (specify)). \*Degree may be evaluated by time for repairing (<=1hr or >1hr)
- q) Duration of estimated period of seabed contact (minute)
- r) Intended target species.
- s) Catch of all species retained on board, split by species, in weight (to the nearest kg).
- t) Estimate of the amount (weight or volume) of all living marine resources discarded, split by species.
- u) Record of the numbers by species of all marine mammals, seabirds or reptiles caught.
- v) Record of sensitive benthic species in the trawl catch, particularly vulnerable or habitat-forming species such as sponges, sea-fans or corals.

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

1. Data are to be collected on an un-aggregated (set by set) basis for all observed bottom gillnet sets.
2. The following data are to be collected for each observed bottom gillnet set:
  - a) Set start date (UTC).
  - b) Set start time (UTC).
  - c) Set end date (UTC).
  - d) Set end time (UTC).
  - e) Set start position (Lat/Lon, 1 minute resolution).
  - f) Set end position (Lat/Lon, 1 minute resolution).
  - g) Net panel ("tan") length (m).
  - h) Net panel ("tan") height (m).
  - i) Net mesh size (stretched mesh, mm) and mesh type (diamond, square, etc)
  - j) Bottom depth at start of setting (m).
  - k) Bottom depth at end of setting (m).
  - l) Number of net panels for the set.
  - m) Number of net panels retrieved.
  - n) Number of net panels actually observed during the haul.
  - o) Actually observed catch of all species retained on board, split by species, in weight (to the nearest kg).

- p) An estimation of the amount (numbers or weight) of marine resources discarded, split by species, during the actual observation.
- q) Record of the actually observed numbers by species of all marine mammals, seabirds or reptiles caught.
- r) Intended target species.
- s) Catch of all species retained on board, split by species, in weight (to the nearest kg).
- t) Estimate of the amount (weight or volume) of all marine resources discarded\* and dropped-off, split by species. \* Including those retained for scientific samples.
- u) Record of the numbers by species of all marine mammals, seabirds or reptiles caught (including those discarded and dropped-off).

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

1. Data are to be collected on an un-aggregated (set by set) basis for all observed longline sets.
2. The following fields of data are to be collected for each set:
  - a) Set start date (UTC).
  - b) Set start time (UTC).
  - c) Set end date (UTC).
  - d) Set end time (UTC).
  - e) Set start position (Lat/Lon, 1 minute resolution).
  - f) Set end position (Lat/Lon, 1 minute resolution).
  - g) Total length of longline set (m).
  - h) Number of hooks for the set.
  - i) Bottom (seabed) depth at start of set.
  - j) Bottom (seabed) depth at end of set.
  - k) Number of hooks actually observed during the haul.
  - l) Intended target species.
  - m) Actually observed catch of all species retained on board, split by species, in weight (to the nearest kg).
  - n) An estimation of the amount (numbers or weight) of marine resources discarded\* or dropped-off, split by species, during the actual observation. \* Including those retained for scientific samples.
  - o) Record of the actually observed numbers by species of all marine mammals, seabirds or reptiles caught (including those discarded and dropped-off).

#### **E. Length-Frequency Data to Be Collected**

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

2. The numbers of fish to be measured for each species and distribution of samples across area and month strata should be determined, to ensure that samples are properly representative of species distributions and size ranges.

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

1. The following biological data are to be collected for representative samples of the main target species and, time permitting, for other main by-catch species contributing to the catch:
  - a) Species
  - b) Length (to the nearest mm), with record of the type of length measurement used.
  - c) Length and depth in case of North Pacific armorhead.
  - d) Sex (male, female, immature, unsexed)
  - e) Maturity stage (immature, mature, ripe, ripe-running, spent)
2. Representative stratified samples of otoliths are to be collected from the main target species and, time permitting, from other main by-catch species regularly occurring in catches. All otoliths to be collected are to be labelled with the information listed in 1 above, as well as the date, vessel name, observer name and catch position.
3. Where specific trophic relationship projects are being conducted, observers may be requested to also collect stomach samples from certain species. Any such samples collected are also to be labelled with the information listed in 1 above, as well as the date, vessel name, observer name and catch position.
4. Observers may also be required to collect tissue samples as part of specific genetic research programmes implemented by the SC.
5. Observers are to be briefed and provided with written length-frequency and biological sampling protocols and priorities for the above sampling specific to each observer trip.

