

Background Information on Approaches to Assessment, Monitoring and Management of Developing or Exploratory Deepwater Fisheries in Other High-Seas Regions

Introduction

One aspect of the draft *SPRFMO Bottom Fishery Impact Assessment Standard* that has not yet received much attention are provisions and requirements specifically relating to the assessment, monitoring and management of exploratory or developing deepwater bottom fisheries in the SPRFMO Area. In contrast, other RFMOs have tended to focus more strongly in their assessment standards or management measures on new fisheries, than on existing fisheries.

In preparation for discussion by the Deepwater Sub-Group of the SPRFMO Scientific Working Group of potential provisions and requirements for exploratory or developing fisheries, for inclusion in the *SPRFMO Bottom Fishery Impact Assessment Standard*, this document summarises information on existing international guidelines for such fisheries, and on approaches adopted by other RFMOs towards such fisheries.

A. FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas

The FAO Deepwater Guidelines are clearly intended to apply to exploratory and developing fisheries, as well as established fisheries:

23. DSFs should be rigorously managed throughout all the stages of their development: experimental, exploratory and established. In recognition of the potential vulnerability of deep-sea resources and their ecosystems, conservation and management measures for DSFs should ensure that, while knowledge is low, harvest rates are kept low enough to minimise risk to sustainability and harvests only increase as knowledge, management capacity and MCS increase.

Paragraph 23 clearly requires a precautionary approach (at least in terms of harvest rates) to fisheries where 'knowledge is low', which is inevitably the case for all exploratory or developing fisheries.

Monitoring and data collection requirements are also clearly intended to apply equally to all stages of fishery development:

32. Data collection programmes developed by States and competent RFMO/As should cover all stages of fishery development and should include, as far as practicable, data on historical stages of

the fishery or on past fisheries in the area. Sufficiently fine-scaled data are required as a basis for the assessment of stock status and impacts on VMEs. In addition, fishery-independent research surveys are encouraged, in particular to provide relevant information on VMEs and how they are affected by anthropogenic activities.

Paragraph 61 of the guidelines clearly requires ‘an appropriate set of rules’ for the opening of new areas to exploratory fishing, implying therefore that areas should not be opened to exploratory fishing until such an appropriate set of rules is in place.

61. A functioning regulatory framework should include an appropriate set of rules and regulations for the management of existing fisheries, as well as for the opening of new areas to exploratory fishing, consistent with these Guidelines and other relevant instruments. Such a framework should also include regulations to protect vulnerable populations, communities and habitats.

That such rules need to be ‘consistent with these guidelines’ confirms that all aspects of the guidelines where no specific distinction is made between established and exploratory or developing fisheries, are intended to apply equally to exploratory and developing fisheries.

Read together with paragraph 61, paragraph 63 indicates that the default approach should be to close previously unfished areas to bottom fishing until a functioning regulatory framework, and the appropriate set of rules to govern opening of new fishing areas, are in place:

63. Until a functioning regulatory framework is developed to prevent significant adverse impacts on VMEs and to ensure the long-term sustainability of DSFs, conservation and management measures should include, at a minimum:

- i. closing of areas to DSFs where VMEs are known or likely to occur, based on the best available scientific and technical information;*
- ii. refraining from expanding the level or spatial extent of effort of vessels involved in DSFs; and*
- iii. reducing the effort in specific fisheries, as necessary, to the nominal levels needed to provide information for assessing the fishery and obtaining relevant habitat and ecosystem information.*

The clearest guidance to implementation of precautionary measures which are particularly required for exploratory fisheries is provided in paragraph 65:

65. Precautionary conservation and management measures, including catch and effort controls, are essential during the exploratory phase of a DSF, and should be a major component of the management of an established DSF. They should include measures to manage the impact of the fishery on low productivity species, non-target species and sensitive habitat features. Implementation of a precautionary approach to sustainable exploitation of DSFs should 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.*

This specifically requires precautionary catch and effort limits, spatial catch limits and comprehensive monitoring of catch, effort and indicators of stock status.

Section 6 of the Guidelines recognises the needs of developing countries (which would be expected to have developing fisheries) with regard to implementation of the provisions of the guidelines. However, this recognition is aimed at encouraging the provision of all necessary assistance to developing countries to implement measures in compliance with the guidelines. Section 6 does not imply or provide for any degree of exemption from any of the guidelines for developing countries.

6 SPECIAL REQUIREMENTS OF DEVELOPING COUNTRIES

84. In the implementation of these Guidelines, States and RFMO/As should fully recognize the special requirements of developing countries, in relation to management of DSFs and the protection of VMEs. To this end States, RFMO/As, the United Nations system, including FAO, the United Nations Development Programme, and other relevant inter-governmental and non-governmental organizations, and financial institutions should assist developing countries in implementing these Guidelines and the actions called for in paragraphs 83-91 of UNGA Resolution 61/105, taking into account the forms of cooperation as set out in Article 5 of the Code, Article 24 and 25 of the 1995 UN Fish Stocks Agreement, and Chapter XI of UNGA Resolution 62/177 concerning capacity building.

85. In implementing these Guidelines, consideration should be given to address the needs of developing countries, including in the specific areas of financial and technical assistance, technology transfer, training and scientific cooperation, particularly in the early stages of the fishery, and in enhancing their ability to develop and manage their own DSFs, as well as to participate in high seas fisheries, including access to such fisheries, in conformity with international law and Article 5 of the Code.

In overview, all aspects of the FAO Deepwater Guidelines are clearly intended to apply to all stages of fishery development, including exploratory, developing and established fisheries. While the Guidelines refer to the need for measures developed under the guidelines to be tailored to the specific characteristics of each deep-sea fishery (paragraph 75), no distinction is made between various stages of fishery development regarding the actual applicability of the guidelines.

B. Measures Adopted for Exploratory or Developing Fisheries by the North East Atlantic Fisheries Commission (NEAFC)

Recommendation XIII: 2009

RECOMMENDATION BY THE NORTH-EAST ATLANTIC FISHERIES COMMISSION IN ACCORDANCE WITH ARTICLE 5 OF THE CONVENTION ON FUTURE MULTILATERAL COOPERATION IN NORTH-EAST ATLANTIC FISHERIES AT ITS ANNUAL MEETING ON 10-14 NOVEMBER 2008 TO ADOPT THE FOLLOWING RECOMMENDATION ON OPERATIONAL PROCEDURES FOR FISHING IN EXISTING AND NEW BOTTOM FISHING AREAS

Pursuant to Article 6 of the NEAFC Recommendation on bottom fishing activities in the NEAFC Regulatory Area, the Commission has adopted the following interim measure:

1. Definition of encounter

An encounter is defined to be, above threshold levels as set out in paragraph 4, with indicator species of coral identified as antipatharians, gorgonians, cerianthid anemone fields, lophelia, and sea pen fields or other VME elements. Any encounter with a VME indicator species or merely detecting the presence of an element itself is not sufficient to identify a VME. That identification should be made on a case-by-case basis through assessment by relevant bodies.

2. Existing bottom fishing areas

2.1 Vessels shall quantify catch of VME indicator species, i.e. coral [and sponge].

2.2 If the quantity of VME elements or indicator species caught in a fishing operation (such as trawl tow or set of a gillnet or longline) is beyond the threshold defined in paragraph 4 below, the following shall apply:

a. The vessel master shall report the incident to the flag state, which without delay shall forward the information to the Secretary. Contracting Parties may if they so wish require their vessels to also report the incident directly to the Secretary. The Secretary shall archive the information and report it to all Contracting Parties. The Contracting Parties shall immediately alert all fishing vessels flying their flag.

b. The vessel master shall cease fishing and move away at least 2 nautical miles from the position that the evidence suggests is closest to the exact encounter location. The master shall use his or her best judgment based on all available sources of information.

c. The Secretary shall make an annual report on single and multiple encounters in discrete areas within existing fishing areas to PECMAS. On the basis of an assessment by ICES, PECMAS shall evaluate on a case-by-case basis the information and provide advice to the Commission on whether a VME exists. The advice shall be based on annually updated assessments from ICES of the accumulated information on encounters and PECMAS's advice on the need for action, using FAO guidelines for management of deep-sea fisheries in the high seas as a basis.

3. New fishing areas

3.1 Vessels shall quantify catch of VME indicator species, i.e. coral and [sponge]. Observers deployed shall identify corals, [sponges] and other organisms to the lowest possible taxonomical level. The

sampling protocol found in Annex 1 of the Recommendation on bottom fishing activities in the NEAFC Regulatory Area shall be used.

