



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

Auckland 2-6 February, 2015

INTRODUCTION AND SUMMARY

The Deep Sea Conservation Coalition (DSCC) respectfully submits this briefing for the Third Meeting of the Commission of the South Pacific RFMO (SPRFMO). In summary:

1. The Commission should ensure that States co-operate to ensure that the Scientific Committee (SC) carries out the roadmap tasks specified in Paragraph 5 of CM [2-03](#), including stock assessments of deep-sea fish stocks. The failure of the Commission to manage bottom fisheries to ensure the long-term sustainability of deep-sea fish stocks, including non-target species, is a major shortcoming of SPRFMO's regulation of bottom fisheries to date.
2. As the Commission goes forward, it should ensure that any amendment or replacement of Conservation Measure [2-03](#) will implement and be consistent with United Nations General Assembly (UNGA) [resolution 64/72](#) (2009) paragraphs 119¹ and 120,² and [resolution 66/68](#) (2011),³ as well as [resolution 61/105](#)⁴ (2006) and the 2008 United Nations Food and Agriculture Organisation (FAO) [Deep Sea Fishing Guidelines](#).⁵ This includes ensuring the sustainability of deep-sea stocks and non-target species.
3. The 2nd Scientific Committee meeting [report](#) must be read in this light. The Scientific Committee should also be instructed to provide clear information on where vulnerable marine ecosystems (VMEs) are known or likely to occur so as to allow the Commission to act to effectively implement the UNGA resolutions and SPRFMO measure. The UNGA confirmed in its sustainable fisheries resolution that it will conduct a review of the implementation of the bottom fishing resolutions 61/105, 64/72 and 66/68 in the second half of 2016.⁶
4. DSCC recommends that the 3rd Scientific Committee be tasked with developing recommendations on the protection of ecologically or biologically sensitive areas (EBSAs) in the SPRFMO area.

The urgency of these matters is underlined in a very recent *Science* [report](#),⁷ as noted in a front page New York Times [article](#) on 16 January 2015, which found that bottom trawlers have already affected 20 million square miles of ocean, turning parts of the continental shelf to rubble.

The Bottom Fishing Measure

The Conservation Measure [2-03](#) requires some amendments to be consistent with the relevant UNGA resolutions and FAO Deep Sea Guidelines.

The objective of CM 2-03 to *promote* (rather than ensure) the sustainable management of bottom fisheries including target fish stocks as well as non-target species taken as bycatch is inadequate in expression and currently in implementation. This is a key objective established in the UNGA resolutions and the practical actions states are committed to take to meet this objective are spelled out in considerable detail in UNGA resolution 64/72 paragraph 119(d) (such as stock assessments and rebuilding plans)⁸ and the International Guidelines for the Management of Deep-Sea Fisheries in the High Seas (FAO Guidelines). These in turn reflect fundamental and detailed obligations under international law for the management of fisheries established in Articles 5 & 6 of the UN Fish Stocks Agreement.

In practical terms, CM 2-03 only requires States to (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 measure falls far short of the commitment to take the measures outlined in paragraph 119(d) of UNGA resolution 64/72 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.

Secondly, 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. 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.

Thirdly, the measure needs to ensure that catches of target and non-target stocks of fish are sustainable, and this requires stock assessments,⁹ as called for in paragraph 5 of SC-3. In turn, this will require that the SC advises and provides recommendations on:

- reference points, including precautionary reference points as described in Annex II of the 1995 Agreement (SPRFMO Convention art. 10.2(b)(i));
- 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 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)).

Fourth, the measure needs to be modified, according to the SC recommendation, to take into account the relative impact on VMEs of different fishing methods and practices, and to specifically address the potential impacts of midwater trawling for benthic-pelagic species on VMEs (SC report page 15).

Fifth, the advice of the SC needs to be assessed against the commitment to take specific actions in the UNGA resolutions and the FAO Guidelines. This is a critical point. For example, in regard to the statement by the SC 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 report, page 13), the Commission should be aware that this statement is both in error and beyond the remit of the SC. This raises the question: what scientific criteria does the SC have in mind to determine the 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.

Sixth, the SC needs to be tasked with providing advice and recommendations on minimizing impacts on by-catch species and preventing significant adverse impacts on low-productivity fish species. The assertion that *“The issue of undertaking assessments of bycatch and non-target species was also briefly discussed by the WG. The WG noted that, with limited resources, it will be important to begin by concentrating on target species, and address the bycatch species at a later date”* (page 14) is not an acceptable basis for continuing to fish in disregard of the now-5 year old 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)). Moreover, 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 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).

