SOUTH EAST ATLANTIC FISHERIES ORGANISATION (SEAFO)

REPORT OF THE SEAFO SCIENTIFIC COMMITTEE

19 – 30 November 2012

Scientific Committee of SEAFO
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1 Opening of the meeting

The 8th Annual Meeting of the SEAFO Scientific Committee (SC) was convened on 19 to 30 November 2012 at the Lotte Hotel, Busan, Republic of Korea. Due to the resignation of the Chairperson, Mr. Phil Large in July 2012, the SC meeting was chaired by the Vice Chairperson, Mr. Paul Kainge, who opened the meeting and welcomed delegates. After thanking the Korean Government and their Commissioner (Mr Jong Hwa BANG) for organising the meeting, he emphasized that this will be an informal discussion of scientific issues and that all delegates are expected to freely express their scientific views so that issues can be resolved and the best possible advice be forwarded to the Commission.

2 Adoption of agenda and meeting arrangements

SC adopted the provisional agenda with only minor revisions. Members were informed of practical arrangements for the meeting by the Executive Secretary.

3 Appointment of Rapporteur

After nomination and secondment, Mr. Erich Maletzky was appointed as rapporteur for the Scientific Committee meeting.

4 Introduction of Observers

Observers from the Republic of Korea, FAO and Bird Life International attended the 8th SEAFO Scientific Committee (Appendix I-R).

5 Introduction of Participants

A total of 14 Scientific Committee members (excluding the SEAFO Secretariat) attend the 8th SEAFO Scientific Committee meeting (see Appendix I-R for list of participants). Due to unavoidable circumstances no members from South Africa could attend the 8th Scientific Committee meeting.

6 Undertake review of submitted SEAFO working documents and any related presentations, allocation to the agenda items. Working documents should be circulated by the 10th November and presentations should be limited to a maximum duration of 10 minutes

Seven working documents were submitted to the Scientific Committee for review and are listed below.

Table 1: List of working documents submitted to the Scientific Committee.

DOC #	Title	Agenda item
JPN_DOC #1	Report of the exploratory fishing (2012)	9.1
JPN_DOC #2 (Rev_1)	Review of footprint	9.2
JPN_DOC #3 (Rev_1)	Plan of the exploratory fishing (2013)	9.3
JPN_DOC #4 (Rev_2)	Seabird mitigation (day set) (CM15-19)(JPN_DOC#4)(rev_2)	17.2
JPN_DOC #5	Review CM22/11 (to amend move-on rule)	18.1
JPN_DOC #6	Review of CM20/10 (to amend TAC of P. toothfish and deep-sea red crab)	16
JPN_DOC #7	Second Japanese proposal for exploratory fishing in 2013	27

7 Review of the report by the Executive Secretary presenting all landings, incidental by-catch and discard tables updated to include 2011 and 2012 to date

The Executive Secretary presented available data and related information. These were updated with additional information made available by SC members.

Catch statistics for the SEAFO CA are incomplete. A table with the available data from 1995 to 1998 was listed in the report of the 1st annual meeting of the Commission (SEAFO, 2004). These data were based on a report by Japp (1999). Some data were derived from the "1975-2005 FAO Southeast Atlantic capture production database" and are added to the current tables of annual catch figures below in **bold**. Concerns were raised regarding availability of this historical data and a recommendation is tabled under Agenda Point 24.

Comments were made regarding effort representation on the table for trawls, as well as the landings versus catches. It was noted that catches should be used instead of landings as this most accurately defines the dataset and that the efforts column be removed from all tables and only the catches reported.

The Executive Secretary then noted that landings figures are only provided by Namibia, while none of the other member states reported landings at their respective ports. The Executive Secretary further noted that catches presented in Tables 1-14 are based on data recorded in the 5-day fishing reports – a system put in place to keep track of the SEAFO TACs for the various fisheries throughout the year.