3.2 If the quantity of VME element or indicator species caught in a fishing operation (such as trawl tow or set of a gillnet or longline) is beyond the threshold defined in paragraph 4 below, the following shall apply:

a. The vessel master shall report the incident without delay to its flag State, which shall forward the information to the Secretary. Contracting Parties may if they so wish also require their vessels to report the incident directly to the Secretary. The Secretary shall archive the information and without delay transmit it to all Contracting Parties. The Contracting Parties shall issue an immediate alert to all vessels flying their flag.

b. The Secretary shall at the same time request Contracting Parties to implement a temporary closure of two miles radius around the reporting position. The reporting position is that provided by the vessel position that the evidence suggests is closest to the exact encounter location.

c. PECMAS at its next meeting shall examine the temporary closure. If, on the basis of assessment by ICES, PECMAS advises that the area consists of a VME, the Secretary shall request Contracting Parties to maintain the temporary closure until such time that the Commission has acted upon the advice from PECMAS. If the PECMAS evaluation does not conclude that the proposed area is a VME, the Secretary shall inform Contracting Parties which may re-open the area to their vessels.

d. The vessel shall cease fishing and move away at least 2 nautical miles from the position that the evidence suggests is closest to the exact encounter location.. The master shall use his or her best judgment based on all available sources of information.

e. The Secretary shall make an annual report on archived reports from encounters in new fishing areas to PECMAS. This report shall also include reports from the exploratory fishing activities that were conducted in the last year. ICES shall assess the reports and PECMAS shall evaluate the information and provide advice to the Commission on the appropriateness of temporary closures and other measures. The advice should be based on annually updated assessments of the accumulated information on encounters as well as other scientific information. The PECMAS advice should reflect provisions outlined in the FAO guidelines for management of deep-sea fisheries in the high seas.

4. Threshold levels

For both existing and new fishing areas, an encounter with primary VME indicator species is defined as a catch per set (e.g. trawl tow, longline set, or gillnet set) of more than 100 kg of live coral [and/or 1000 kg of live sponge]. These thresholds are set on a provisional basis and may be adjusted as experience is gained in the application of this measure

For a map of new and existing fisheries areas in the NEAFC Regulatory Area, please see the following page.

Fig. 1. Overview of the data. brown = russian data, all gears, black= icelandic data, all gears; blue = main effort, based on VMS data 2005-2007). Note that data from the Barents Sea area are excluded from the figure. Also note that VMS data from the northern Reykjanes Ridge area are excluded.

Recommendation XVI: 2008

RECOMMENDATION BY THE NORTH-EAST ATLANTIC FISHERIES COMMISSION IN ACCORDANCE WITH ARTICLE 5 OF THE CONVENTION ON FUTURE MULTILATERAL COOPERATION IN NORTH-EAST ATLANTIC FISHERIES AT ITS EXTRAORDINARY MEETING ON 1-2 JULY 2008 TO ADOPT THE FOLLOWING RECOMMENDATION ON BOTTOM FISHING ACTIVITIES IN THE NEAFC REGULATORY AREA

Article 1: Use of terms

1. The term 'bottom fishing activities' means bottom fishing activities where the fishing gear is likely to contact the seafloor during the normal course of fishing operations.
2. The term "existing bottom fishing areas" initially means areas where VMS data and/or other available geo-reference data indicating bottom fishing activities have been conducted at least in two years within a reference period of 1987 to 2007. This shall be revised regularly in accordance with Article 3.4.
3. The term "new bottom fishing areas" means all other areas within the Regulatory Area which are not defined as existing bottom fishing areas.

Article 4: Bottom fishing activities in new bottom fishing areas

1. From 1 January 2009, all bottom fishing activities in new bottom fishing areas or with bottom gear not previously used in the area concerned, shall be considered as exploratory fisheries and shall be conducted in accordance with an Exploratory Bottom Fisheries Protocol to be adopted by the Commission as soon as possible. Until such a protocol is adopted the interim protocol set out in Annex 1 shall apply.
2. The exploratory bottom fishing activities shall be subject to the assessment procedure set forth in Article 5, with the understanding that particular care shall be taken in the evaluation of risks of the significant adverse impact on vulnerable marine ecosystems, in line with the precautionary approach.
3. Contracting Parties shall communicate the required information under the exploratory fisheries protocol referred to in paragraph 1 to the Secretary for forwarding to Permanent Committee on Management and Science (PECMAS) and to all Contracting Parties, together with the information or preliminary impact assessment referred to in Article 5, paragraph 3 (i), below.
4. Contracting Parties shall provide promptly a report of the results of such activities to the Secretary for circulation to all Contracting Parties.
5. Prior to commencing new bottom fishing activities based upon the results of exploratory bottom fisheries conducted in the prior two years, the Commission shall review the assessments undertaken in accordance with Article 5 below and the results of the fishing protocols implemented by the participating fleets, and shall:
 - (i) Authorise these bottom fishing to proceed and establish conservation and management measures to prevent significant adverse impacts on vulnerable marine ecosystems from individual bottom fishing activities and to ensure the long-term sustainability of deep sea fish stocks, or

(ii) not authorize these bottom fishing activities to proceed.

6. Contracting Parties shall ensure that vessels flying their flag conducting exploratory fisheries have an observer on board. Observers shall collect data in accordance with a Vulnerable Marine Ecosystem Data Collection Protocol to be adopted by the Commission as soon as possible. Until such a protocol is adopted, the interim protocol set out in Annex 2 shall apply.

Article 5: Assessment of bottom fishing activities

1. On the basis of the best available scientific information, PECMAS shall identify vulnerable marine ecosystems in the Regulatory Area and map sites where these vulnerable marine ecosystem are known to occur or likely to occur and shall provide such data and information to the Secretary for circulation to all Contracting Parties.

2. Proposed bottom fishing activities in the Regulatory Area for 2009 shall be subject to consideration by PECMAS at its 28-29 October 2008 meeting using existing and available assessments by ICES in 2008, and based on the best available scientific information, in order to determine whether such activities, taking account of the history of bottom fishing in the areas proposed, would have significant adverse impacts on vulnerable marine ecosystems. This information shall be available to PECMAS not later than 15 October 2008.

3. Thereafter, assessments shall follow the procedures set out below:

(i) Each Contracting Party proposing to participate in bottom fishing shall submit to the Secretary information on and, where possible, an initial assessment of the known and anticipated impacts of its bottom fishing activities on vulnerable marine ecosystems, in advance of the next meeting of PECMAS. These submissions shall also include the mitigation measures proposed by the Contracting Party to prevent such impacts. The Secretary shall promptly forward these submissions to PECMAS and to the Commission.

(ii) The submission of such information shall be carried out in accordance with guidance developed by PECMAS on the basis of advice from ICES or, in the absence of such guidance, to the best of the Contracting Party's ability.

(iii) On the basis of an assessment made by ICES, according to its own internally developed procedures and standards, PECMAS shall provide advice to the Commission as to whether the proposed bottom fishing activity would have significant adverse impacts on vulnerable marine ecosystems and, if so, whether mitigation measures would prevent such impacts. In this assessment, any other necessary information required, including information from other fisheries in the region or similar fisheries elsewhere may be used.

4. Taking account of the advice and recommendations provided by ICES and considered by PECMAS, concerning bottom-fishing activities, including data and information arising from reports pursuant to Article 6, the Commission shall adopt conservation and management measures to prevent significant adverse impacts on vulnerable marine ecosystems. Such measures may include:

(i) Allowing, prohibiting or restricting bottom fishing activities;

(ii) Requiring specific mitigation measures for bottom fishing activities;

(iii) Allowing, prohibiting or restricting bottom fishing with certain gear types, or changes in gear design and/or deployment; and/or

(iv) Any other relevant requirements or restrictions to prevent significant adverse impacts to vulnerable marine ecosystems.

The Commission shall periodically ask ICES to provide advice to NEAFC for consideration by PECMAS on the timing and requirements for the assessment of a previously assessed bottom fishery.

Article 6: Encounters with vulnerable marine ecosystems

Contracting Parties shall require that vessels flying their flag without delay cease bottom fishing activities in any site in the Regulatory Area where, in the course of fishing operations, evidence of vulnerable marine ecosystems is encountered, and report the encounter, including the location, and the type of ecosystem in question, to the Secretary so that appropriate measures can be adopted in respect of the relevant site. Such sites will then be treated in accordance with Article 4, paragraph 5.