The DSCC notes that the SC reported that *“The High Seas Fisheries Group (HSFG) proposed that spatial management of deepwater fisheries should consist exclusively of open and closed areas, arguing that this would provide more effective protection of fragile benthos than the present open, closed and ‘move-on’ approach.”* While this may be the HSFG’s view, it is not the position adopted by the UNGA nor is this approach reflected in the FAO Guidelines.

Accordingly, the SC recommendation that *“The SC therefore recommends that the Commission implements a spatial management approach for these fisheries in order to appropriately protect VMEs while enabling viable fisheries to operate”* is an assertion that needs to be consistent with the obligations under the SPRFMO bottom fisheries regulations, the UNGA resolutions, and international law.

In this regard, the spatial management approach is clearly spelled out in the UNGA resolutions and the FAO Guidelines:

1. closing areas where VMEs are known or likely to occur on the basis of the best scientific information available unless bottom fisheries in such areas can be (and are) managed to prevent significant adverse impacts (SAIs) on VMEs; and

2. only permitting bottom fishing to take place in an area after conducting a prior impact assessment to determine whether SAIs would occur and any mitigation measures needed, including closures, within the area to ensure that SAIs on VMEs would be prevented.

As a complement to these two key requirements, a move-on rule should be established to cover those cases where encounters with VMEs occur in spite of the efforts of States and RFMOs to close areas where VMEs are likely to occur and to conduct impact assessments. However, as the DSCC has noted in previous submissions, a move-on rule, to be effective, must be rigorous and should only be used as a complement to, not as a substitute for, area closures and impact assessments, recognizing, as noted by the Joint NAFO/ICES Working Group on Deep-Sea Ecology, that *“Reactionary management strategies such as the “encounter clauses” and “move-on rules” are of limited benefit to prevent significant adverse impacts because they still allow damage to occur which will gradually degrade ecosystems over time”*.¹⁰

The above recommendations are those the DSCC views as necessary to bring the work of the SC and the regulations adopted by SPRFMO into compliance with the UNGA resolutions. There can be no doubt that if SPRFMO were to adopt a measure inconsistent with the UNGA resolutions, the 2016 UNGA review which would occur in the same year would call for the SPRFMO to adopt a consistent measure.

The Scientific Committee

Work Programme

CM 2-03 set out a work programme in paragraph 5 to be carried out by the next meeting of the Scientific Committee. This Commission should urge States to cooperate to ensure that all tasks are carried out in time, particularly including stock assessments.

1. To assist in the review of this CMM, including inter alia, the development of spatial management arrangements and sustainable catch levels, the Commission requests the Scientific Committee, by no later than the third meeting of the Scientific Committee in 2015, to:
 - a. undertake an assessment of the likely impact of specific gear types, particularly trawl, on VMEs, to further inform the definition of bottom fishing;
 - b. 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;
 - c. develop and provide advice and recommendations to the Commission on criteria for what constitutes evidence of an encounter with a VME, in particular threshold levels and indicator species;
 - d. develop and provide advice and recommendations to the Commission on the most appropriate response to a VME encounter, including inter alia closing particular areas to a particular gear type or types;
 - e. review and streamline the SPRFMO Bottom Fishery Impact Assessment Standard (SPRFMO BFIAS) agreed by the Scientific Working Group in 2011 to take account of the latest scientific information available;
 - f. provide advice on the appropriate spatial resolution and time period for footprint mapping; and
 - g. develop maps of VME distribution in the Convention Area.

All these matters need to be progressed as a matter of urgency, and the Commission should task the SC to do so. This may mean extra time needs to be allocated to SC to undertake its tasks.

Ecologically or Biologically Sensitive Areas (EBSAs)

SC-2 in its report suggested that the Commission considers declarations of EBSAs carefully. It stated that, the South Louisville Ridge has been proposed as an EBSA; however, with appropriate spatial and monitoring and management, such declarations may be unnecessary. However, as SC-2 itself noted, EBSA regional workshops result in proposals which identify EBSAs through the CBD process. It is not accurate to speak of a declaration of an EBSA. It is a matter for States and regional organisations, such as SPRFMO, to consider any conservation and management measures that may be required to protect the values for which each EBSA was identified. This may be alongside VME identification and protection efforts (where the EBSA relates to

fragile benthic communities) or it may be through other measures, such as addressing bycatch mitigation.