Historically, the following countries are known to have fished in the SEAFO CA *viz*. Spain, Portugal, Russia, Cyprus, Mauritius, Japan, Republic of Korea, Poland, Norway, South Africa and Namibia. In 2011 and 2012 to date, the only countries that have provided catch data for the SEAFO CA were Japan, Republic of Korea, South Africa and Namibia. VMS data and catch reports suggest that these were the only vessels fishing for SEAFO species in the SEAFO CA.

The Executive Secretary informed SC that apparent IUU fishing has been reported to the Secretariat by vessels fishing in the SEAFO CA, but the extent of this is at present unknown. The Executive Secretary also informed the SC that the matter was taken up with the parties involved but no feedback was received. SC was therefore unable to estimate IUU catches.

Catches for the five main resources are listed by country, fishing method and SEAFO Management Division in Tables 1-7. Tables 8-18 list the bycatch species.

EU (Spain):
Catch data were provided for the years 2001-2010. Since 2010 no catches have been made to date (Tables 1, 3, 4 & 5). From 2001 to 2003, catches were small with the exception of around 100t of Patagonian toothfish recorded in 2003. Landings of toothfish in 2010 amounted to 26t and this was taken by one vessel.

EU (Portugal):
Catch data were provided for 2004 to 2007. No catches have been reported since 2007 (Tables 3 & 4).

Japan:
Catch data were provided from 2003 to 2012 to-date (Tables 1 & 4). Provisional catches for 2012 to date are 86t for Patagonian toothfish. No fishing for deep-sea red crab has taken place as of 2011 to date.

Republic of Korea:
Catch data were provided from 2005 to 2012 to-date (Tables 1, 3 & 5). There was no fishing for Patagonian toothfish as of 2010 to date. The mid-water trawl fishery, a mixed-species fishery, which started in 2010 targets both alfonsino and southern boarfish (pelagic armourhead) and continues to date. The 2012 catches to date are 107t for alfonsino, 117t for southern boarfish (pelagic armourhead).

South Africa:
Catch data were provided for 1976-2012 (Tables 1, 2, 3 & 5). In 2012 South Africa has landed 12t of Patagonian toothfish to date.

Namibia:
Catch data were provided for 1976-2012 (Tables 2, 3, 4, 5 & 6). The only catches on record for 2011 (175t) and 2012 (5t) to date are from the deep-sea red crab fishery.

Other Countries:
Catch data for other countries are summarised in the various tables.

Table 1: Catches of Patagonian toothfish (*Dissostichus eleginoides*) by Spain, Japan and the Republic of Korea (values in **bold** are from the FAO).

Nation	**Spain**	**Japan**	**Republic of Korea**	**South Africa**	
SEAFO Areas	**D**	**D**	**D**	**D**	**D1**
Fishing method	**Longline**	**Longline**	**Longline**	**Longline**	**Longline**
Catch details	**Catches (t)***	**Catches (t)***	**Catches (t)***	**Catches (t)***	**Catches (t)***
1976					
1977					
1978					
1993					
1994					
1995					
1996					
1997					
1998					
1999					
2000					
2001					
2002	18				
2003	101 (14)	47	245		
2004	6	124			
2005	N/F	158	10		
2006	11	155			
2007	N/F	166			
2008	N/F	122	76		
2009	N/F	86	65		
2010	26	54			
2011	N/F	158	N/F	15	28
2012**	N/F	86	N/F	24	12

Partial effort data refers to partial catch in brackets ( ). N/F means no fishing. Blank fields mean no data available.
* Whole weight (t) ** Provisional (1st week of October 2012)

Table 2: Catches (t) of orange roughy (*Hoplostethus atlanticus*). Values in *italics* are taken from Japp (1999).

SEAFO Areas	**B1**	**A1**	**B1**
Nation	**Namibia**	**Norway**	**South Africa**
Fishing method	**Bottom trawl**	**Bottom trawl**	**Bottom trawl**
1995	40	N/F	
1996	8	N/F	
1997	5	22	*27**
1998	N/F	12	
1999	<1	N/F	
2000	75	0	
2001	94	N/F	
2002	9	N/F	
2003	27	N/F	
2004	15	N/F	
2005	18	N/F	

*Sum of catches from 1993 to 1997. There has been no fishing for orange roughy since 2005.
N/F = no fishing. Blank fields = no data available.