PECMAS shall develop, during 2008, operational procedures relating to these encounters.

Article 7: Review

The Commission shall review this Recommendation at the latest at its Annual Meeting in 2012. The Commission shall biannually thereafter examine the effectiveness of these provisions in protecting vulnerable marine ecosystems from significant adverse impacts.

Annex 1: Interim Exploratory Bottom Fishing Protocol for New Bottom Fishing Areas

Until the Commission adopts a new protocol in accordance with Article 4, paragraph 1 of this Recommendation, exploratory bottom fisheries may commence only when the following information has been provided to the Secretary by the relevant Contracting Party:

(a) A harvesting plan which outlines target species, dates and areas. Area and effort restrictions shall be considered to ensure fisheries occur on a gradual basis in a limited geographical area.

(b) A mitigation plan including measures to prevent significant adverse impact to vulnerable marine ecosystems that may be encountered during the fishery.

(c) A catch monitoring plan that includes recording/reporting of all species caught. The recording/reporting of catch shall be sufficiently detailed to conduct an assessment of activity, if required.

(d) A data collection plan to facilitate the identification of vulnerable marine ecosystems/species in the area fished.

The Secretary shall promptly forward this information to all Contracting Parties and PECMAS.

Annex 2: Interim Vulnerable Marine Ecosystem (VME) Data Collection Protocol

Observers on fishing vessels in the NEAFC Regulatory Area who are deployed pursuant to Article 4, paragraph 6 of this Recommendation shall:

1. Monitor any set for evidence of VMEs and the presence of vulnerable marine species.
2. Record the following information for identification of VMEs: vessel name, gear type, date, position (latitude/longitude), depth, species code, trip-number, set-number, and name of the observer on datasheets, if possible.
3. Collect representative samples from the entire catch
(Biological samples shall be collected and frozen when requested by the scientific authority in a Contracting Party.)
4. Provide samples to the scientific authority of a Contracting Party at the end of the fishing trip.

C. Measures Adopted for Exploratory or Developing Fisheries by the Northwest Atlantic Fisheries Organization (NAFO)

Chapter Ibis

BOTTOM FISHERIES IN THE NAFO REGULATORY AREA

Article 3bis - Bottom fishing activities in new fishing areas

1. From 1 January 2009, all bottom fishing activities in new fishing areas or with bottom gear not previously used in the area concerned, shall be considered as exploratory fisheries and shall be conducted in accordance with an exploratory fisheries protocol to be adopted by the Fisheries Commission in 2008.
 2. The exploratory bottom fishing shall be subject to the assessment procedure set forth in Article 4bis, with the understanding that particular care will be taken in the evaluation of risks of the significant adverse impact on vulnerable marine ecosystems, in line with the precautionary approach.
 3. Contracting Parties shall communicate the exploratory fisheries protocol referred to in paragraph 1 to the Executive Secretary for forwarding to the Scientific Council for review and to all Contracting Parties for information, together with the information or preliminary impact assessment referred to in Article 4bis, paragraph 3 (i), below.
 4. Contracting Parties shall provide promptly a report of the results of such activities to the Executive Secretary for circulation to the Scientific Council and all Contracting Parties.
- 15
5. Prior to commencing new bottom fishing activities based upon the results of exploratory fisheries conducted in the prior two years, the Fisheries Commission shall review the assessments undertaken in accordance with Article 4bis below and the results of the fishing protocols implemented by the participating fleets, and shall:
 - i. establish conservation and management measures to prevent significant adverse impacts on vulnerable marine ecosystems from individual fishing activities and to ensure the long-term sustainability of deep sea fish stocks, or
 - ii. not authorize these fishing activities to proceed.
 6. Contracting Parties shall ensure that vessels flying their flag conducting exploratory fisheries are equipped with a satellite monitoring device and have an observer on board.

Exploratory Protocol for New Fishing Areas

The Exploratory Fishery Protocol for New Fishing Areas shall include:

- A harvesting plan which outlines target species, dates and areas. Area and effort restrictions should be considered to ensure fisheries occur on a gradual basis in a limited geographical area.

- A mitigation plan including measures to prevent significant adverse impact to vulnerable marine ecosystems that may be encountered during the fishery.
- A catch monitoring plan that includes recording/reporting of all species caught, 100% satellite tracking and 100% observer coverage. The recording/reporting of catch should be sufficiently detailed to conduct an assessment of activity, if required.
- A data collection plan to facilitate the identification of vulnerable marine ecosystems/species in area fished. Exploratory fisheries shall not commence until this information has been provided to the Executive Secretary and forwarded to all Contracting Parties and the Scientific Council for information.

D. Measures Adopted for Exploratory or Developing Fisheries by the North Pacific Fisheries Commission (NPFC)

Annex 1: Exploratory Fishery Protocol in the North Pacific Ocean

1. From 1 January 2009, all bottom fishing activities in new fishing areas 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 will 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 Participating State would like to conduct exploratory fisheries, it is to follow the following procedure:

(1) Prior to the commencement of fishing, the Participating State is to circulate the information and assessment in Appendix 1 to the members of the Scientific Working Group (SWG) for review and to all Participating States 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 will 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 1 to the Interim Measures)”, with the understanding that particular care will be taken in the evaluation of risks of the significant adverse impact on vulnerable marine ecosystems, in line with the precautionary approach.

(3) The SWG is to review the information and the assessment submitted in (1) above in accordance with “SWG Assessment Review Procedures for Bottom Fishing Activities (Annex 2 to the Interim Measures).”

(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 VME and on the basis of comments and recommendations of SWG. Any determinations, by any Participating State or the SWG, that the exploratory fishing activities would not have SAIs on marine species or any VME, will be made publicly available through the NWPBFO website.

4. The Participating State 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.⁸

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 Participating State is to provide a report of the results of such activities to the members of the SWG and all Participating States. If the SWG meets prior to the end of this 12 month period, the Participating State is to provide an interim report 30 days in advance of the SWG meeting. The information to be included in the report is Appendix 2.

6. The SWG is to review the report in 4 above, and decide whether the exploratory fishing activities had SAIs on marine species or any VME. The SWG then is to send its recommendations to the Inter-governmental Meeting on whether the exploratory fisheries can continue and whether additional management measures will be required if they are to continue. The Inter-governmental Meeting is to strive to adopt conservation and management measures to prevent SAIs on marine species or any VME. If the Inter-Governmental Meeting is not able to reach consensus on any such measures, each Participating fishing State is to adopt measures to avoid any SAIs on VMEs.

7. Participating States will 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 SWG.

Appendix 1

Information to be provided before exploratory fisheries start

1. A harvesting plan

- Name of vessel
- Flag state 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 4 to the Interim Measures)

Appendix 2

Information to be included in the report

- Name of vessel
- Flag state of vessel

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- 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 VME indicator species brought onboard by location: longitude and latitude

E. Measures Adopted for Exploratory or Developing Fisheries by the Commission for the Conservation of Antarctic Living Marine Resources (CCAMLR)

CONSERVATION MEASURE 21-01 (2008)¹²

Notification that Members are considering initiating a new fishery

The Commission,

Recognising that in the past, Antarctic fisheries have been initiated in the Convention Area before sufficient information was available upon which to base management advice,

Noting that in recent years new fisheries have started without adequate information being available to evaluate either the fishery potential or the possible impacts on the target stocks or species dependent on them,

Believing that without prior notification of a new fishery, the Commission is unable to fulfil its function under Article IX, hereby adopts the following conservation measure in accordance with Article IX of the Convention:

1. A new fishery, for the purposes of this conservation measure, is a fishery on a species using a particular fishing method in a statistical subarea or division for which:

(i) information on distribution, abundance, demography, potential yield and stock identity from comprehensive research/surveys or exploratory fishing have not been submitted to CCAMLR; or

(ii) catch and effort data have never been submitted to CCAMLR; or

(iii) catch and effort data from the two most recent seasons in which fishing occurred have not been submitted to CCAMLR.

2. In addition to those fisheries identified according to paragraph 1, the use of fishing methods in high-seas areas of the Convention Area as specified in Annex 21-01/A will constitute new fisheries and will require approval of the Commission for specific areas before proceeding.