A number of EBSAs have been identified within the SPRFMO Convention Area.¹¹ The SC noted the need for the Commission to implement appropriate and precautionary measures to protect vulnerable elements of the ecosystem. This is welcome, although DSCC notes that protection of EBSAs should not be confused with protection of VMEs. The SC recommended that the Commission:

- remains aware of EBSAs within the Convention Area and of the factors that led to their definition; and
- addresses any conservation needs for EBSAs through the normal process of developing Conservation and Management Measures (CMMs) for the fisheries.

DSCC then submits that SPRFMO needs to progress this recommendation, including with respect to the Louisville Ridge area, and DSCC suggests that the 3rd Scientific Committee be tasked with developing recommendations on the protection of EBSAs in the SPRFMO area.

We recall that the report¹² of the first Scientific Committee Meeting which met at La Jolla in October noted that “[p]articipants recognised the need for greater coordination between these parallel processes to identify and protect EBSAs and VMEs in the SPRFMO Area. In particular, there is a requirement for greater coordination between spatial management planning processes that might result under the CBD and SPRFMO in response to identification of EBSAs and VMEs.” DSCC welcomes these comments

The DSCC observes that VMEs and EBSAs are the product of different processes, and occur at different scales. The EBSA work is not, however, 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 is being carried out¹³ under the auspices of the CBD,¹⁴ and is focused on identifying areas as a scientific and technical exercise.¹⁵ The last meeting was held in Ecuador in August 2012 to identify regional EBSAs.¹⁶

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.

The Move-on Rule

Following Andrew Penney’s review of paper SC-01-09, the Scientific Committee (SC) endorsed the characteristics of effective move-on rules, including that:

- Lists of regionally specific VME indicator taxa should be identified for each fishery, using all available information on species occurrence and retention by fishing gears.
- VME taxa should be specified at a level that facilitates rapid and accurate onboard visual identification by trained observers.
- Encounter thresholds indicating evidence of a VME should be based on analyses of historical bycatch data, taking account of the different

retention rates of species by each gear type. Multiple species can be used to indicate higher biodiversity.

- Once evidence of a VME is encountered using an agreed protocol, move-on areas should be closed to fishing by all demersal fishing vessels until further analysis or evidence indicates that area does not contain VMEs.
- Move-on distances and area closures should encompass the area covered by typical fishing operations using that gear type.

The SC also observed that move-on rules should be considered to be temporary measures, providing precautionary protection for areas showing evidence of VMEs until objectively planned spatial closures can be implemented to protect known and highly biodiverse VME areas. DSCC notes that instead, the move-on rule provides reactionary, rather than precautionary, protection, and that the arrangement of move-on rules with closures until there is an assessment is the arrangement for protecting VMEs applied areas managed by CCAMLR.

The UNGA in 2009 had paid particular attention to encounter protocols, including definitions of what constitutes evidence of an encounter with a VME, in particular threshold levels and indicator species, based on the best available scientific information and consistent with the FAO Guidelines.¹⁷ The resolution, in paragraph 119(c) calls on States to develop move-on rules on the basis of prior impact assessments - to minimize the possibility that encounters or damage will occur to VMEs as a result of bottom fishing in an area (e.g. existing fishing areas).¹⁸

The Footprint

The SC concluded after reviewing paper SC-01-20¹⁹ that:

- Alternative periods and mapping resolutions both have a substantial effect on effort maps and fished area estimates for demersal trawl fisheries in the SPRFMO Convention Area.
- Estimates of 'fished area' generated using any mapping resolution other than actual trawl tracks substantially exaggerate the areas within footprints that have actually been impacted: 86% to 91% of a footprint mapped using 6-minute blocks is actually unfished (i.e., 9-14% of the footprint area fished) and 95% to 96% of a footprint mapped using 20-minute blocks is unfished (i.e., 4-5% of the footprint area fished).

The DSCC suggests that the footprint be revised using an approach that identifies the footprint more precisely - on a tow by tow basis as opposed to the 20 minutes latitude by 20 minutes longitude formula originally adopted in 2007. VMS data should allow for this, particularly over the past several years.²⁰

Overall Observations

The DSCC emphasises that it is essential that SPRFMO responds to the UNGA resolutions, particularly to ensure that prior environmental impact assessments are carried out before bottom fishing, in particular bottom trawling is permitted and to ensure that vessels do not engage in bottom fishing until such assessments have been carried out and that the long-term sustainability of the deep-sea fish stocks, whether taken as targeted catch or bycatch, is ensured, including through stock assessments and catch limits,²¹ consistent with the precautionary approach.

