



Briefing for the Fifth Meeting of the Commission of the South Pacific Regional Fisheries Management Organisation

Adelaide, Australia

19-22 January 2017

Contents

| | |
|---|----|
| Introduction and Summary | 1 |
| The UNGA Bottom Fishing Review | 4 |
| Specific Recommendations..... | 5 |
| Stock Assessments for target species | 5 |
| Other target species | 6 |
| Vulnerable Marine Ecosystems (VMEs) fish stock assessments..... | 7 |
| Ecologically or Biologically Sensitive Areas (EBSAs) | 11 |

Introduction and Summary

The Deep Sea Conservation Coalition (DSCC) respectfully submits this briefing for the Fifth Meeting of the Commission of the South Pacific RFMO (SPRFMO). The DSCC thanks the hospitality of the Australian government in holding this Commission meeting.

The United Nations General Assembly (UNGA) in 2016 conducted a review of the actions taken by States individually and through RFMOs to implement a series of previous UNGA resolutions adopted since 2006 committing States to take actions to effectively manage bottom fisheries on the high seas. The UNGA called for a renewed commitment by high seas fishing nations to implement the actions previously agreed and called on States and RFMOs to take further actions to protect deep-sea ecosystems and sustainably manage deep-sea fish stocks. These need to be implemented by SPRFMO. This briefing will address agenda items 3, the report of the Scientific Committee (SC), and 6, Conservation and Management Measures (CMM), with respect to bottom fisheries, providing specific recommendations for the Commission, via agreement by Members and Co-operating Non-Contracting Parties (CNCPS).

In summary, the DSCC makes the following recommendations:

1. CMM 4.03 should be amended and implemented consistent with the key provisions of UNGA [resolutions 71/123](#) (2016), [64/72](#) (2009) particularly paragraphs 119¹ and 120,² and [resolution 66/68](#) (2011),³ as well as [resolution 61/105⁴](#) (2006) and the 2008 United Nations Food and Agriculture Organisation International [Guidelines for the Management of Deep-Sea](#)

[Fisheries in the High Seas \(FAO Guidelines\)](#).⁵ This includes ensuring the sustainability of deep-sea stocks and non-target species.

2. On target species: the Commission should require the provision by all Members and CNCPs of a complete catch history for all stocks of all target species, with sufficient precision to be used in the spatially-disaggregated catch per unit effort (CPUE) and biomass dynamics modelling (BDM) analyses, and for non-fisheries acoustic surveys to be conducted by Members and CNCPs currently fishing for deep-sea species including orange roughy, as well as for the SC to advise and provide recommendations on reference points, management strategies and analyses of conservation and management alternatives. This is long overdue.
3. On bycatch species: the Commission should instruct the SC to prioritize further research and advice on conservation measures for non-target species, and amend the list of “other species of concern” in Annex 14 of CMM 4.02, as proposed by the SC in Annex 5 of the Report of the 4th Meeting of the SC, to include deep-sea sharks in the SPRFMO Convention Area which are categorized as critically endangered, endangered, vulnerable or near threatened on the International Union for the Conservation of Nature (IUCN) Red List and those listed by CITES.
4. With respect to both target and bycatch species, the Commission should urgently ensure that conservation and management measures are established consistent with the precautionary approach, in particular with regard to vulnerable, threatened or endangered species as called for in resolution 71/123;
5. On Vulnerable Marine Ecosystems (VMEs): The Commission should instruct SC-5 to:
 - Modify the measure to specifically address the potential impacts of midwater trawling for benthic-pelagic species on VMEs;
 - Redraw the bottom fishing footprint to correspond to areas where bottom fishing has actually occurred over the past several years;
 - Initiate a program of marine scientific research according to resolution 71/123, including predictive modelling, non-impact methods of sea-based surveys and investigating and encouraging the use of cameras on towed nets;
 - Initiate a program to map the distribution of VMEs within the footprint, using the full set of criteria in the FAO Guidelines to identify VMEs and where they occur or are likely to occur, as well as for assessing significant adverse impacts (SAIs) as called for in resolution 71/123;
 - Assess cumulative impacts, including past impacts from bottom fishing and impacts from other sources than bottom fishing, such as from ocean acidification and climate change and take further measures to protect VMEs accordingly; and
 - Design a SPRFMO-wide move-on rule in the SPRFMO area to be established and consistently applied to vessels from all flag States

fishing in the region, apply to all areas where vessels are permitted to bottom fish, and require the immediate temporary closure of an area for all vessels where a VME encounter occurs pending an assessment by the SC that either VMEs do not occur in the area or SAIs will not occur as a result of reopening the area to one or more methods of bottom fishing. Consistent, science-based encounter protocols should be designed and implemented to ensure the effective implementation of thresholds and move-on rules.