Tables 3 (a): Catches (t) of alfonsino (*Beryx splendens*) made by various countries. Values in *italics* are taken from Japp (1999). Values in **bold** are from the FAO.

SEAFO Areas	**B1**	**A1**	**Unknown**	**Unknown**	**Unknown**	**B1**
Nations	**Namibia**	**Norway**	**Russia**	**Portugal**	**Ukraine**	**Republic of Korea**
Fishing method	**Bottom trawl**	**Bottom trawl**	**Bottom trawl**			**Mid-water trawl**
1976			*252*			
1977			*2972*			
1978			*125*			
1993					**172**	
1994						
1995	*1*	N/F				
1996	*368*	N/F			**747**	
1997	*208*	836	*2800*		**392**	
1998	N/F	1066	**69**			
1999	1	N/F		**3**		
2000	<1	242		**1**		
2001	1	N/F		**7**		
2002	0.00	N/F		**1**		
2003	0.00	N/F		**5**		
2004	6	N/F	210			
2005	1	N/F	54			
2006	N/F	N/F	N/F	<1		
2007	N/F	N/F	N/F	N/F	N/F	N/F
2008	N/F	N/F	N/F	N/F	N/F	N/F
2009	N/F	N/F	N/F	N/F	N/F	N/F
2010	N/F	N/F	N/F	N/F	N/F	198
2011	N/F	N/F	N/F	N/F	N/F	196
2012*	N/F	N/F	N/F	N/F	N/F	107

* Provisional (October 2012) N/F means no fishing. Blank fields mean no data available.

Tables 3 (b): Catches (t) of alfonsino (*Beryx splendens*) made by various countries. Values in *italics* are taken from Japp (1999). Values in **bold** are from the FAO.

SEAFO Areas **Nations** **Fishing method**	**Spain** **MWT /BLL**	**Poland**	**Unknown** **Cook Island** **Bottom trawl**	**Unknown** **Mauritius** **Bottom trawl**	**Unknown** **Cyprus** **Bottom trawl**	**B1** **RSA** **Bottom trawl**
1976						
1977						
1978						
1993						
1994						
1995		**1964**				*60*
1996						*109*
1997	**186**					*124*
1998	**402**					
1999						
2000						
2001	2					
2002						
2003	2					
2004	4		142	115	437	
2005	72					
2006	N/F	N/F	N/F	N/F	N/F	N/F
2007	N/F	N/F	N/F	N/F	N/F	N/F
2008	N/F	N/F	N/F	N/F	N/F	N/F
2009	N/F	N/F	N/F	N/F	N/F	N/F
2010	N/F	N/F	N/F	N/F	N/F	N/F
2011	N/F	N/F	N/F	N/F	N/F	N/F
2012	N/F	N/F	N/F	N/F	N/F	N/F

Table 4: Catches (t) of deep-sea red crab (considered to be mostly *Chaceon erytheiae*).

SEAFO Areas	**B1**	**B1**		**A**
Nations	**Japan**	**Namibia**	**Spain**	**Portugal**
1976				
1977				
1978				
1993				
1994				
1995				
1996				
1997				
1998				
1999				
2000				
2001			<1	
2002				
2003			5	
2004			24	
2005	234	54		
2006	389			
2007	770	4		35
2008	39			
2009	196	N/F	N/F	N/F
2010	200	N/F	N/F	N/F
2011	N/F	175	N/F	N/F
2012**	N/F	5	N/F	N/F

* VMS data suggests catches were made in B1. ** Provisional (October 2012)

Table 5: Catches (t) of pelagic armourhead/southern boarfish (*Pseudopentaceros richardsoni*). Values in **bold** are from the FAO.