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

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

**H. Detection of Fishing in Association with Vulnerable Marine Ecosystems**



1. The SC is to develop a guideline, species list and identification guide for benthic species (e.g. sponges, sea fans, corals) whose presence in a catch will indicate that fishing occurred in association with a vulnerable marine ecosystem (VME). All observers on vessels are to be provided with copies of this guideline, species list and ID guide.
2. For each observed fishing operation, the following data are to be collected for all species caught, which appear on the list of vulnerable benthic species:
  - a) Species (identified as far as possible, or accompanied by a photograph where identification is difficult).
  - b) An estimate of the quantity (weight (kg) or volume (m<sup>3</sup>)) of each listed benthic species caught in the fishing operation.
  - c) An overall estimate of the total quantity (weight (kg) or volume (m<sup>3</sup>)) of all invertebrate benthic species caught in the fishing operation.
  - d) Where possible, and particularly for new or scarce benthic species which do not appear in ID guides, whole samples should be collected and suitable preserved for identification on shore.

#### **I. Data to be collected for all Tag Recoveries**

1. The following data are to be collected for all recovered fish, seabird, mammal or reptile tags:
  - a) Observer name.
  - b) Vessel name.
  - c) Vessel call sign.
  - d) Vessel flag.
  - e) Collect, label (with all details below) and store the actual tags for later return to the tagging agency.
  - f) Species from which tag recovered.
  - g) Tag colour and type (spaghetti, archival).
  - h) Tag numbers (The tag number is to be provided for all tags when multiple tags were attached to one fish. If only one tag was recorded, a statement is required that specifies whether or not the other tag was missing)
  - i) Date and time of capture (UTC).
  - j) Location of capture (Lat/Lon, to the nearest 1 minute)
  - k) Animal length / size (to the nearest cm) with description of what measurement was taken (such as total length, fork length, etc).
  - l) Sex (F=female, M=male, I=indeterminate, D=not examined)
  - m) Whether the tags were found during a period of fishing that was being observed (Y/N)
  - n) Reward information (e.g. name and address where to send reward)

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

#### **J. Hierarchies for Observer Data Collection**

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

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

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

#### **K. Coding Specifications to be used for Recording Observer Data**

1. Unless otherwise specified for specific data types, observer data are to be collected in accordance with the same coding specifications as specified in this Annex.

2. Coordinated Universal Time (UTC) is to be used to describe times.
3. Degrees and minutes are to be used to describe locations.
4. The following coding schemes are to be used:
  - a. Species are to be described using the FAO 3 letter species codes.
  - b. Fishing methods are to be described using the International Standard Classification of Fishing Gear (ISSCFG - 29 July 1980) codes.
  - c. Types of fishing vessel are to be described using the International Standard Classification of Fishery Vessels (ISSCFV) codes.
5. Metric units of measure are to be used, specifically:
  - a. Kilograms are to be used to describe catch weight.
  - b. Metres are to be used to describe height, width, depth, beam or length.
  - c. Cubic metres are to be used to describe volume.
  - d. Kilowatts are to be used to describe engine power.

**CMM 2016-07**

(Entered Into Force 16 January 2017)

Superseded 28 November 2017)

## **CONSERVATIONS AND MANAGEMENT MEASURE FOR CHUB MACKEREL**

*The North Pacific Fisheries Commission (NPFC),*

*Recognizing* the Commission has agreed to undertake a small *ad hoc* workshop for the scientific analysis of chub mackerel stock and its outcomes will be presented to the Scientific Committee (SC) for further discussion in the NPFC;

*Reaffirms* the General Principles provided in Article 3 of the Convention;

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

1. Members of the Commission and Cooperating non-Contracting Parties (CNCNP) are encouraged to refrain from expansion, in the Convention area, of the number of fishing vessels entitled to fly their flags and authorized to fish for chub mackerel from the historical existing level until the stock assessment by the SC has been completed.
2. Members of the Commission participating in chub mackerel fisheries in areas under national jurisdiction adjacent to the Convention area are requested to take compatible measures in paragraph 1.
3. Members of the Commission and CNCNP shall ensure that fishing vessels flying their flag operating in the Convention Area to fish chub mackerel are to be equipped with an operational vessel monitoring system that is activated at all times.
4. The Commission shall draw the attention of any non-Contracting Party to the Convention to any activity undertaken by its nationals or fishing vessels entitled to fly its flag that have participated in fishing activities for chub mackerel in the Convention Area in accordance with Article 20, paragraph 2 and shall request the non-Contracting Party to take necessary actions in accordance with Article 20, paragraph 3 of the Convention.
5. Members of the Commission and CNCNPs shall provide their data on chub mackerel separated by the Convention Area and the areas under national jurisdiction adjacent to the Convention Area in accordance with the data requirements adopted by the Commission in the Annual Report by the end of February, 2017. The Commission shall review such information at the annual meeting of 2017.
6. The SC will complete the stock assessment of chub mackerel as soon as practicable, even if such assessment is provisional, and provide advice and recommendations to the Commission in accordance with Article 10, paragraph 4(b) of the Convention.
7. This management measure shall expire and be replaced by the measure to be adopted by the Commission based on the advice and recommendations from the Scientific Committee.