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2010 Recommendations from the ad hoc Working Group of Fishery Managers and Scientists (WGFMS)
to the Fisheries Commission

Following the Terms of Reference outlined in FC Doc 09/19, the WGFMS met in Halifax in May 2010 (FC Doc 10/4) and agreed on the following recommendations:

1) Data Collection in Exploratory and Existing Fishing Areas

The WGFMS recommends to the Fisheries Commission the **adoption** of the revised Exploratory Fishery Data Collection Form as Annex XXV.III of the NAFO Conservation and Enforcement Measures (Annex 1).

The WGFMS recommends to the Fisheries Commission the **adoption** of the proposal to revise Article 5bis paragraph 1b first indent and Article 5bis paragraph 2b first indent concerning data collection requirements in existing and new fishing areas. The proposed revisions are contained in FCWGFMS WP 10/5, Rev. 3 and presented in Annex 2.

2) Fishing Footprint

The WGFMS recommends to the Fisheries Commission the **adoption** of the footprint as described in Annex 3. The footprint is to be used and interpreted in conjunction with Article 2bis of the NAFO Conservation and Enforcement Measures (NCEM).

3) Chapter Ibis update

The WGFMS recommends to the Fisheries Commission the **adoption** of the proposed editorial changes in Chapter Ibis of the NCEM. The proposed changes are detailed in FCWGFMS 10/4 Rev. 1 and presented in Annex 4.

4) Review of Fishery Assessment Guidelines (Article 4bis of the NCEM)

The WGFMS recommends to the Fisheries Commission the **consideration** of the issues raised in FCWGFMS WP 10/2 Rev. 2 and presented in Annex 5. The issues relate to Article 4bis of the NCEM.

Article 4bis concerns the assessment of bottom fishing. There is currently no guiding document to inform Contracting Parties as to what needs to be included in the assessment. Annex 5 clarifies the assessment process and what should be addressed in an assessment.

Annex 1. Exploratory Data Collection Form

Exploratory Fishery Data Collection Form

A. Fishing Trip Information

Flag state		Vessel Name		Call sign		Date of encounter (ddmmyy)	
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B. Gear and Fishing Information (use separate form for each gear).

Fishing Gear (e.g. trawl, gill net, hook and line, etc)		Gear Details:	Gear type (e.g. bottom trawl, set gill net, etc.)	
			Gear size (groundrope length, panel length, etc.)	
			Other details (cod end mesh size, # of hooks, etc.)	

		hr	min			degrees			minutes			meters
Tow or Set Start:	GMT Time:			Latitude	N						Depth	
				Longitude	W							
Tow or Set End:	GMT Time:			Latitude	N						Depth	
				Longitude	W							

C. Catch Information *Don't leave blank. Indicate zero catch if necessary.

Live Corals total weight in the haul (kg)*		Live Sponges total weight in the haul (kg)*	
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Organisms identified to the lowest taxonomic unit as possible** Include fish and invertebrates	Biological Samples taken?		Biological samples of Vulnerable Indicator Species taken?		Total Weight (kg) in catch	Weight is estimate or actual?	
						Act.	Est.
	yes	no	yes	no		Act.	Est.

D. Comments

**Refer to Annex I of the FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas. Also, use NAFO Coral Identification Guide as appropriate.

**Annex 2. Data Collection Requirements in Existing and New fishing Areas
(FCWGFMS WP 10/5, Rev. 3)**

Article 5bis. Para 1b, First indent:

- The vessel master shall report the incident to the flag state, which without delay shall forward the information to the Executive Secretary, including the position that is provided by the vessel, either the end point of the tow or set or another position that is closest to the exact encounter location, the VME indicator species encountered, and the quantity (kg) of VME indicator species encountered. Contracting Parties may if they so wish require their vessels to also report the incident directly 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.

Article 5bis, Para 2b, first indent:

- The vessel master shall report the incident without delay to its flag state, which shall forward the information to the Executive Secretary, including the position that is provided by the vessel, either the end point of the tow or set or another position that is closest to the exact encounter location, the VME indicator species encountered, and the quantity (kg) of VME indicator species encountered. Contracting Parties may if they so wish require their vessels to also report the incident directly 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.

Annex 3. Footprint map (extraction of Figure 4b and Table 2 from FC WP 09/01 Rev).