6. States that intend to continue bottom trawling should update their impact assessments as a matter of urgency by a specified date.⁶ The Commission should require all countries carrying out bottom fishing to expeditiously update their impact assessments in line with the seven criteria outlined in paragraph 47 of the FAO Guidelines.
7. The Commission should put into place a process to study ecologically or biologically sensitive areas (EBSAs) identified in the Commission area and to identify appropriate responses, including protected areas. This should include a specific request to the SC to assess the EBSAs in the Commission Area and make recommendations.

The UNGA Bottom Fishing Review

Resolution 71/123, adopted last month, includes important calls to States and RFMOs relevant to SPRFMO's work which need to be implemented. The UNGA was concerned that some deep-sea fishing activities in certain areas are being carried out without full implementation of relevant paragraphs of previous resolutions, representing a threat to vulnerable marine ecosystems (VMEs).

Joint Meetings: The UNGA encouraged bottom fishing RFMOs to share experiences and good practices, for example by considering organizing joint meetings.⁷

*Specific calls:*⁸

(a) to use the **full set of criteria** in the Guidelines to identify where VMES occur or are likely to occur as well as for assessing significant adverse impacts (SAIs);

(b) to ensure that **impact assessments**, including for cumulative impacts, are:

- conducted consistently with the Guidelines, particularly paragraph 47,⁹
- are **reviewed periodically and are revised** thereafter whenever a substantial change in the fishery has occurred or there is relevant new information, and
- where such impact assessments have not been undertaken, they should be carried out as a priority **before authorizing bottom fishing activities**;

(c) To ensure that measures are based on and updated on the basis of the best available scientific information, noting in particular the need to improve **effective implementation of thresholds and move-on rules**;

Marine Scientific Research: The UNGA recognized¹⁰ that different types of marine scientific research (MSR), such as, *inter alia*, seabed mapping, mapping of VMEs based on information from the fishing fleet, on-site camera observations from remote vehicles, benthic ecosystem modelling, comparative benthic studies and predictive modelling have resulted in identification of areas where VMEs are known or are likely to occur and in the adoption of conservation and management measures to prevent SAIs on VMEs, including the closure of areas to bottom fishing in accordance with paragraph 119 (b) of resolution 64/72;

Acting on MSR: The UNGA encouraged States and RFMOs to consider the results available from different types of MSR, including those listed in above, concerning the identification of areas containing VMEs, and to adopt measures to prevent SAIs from bottom fishing on VMEs, consistent with the FAO Guidelines, or to close such areas to bottom fishing until such measures are adopted, as well as to continue to undertake further MSR;¹¹

Addressing knowledge gaps: The UNGA also encouraged States and RFMOs to carry out further MSR to address the remaining knowledge gaps, in particular with regard to fish stock assessments, and to base and update measures on the best available scientific information;¹²

Other impacts: The UNGA noted with concern that VMEs may also be impacted by human activities other than bottom fishing, and encouraged States and competent international organizations to consider taking action to address such impacts;¹³ and also called upon States and RFMOs to take into account the potential impacts of

climate change and ocean acidification in taking measures to manage deep-sea fisheries and protect VMEs;¹⁴

Protecting fish stocks: The UNGA called upon States and RFMOs to adopt measures, including monitoring, control and surveillance measures, on the basis of the best available scientific information, including stock assessments, to ensure the long-term sustainability of deep-sea fish stocks and non-target species and the rebuilding of depleted stocks, consistent with the FAO Guidelines and, where scientific information is uncertain, unreliable or inadequate, to ensure that measures are established consistent with the precautionary approach, in particular with regard to vulnerable, threatened or endangered species.¹⁵

In summary, these are very specific recommendations which were adopted after a comprehensive review of the implementation of previous resolutions which in turn was informed by the UN Secretary General's report and the stakeholder workshop held at the UN in August in which the SPRFMO secretariat, key bottom fishing States and observers, both industry and NGOs, participated. SPRFMO should ensure that they are implemented faithfully and instruct the Scientific Committee accordingly.

Specific Recommendations

Last year's Commission adopted amendments to CMM 2.03 (now CMM [4.03](#)) to require the measure to be reviewed at the 2017 Commission meeting (para. 27).¹⁶ The following recommendations are based on the SC-4 meeting and report and to the review of CMM 4.03.