SEAFO Areas **Nations** **Fishing method**	**B1** **Namibia** **B. trawl**	**B1** **Russia** **B. trawl**	**Unknown** **Ukraine** **B. trawl**	**B1** **RSA** **B. trawl**	**B1** **Spain** **B. trawl & longline**	**Unknown** **Cyprus** **B. trawl**	**B1** **Republic of Korea** **mid-water Trawl**
1976		108					
1977		1273					
1978		53					
1993		1000	**435**				
1994							
1995	8		49	530			
1996	284		281	201			
1997	559		18	12			
1998	N/F						
1999	N/F						
2000	20						
2001	N/F				<1		
2002	N/F						
2003	4				3		
2004					3	22	
2005							
2006							
2007							
2008							
2009	N/F	N/F	N/F	N/F	N/F	N/F	N/F
2010	N/F	N/F	N/F	N/F	N/F	N/F	918
2011	N/F	N/F	N/F	N/F	N/F	N/F	132
2012*	N/F	N/F	N/F	N/F	N/F	N/F	117

* Provisional (October 2012)

Table 6: Catches (t) of oreo dories (*Allocyttus guineensis*, *Allocyttus verrucosus*, *Neocyttus rhombiodalis* and *Oreosoma atlanticum*).

SEAFO CA Nations Fishing method	Russia	Cyprus	Mauritius	Namibia Bottom trawling
1993				
1994				
1995				<1
1996				0
1997				35
1998				No fishing
1999				3
2000				33
2001				14
2002				1
2003				1
2004	<1	21	25	0
2005				4
2006				
2007				
2008				
2009				
2010	0	0	0	0
2011	0	0	0	0
2012*	0	0	0	0

* Provisional (October 2012) No catches have been reported since 2005.

Table 7: Catches (t) of wreckfish (*Polyprion americanus*).

SEAFO Area Nations Fishing method	A Portugal Longline
Catches (bycatch)	
1996	
1997	
1998	
1999	
2000	
2001	
2002	
2003	
2004	1
2005	
2006	6
2007	9
2008	
2009	0
2010	0
2011	0
2012*	0

* Provisional (October 2012)

Table 8: Catches (t) of blackbelly rosefish (*Helicolenus spp*).

SEAFO Areas Nations Fishing method	A, B1, C Rep. of Korea Mid-water trawl
Catches (bycatch)	
2010	129
2011	47
2012*	35

* Provisional (October 2012)

Table 9: Catches (t) of cape bonnetmouth (*Emmelichthys nitidus*).

SEAFO Areas Nations Fishing method	A, B1, C Rep. of Korea Mid-water trawl
Catches (bycatch)	
2010	11
2011	2
2012*	1

* Provisional (October 2012)

Table 10: Catches (t) of imperial blackfish (*Schedophilus* spp.).

SEAFO Areas Nations Fishing method	A, B1, C Rep. of Korea Mid-water trawl
Catches (bycatch)	
2010	24
2011	36
2012*	19

* Provisional (October 2012)

Table 11: Catches (t) of silver scabbardfish (*Lepidotus caudatus*).

SEAFO Areas Nations Fishing method	A, B1, C Rep. of Korea Mid-water trawl
Catches (bycatch)	
2010	30
2011	15
2012*	0

* Provisional (October 2012)

Table 12: Catches (t) of oilfish (*Ruvettus pretiosus*)

SEAFO Areas Nations Fishing method	A, B1, C Rep. of Korea Mid-water trawl
Catches (bycatch)	
2010	5
2011	13
2012*	6

* Provisional (October 2012)

Table 13: Catches (t) of chub mackerel (*Scomber japonicus*).

SEAFO Areas	**A, B1, C**
Nations	**Rep. of Korea**
Fishing method	**Mid-water trawl**
Catches (bycatch)	
2011	50
2012*	0

* Provisional (October 2012)

Table 14: Catches (t) of Cape horse mackerel (*Trachurus capensis*)

SEAFO Areas	**A, B1, C**
Nations	**Rep. of Korea**
Fishing method	**Mid-water trawl**
Catches (bycatch)	
2011	1
2012*	0

* Provisional (October 2012)

Discards: Available data of discards are presented in Tables 15-18.