DSCC reminds members that the sustainability of deep-sea target and bycatch species is a critical component of the UNGA resolutions as well as a fundamental requirement of the UN Fish Stocks Agreement.

New and Exploratory Fisheries

The 2007 Interim Measures state that:

"3. Starting in 2010, before opening new regions of the Area or expanding fishing effort or catch beyond existing levels, establish conservation and management measures to prevent significant adverse impacts on vulnerable marine ecosystems and the long-term sustainability of deep sea fish stocks from individual bottom fishing activities or determine that such activities will not have adverse impacts, based on an assessment undertaken in accordance with paragraphs 11 and 12 below."

SPRFMO needs to transpose the interim measure into SPRFMO measures, including taking into account the additional provisions adopted by the UNGA in resolutions 64/72 (2009) and 66/68 (2011). For new and exploratory fishing, any revised measures must ensure that no fishing is undertaken until compliant impact assessments have been carried out²² and compliant measures have been adopted.²³ They must also comply with UNGA resolution 66/68, which called on States to:

- a) strengthen procedures both for carrying out assessments to take into account **individual, collective and cumulative impacts**, and for **making the assessments publicly available**, recognizing that doing so can support transparency and capacity building globally;
- b) establish and improve procedures to ensure that **assessments are updated** when new conditions or information so require;
- c) establish and improve procedures for **evaluating, reviewing and revising, on a regular basis, assessments** based on best available science and management measures; and
- d) establish mechanisms to **promote and enhance compliance with applicable measures** related to the protection of vulnerable marine ecosystems, adopted in accordance with international law.²⁴

To conclude, in practical terms, in order to be consistent with the UNGA resolutions, the best scientific information available and the precautionary approach the impact assessments must:

- be made public,
- take into account individual and collective impacts, as well as cumulative impacts,
- be updated when new conditions or information requires,
- be regularly evaluated, reviewed and revised, based on the best available science and management measures, and

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- be required prior to the commencement of any exploratory fisheries
- be fully consistent with, and operationalize, the UN FAO Guidelines, in particular paragraphs 47, 42, and 16-20 of the Guidelines.

Appendix

Background and Brief History of High Seas Bottom Fisheries and the United Nations General Assembly Resolutions

In 2006, in response to widespread concern at the impacts of high seas bottom trawling, the UNGA adopted a 'compromise' package, offered by nations whose vessels deep-sea fish on the high seas, in UNGA Resolution 61/105. This was adopted by consensus in December 2006. Resolution 61/105 committed nations that authorise their vessels to engage in bottom fisheries on the high seas to take a series of actions set out in Paragraph 83 of the resolution. The main action points were to:

1. Conduct **impact assessments** to determine whether bottom fishing activities would have significant adverse impacts on VMEs;
2. Ensure that, if fishing activities have significant adverse impacts, they are **managed to prevent such impacts**, or else prohibited;
3. **Close areas** of the high seas to bottom fishing where VMEs such as cold-water corals are known or likely to occur, unless fishing in these areas can be managed to prevent significant adverse impacts to such ecosystems;
4. Establish and implement protocols to require vessels to cease fishing in areas where an **encounter with VMEs** occurs during fishing activities; and
5. **Sustainably manage** the exploitation of deep-sea fish stocks.

Following this resolution, SPRFMO adopted [interim measures](#)²⁵ in 2007 in Reñaca, Chile. The following year in 2008, a set of [International Guidelines for the Management of Deep-Sea Fisheries in the High Seas](#)²⁶ ('FAO Guidelines') was adopted under the auspices of the UN FAO to further define and agree criteria for the conduct of impact assessments of high seas bottom fisheries, identify VMEs, and then assess whether deep-sea fisheries would have "significant adverse impacts" on VMEs. In 2009, the UNGA determined that Resolution 61/105 had not been implemented sufficiently, and adopted additional provisions in resolution 64/72.²⁷ This resolution made it clear that the measures called for in Resolution 61/105 must be implemented, consistent with the FAO Guidelines prior to authorising bottom fishing on the high seas. States must ensure that vessels do not engage in bottom fishing until assessments have been carried out and, further, **must not authorize bottom fishing activities** until all required measures have been adopted and implemented. Resolution 64/72 further called for stock assessments and conservation measures to ensure **the long-term sustainability of deep-sea fish stocks**, including species impacted by deep-sea fishing which are not of commercial value (so-called non-target or bycatch species), and the rebuilding of depleted fish stocks.