3. Any Member proposing to participate in a new fishery shall:

(i) notify its intention to the Commission not less than three months in advance of the next regular meeting of the Commission. This notification shall include the information prescribed in paragraph 4 of Conservation Measure 10-02 in respect of vessels proposing to participate in the fishery, with the exception that the notification shall not be required to specify the information referred to in subparagraph 4(ii) of Conservation Measure 10-02. Members shall, to the extent practicable, also provide in their notification the additional information detailed in paragraph 5 of Conservation Measure 10-02 in respect to each fishing vessel notified. Members are not hereby exempted from their obligations under Conservation Measure 10-02 to submit any necessary updates to vessel and licence details within the deadline established therein as of issuance of the licence to the vessel concerned;

(ii) prepare and submit to CCAMLR by a specified date a Fishery Operations Plan for the fishing season, for review by the Scientific Committee and the Commission. The Fishery Operations Plan shall include as much of the following information as the Member is able to provide, so as to assist the Scientific Committee in its preparation of the Data Collection Plan:

¹ Except for waters adjacent to the Kerguelen and Crozet Islands

² Except for waters adjacent to the Prince Edward Islands

- (a) the nature of the new fishery, including target species, methods of fishing, proposed region and maximum catch levels proposed for the forthcoming season;
- (b) biological information on the target species from comprehensive research/survey cruises, such as distribution, abundance, demographic data and information on stock identity;
- (c) details of dependent and related species and the likelihood of their being affected by the proposed fishery;
- (d) information from other fisheries in the region or similar fisheries elsewhere that may assist in the evaluation of potential yield;
- (e) if the proposed fishery will be undertaken using bottom trawl gear, information on the known and anticipated impacts of this gear on vulnerable marine ecosystems, including benthos and benthic communities.
- (iii) provide a commitment, in its proposal, to implement any Data Collection Plan developed by the Scientific Committee for the fishery.
4. The Member shall not initiate a new fishery pending the process specified in paragraphs 8 and 9 below.
5. To ensure that adequate information is made available to the Scientific Committee for evaluation, during the period when a fishery is classified as new, the Scientific Committee shall develop (and update annually as appropriate) a Data Collection Plan, which should include research proposals, as appropriate. This shall identify the data needed and describe any operational research actions necessary to obtain the relevant data from the new fishery to enable an assessment of the stock to be made.
6. The Data Collection Plan shall include, where appropriate:
- (i) a description of the catch, effort and related biological, ecological and environmental data required to undertake the evaluations described in paragraph 1, and the date by which such data are to be reported annually to CCAMLR;
- (ii) a plan for directing fishing effort during the initial phase to permit the acquisition of relevant data to evaluate the fishery potential and the ecological relationships among harvested, dependent and related populations and the likelihood of adverse impacts;
- (iii) where appropriate, a plan for the acquisition of any other research data by fishing vessels, including activities that may require the cooperative activities of scientific observers and the vessel, as may be required for the Scientific Committee to evaluate the fishery potential and the ecological relationships among harvested, dependent and related populations and the likelihood of adverse impacts;
- (iv) an evaluation of the time scales involved in determining the responses of harvested, dependent and related populations to fishing activities.
7. New fisheries shall be open only to those vessels that are equipped and configured so that they can comply with all relevant conservation measures. A vessel with a confirmed involvement in illegal, unreported or unregulated fishing in respect of Conservation Measures 10-06 and 10-07 shall not be permitted to participate in new fisheries.
8. The information provided in accordance with paragraphs 3 to 7, together with any other relevant information, shall be considered by the Scientific Committee, which shall then advise the Commission.
9. After its review of the information on the proposed new fishery, taking full account of the recommendations and the advice of the Scientific Committee, the Commission may then take such action as it deems necessary.

ANNEX 21-01/A

ADDITIONAL FISHING METHODS

Bottom trawling in high-seas areas of the Convention Area.

CONSERVATION MEASURE 21- 02 (2006)³⁴**Exploratory fisheries**

The Commission, Recognising that in the past, some Antarctic fisheries had been initiated and subsequently expanded in the Convention Area before sufficient information was available upon which to base management advice, Agreeing that exploratory fishing should not be allowed to expand faster than the acquisition of information necessary to ensure that the fishery can and will be conducted in accordance with the principles set forth in Article II, hereby adopts the following conservation measure in accordance with Article IX of the Convention:

1. For the purposes of this conservation measure, exploratory fisheries are defined as follows:

(i) an exploratory fishery shall be defined as a fishery that was previously classified as a 'new fishery', as defined by Conservation Measure 21-01;

(ii) an exploratory fishery shall continue to be classified as such until sufficient information is available:

(a) to evaluate the distribution, abundance, and demography of the target species, leading to an estimate of the fishery's potential yield;

(b) to review the fishery's potential impacts on dependent and related species;

(c) to allow the Scientific Committee to formulate and provide advice to the Commission on appropriate harvest catch levels, as well as effort levels and fishing gear, where appropriate.

2. To ensure that adequate information is made available to the Scientific Committee for evaluation, during the period when a fishery is classified as exploratory, the Scientific Committee shall develop (and update annually as appropriate) a Data Collection Plan, which should include research proposals, as appropriate. This shall identify the data needed and describe any operational research actions necessary to obtain the relevant data from the exploratory fishery to enable an assessment of the stock to be made.

3. The Data Collection Plan shall include, where appropriate:

(i) a description of the catch, effort, and related biological, ecological, and environmental data required to undertake the evaluations described in paragraph 1

(ii), and the date by which such data are to be reported annually to CCAMLR;

(ii) a plan for directing fishing effort during the exploratory phase to permit the acquisition of relevant data to evaluate the fishery potential and the ecological relationships among harvested, dependent and related populations and the likelihood of adverse impacts;

³ Except for waters adjacent to the Kerguelen and Crozet Islands

⁴ Except for waters adjacent to the Prince Edward Islands

(iii) where appropriate, a plan for the acquisition of any other research data by fishing vessels, including activities that may require the cooperative activities of scientific observers and the vessel, as may be required for the Scientific Committee to evaluate the fishery potential and the ecological relationships among harvested, dependent and related populations and the likelihood of adverse impacts;

(iv) an evaluation of the time-scales involved in determining the responses of harvested, dependent and related populations to fishing activities.

4. The Commission shall annually determine a precautionary catch limit at a level not substantially above that necessary to obtain the information specified in the Data Collection Plan and required to undertake the evaluations described in paragraph 1(ii).

5. Any Member proposing to participate in an exploratory fishery shall:

(i) notify its intention to the Commission not less than three months in advance of the next regular meeting of the Commission. This notification shall include the information prescribed in paragraph 4 of Conservation Measure 10-02 in respect of vessels proposing to participate in the fishery, with the exception that the notification shall not be required to specify the information referred to in subparagraph 4(ii) of Conservation Measure 10-02. Members shall, to the extent practicable, also provide in their notification the additional information detailed in paragraph 5 of Conservation Measure 10-02 in respect to each fishing vessel notified. Members are not hereby exempted from their obligations under Conservation Measure 10-02 to submit any necessary updates to vessel and licence details within the deadline established therein as of issuance of the licence to the vessel concerned;

(ii) prepare and submit to CCAMLR by a specified date a Fishery Operations Plan for the fishing season, for review by the Scientific Committee and the Commission. The Fishery Operations Plan shall include as much of the following information as the Member is able to provide, so as to assist the Scientific Committee in its preparation of the Data Collection Plan:

(a) the nature of the exploratory fishery, including target species, methods of fishing, proposed region and maximum catch levels proposed for the forthcoming season;

(b) biological information on the target species from comprehensive research/survey cruises, such as distribution, abundance, demographic data, and information on stock identity;

(c) details of dependent and related species and the likelihood of their being affected by the proposed fishery;

(d) information from other fisheries in the region or similar fisheries elsewhere that may assist in the evaluation of potential yield;

(e) if the proposed fishery will be undertaken using bottom trawl gear, information on the known and anticipated impacts of this gear on vulnerable marine ecosystems, including benthos and benthic communities.

(iii) provide a commitment, in its proposal, to implement any Data Collection Plan developed by the Scientific Committee for the fishery.

6. On the basis of the information submitted in accordance with paragraph 5, and taking into account the advice and evaluation provided by the Scientific Committee and the Standing Committee on Implementation and Compliance (SCIC), the Commission shall annually consider adoption of relevant conservation measures for each exploratory fishery.

7. The Commission shall not consider a notification by a Member unless the information required by paragraph 5 has been submitted by the due date.