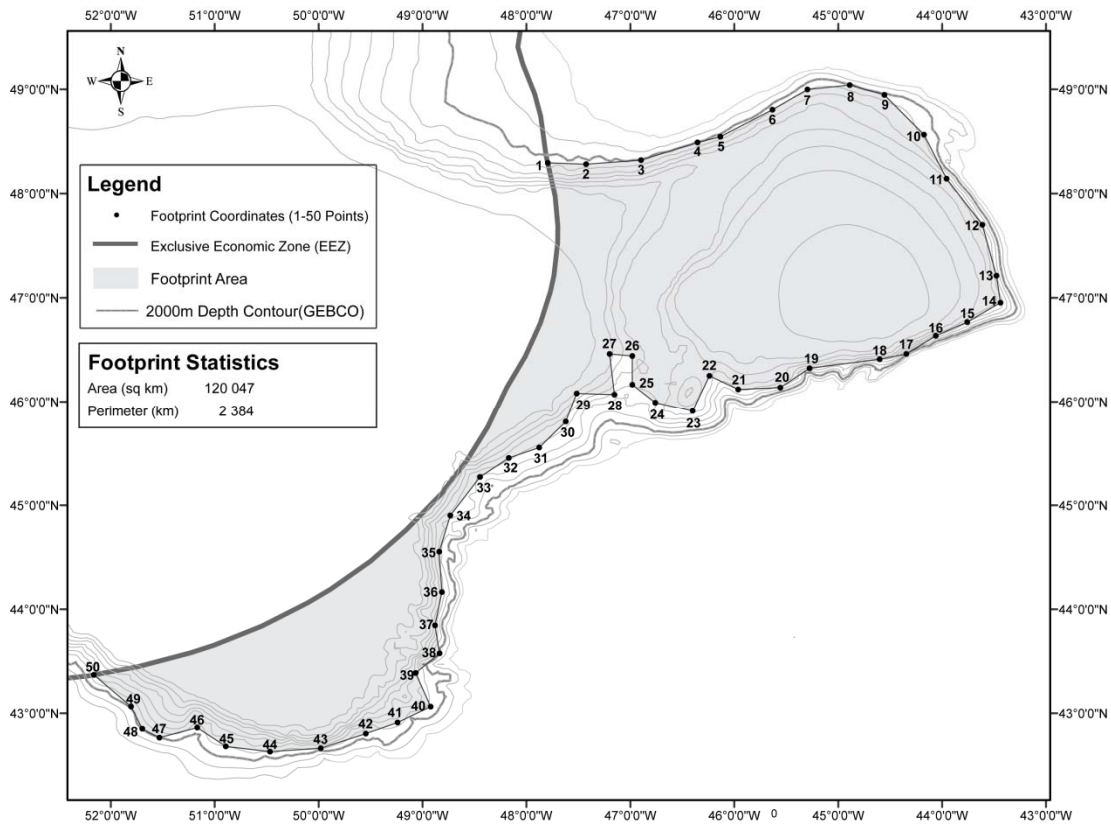


Figure 1: NAFO Regulatory Area footprint map (shaded) (Figure 4b of FC WP 09/01 Rev).

Point No.	Latitude	Longitude
1	48°17'39"N	EEZ boundary ¹
2	48°16'51"N	47°25'37"W
3	48°19'15"N	46°53'48"W
4	48°29'21"N	46°21'17"W
5	48°32'43"N	46°08'04"W
6	48°48'10"N	45°37'59"W
7	48°59'54"N	45°17'46"W
8	49°02'20"N	44°53'17"W
9	48°56'46"N	44°33'18"W
10	48°33'53"N	44°10'25"W
11	48°08'29"N	43°57'28"W
12	47°42'00"N	43°36'44"W
13	47°12'44"N	43°28'36"W
14	46°57'14"N	43°26'15"W
15	46°46'02"N	43°45'27"W
16	46°38'10"N	44°03'37"W
17	46°27'43"N	44°20'38"W
18	46°24'41"N	44°36'01"W
19	46°19'28"N	45°16'34"W
20	46°08'16"N	45°33'27"W
21	46°07'13"N	45°57'44"W
22	46°15'06"N	46°14'21"W
23	45°54'33"N	46°24'03"W
24	45°59'36"N	46°45'33"W
25	46°09'58"N	46°58'53"W