Stock Assessments for target species

The UNGA has repeatedly called for stock assessments. In the absence of scientific information such as stock assessments, UNGA resolution 64/72 (2009) calls on States to "*ensure that conservation and management measures be established consistent with the precautionary approach, including measures to ensure that fishing effort, fishing capacity and catch limits, as appropriate, are at levels commensurate with the long-term sustainability of such stocks;*" in cases "*where scientific information is uncertain, unreliable, or inadequate*" (paragraph 119(d)), again reflecting the obligations of States established in Article 6 of the UN Fish Stocks Agreement. If this is not done, flag States and RFMOs are "*not to authorize bottom fishing activities until such measures have been adopted and implemented*" (UNGA 64/72, paragraph 120). CMM 4.03 requires States to (para 8(c)) "*except as provided for in paragraphs 16 to 20 below, limit bottom fishing catch in the Convention Area to a level that does not exceed the annual average levels of that Member or CNCP over the period 1 January 2002 to 31 December 2006*". This place-holding measure falls far short of the commitment to take the measures outlined in paragraph 119(d) of UNGA resolution 64/72 and reinforced in paragraph 186 of UNGA resolution 71/123 to manage deep-sea stocks for sustainability and the obligations with respect to the conservation and management of fisheries in Articles 5 and 6 of the UN Fish Stocks Agreement.

In 2014, CMM 2.03 in paragraph 5(b) requested the SC to undertake stock assessments of principal deep-sea fishery resources targeted, and, to the extent possible, taken as bycatch and caught incidentally in these fisheries, including straddling resources. This was not done.¹⁷ Rather, at the third SC meeting, New

Zealand said that “low-information” stock assessment methods for orange roughy could be applied in the SPRFMO Area: it was reported that stock assessments for orange roughy in the western SPRFMO area were “data limited.”¹⁸ In 2016, in lack of better information, SC-4 considered New Zealand’s proposal for combining the estimation of a spatially-disaggregated CPUE index of abundance and the fitting of a state-space BDM. It is crucial that the “critical next steps” be carried out including

- 1) the estimation of a complete catch history for each stock;
- 2) fine-tuning of the spatially-disaggregated CPUE indices; and
- 3) BDM re-runs including process error sensitivities and initial depletion scenarios.

The SC should also advise on and provide recommendations on:

- Reference points, including precautionary reference points as described in Annex II of the 1995 Agreement (SPRFMO Convention art. 10.2(b)(i));¹⁹
- Management strategies or plans for fishery resources based on such reference points; (SPRFMO Convention art. 10.2(b)(ii)); and
- Analyses of conservation and management alternatives, such as the establishment of total allowable catch (TAC) or total allowable fishing effort at different levels, that estimate the extent to which each alternative would achieve the objective or objectives of any management strategy or plan adopted, or under consideration, by the Commission (SPRFMO Convention Art. 10.2(b)(iii)).

DSCC recommends that the Commission call for provision by all Members and CNCPs of a complete catch history for all stocks, with sufficient precision to be used in the spatially-disaggregated CPUE and BDM analyses, and for acoustic surveys to be conducted by Members and CNCPs currently fishing for orange roughy, as well as for the SC to advise and provide recommendations on reference points, management strategies and analyses of conservation and management alternatives.

Other target species

SC-4 reported that “No progress has been made on stock assessments for other target species in the deepwater fisheries.”²⁰ This is lamentable, given the specific concerns expressed by the UNGA. It is not acceptable to continue to fish in disregard of the 2009 UNGA resolution 64/72, which called on States and RFMOs to “[a]dopt conservation and management measures, including monitoring, control and surveillance measures, on the basis of stock assessments and the best available scientific information, to ensure the long-term sustainability of deep sea fish stocks and non-target species, and the rebuilding of depleted stocks, consistent with the Guidelines” (paragraph 119(d)). Article 5(f) of the UN Fish Stocks Agreement requires States to “minimize...catch of non-target species...and impacts on associated or dependent species, in particular endangered species” This is a longstanding obligation under international law. In the absence of scientific information such as stock assessments, UNGA resolution 64/72 call on States to “ensure that conservation and management measures be established consistent with the precautionary approach, including measures to ensure that fishing effort, fishing capacity and catch limits, as appropriate, are at levels commensurate with the long-term sustainability of such stocks;” in cases “where scientific information is uncertain, unreliable, or inadequate” (paragraph 119(d)),

again reflecting the obligations of States established in Article 6 of the UN Fish Stocks Agreement. Again, this was reinforced by resolution 71/123.