Table 15: Catches (kg) of roudi escolar (gemfish, *Promethichthys prometheus*) [discard].

SEAFO Areas	**A, B1, C**
Nations	**Rep. of Korea**
Fishing method	**Mid-water trawl**
Catches (bycatch)	
2012*	20

* Provisional (October 2012)

Table 16: Catches (kg) of orange bellowfish [discard].

SEAFO Areas	**A, B1, C**
Nations	**Rep. of Korea**
Fishing method	**Mid-water trawl**
Catches (bycatch)	
2012*	284

* Provisional (September 2012)

Table 17: Catches (t) of grenadiers nei [discard]

SEAFO Areas	**D**	**D**
Nations	**South Africa**	**Japan**
Fishing method	**Demersal longline**	**Demersal longline**
Catches (bycatch)		
2011	0	23
2012*	3	21

* Provisional (October 2012)

Table 18: Catches (t) of blue antimora.

SEAFO Areas Nations Fishing method	D South Africa Demersal longline	D Japan Demersal longline
Catches (bycatch)		
2011	1	5
2012*	0	4

* Provisional (October 2012)

SC reviewed the current 5-day report format and recommends it to the Commission for adoption (see Appendix IX-R for new form).

8 Report (working documents) by the SEAFO Data Manager representing a detailed review of SEAFO Database current situation and procedures for collecting, update and analysing the data

The Executive Secretary informed the meeting on the appointment of Mr. George Campanis (appointed in August 2012) in the capacity of Data Manager for SEAFO. He noted that Mr. Campanis has already begun with the updating and restructuring of the existing SEAFO database in an attempt to get the database into a more appropriate form and up to international standard (Fig. 1).

It was agreed that communication with the Data Manager should be via the official email address (info@seafo.org).

It was agreed that a metadata file will be attached to the SEAFO database that clearly details the database structure as well as all fields (columns) of the database and the nature of data contain within the various tables of the database.

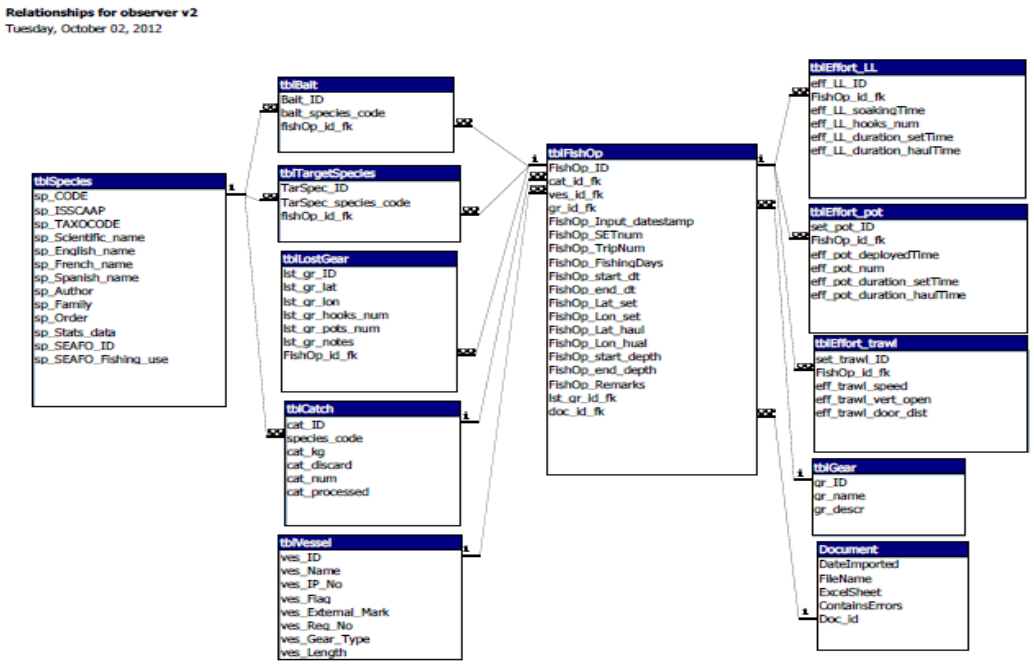


Figure 1: Visual illustration of the reformed SEAFO database structure (note: image only shows a portion of the database structure – entire structure could not be represented on one page).