Point No.	Latitude	Longitude
26	46°26'32"N	46°58'53"W
27	46°27'40"N	47°12'01"W
28	46°04'15"N	47°09'10"W
29	46°04'53"N	47°31'01"W
30	45°48'17"N	47°37'16"W
31	45°33'14"N	47°52'41"W
32	45°27'14"N	48°10'15"W
33	45°16'17"N	48°26'50"W
34	44°54'01"N	48°43'58"W
35	44°33'10"N	48°50'25"W
36	44°09'57"N	48°48'49"W
37	43°50'44"N	48°52'49"W
38	43°34'34"N	48°50'12"W
39	43°23'13"N	49°03'57"W
40	43°03'48"N	48°55'23"W
41	42°54'42"N	49°14'26"W
42	42°48'18"N	49°32'51"W
43	42°39'49"N	49°58'46"W
44	42°37'54"N	50°28'04"W
45	42°40'57"N	50°53'36"W
46	42°51'48"N	51°10'09"W
47	42°45'59"N	51°31'58"W
48	42°51'06"N	51°41'50"W
49	43°03'56"N	51°48'21"W
50	43°22'12"N	EEZ boundary ²

¹ approximately 47°47'45"W ² approximately 52°09'46"W

Table 1: Boundary points delineating the eastern side of the footprint in the NRA. The Canadian EEZ boundary delineates the western side of the footprint map (Table 2 of FC WP 09/01 Rev).

**Annex 4. Review and update of Chapter Ibis of the NAFO CEM
(FCWGFMS WP 10/4, Rev. 1)**

**Review and update of Chapter Ibis of the NAFO CEM
(Proposal by the USA and the EU)**

Changes proposed without taking into consideration the work carried out by STACTIC in relation to revision of the NAFO CEM control provisions.

Track changes: House cleaning, with reference to point 3 in the proposal adopted by FC at the annual meeting in 2009, Doc. 09/19

Highlighted in yellow: Text to be updated only in the event that the FC adopts the fishing footprint at the NAFO annual meeting 2010

**Chapter Ibis
BOTTOM FISHERIES IN THE NAFO
REGULATORY AREA**

Article 1bis – Purpose and definitions

1. The purpose of this chapter is to ensure the implementation by NAFO of effective measures to prevent significant adverse impacts of bottom fishing activities on vulnerable marine ecosystems known to occur or likely to occur in the Regulatory Area based on the best available scientific information. For the purposes of this Chapter, NAFO will take into account the guidance provided by the FAO in the framework of the Code of Conduct for Responsible Fisheries and any other internationally agreed standards, as appropriate.
2. 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.
3. 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 2bis-4.
4. The term "new bottom fishing areas" means all other areas within the Regulatory Area which are not defined as existing bottom fishing areas, including waters deeper than 2000 metres.
5. The term "vulnerable marine ecosystems" has the same meaning and characteristics as those contained in paragraphs 42 and 43 of the FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas.
6. The term "significant adverse impacts" has the same meaning and characteristics as those described in paragraphs 17-20 of the FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas.

Article 2bis - ~~Identification Map~~ of existing bottom fishing areas (footprint)

- ~~1. In 2008, NAFO shall proceed to map existing bottom fishing areas within the Regulatory Area for bottom fishing activities. Mapping of trawling activity shall be given priority.~~
- ~~2. Contracting Parties with vessels involved in bottom fishing activities in the period of 1987-2007 shall, for the purpose of paragraph 1, submit during 2008 comprehensive maps of existing fishing areas to the Executive Secretary. Maps shall be based on VMS data and/or other available geo-reference data and expressed in as precise spatial and temporal resolution as possible. Contracting Parties may, in the future, consider the possibility of refining these maps on the basis of haul by haul information, if available.~~
- ~~3. The Executive Secretary shall compile maps submitted by Contracting Parties pursuant to paragraph 2. The Executive Secretary shall on that basis, as well as on any data available to it, produce a comprehensive map of existing fishing areas. The Executive Secretary shall forward this map to the Scientific Council for review and comment at its meeting in September 2008 and thereafter to the Fisheries Commission.~~

The comprehensive map of existing bottom fishing areas referred to in paragraph 3 produced by the Executive Secretary (reference to ANNEX), based on information submitted by Contracting Parties, shall be revised regularly to incorporate any new relevant information. Contracting Parties may, in the future, consider the possibility of refining the comprehensive map on the basis of haul by haul information, if available. (existing text from paragraph 2)

Article 3bis - Bottom fishing activities in new fishing areas

1. ~~From 1 January 2009, a~~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 the~~ exploratory fisheries protocol set out in Part IV of Annex XXV 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 ~~23~~ (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.
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.