DSCC recommends that the Commission agree to a prohibition of directed fisheries for all other target species until stock assessments have been conducted and appropriate conservation and management measures have been established accordingly.

Bycatch

It is unacceptable that SPRFMOs does not yet have in place any measures for bycatch species. SC-4 recognized that efforts should be undertaken to assess the impacts on bycatch species, in particular on low productivity species as called for in paragraph 47 of the FAO Guidelines. SC-4 said it will consider a risk based approach to prioritize species and areas in regard to further research and advice on conservation measures to the Commission, and in the meantime, until this work can be completed, SC-4 recommended that the Commission discuss and consider amending the list of “other species of concern” in Annex 14 of CMM 4.02 to include deep-sea sharks In the SPRFMO Convention Area categorized as critically endangered, endangered, vulnerable or near threatened on the IUCN Red List. Annex 5 contains the current IUCN red-listed deepwater shark species and CITES appendix II relevant species.

In light of UNGA resolution 71/24 (2016), and its concern with impacts on low-productivity fishery resources, particularly where scientific information is uncertain, unreliable or inadequate, the SPRFMO Commission should heed the UNGA’s call to ensure that measures are established consistent with the precautionary approach, in particular with regard to vulnerable, threatened or endangered species.²¹

DSCC recommends that the Commission:

- 1. Instruct the Scientific Committee to prioritize further research and advice on conservation measures for non-target species, and*
- 2. Amend the list of “other species of concern” in Annex 14 of CMM 4.02 to include deep-sea sharks in the SPRFMO Convention Area which are categorized as critically endangered, endangered, vulnerable or near threatened on the IUCN Red List and to also include CITES appendix II relevant species as recommended by SC-4 in Annex 5 of the SC-4 report. .)*

Vulnerable Marine Ecosystems (VMEs) fish stock assessments

SC4 in its [final report](#) made a number of recommendations on VMEs. SC4:

- noted steady progress made by New Zealand in the predictive modelling of the likelihood and density of VME indicator taxa and in relation to bottom fisheries; and*
- urged New Zealand to continue this work and include it in the development of proposals for a new bottom fishing measure for the consideration of SC-05;²²*
- agreed that there would be value in collecting fisheries independent data for orange roughy assessments, and discussed ways to encourage fishery independent surveys and identify priorities areas for such surveys within the SPRFMO Area;*
- noted that funding for the collection of fishery independent surveys using research vessels was unlikely to be available in the near future;*

- *agreed to support fishery independent data collection for orange roughy using either research voyages or commercial fishing vessels from those nations having both interests and capacities;*
- *agreed to support convening a workshop on survey design, best practice, and validation techniques to develop a SPRFMO standard to collect these types of data, based on existing AUS/NZ standards;*
- *noted that this type of data collection may apply to other deepwater species such as alfonsino, as well as pelagic species such as jack mackerel,²³*
- *agreed that a more prescriptive bottom fishing CMM for all members may be easier to implement and control, more consistent, and more likely to work effectively, compared with a high-level CMM under which members can choose how to give effect to the CMM's requirements;*
- *noted that a single, prescriptive measure may not be possible across both western and eastern parts of the SPRFMO Area given that Chile has a historical footprint as well as Australia, New Zealand and Korea.*
- *noted that it may not be possible to develop a prescriptive bottom fishing measure for the western part of the SPRFMO Area in time for proposals to SC-05 and the 2018 Commission meeting; and*
- *noted that Australia and New Zealand will continue to work together to make progress on proposals for a revised bottom fishing measure for the consideration of SC-05.²⁴*

A crucial conclusion was for the recommendation for a more prescriptive bottom fishing CMM for all members rather than a high-level CMM under which members can choose how to give effect to the CMM's requirements. This is clearly correct, and consistent with the UNGA resolutions and the UNGA bottom fishing review. At the 3rd SC, the High Seas Fishing Group (HSFG) had suggested that spatial management could set aside the need of the current conservation measures such as the move-on rule. DSCC continues²⁵ to emphasise that spatial management is not a replacement for the move-on rule and that further investigations must be carried out to identify VMEs.