8. Notwithstanding paragraph 7, Members shall be entitled under Conservation Measure 10-02 to authorise participation in an exploratory fishery by a vessel other than that identified by the Commission in accordance with paragraph 5 if the notified vessel is prevented from participation due to legitimate operational or force majeure reasons. In such circumstances the Member concerned shall immediately inform the Secretariat thereof providing:

(i) full details of the intended replacement vessel(s) as prescribed in subparagraph 5(i);

(ii) a comprehensive account of the reasons justifying the replacement and any relevant supporting evidence or references. The Secretariat shall immediately circulate this information to all Members.

9. Members whose vessels participate in exploratory fisheries in accordance with paragraphs 5 and/or 8 shall:

(i) ensure that their vessels are equipped and configured so that they can comply with all relevant conservation measures;

(ii) ensure that each vessel carries a CCAMLR-designated scientific observer to collect data in accordance with the Data Collection Plan, and to assist in collecting biological and other relevant data;

(iii) annually (by the specified date) submit to CCAMLR the data specified by the Data Collection Plan;

(iv) be prohibited from continuing participation in the relevant exploratory fishing if the data specified in the Data Collection Plan have not been submitted to CCAMLR for the most recent season in which fishing occurred, until the relevant data have been submitted to CCAMLR and the Scientific Committee has been allowed an opportunity to review the data.

10. A vessel on either of the IUU Vessel Lists established under Conservation Measures 10-06 and 10-07 shall not be permitted to participate in exploratory fisheries.

11. Notifications for exploratory fisheries pursuant to the provisions above shall be subject to an administrative cost-recovery scheme and shall therefore be accompanied by a payment per vessel, the amount and refundable component of which shall be decided by the Commission, as well as the conditions and modalities according to which such payment shall be made.

Species toothfish
Area various
Season 2008/09
Gear longline, trawl

CONSERVATION MEASURE 41- 01 (2008)⁵⁶

General measures for exploratory fisheries for *Dissostichus* spp. in the Convention Area in the 2008/09 season

The Commission hereby adopts the following conservation measure:

1. This conservation measure applies to exploratory fisheries using the trawl or longline methods except for such fisheries where the Commission has given specific exemptions to the extent of those exemptions. In trawl fisheries, a haul comprises a single deployment of the trawl net. In longline fisheries, a haul comprises the setting of one or more lines in a single location.

2. Fishing should take place over as large a geographical and bathymetric range as possible to obtain the information necessary to determine fishery potential and to avoid over-concentration of catch and effort. To this end, fishing in any small-scale research unit (SSRU) shall cease when the reported catch reaches the specified catch limit⁷ and that SSRU shall be closed to fishing for the remainder of the season.

3. In order to give effect to paragraph 2 above:

(i) the precise geographic position of a haul in trawl fisheries will be determined by the mid-point of the path between the start-point and end-point of the haul for the purposes of catch and effort reporting;

(ii) the precise geographic position of a haul/set in longline fisheries will be determined by the centre-point of the line or lines deployed for the purposes of catch and effort reporting;

(iii) the vessel will be deemed to be fishing in any SSRU from the beginning of the setting process until the completion of the hauling of all lines;

(iv) catch and effort information for each species by SSRU shall be reported to the Executive Secretary every five days using the Five-day Catch and Effort Reporting System set out in Conservation Measure 23-01;

(v) the Secretariat shall notify Contracting Parties participating in these fisheries when the total catch for *Dissostichus eleginoides* and *Dissostichus mawsoni* combined in any SSRU is likely to reach the specified catch limit, and of the closure of that SSRU when that limit is reached⁸. No part of a trawl path may lie within a closed SSRU and no part of a longline may be set within a closed SSRU.

4. The by-catch in each exploratory fishery shall be regulated as in Conservation Measure 33-03.

5. The total number and weight of *Dissostichus eleginoides* and *Dissostichus mawsoni* discarded, including those with the 'jellymeat' condition, shall be reported.

⁵ Except for waters adjacent to the Kerguelen and Crozet Islands

⁶ Except for waters adjacent to the Prince Edward Islands

⁷ Unless otherwise specified, the catch limit for *Dissostichus* spp. shall be 100 tonnes in any SSRU except in respect of Statistical Subarea 88.2.

⁸ The closure of fisheries is governed by Conservation Measure 31-02.

6. Each vessel participating in the exploratory fisheries for *Dissostichus* spp. during the 2008/09 season shall have one scientific observer appointed in accordance with the CCAMLR Scheme of International Scientific Observation, and where possible one additional scientific observer, on board throughout all fishing activities within the fishing season.

7. The Data Collection Plan (Annex 41-01/A), Research Plan (Annex 41-01/B) and Tagging Program (Annex 41-01/C) shall be implemented. Data collected pursuant to the Data Collection and Research Plans for the period up to 31 August 2009 shall be reported to CCAMLR by 30 September 2009 so that the data will be available to the meeting of the Working Group on Fish Stock Assessment (WG-FSA) in 2009. Such data taken after 31 August 2009 shall be reported to CCAMLR not later than three months after the closure of the fishery, but, where possible, submitted in time for the consideration of WG-FSA.

8. Members who choose not to participate in the fishery prior to the commencement of the fishery shall inform the Secretariat of changes in their plans no later than one month before the start of the fishery. If, for whatever reason, Members are unable to participate in the fishery, they shall inform the Secretariat no later than one week after finding that they cannot participate. The Secretariat will inform all Contracting Parties immediately after such notification is received.

ANNEX 41-01/A

DATA COLLECTION PLAN FOR EXPLORATORY FISHERIES

1. All vessels will comply with the Five-day Catch and Effort Reporting System (Conservation Measure 23-01) and Monthly Fine-scale Catch, Effort and Biological Data Reporting Systems (Conservation Measures 23-04 and 23-05).

2. All data required by the CCAMLR Scientific Observers Manual for finfish fisheries will be collected. These include:

- (i) position, date and depth at the start and end of every haul;
- (ii) haul-by-haul catch and catch per effort by species;
- (iii) haul-by-haul length frequency of common species;
- (iv) sex and gonad state of common species;
- (v) diet and stomach fullness;
- (vi) scales and/or otoliths for age determination;
- (vii) number and mass by species of by-catch of fish and other organisms;
- (viii) observation on occurrence and incidental mortality of seabirds and mammals in relation to fishing operations.

3. Data specific to longline fisheries will be collected. These include:

- (i) position and sea depth at each end of every line in a haul;
- (ii) setting, soak and hauling times;
- (iii) number and species of fish lost at surface;
- (iv) number of hooks set;
- (v) bait type;
- (vi) baiting success (%);
- (vii) hook type.

ANNEX 41-01/B

RESEARCH PLAN FOR EXPLORATORY FISHERIES

1. Activities under this research plan shall not be exempted from any conservation measure in force.
2. This plan applies to all small-scale research units (SSRUs) as defined in Table 1 and Figure 1.
3. Except when fishing in Statistical Subareas 88.1 and 88.2 (see paragraph 5), any vessel undertaking prospecting or commercial fishing in any SSRU must undertake the following research activities:
 - (i) On first entry into an SSRU, the first 10 hauls, whether by trawl or longline, shall be designated 'research hauls' and must satisfy the criteria set out in paragraph 4. Research hauls shall be carried out on, or close to, positions provided by the CCAMLR Secretariat¹, based on a stratified random design in prescribed areas within that SSRU.
 - (ii) On completion of 10 research hauls the vessel may continue to fish within the SSRU.
4. To be designated as a research haul:
 - (i) each research haul must be separated by not less than 5 n miles from any other research haul, distance to be measured from the geographical mid-point of each research haul;
 - (ii) each haul shall comprise: for longlines, at least 3 500 hooks and no more than 5 000 hooks; this may comprise a number of separate lines set in the same location; for trawls, at least 30 minutes effective fishing time as defined in the Draft Manual for Bottom Trawl Surveys in the Convention Area (SC-CAMLR-XI, Annex 5, Appendix H, Attachment E, paragraph 4);
 - (iii) each haul of a longline shall have a soak time of not less than six hours, measured from the time of completion of the setting process to the beginning of the hauling process.
5. In the exploratory fisheries in Subareas 88.1 and 88.2, all data specified in the Data Collection Plan (Annex 41-01/A) of this conservation measure shall be collected for every haul; all fish of each *Dissostichus* species in a haul (up to a maximum of 35 fish) are to be measured and randomly sampled for biological studies (paragraphs 2(iv) to (vi) of Annex 41-01/A).
6. In all other exploratory fisheries, all data specified in the Data Collection Plan (Annex 41-01/A) of this conservation measure shall be collected for every research haul; in particular, all fish in a research haul up to 100 fish are to be measured and at least 30 fish sampled for biological studies (paragraphs 2(iv) to (vi) of Annex 41-01/A). Where more than 100 fish are caught, a method for randomly subsampling the fish should be applied.