Article 4bis - Assessment of bottom fishing

1. The Scientific Council, with the co-operation of Contracting Parties, shall identify, on the basis of best available scientific information, vulnerable marine ecosystems in the Regulatory Area and map sites where these vulnerable marine ecosystem are known to occur or likely to occur and provide such data and information to the Executive Secretary for circulation to all Contracting Parties.
- ~~2. Proposed bottom fishing activities in the Regulatory Area for 2009 shall be subject to assessment by the Scientific Council in 2008, based on the best available scientific information, to determine if such activities, taking account of the history of bottom fishing in the areas proposed, would have significant adverse impacts on vulnerable marine ecosystems.~~
- ~~23. Thereafter, a~~Assessments for proposed bottom fishing activities in the Regulatory Area shall follow the procedures below:
 - i. Each Contracting Party proposing to participate in bottom fishing shall submit to the Executive Secretary information and an initial assessment, where possible, of the known and anticipated impacts of its bottom fishing activities on vulnerable marine ecosystems, in advance of the next meeting of the Scientific Council. These submissions shall also include the mitigation measures proposed by the Contracting Party to prevent such impacts. The Executive Secretary shall promptly forward these submissions to the Scientific Council and the Fisheries Commission.
 - ii. The submission of such information shall be carried out in accordance with guidance developed by the Scientific Council, or, in the absence of such guidance, to the best of the Contracting Party's ability.
 - iii. The Scientific Council shall undertake an assessment, according to procedures and standards it develops, and provide advice to the Fisheries 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. The Scientific Council may use in its assessment additional information available to it, including information from other fisheries in the region or similar fisheries elsewhere.
- ~~34.~~ 34. The *ad hoc* Working Group of managers and scientists on VMEs, the terms of reference of which are attached, shall examine the advice of the Scientific Council and shall make recommendations to the Fisheries Commission in accordance with its mandate.
- ~~45.~~ 45. The Fisheries Commission shall, taking account of advice and recommendations provided by the Scientific Council and the *ad hoc* Working Group of scientists and managers, concerning bottom fishing activities, including data and information arising from reports pursuant to Article 5bis adopt conservation and management measures to prevent significant adverse impacts on vulnerable marine ecosystems, that may include:

- (a) allowing, prohibiting or restricting bottom fishing activities;
- (b) requiring specific mitigation measures for bottom fishing activities;
- (c) allowing, prohibiting or restricting bottom fishing with certain gear types, or changes in gear design and/or deployment; and/or
- (d) any other relevant requirements or restrictions to prevent significant adverse impacts to vulnerable marine ecosystems.

56. Fisheries Commission will periodically ask Scientific Council and the ad hoc working group of managers and scientists on vulnerable marine ecosystems to provide advice to Fisheries Commission on the timing and requirement for assessment of a previously assessed bottom fishery.

Article 5bis – Interim Encounter Provision

Definition of an Encounter – is an encounter, above threshold levels as set out in paragraph 3, 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.

Contracting Parties shall require that vessels flying their flag and conducting bottom fishing activities within the Regulatory Area abide by the following rules, where, in the course of fishing operations, evidence of vulnerable marine ecosystems is encountered:

1) Existing fishing areas

- a) Vessels shall quantify catch of VME indicator species, i.e. coral and sponge.
- b) 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 3 below, the following shall apply:
 - The vessel master shall report the incident to the flag state, which without delay shall forward the information to the Executive Secretary. Contracting Parties may if they so wish require their vessels to also report the incident directly 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.
 - The vessel master shall cease fishing 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. The captain shall use his best judgment based on all available sources of information.
 - The Executive Secretary shall make an annual report on single and multiple encounters in discrete areas within existing fishing areas to the Scientific Council. The Scientific Council shall evaluate and, on a case-by-case basis the information and provide advice to the Fisheries Commission on whether a VME exists. The advice shall be based on annually updated assessments of the accumulated information on encounters and the Scientific Council's advice on the need for action, using FAO guidelines as a basis. The Fisheries Commission shall consider the advice in accordance with Article 4bis, paragraph 45.

2) Unfished areas that are defined as 'New fishing areas'

- a) 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 XXV shall be used (templates).
- b) 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 3 below, the following shall apply:
 - The vessel master shall report the incident without delay to its flag state, which shall forward the information to the Executive Secretary. Contracting Parties may if they so wish require their vessels to also report the incident directly 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.
 - The Executive Secretary shall at the same time request Contracting Parties to implement a temporary closure of a two mile 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.
 - The Scientific Council at its next meeting shall examine the temporary closure. If the Scientific Council advises that the area consists of a vulnerable marine ecosystem the Executive Secretary shall request Contracting Parties to maintain

the temporary closure until such time that the Fisheries Commission has acted upon the advice from the Scientific Council in accordance with Article 4bis, paragraph 45 in Chapter Ibis. If the Scientific Council 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.