In addition, DSCC observes that paragraph 8(h), which allows a Member or CNCP to exclude part of its bottom fishing footprint from the application of subparagraph (g) by dividing its footprint into areas open to bottom fishing, areas closed to bottom fishing and areas to which sub-paragraph (g) would apply, needs to be modified to be consistent with the UNGA resolutions. This exception, made to accommodate the New Zealand fishing industry, is far past its used-by date. Any areas open to bottom fishing should only be open after an impact assessment has been done and determined that bottom fishing will be managed to prevent significant adverse impacts on VMEs in the area covered by the assessment. Conservation measures, including a move-on rule, should apply to all areas open to bottom fishing.

Additional needs are that:

- The measure needs to be modified to specifically address the potential impacts of midwater trawling for benthic-pelagic species on VMEs.²⁶
- The advice of the SC needs to be assessed against the commitment to take specific actions in the UNGA resolutions and the FAO Guidelines. There is

no ‘trade-off’ between protecting the environment and fishing. The UNGA over the last 10 years has committed all high seas fishing nations to take a set out measures to prevent significant adverse impacts (SAIs) on VMEs.²⁷ If this is not done, flag States and RFMOs are “not to authorize bottom fishing activities until such measures have been adopted and implemented”.²⁸

- The bottom fishing footprint should be redrawn to correspond to areas where bottom fishing has actually occurred during the appropriate reference period and eliminate the large areas within the current footprint which allow bottom fishing to occur in areas that have not previously been impacted. It has now become clear that large areas of previously unfished seamounts and other areas of the seabed are located within the ‘footprint’. New Zealand reported already in 2009 that its vessels were finding – and bottom trawl fishing on – previously unfished features (e.g. seamounts, hills, knolls, rises) within areas of the footprint classified as having been “heavily” fished in the past, and that “much of the successful fishing effort was targeted at these new areas” within the footprint.²⁹ The rationale behind drawing a footprint is to confine bottom to areas already impacted, the assumption being that in the most heavily fished areas in the past “given the existing evidence about the substantial impact of bottom trawling, it is likely that most pre-existing VMEs in these areas have already been significantly impacted.”³⁰ But it is now clear that vessels have been fishing primarily on seamounts and in other areas within the ‘footprint’ where bottom trawling has not previously taken place.³¹
- The distribution of VMEs within the footprint need to be mapped. Updated impact assessments need to be carried out, consistent with the FAO Guidelines, for bottom fishing within the footprint, including the mapping of all areas within the footprint for VMEs, and it needs to be determined whether bottom trawling can be managed to prevent significant adverse impacts on VMEs where they are known or likely to occur. New Zealand’s updated impact assessment is overdue.³² Australia’s impact assessment was last carried out in 2010.
- UNGA resolution 71/123 (2016) considered marine scientific research³³ as important for identifying VMEs and listed various techniques including cameras. Towed cameras as well as cameras on UAVs are increasingly being shown as effective and viable methods and should be encouraged.
- A SPRFMO-wide move-on rule in the SPRFMO area should be established and consistently applied to vessels from all flag States fishing in the region, apply to all areas where vessels are permitted to bottom fish, and require the immediate temporary closure of an area for all vessels where a VME encounter occurs. The closure should remain in effect indefinitely unless a subsequent scientific assessment of the area by the SC determines that either VMEs do not occur in the area or SAIs will not occur as a result of reopening the area to one or more methods of bottom fishing. Consistent encounter protocols should be designed and implemented to ensure effective implementation of thresholds and move-on rules, as was called for in resolution 71/123 (2016).

- DSCC reminds SPRFMO that it is not able to authorize bottom fishing to proceed in a manner consistent with UNGA resolutions because the scientific basis for being able to do so is not yet in place in regard to stock assessments and assessments of impacts on bycatch species and VMEs. Paragraph 120 of resolution 64/72 calls on States on RFMOs and not to authorize bottom fishing activities until such measures have been adopted and implemented.

DSCC recommends that in the review of CMM 4-03:

- *The Commission instructs SC-5 to:*
 - *Modify the measure to specifically address the potential impacts of midwater trawling for benthic-pelagic species on VMEs;*
 - *Redraw the bottom fishing footprint to correspond to areas where bottom fishing has actually occurred over the past several years;*
 - *Initiate a program of marine scientific research according to resolution 71/123;*
 - *Initiate a program to map the distribution of VMEs within the footprint, using the full set of criteria in the FAO Guidelines to identify where VMEs occur or are likely to occur, as well as for assessing significant adverse impacts (SAIs);*
 - *Take into account impacts other than from bottom fishing, including from ocean acidification and climate change, in establishing measures to protect VMEs;*
 - *Design a SPRFMO-wide move-on rule in the SPRFMO area to be established and consistently applied to vessels from all flag States fishing in the region, apply to all areas where vessels are permitted to bottom fish, and require the immediate temporary closure of an area for all vessels where a VME encounter occurs pending an assessment by the Scientific Committee that either VMEs do not occur in the area or SAIs will not occur as a result of reopening the area to one or more methods of bottom fishing. Consistent encounter protocols should be designed and implemented to ensure the effective implementation of thresholds and move-on rules, including incorporation of cameras to identify VMEs.*
- *Call on all countries carrying out bottom fishing to update their impact assessments.*