¹ The Secretariat will generate a list of random stations for each vessel participating in exploratory fisheries. These lists will be provided to notifying Members prior to the start of the fishing season (SC-CAMLR-XXVII, paragraphs 4.113 and 4.114).

Table 1: Description of small-scale research units (SSRUs) (see also Figure 1).

Region 48.6

A From 50°S 20°W, due east to 1°30'E, due south to 60°S, due west to 20°W, due north to 50°S.

B From 60°S 20°W, due east to 10°W, due south to coast, westward along coast to 20°W, due north to 60°S.

C From 60°S 10°W, due east to 0° longitude, due south to coast, westward along coast to 10°W, due north to 60°S.

D From 60°S 0° longitude, due east to 10°E, due south to coast, westward along coast to 0° longitude, due north to 60°S.

E From 60°S 10°E, due east to 20°E, due south to coast, westward along coast to 10°E, due north to 60°S.

F From 60°S 20°E, due east to 30°E, due south to coast, westward along coast to 20°E, due north to 60°S.

G From 50°S 1°30'E, due east to 30°E, due south to 60°S, due west to 1°30'E, due north to 50°S.

Region 58.4.1

A From 55°S 86°E, due east to 150°E, due south to 60°S, due west to 86°E, due north to 55°S.

B From 60°S 86°E, due east to 90°E, due south to coast, westward along coast to 80°E, due north to 64°S, due east to 86°E, due north to 60°S.

C From 60°S 90°E, due east to 100°E, due south to coast, westward along coast to 90°E, due north to 60°S.

D From 60°S 100°E, due east to 110°E, due south to coast, westward along coast to 100°E, due north to 60°S.

E From 60°S 110°E, due east to 120°E, due south to coast, westward along coast to 110°E, due north to 60°S.

F From 60°S 120°E, due east to 130°E, due south to coast, westward along coast to 120°E, due north to 60°S.

G From 60°S 130°E, due east to 140°E, due south to coast, westward along coast to 130°E, due north to 60°S.

H From 60°S 140°E, due east to 150°E, due south to coast, westward along coast to 140°E, due north to 60°S.

Region 58.4.2

A From 62°S 30°E, due east to 40°E, due south to coast, westward along coast to 30°E, due north to 62°S.

B From 62°S 40°E, due east to 50°E, due south to coast, westward along coast to 40°E, due north to 62°S.

C From 62°S 50°E, due east to 60°E, due south to coast, westward along coast to 50°E, due north to 62°S.

D From 62°S 60°E, due east to 70°E, due south to coast, westward along coast to 60°E, due north to 62°S.

E From 62°S 70°E, due east to 73°10'E, due south to 64°S, due east to 80°E, due south to coast, westward along coast to 70°E, due north to 62°S.

Region 58.4.3a

A Whole division, from 56°S 60°E, due east to 73°10'E, due south to 62°S, due west to 60°E, due north to 56°S.

Region 58.4.3b

A From 56°S 73°10'E, due east to 79°E, south to 59°S, due west to 73°10'E, due north to 56°S.

B From 60°S 73°10'E, due east to 86°E, south to 64°S, due west to 73°10'E, due north to 60°S.

C From 59°S 73°10'E, due east to 79°E, south to 60°S, due west to 73°10'E, due north to 59°S.

D From 59°S 79°E, due east to 86°E, south to 60°S, due west to 79°E, due north to 59°S.

E From 56°S 79°E, due east to 80°E, due north to 55°S, due east to 86°E, south to 59°S, due west to 79°E, due north to 56°S.

Region 58.4.4

- A From 51°S 40°E, due east to 42°E, due south to 54°S, due west to 40°E, due north to 51°S.
- B From 51°S 42°E, due east to 46°E, due south to 54°S, due west to 42°E, due north to 51°S.
- C From 51°S 46°E, due east to 50°E, due south to 54°S, due west to 46°E, due north to 51°S.
- D Whole division excluding SSRUs A, B, C, and with outer boundary from 50°S 30°E, due east to 60°E, due south to 62°S, due west to 30°E, due north to 50°S.

Region 58.6

- A From 45°S 40°E, due east to 44°E, due south to 48°S, due west to 40°E, due north to 45°S.
- B From 45°S 44°E, due east to 48°E, due south to 48°S, due west to 44°E, due north to 45°S.
- C From 45°S 48°E, due east to 51°E, due south to 48°S, due west to 48°E, due north to 45°S.
- D From 45°S 51°E, due east to 54°E, due south to 48°S, due west to 51°E, due north to 45°S.

Region 58.7

- A From 45°S 37°E, due east to 40°E, due south to 48°S, due west to 37°E, due north to 45°S.

Region 88.1

- A From 60°S 150°E, due east to 170°E, due south to 65°S, due west to 150°E, due north to 60°S.
- B From 60°S 170°E, due east to 179°E, due south to 66°40'S, due west to 170°E, due north to 60°S.
- C From 60°S 179°E, due east to 170°W, due south to 70°S, due west to 178°W, due north to 66°40'S, due west to 179°E, due north to 60°S.
- D From 65°S 150°E, due east to 160°E, due south to coast, westward along coast to 150°E, due north to 65°S.
- E From 65°S 160°E, due east to 170°E, due south to 68°30'S, due west to 160°E, due north to 65°S.
- F From 68°30'S 160°E, due east to 170°E, due south to coast, westward along coast to 160°E, due north to 68°30'S.
- G From 66°40'S 170°E, due east to 178°W, due south to 70°S, due west to 178°50'E, due south to 70°50'S, due west to 170°E, due north to 66°40'S.
- H From 70°50'S 170°E, due east to 178°50'E, due south to 73°S, due west to coast, northward along coast to 170°E, due north to 70°50'S.
- I From 70°S 178°50'E, due east to 170°W, due south to 73°S, due west to 178°50'E, due north to 70°S.
- J From 73°S at coast near 170°E, due east to 178°50'E, due south to 80°S, due west to 170°E, northward along coast to 73°S.
- K From 73°S 178°50'E, due east to 170°W, due south to 76°S, due west to 178°50'E, due north to 73°S.
- L From 76°S 178°50'E, due east to 170°W, due south to 80°S, due west to 178°50'E, due north to 76°S.
- M From 73°S at coast near 169°30'E, due east to 170°E, due south to 80°S, due west to coast, northward along coast to 73°S.

Region 88.2

- A From 60°S 170°W, due east to 160°W, due south to coast, westward along coast to 170°W, due north to 60°S.
- B From 60°S 160°W, due east to 150°W, due south to coast, westward along coast to 160°W, due north to 60°S.
- C From 60°S 150°W, due east to 140°W, due south to coast, westward along coast to 150°W, due north to 60°S.
- D From 60°S 140°W, due east to 130°W, due south to coast, westward along coast to 140°W, due north to 60°S.

E From 60°S 130°W, due east to 120°W, due south to coast, westward along coast to 130°W, due north to 60°S.

F From 60°S 120°W, due east to 110°W, due south to coast, westward along coast to 120°W, due north to 60°S.

G From 60°S 110°W, due east to 105°W, due south to coast, westward along coast to 110°W, due north to 60°S.

Region 88.3

A From 60°S 105°W, due east to 95°W, due south to coast, westward along coast to 105°W, due north to 60°S.

B From 60°S 95°W, due east to 85°W, due south to coast, westward along coast to 95°W, due north to 60°S.

C From 60°S 85°W, due east to 75°W, due south to coast, westward along coast to 85°W, due north to 60°S.

D From 60°S 75°W, due east to 70°W, due south to coast, westward along coast to 75°W, due north to 60°S.

Figure 1: Small-scale research units for new and exploratory fisheries. The boundaries of these units are listed in Table 1. EEZ boundaries for Australia, France and South Africa are marked in order to address notifications for new and exploratory fisheries in waters adjacent to these zones. Dashed line – approximate delineation between *Dissostichus eleginoides* and *Dissostichus mawsoni*.