In 2011, the UNGA conducted a [further review](#). The DSCC²⁸ reported to the UNGA that, as a result of the interim measures adopted by SPRFMO participants, substantial and highly valuable information has become available on the bottom fisheries in the SPRMO region. The freeze of the footprint has served to temporarily protect a large area of the South Pacific from significant adverse impacts of bottom fishing. Further, the 100% observer coverage on bottom trawl vessels has helped to provide additional information on the interaction between bottom fishing and VMEs, and the prohibition on bottom gillnet fishing has been a positive development.

However, shortcomings include:

- Impact assessments consistent with the FAO Deep Sea Guidelines had not been done where bottom fishing was permitted to occur;
- The measures adopted by the relevant flag States were not sufficient to ensure that bottom fishing was managed to prevent significant adverse impacts on VMEs, in spite of the application of a move-on rule to some areas; and
- The long-term sustainability of none of the deep-sea fish stocks and species was ensured. New Zealand reported 137 species recorded in the bottom fisheries in the SPRFMO region, of which approximately 22 were considered target species.

Following its September 2011 workshop, the UNGA adopted resolution 66/68, which calls on high seas fishing nations to take stronger actions to protect deep-sea life. It specifically called for strengthening procedures for conducting environmental impact assessments of high seas bottom fisheries. It further calls on States to **publicise** “without delay” the assessments and improve compliance with deep-sea fisheries regulations. The new resolution calls for **more transparency** in RFMOs and for impact assessments to be made public. The DSCC is therefore pleased that the SPRFMO did, prior to this resolution, publish the [New Zealand](#)²⁹ and [Australian](#)³⁰ assessments. However, those assessments need to be amended and brought up to date to comply with the FAO Guidelines. In this regard, DSCC was encouraged by the statement made by the delegation of New Zealand during the UNGA workshop in September 2011 that New Zealand intended to update its impact assessment consistent with the FAO International Guidelines.

This offers an updated means of implementation of the bottom fisheries interim measure:

"6. In respect of areas where vulnerable marine ecosystems are known to occur or are likely to occur based on the best available scientific information, close such areas to bottom fishing unless, based on an assessment undertaken in accordance with paragraphs 11 and 12 below, conservation and management measures have been established to prevent significant adverse impacts on vulnerable marine ecosystems and the long - term sustainability of deep sea fish stocks or it has been determined that such bottom fishing will not have significant adverse impacts on vulnerable marine ecosystems or the long term sustainability of deep sea fish stocks."

Both UNGA resolutions 64/72 (2009) and 66/68 (2011) post-date this interim measure, which needs to be replaced in the light of both resolutions. These resolutions include the calls to update assessments and make assessments publicly available³¹ and to adopt conservation measures for deep-sea fish stocks 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.³²

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 United Nations Resolution A/RES/69/109 - 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. At http://www.un.org/depts/los/general_assembly/general_assembly_resolutions.htm. Para 163.

"Requests the Secretary-General to convene, with full conference services, without prejudice to future arrangements, a two-day workshop in the second half of 2016 in order to discuss implementation of paragraphs 113, 117 and 119 to 124 of resolution 64/72 and paragraphs 121, 126, 129, 130 and 132 to 134 of resolution 66/68, and to invite States, the Food and Agriculture Organization of the United Nations and other relevant specialized agencies, funds and programmes, subregional and regional fisheries management organizations and arrangements, other fisheries bodies, other relevant intergovernmental bodies and relevant non-governmental organizations and relevant stakeholders, in accordance with United Nations practice, to attend the workshop."

⁷ D. J. McCauley *et al.* "Marine defaunation: Animal loss in the global ocean". 347 *Science* (16 January 2015). At <http://www.sciencemag.org/content/347/6219/1255641.figures-only>. See Halpern *et al.* "A Global Map of Human Impact on Marine Ecosystems." *Science* (15 February 2008). At <http://www.sciencemag.org/content/319/5865/948.full>. Les Watling and Elliot Norse, "Disturbance of the Seabed by Mobile Fishing Gear: A Comparison to Forest Clearcutting," 12 *Conservation Biology* 1998 at <http://onlinelibrary.wiley.com/doi/10.1046/j.1523-1739.1998.0120061180.x/abstract> estimated impacts at 150 sq. million km impacted.

⁸ Adopt 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; and, where scientific information is uncertain, unreliable, or inadequate, 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 stock.

⁹ The SC reported that "New Zealand is currently progressing the definition of stock management areas and the assessment of stock status for a number of orange roughy stocks in the SPRFMO Convention Area, and expects to report results at the next meeting of the SC in 2015.