Ecologically or Biologically Sensitive Areas (EBSAs)

One of the items in the 2016 Work Program³⁴ was to update data available and evaluate the impact of fishing activities on VMEs and EBSAs in the Convention Area and evaluate appropriate spatial management options. A number of EBSAs have been identified within the SPRFMO Convention Area.³⁵ VMEs and EBSAs are the product of different processes, and occur at different scales. The EBSA work is separate but is not in any way inconsistent with the protection of VMEs. The VME work is a product of the UNGA resolutions, particularly resolution 61/105 (2006) and 64/72 (2009), and the FAO Guidelines, and is central to the management of deep-sea bottom fishing. The EBSA work, on the other hand, is being carried out³⁶ under the auspices of the CBD,³⁷ and is focused on identifying areas as a scientific and technical exercise.³⁸

International governance steps responsive to the identified EBSAs, such as designating some EBSAs as marine protected areas (MPAs), have yet to be determined. It is important that SPRFMO carries on its work in identifying and protecting VMEs, as well as to determine its response to identified EBSAs.

At the third SC meeting, the Secretariat introduced information received from the Secretariat of the Convention on Biological Diversity (CBD) regarding five areas within the Convention Area that meet the CBD criteria for EBSAs. The SC considered whether it might address these areas through spatial management. Chile has taken action and established MPAs that include part of some identified EBSAs.

DSCC Recommendation: The Commission should put into place a process to study the identified EBSAs and consider appropriate management responses, including marine protected areas. To this end, the Commission in its roadmap should make a specific request to the SC to assess the EBSAs in the Commission Area and make recommendations.

¹ UNGA Resolution 64/72 (2009) paragraph 119(a): Conduct the assessments called for in paragraph 83 (a) of its resolution 61/105, consistent with the Guidelines, and to ensure that vessels do not engage in bottom fishing until such assessments have been carried out.

² UNGA resolution 64/72 paragraph 120: "Calls upon flag States, members of regional fisheries management organizations or arrangements with the competence to regulate bottom fisheries and States participating in negotiations to establish such organizations or arrangements to adopt and implement measures in accordance with paragraphs 83, 85 and 86 of its resolution 61/105, paragraph 119 of the present resolution, and international law, and consistent with the Guidelines, and not to authorize bottom fishing activities until such measures have been adopted and implemented."

³ A/RES/66/68 - Sustainable fisheries, including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related instruments (to be issued).

⁴ At <http://www.un.org/Docs/journal/asp/ws.asp?m=A/RES/61/105>.

⁵ FAO, International Guidelines for the Management of Deep-Sea Fisheries in the High Seas (2009). At <http://www.fao.org/docrep/011/i0816t/i0816t00.htm>.

⁶ The last impact assessment of New Zealand was for the 2008-2009 period and for Australia, the 2009-2010 period. Both impact assessments were carried out over 5 years ago, while bottom trawling has continued during that time, and New Zealand's was carried out before the 2009 UNGA resolution 64/72.

⁷ UNGA resolution 71/123 para. 55.

⁸ UNGA resolution 71/123 para. 180.

⁹ FAO Deep Sea Guidelines (2009) 47. Flag States and RFMO/As should conduct assessments to establish if deep-sea fishing activities are likely to produce significant adverse impacts in a given area. Such an impact assessment should address, inter alia:

- i. type(s) of fishing conducted or contemplated, including vessels and gear types, fishing areas, target and potential bycatch species, fishing effort levels and duration of fishing (harvesting plan);
- ii. 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;
- iii. identification, description and mapping of VMEs known or likely to occur in the fishing area;
- iv. data and methods used to identify, describe and assess the impacts of the activity, the identification of gaps in knowledge, and an evaluation of uncertainties in the information presented in the assessment;
- v. 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;
- vi. risk assessment of likely impacts by the fishing operations to determine which impacts are likely to be significant adverse impacts, particularly impacts on VMEs and low-productivity fishery resources; and
- vii. the proposed mitigation and management measures to be used to prevent significant adverse impacts 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.