ANNEX 41-01/C

TAGGING PROGRAM FOR DISSOSTICHUS SPP. AND SKATES IN EXPLORATORY FISHERIES

1. The responsibility for ensuring tagging, tag recovery and correct reporting shall lie with the Flag State of the fishing vessel. The fishing vessel shall cooperate with the CCAMLR scientific observer in undertaking the tagging program.
2. This program shall apply in each exploratory longline fishery, and any vessel that participates in more than one exploratory fishery shall apply the following in each exploratory fishery in which that vessel fishes:
 - (i) Each longline vessel shall tag and release *Dissostichus* spp., continuously while fishing, at a rate specified in the conservation measure for that fishery according to the CCAMLR Tagging Protocol1.
 - (ii) The program shall target toothfish of all sizes in order to meet the tagging requirement, only toothfish that are in good condition shall be tagged and the availability of these fish shall be reported by the observer. All released toothfish must be double-tagged and releases should cover as broad a geographical area as possible. In regions where both species occur, the tagging rate shall to the extent practicable be in proportion to the species and sizes of *Dissostichus* spp. present in the catches.
 - (iii) During the 2008/09 season (Year-of-the-Skate), each longline vessel shall tag and release skates, continuously while fishing, at a rate specified in the conservation measure for that fishery according to the CCAMLR Tagging Protocol. All tagged skates must be double-tagged and released alive.
 - (iv) All toothfish and skate tags for use in exploratory fisheries shall be sourced from the Secretariat.

(v) Recaptured tagged fish (i.e. fish caught that have a previously inserted tag) shall not be re-released, even if at liberty for only a short period.

(vi) All recaptured tagged fish should be biologically sampled (length, weight, sex, gonad stage), an electronic time-stamped photograph taken of the fish and tag, the otoliths recovered and the tag removed.

3. Toothfish that are tagged and released shall not be counted against the catch limits.

4. All relevant tag data and any data recording tag recaptures shall be reported electronically in the CCAMLR format¹ to the Executive Secretary (i) by the vessel every month along with its monthly fine-scale catch and effort (C2) data, and (ii) by the observer as part of the data reporting requirements for observer data⁹.

5. All relevant tag data, any data recording tag recaptures, and specimens (tags and otoliths) from recaptures shall also be reported electronically in the CCAMLR format¹ to the relevant regional tag data repository as detailed in the CCAMLR Tagging Protocol (available at www.ccamlr.org/pu/e/sc/tag/intro.htm).

Example of Area Specific Measures

Species toothfish

Area 88.2

Season 2008/09

Gear longline

CONSERVATION MEASURE 41-10 (2008)

Limits on the exploratory fishery for *Dissostichus* spp. in Statistical Subarea 88.2 in the 2008/09 season

The Commission hereby adopts the following conservation measure in accordance with Conservation Measure 21-02:

Access

1. Fishing for *Dissostichus* spp. in Statistical Subarea 88.2 shall be limited to the exploratory longline fishery by Argentina, Chile, Republic of Korea, New Zealand, Russia, South Africa, Spain, UK and Uruguay. The fishery shall be conducted by a maximum in the season of two (2) Argentine, one (1) Chilean, two (2) Korean, four (4) New Zealand, three (3) Russian, one (1) South African, one (1) Spanish, three (3) UK and two (2) Uruguayan flagged vessels using longlines only.

2. Fishing is prohibited in depths shallower than 550 m in order to protect benthic communities.

Catch limit

3. The total catch of *Dissostichus* spp. in Statistical Subarea 88.2 south of 65°S in the 2008/09 season shall not exceed a precautionary catch limit of 567 applied as follows:

⁹ In accordance with the CCAMLR Tagging Protocol for exploratory fisheries which is available from the Secretariat and included in the scientific observer logbook forms.

SSRU A – 0 tonnes
SSRU B – 0 tonnes
SSRUs C, D, F and G – 214 tonnes total
SSRU E – 353 tonnes.

Season

4. For the purpose of the exploratory longline fishery for *Dissostichus* spp. in Statistical Subarea 88.2, the 2008/09 season is defined as the period from 1 December 2008 to 31 August 2009.

5. The exploratory longline fishery for *Dissostichus* spp. in Statistical Subarea 88.2 shall be carried out in accordance with the provisions of Conservation Measure 41-01, except paragraph 6.

By-catch

6. The total by-catch in Statistical Subarea 88.2 in the 2008/09 season shall not exceed a precautionary catch limit of 50 tonnes of skates and rays, and 90 tonnes of *Macrourus* spp. Within these total by-catch limits, individual limits will apply as follows:

SSRU A – 0 tonnes of any species
SSRU B – 0 tonnes of any species
SSRUs C, D, F, G – 50 tonnes of skates and rays, 34 tonnes of *Macrourus* spp., 80 tonnes of other species
SSRU E – 50 tonnes of skates and rays, 56 tonnes of *Macrourus* spp., 20 tonnes of other species.

The by-catch in this fishery shall be regulated as set out in Conservation Measure 33-03.

Mitigation

7. The exploratory longline fishery for *Dissostichus* spp. in Statistical Subarea 88.2 shall be carried out in accordance with the provisions of Conservation Measure 25-02, except paragraph 4 (night setting), which shall not apply as long as the requirements of Conservation Measure 24-02 are met.

8. Any vessel catching a total of three (3) seabirds shall immediately revert to night setting in accordance with Conservation Measure 25-02.

Observers

9. Each vessel participating in the fishery shall have at least two scientific observers, one of whom shall be an observer appointed in accordance with the CCAMLR Scheme of International Scientific Observation, on board throughout all fishing activities within the fishing period.

VMS

10. Each vessel participating in this exploratory longline fishery shall be required to operate a VMS at all times, in accordance with Conservation Measure 10-04.

CDS

11. Each vessel participating in this exploratory longline fishery shall be required to participate in the Catch Documentation Scheme for *Dissostichus* spp., in accordance with Conservation Measure 10-05.

Research

12. Each vessel participating in this exploratory fishery shall conduct fishery-based research in accordance with the Research Plan and Tagging Program described in Conservation Measure 41-01,

Annex B and Annex C respectively. The setting of research hauls (Conservation Measure 41-01, Annex B, paragraphs 3 and 4) is not required.

13. Toothfish shall be tagged at a rate of at least one fish per tonne green weight caught in each SSRU.

14. Skates shall be tagged at a rate of at least one skate per five skates caught, up to a maximum of 500 skates per vessel.

Data: catch/effort

15. For the purpose of implementing this conservation measure in the 2008/09 season, the following shall apply:

(i) the Five-day Catch and Effort Reporting System set out in Conservation Measure 23-01;

(ii) the Monthly Fine-scale Catch and Effort Reporting System set out in Conservation Measure 23-04. Fine-scale data shall be submitted on a haul-by-haul basis.

16. For the purpose of Conservation Measures 23-01 and 23-04, the target species is *Dissostichus* spp. and by-catch species are defined as any species other than *Dissostichus* spp.

Data: biological

17. Fine-scale biological data, as required under Conservation Measure 23-05, shall be collected and recorded. Such data shall be reported in accordance with the CCAMLR Scheme of International Scientific Observation.

Environmental protection

18. Conservation Measure 26-01 applies.

19. Conservation Measures 22-06 and 22-07 apply.

F. Measures Adopted for Exploratory or Developing Fisheries by the South East Atlantic Fisheries Organisation (SEAFO)

SEAFO Convention

ARTICLE 7 APPLICATION OF THE PRECAUTIONARY APPROACH

1. The Commission shall apply the precautionary approach widely to conservation and management and exploitation of fishery resources in order to protect those resources and preserve the marine environment.
2. The Commission shall be more cautious when information is uncertain, unreliable or inadequate. The absence of adequate scientific information shall not be used as a reason for postponing or failing to take conservation and management measures.
3. In implementing this article, the Commission shall take cognisance of best international practices regarding the application of the precautionary approach, including Annex II of the 1995 Agreement and the FAO Code of Conduct for Responsible Fisheries, 1995.

ARTICLE 20 FISHING OPPORTUNITIES

1. In determining the nature and extent of participatory rights in fishing opportunities, the Commission shall take into account, inter alia:
 - (a) the state of fishery resources including other living marine resources and existing levels of fishing effort, taking into account the advice and recommendations of the Scientific Committee;
 - (b) respective interests, past and present fishing patterns, including catches, and practices in the Convention Area;
 - (c) the stage of development of a fishery;
 - (d) the interests of developing States in whose areas of national jurisdiction the stocks also occur;
 - (e) contributions to conservation and management of fishery resources in the Convention Area, including the provision of information, the conduct of research and steps taken to establish cooperative mechanisms for effective monitoring, control, surveillance and enforcement;
 - (f) contributions to new or exploratory fisheries, taking account of the principles set out in article 6.6 of the 1995 Agreement;
 - (g) the needs of coastal fishing communities which are dependent mainly on fishing for the stocks in the South East Atlantic; and
 - (h) the needs of coastal States whose economies are overwhelmingly dependent on the exploitation of fishery resources.
2. In applying the provisions of paragraph 1, the Commission may, inter alia:

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- (a) designate annual quota allocations or effort limitations for Contracting Parties;
 - (b) allocate catch quantities for exploration and scientific research; and
 - (c) set aside fishing opportunities for non-parties to this Convention, if necessary.