Recent small-scale acoustic surveys of some orange roughy stocks in the SPRFMO Convention Area, as notified to the Secretariat, have been completed. Further planning for such surveys is on-going and the results of these surveys will be used to support stock assessment efforts, all of which will be reported to the SC. " (page 15)

¹⁰ Report of the ICES/NAFO Joint Working Group on Deep-water Ecology (WGDEC), 22–26 March 2010, Copenhagen, Denmark. ICES WGDEC REPORT 2010, ICES ADVISORY COMMITTEE, ICES CM 2010/ACOM:26, International Council for the Exploration of the Sea (ICES).

¹¹ <http://www.cbd.int/ebsa/ebsas>

¹² At <http://www.southpacificrfmo.org/assets/Scientific-Committee-1st-2/Report/SC-01-2013-Report-amended-16-Dec-13-a.pdf>.

¹³ 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.

¹⁴ 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>.

¹⁵ 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"

¹⁶ Eastern Tropical and Temperate Pacific Regional Workshop to Facilitate the Description of Ecologically or Biologically Significant Marine Areas, from 28 to 31 August 2012, in the Galapagos Islands, Ecuador. At <http://www.cbd.int/doc/?meeting=5081>.

¹⁷ UNGA resolution 64/72 para. 119(c)

¹⁸ See DSCC Comments on the Revised Draft Bottom Fishery Impact Assessment Standard SWG-10-DW-03, 17 September 2011. DSCC noted that the threshold quantities should take into account the fact that nets are not designed to retain taxa and that significant amounts of taxa will fall through the net. The proposed method for deriving threshold weights is logically flawed, since it is based on the median of the cumulative distribution of observed bycatch weights. This is not correlated with actual VMEs much less an assessment of the impact on VMEs, and simply relies on a statistical formulation based on past fishing data, as opposed to data on the impact of fishing on VMEs. The exercise is to identify VMEs, not to facilitate a certain amount of fishing. In addition, the threshold should be based on prior assessments, including an assessment of each biogeographic region to identify VMEs and vulnerable fish species, such as sharks, including rare and endemic species. The assessments should use (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" in the (iii) "identification, description and mapping of VMEs known or likely to occur in the fishing area." (From FAO Guidelines para 47).

¹⁹ Spatial analysis of Australian and New Zealand historical bottom trawl fishing effort in the Convention Area of the SPRFMO.

²⁰ For a critique of the SPRFMO approach to defining the footprint see the South Pacific section of the DSCC review in 2011 of the implementation of UNGA resolutions.

²¹ UNGA resolution 64/72 para. 119(d)

²² Following UNGA resolution 64/72 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.

²³ Following 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."

²⁴ Paragraph 129 of UN General Assembly document A/66/L.22 adopted by the General Assembly on 6 December 2011. To be issued as UNGA resolution 66/68 http://www.un.org/ga/search/view_doc.asp?symbol=A/66/L.22. Emphasis added.

²⁵ http://www.southpacificrfmo.org/assets/3rd-Meeting-April-2007-Renaca/PlenaryIII/SPRFMO%20Interim%20Measures_Final.doc .

²⁶ <http://www.fao.org/docrep/011/i0816t/i0816t00.htm>.

²⁷ The key elements of the resolution are contained in paragraphs 119-120.

²⁸ Unfinished Business: A Review of the Implementation of the Provisions of United Nations General Assembly Resolutions 61/105 and 64/72, Related to the Management of Bottom Fisheries in Areas Beyond National Jurisdiction (September 2011). At http://www.savethehighseas.org/publicdocs/DSCC_review11.pdf.

²⁹ SP-7-SWG-DW-01 <http://www.southpacificfmo.org/assets/7th-Meeting-May-2009-Lima/DW-Subgroup-VII/SP-7-SWG-DW-01-New-Zealand-Bottom-Fishery-Impact-Assessment-Posted.pdf>.

³⁰ <http://www.southpacificfmo.org/assets/10th-SWG-and-9th-DIWG-meetings-Vanuatu/SWG-10/SWG-10-DW-01a-Australian-BFIA-Final-Report.pdf>. See DSCC comments at <http://www.southpacificfmo.org/assets/10th-SWG-and-9th-DIWG-meetings-Vanuatu/SWG-10/SWG-10-INF-03-DSCC-Comments-on-Australian-SPRFMO-assessment.pdf>.

³¹ UNGA resolution 66/68 paras 129, 130.

³² UNGA resolution 64/72 para 119 (d).