¹⁰ UNGA resolution 71/123 para. 181.

¹¹ UNGA resolution 71/123 para. 182.

¹² UNGA resolution 71/123 para. 183.

¹³ UNGA resolution 71/123 para. 184.

¹⁴ UNGA resolution 71/123 para. 185.

¹⁵ UNGA resolution 71/123 para. 186.

¹⁶ Para. 27. This CMM shall apply until the close of the annual Commission meeting in 2017 unless determined otherwise by the Commission. It shall be reviewed at the regular meeting of the Commission in 2017. Such review shall take into account, inter alia, the latest advice of the Scientific Committee, including with respect to appropriate catch levels for principal target species and/or appropriate reference periods, in accordance with the objectives described in paragraph 1 of this CMM.

¹⁷ A fine scale spatially disaggregated CPUE analysis has been applied to areas to the east of New Zealand, on the Louisville Ridge. "Estimated median stock for these four stocks ranged from 0.23 of K to 0.44 of K with relatively wide confidence limits" SPRFMO Scientific Committee, Report of the Third Scientific Committee, August 2015 pg 7. Attempts to model stocks on the Lorde Howe Rise and Northwest Challenger Plateau have not been completely successful and biomass estimates were very poorly constrained. SPRFMO Scientific Committee, Report of the Third Scientific Committee, August 2015 pg 7. There are a preliminary estimated of initial biomass, productivity and stock status for four of the six orange roughy sub-stocks. There are concerns over the confidence that can be placed in the CPUE modeling generally. SPRFMO Scientific Committee, Report of the Third Scientific Committee, August 2015 pg 7. The SC noted the scarce data that was available for stock assessment. Biomass indices in the SPRFMO area are almost entirely restricted to CPUE low information modeling and thus subject to large variables in outcome. SC03 at 17.

¹⁸ SC-4 page 12.

¹⁹ The 2010 [Fish Stocks Review Conference](#) recommended precautionary target and limit reference points, provisional reference points when information low; determine actions to be taken if they are exceeded (para 3). The 2016 resumed Review Conference recommended the:

Determination of reference points or provisional reference points for specific stocks

Apply the guidelines in annex II to the Agreement and:

(i) Determine, on the basis of the best scientific information available, precautionary target and limit reference points for specific stocks and provisional reference points when information for a fishery is poor or absent, in accordance with the precautionary approach, with a view to maintaining or restoring populations of harvested species at levels that can produce maximum sustainable yield, as qualified by relevant environmental and economic factors;

(ii) Determine actions to be taken if they are exceeded; and develop and implement fishery management strategies that have a high probability of ensuring that agreed stock-specific reference points are not breached;

(iii) Improve data collection and information-sharing in connection with the recovery of fish stocks.

[Report of the resumed Review Conference on the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, Prepared by the President of the Conference \(A/CONF.210/2016/5\)](#), 1 August 2016. At <http://undocs.org/A/CONF.210/2016/5 .Annex>, Annex, para 3.

²⁰ SC-4 pages 12-13.

²¹ UNGA resolution 71/123 para. 186.

²² SC-4 Report, page 13.

²³ SC-4 Report, pages 13-14.

²⁴ SC-4 Report, page 14.

²⁵ See SC-4 report page 14: “DSCC underlined the difference between existing Australian and New Zealand move-on rules, identifying strengths and short-comings in both. The discussion covered a number of topics including differing approaches amongst Contracting Parties to open and closed areas and the move-on rule. The pros and cons of the different approaches to the move-on rule were discussed at some length. DSCC considered that the move-on rule should be applied consistently to all vessels and that area from which vessels had been required to move-on should not be re-opened until the SC has determined that re-opening did not pose a threat to VMEs. Considering that the footprint might still expand within blocks, DSCC recommends applying move on rule throughout all areas opened to fishing.”

²⁶ SC-4 report page 14.

²⁷ For example, the SC stated that: “The question of which areas to open and close to fishing would be best re-examined when considering the spatial management approach and the trade-off between environmental protection of VMEs and access by fisheries”. SC-2 report, page 13. The Commission should be aware that this statement is erroneous and beyond the remit of the SC. It is not a matter of the application of scientific criteria to “trade-off” of environmental protection of VMEs and access by fisheries. There is no such “trade-off” to prevent significant adverse impacts on VMEs envisaged in the UNGA resolutions nor in the FAO Guidelines.