3. The Commission shall, subject to agreed rules, review quota allocations, effort limitations and participation in fishing opportunities of Contracting Parties taking into account the information, advice and recommendations on the implementation of, and compliance with, conservation and management measures by Contracting Parties.

Conservation and Management Measures

ANNEX 6: CONSERVATION MEASURE 12/08 ON BOTTOM FISHING ACTIVITIES IN THE SEAFO CONVENTION AREA

Article 3: Bottom fishing activities in new bottom fishing areas

11. All bottom fishing activities in new bottom fishing areas or with bottom gear not previously used in the area concerned, shall be considered as exploratory fisheries and shall be conducted in accordance with an Exploratory Bottom Fisheries Protocol to be adopted by the Commission as soon as possible. Until such a protocol is adopted the interim protocol set out in Annex 1 shall apply.

22. Before exploratory bottom fishing can take place, a detailed proposal shall be submitted by the Contracting Party to the Scientific Committee for scrutiny. The Committee will provide a recommendation to the Commission who will decide if the exploratory fishing may proceed. The exploratory bottom fishing activities shall be subject to the assessment procedure set forth in Article 4, with the understanding that particular care shall be taken in the evaluation of risks of the significant adverse impact on vulnerable marine ecosystems, in line with the precautionary approach.

13. Contracting Parties shall provide promptly a report of the results of such activities to the Secretary for circulation to all Contracting Parties.

4. Contracting Parties shall ensure that vessels flying their flag conducting exploratory fisheries have a scientific observer on board. Observers shall collect data in accordance with a Vulnerable Marine Ecosystem Data Collection Protocol to be adopted by the Commission as soon as possible. Until such a protocol is adopted, the interim protocol set out in Annex 2 shall apply.

Annex 1: Interim Exploratory Bottom Fishing Protocol for New Bottom Fishing Areas

Until the Commission adopts a new protocol in accordance with Article 3, paragraph 1 of this Recommendation, exploratory bottom fisheries shall not commence until the following information has been provided to the Executive Secretary by the relevant Contracting Party:

- (a) A harvesting plan which outlines target species, dates and areas. Area and effort restrictions shall be considered to ensure fisheries occur on a gradual basis in a limited geographical area.

(b) A mitigation plan including measures to prevent significant adverse impact to vulnerable marine ecosystems that may be encountered during the fishery.

(c) A catch monitoring plan that includes recording/reporting of all species caught. The recording/reporting of catch shall be sufficiently detailed to conduct an assessment of activity, if required.

(d) A data collection plan to facilitate the identification of vulnerable marine ecosystems/species in the area fished. The Executive Secretary shall promptly forward this information to all Contracting Parties and the Scientific Committee.

Annex 2: Interim Vulnerable Marine Ecosystem (VME) Data Collection Protocol

Observers on fishing vessels in the SEAFO Convention Area who are deployed pursuant to Article 3, paragraph 6 of this Conservation Measure shall:

1. Monitor any set for evidence of VMEs and the presence of vulnerable marine species.
2. Record the following information for identification of VMEs: vessel name, gear type, date, position (latitude/longitude), depth, species code, trip-number, set-number, and name of the observer on datasheets, if possible.
3. Collect representative biological samples from the entire catch. (Biological samples shall be collected and frozen when requested by the scientific authority in a Contracting Party).
4. Collect samples to the scientific authority of a Contracting Party at the end of the fishing trip.

ANNEX 3: Interim operational procedures for fishing in existing and new bottom fishing areas

Pursuant to Article 5 of the SEAFO Conservation Measure on bottom fishing activities in the SEAFO Convention Area, the Commission has adopted the following interim measure:

1. Definition of encounter

An encounter is defined to be, above threshold levels as set out in Paragraph 4, with indicator species of coral identified as antipatharians, gorgonians, cerianthid anemone fields, lophelia, and sea pen fields or other VME elements. Any encounter with a VME indicator species or merely detecting the presence of an element itself is not sufficient to identify a VME. That identification shall be made on a case-by-case basis through assessment by relevant bodies.

2. Existing bottom fishing areas

2.1 Vessels shall quantify catch of VME indicator organisms, i.e. coral and sponge.

Observers deployed shall identify corals, sponges and other organisms to the lowest possible taxonomical level and apply the sampling protocol found in Annex 2 and SEAFO catch sampling forms. Observers shall submit SEAFO trip summary reports to Contracting Parties and the Secretariat.

2.2 If the quantity of VME elements or indicator species caught in a fishing operation (such as trawl tow or set of a gillnet or longline) is beyond the threshold defined in Paragraph 4 below, the following shall apply:

a. The vessel master shall report the incident to the Contracting Party, which without delay shall forward the information to the Executive Secretary. The Executive Secretary shall archive the information and report it to all Contracting Parties. The Contracting Parties shall immediately alert all fishing vessels flying their flag.

b. The vessel master shall cease fishing, haul the gear, and move away at least 2 nautical miles from the endpoint of the tow/set in the direction least likely to result in further encounters. Any further tows or sets shall be parallel to the tow/set when the encounter was made. The master shall use his or her best judgment based on all available sources of information.

c. The Executive Secretary shall make an annual report on single and multiple encounters in discrete areas within existing fishing areas to the Scientific Committee. The Scientific Committee shall evaluate and, on a case-by-case basis the information and provide advice to the Commission on whether a VME exists. The advice shall be based on annually updated assessments of the accumulated information on encounters and the Scientific Committee's advice on the need for action, using FAO guidelines for management of deepsea fisheries in the high seas as a basis.

3. New fishing areas

3.1 Vessels shall quantify catch of VME indicator organisms, i.e. coral and sponge. Observers deployed shall identify corals, sponges and other organisms to the lowest possible taxonomical level and apply the sampling protocol found in Annex 2 and SEAFO catch sampling forms. Observers shall submit SEAFO trip summary report to Contracting Parties and the Secretariat.

3.2 If the quantity of VME element or indicator species caught in a fishing operation (such as trawl tow or set of a gillnet or longline) is beyond the threshold defined in paragraph 4 below, the following shall apply:

a. The vessel master shall report the incident without delay to its Contracting party, which shall forward the information to the Executive Secretary. The Executive Secretary shall archive the information and without delay transmit it to all Contracting Parties. The Contracting Parties shall issue an immediate alert to all vessels flying their flag.

b. The Executive Secretary shall at the same time request Contracting Parties to implement an interim closure of two miles radius around the reporting position. The reporting position is that provided by the vessel, either the endpoint of the tow/set or another position that the evidence suggests is closest to the exact encounter location.

c. The Scientific Committee at its next meeting shall examine the interim closure. If the Scientific Committee advises that the area consists of a VME, the Executive Secretary shall request Contracting Parties to maintain the closure until such time that the Commission has acted upon the advice from the Scientific Committee. If the Scientific Committee does not conclude that the proposed area is a VME, the Executive Secretary shall inform Contracting Parties which may re-open the area to their vessels.

2. The vessel shall cease fishing, haul the gear, and move away at least 2 nautical miles from the endpoint of the tow/set in the direction least likely to result in further encounters. Any further tows or sets shall be parallel to the tow/set when the encounter was made. The master shall use his or her best judgment based on all available sources of information.

3. The Executive Secretary shall make an annual report on archived reports from encounters in new fishing areas to the Scientific Committee. This report shall also include reports from the exploratory fishing activities that were conducted in the last year. The Scientific Committee shall evaluate the information and provide advice to the Commission on the appropriateness of temporary closures and other measures. The advice shall be based on annually updated assessments of the accumulated information on encounters as well as other scientific information. The Scientific Committee advice shall reflect provisions outlined in the FAO guidelines for management of deep-sea fisheries in the high seas.

4 Threshold levels

For both existing and new fishing areas, an encounter with primary VME indicator species is defined in the interim as a catch per set (e.g. trawl tow, longline set, or gillnet set) of more than 100 kg of live coral and/or 1000 kg of live sponge. These thresholds are set on a provisional basis and may be adjusted as experience is gained in the application of this measure.