- The vessel shall cease fishing 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. The captain shall use his best judgment based on all available sources of information.

- The Executive Secretary shall make an annual report on archived reports from encounters in *new fishing areas* to the Scientific Council. This report shall also include reports from the exploratory fishing activities that were conducted in the last year. The Scientific Council shall evaluate the information and provide advice to the Fisheries 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 Scientific Council's advice should reflect provisions outlined in the FAO guidelines. The Fisheries Commission shall consider the advice in accordance with Article 4bis, paragraph 45.

- 3) 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 60 kg of live coral and/or 800 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.

Article 6bis - Review

The provisions of this chapter shall be reviewed by the Fisheries Commission at its Annual Meeting in 2011. The Commission shall biannually thereafter examine the effectiveness of these provisions in protecting vulnerable marine ecosystems from significant adverse impacts.

ATTACHMENT:**Terms of Reference****Ad Hoc Working Group of Fishery Managers and Scientists on Vulnerable Marine Ecosystems****Structure:**

An ad hoc Working Group of Fishery Managers and Scientists on Vulnerable Marine Ecosystems is established in 2008 which reports to the Fisheries Commission, consults with Scientific Council, and provides recommendations to Fisheries Commission.

The Working Group shall be comprised of fishery managers and scientists from Contracting Parties supported by advisors, as required, up to a maximum of three participants per Contracting Party. The Chair/Vice chair shall be selected from participating fishery managers and scientists with both a fishery manager and a scientist represented in the two positions.

Consideration shall be given by the Fisheries Commission in 2010 to the continuation or dissolution of the working group.

Objective:

The main objective of the Working Group is to make recommendations to Fisheries Commission on the effective implementation of measures to prevent significant adverse impacts on vulnerable marine ecosystems.

Specific Duties:

The Working Group shall:

In examining the advice of Scientific Council to Fisheries Commission, evaluate risk and make recommendations on mitigation strategies and measures to avoid significant adverse impacts on vulnerable marine ecosystems, drawing on relevant international information¹.

Develop operational procedures in 2008 in relation to encounters of vulnerable marine ecosystems to prevent significant adverse impacts.

Review and finalize the attached Exploratory Fishery Protocol for new fishing areas including the development of templates for elements of the protocol for adoption by the Fisheries Commission in 2008.

Meetings:

The Working Group will meet at least once annually between the Meeting of Scientific Council and the Annual Meeting of NAFO and shall communicate regularly through teleconferences and electronically, as required.

¹Including but not limited to the pending FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas

Annex XXV (contd)

IV. Exploratory Protocol for New Fishing Areas

The Exploratory Fishery Protocol for New Fishing Areas shall ~~include~~consist of:

- 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.

**Annex 5. Requirements for bottom fishing assessment
(FCWGFMS WP 10/2, Rev. 2)**

Proposal for Amendment of Article 4bis of Chapter Ibis
(Proposed by the United States)

Proposal

Article 4bis, paragraph 3.i. would read as follows:

3i. If proposed bottom fishing has not been covered by a previous assessment, or if there are significant changes to the fishery, or in light of new scientific information, the Contracting Party proposing to participate in bottom fishing shall submit to the Executive Secretary information and a preliminary assessment of the known and anticipated impacts of its bottom fishing activities on vulnerable marine ecosystems no less than two weeks in advance of the opening of the annual meeting in June of the Scientific Council. Assessments should address the elements as set forth in Annex XXVbis. The Executive Secretary shall promptly forward these submissions to the Scientific Council and the Fisheries Commission.

Annex XXVbis Assessment of Bottom Fishing Activities

Assessments should address, *inter alia*:

1. Type(s) of fishing conducted or contemplated, including vessels and gear types, fishing areas, target and potential bycatch species, fishing effort levels and duration of fishing (harvesting plan);
2. 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;
3. Identification, description and mapping of VMEs known or likely to occur in the fishing area;
4. Identification, description and evaluation of the occurrence, scale and duration of likely impacts, including cumulative impacts of activities covered by the assessment on VMEs;
5. Data and methods used to identify, describe and assess the impacts of the activity, the identification of gaps in knowledge, and an evaluation of uncertainties in the information presented in the assessment;
6. Risk assessment of likely impacts by the fishing operations to determine which impacts on VMEs are likely to be significant adverse impacts; and

The proposed mitigation and management measures to be used to prevent significant adverse impacts on VMEs, and the measures to be used to monitor effects of the fishing operations.