²⁸ UNGA resolution 64/72 (2009), paragraph 120.

²⁹ New Zealand, Ministry of Fisheries. (2009). Bottom fishery impact assessment: Bottom fishing activities by New Zealand vessels fishing in the high seas in the SPRFMO Area during 2008 and 2009, p. 73

³⁰ NZ impact assessment 2009.

³¹ In a 2013 review of the Australian and New Zealand footprints in the SPRFMO area, Andrew Penny provided estimates of the extent unfished areas located within the footprint, noting that “estimates of the ‘fished area’ generated using any mapping resolution other than actual trawl tracks substantially exaggerate the areas within the footprints that have been impacted, with inclusion of substantial unfished areas within these ‘fished footprint’ maps”. He concluded that some 95% to 96% of a footprint mapped using 20-minute degree blocks, as SPRFMO has done, would not have been previously fished. Penny, A. (2013). *Spatial analysis of Australian and New Zealand historical bottom trawl fishing effort in the Convention Area of the SPRFMO* (SPRFMO Doc. SC-01-20), p. 1. He went on to state that predictive habitat modelling studies indicated that there would be a “high probability of

occurrence of vulnerable scleractinian corals and octocorals in unfished areas contained within the ‘fished footprint’” and that under UNGA resolutions, the expectation would be that VMEs occurring within ‘previously fished’ areas will be protected from significant adverse impacts, necessitating measures to protect these VMEs “irrespective of whether they occur within or outside ‘previously fished areas’”

³² ‘New Zealand Bottom Fishing Activities by New Zealand Vessels Fishing in the High Seas in the SPRFMO Area during 2008 and 2009’ available at <http://www.fish.govt.nz/NR/rdonlyres/344F062B-5331-481B-ADD7-FBF244566A96/0/NewZealandBottomFisheryImpactAssessmentv11cDec20082small.pdf> carried out an assessment of impact on benthic species for the year 2008-2009, in that report New Zealand set out that it intends to carry out a similar assessment in 2010 when “it will review its implementation of the interim measures in 2010 more fully.” Page 4.

³³ 181. Recognizes that different types of marine scientific research, such as, inter alia, seabed mapping, mapping of vulnerable marine ecosystems based on information from the fishing fleet, on-site camera observations from remote vehicles, benthic ecosystem modelling, comparative benthic studies and predictive modelling have resulted in identification of areas where vulnerable marine ecosystems are known or are likely to occur and in the adoption of conservation and management measures to prevent significant adverse impacts on such ecosystems, including the closure of areas to bottom fishing in accordance with paragraph 119 (b) of resolution 64/72;

182. Encourages, in this regard, States, regional fisheries management organizations and arrangements with the competence to manage bottom fisheries, and States participating in negotiations to establish such organizations or arrangements, to consider the results available from different types of marine scientific research, including, as appropriate, those listed in paragraph 181 above, concerning the identification of areas containing vulnerable marine ecosystems, and to adopt conservation and management measures to prevent significant adverse impacts from bottom fishing on such ecosystems, consistent with the Guidelines, or to close such areas to bottom fishing until such conservation and management measures are adopted, as well as to continue to undertake further marine scientific research, for the above-mentioned purposes, in accordance with international law, as reflected in Part XIII of the Convention;

³⁴ Annex D, Scientific Committee Work Plan for 2016.

³⁵ <http://www.cbd.int/ebsa/ebsas>

³⁶ See overview by IDDRI, "Ecologically or biologically significant marine areas (EBSAs): the identification process under the Convention on Biological Diversity (CBD) and possible ways forward. At http://www.iddri.org/Publications/Collections/Idees-pour-le-debat/WP1712_ED_EBSAs.pdf.

³⁷ See CBD Decision XI/17 (2012). Marine and coastal biodiversity: Ecologically or biologically significant marine areas. At <http://www.cbd.int/cop/cop-11/doc/2012-10-24-advanced-unedited-cop-11-decisions-en.pdf>.

³⁸ CBD Decision XI/17: "6. Noting that, in accordance with decision X/29, the application of the scientific criteria for ecologically or biologically significant marine areas is a scientific and technical exercise and emphasizing that the identification of ecologically or biologically significant marine areas and the selection of conservation and management measures is a matter for States and competent intergovernmental organizations, in accordance with international law, including the United Nations Convention on the Law of the Sea, as stated in paragraph 26 of decision X/29"