9 Japanese exploratory fishing survey

9.1 Results of the 2012 survey

Japan presented results on the exploratory fishing conducted during 2012 to SC (see Appendix II-R for details). The exploratory fishing was carried out with the use of trotline fishing gear over a period of 40 days within Division D of the SEAFO CA. Patagonian toothfish was the main species of interest during the exploratory fishing.

The total VME catches during the exploratory fishing period were below 2kg and that Scleractinia (stony corals) was most frequently recorded of the three VME indicator groups. Results from the report showed that Patagonian toothfish catches were similar to that recorded in the adjacent fishing grounds (i.e. existing bottom fishing footprint areas) and that this is possibly attributed to habitat homogeneity between the areas.

9.2 Review of the footprint

Japan submitted a proposal on reviewing the bottom fishing footprint finalized in 2011 on the basis of the results obtained during the 2012 exploratory fishing exercise outlined in section 9.1 above. More specifically Japan proposed that the areas 1, 2, 3, 4 & 6 (see Map 1 in Appendix III-R) be recategorized under the adjacent existing bottom fishing footprint and thus be opened to commercial fishing. A concern was raised that, in light of the fact that the occurrence of VMEs were recorded in some sections of the exploration area, more information on these areas would be needed before the proposal by Japan could be endorsed.

It was noted that there currently exist no guidelines within SEAFO on the way forward after exploratory fishing has been conducted in the SEAFO CA. However, at the consensus of the meeting, it was agreed to follow guidelines set by other RFMOs regarding the actions on exploratory fishing for the interim until such time that guidelines are formulated for the SEAFO CA. On this accord it was agreed to follow option (iii) under Regulation 3 of "*Article 19ter – Evaluation of exploratory bottom fishing activities*" from the NAFO FC WP (2012). Below is an extract from the NAFO FC WP (2012) highlighting (in *italics*) the interim measure agreed upon:

"

Article 19ter Evaluation of exploratory bottom fishing activities

1. At its meeting immediately following receipt of the accordance with Article 18(5), the Scientific Council shall evaluate the exploratory bottom fishing activities. Taking into account the risks of significant adverse impacts on vulnerable marine ecosystems, the Scientific Council shall, in line with the precautionary approach, provide advice to the Fisheries Commission on the decision to be taken in accordance with Article 19ter(3).
2. The Working Group of Fishery Managers and Scientists on VMEs shall examine the advice of the Scientific Council delivered in accordance with Article 19ter(1) and shall make recommendations to the Fisheries Commission in accordance with its mandate.
3. The Fisheries Commission shall, taking account of advice and recommendations provided by the Scientific Council and the Working Group of Fishery Managers and Scientists on VMEs, either to:

i. Authorise the bottom fishing activity for part or all of the area in which exploratory bottom fishing was carried out and include this area in the existing bottom fishing areas (footprint), or,
ii. Discontinue the exploratory bottom fishing activity and, if necessary, close part or all of the area where which exploratory bottom fishing was carried out, or,
iii. Authorise the continued conduct of exploratory bottom fishing activity, in line with Article 18 with a view to gather more information.

"

Japan then agreed to re-apply for exploratory fishing access to the same area during 2013 to fulfil the interim rule of conducting exploratory fishing for at least two years in the same area before results from the exploratory fishing can be evaluated. SC drafted rules on the opening of new fishing grounds (Appendix VIII-R) that is forwarded to the Commission for adoption.

9.3 Proposals to the 2013 survey

Japan submitted a proposal for exploratory fishing in the SEAFO CA for 2013 (Appendix IV-R). The proposed fishing exploration is focussed in Division D in two distinct areas referenced as Blocks AA and BB in the proposal (see Figure 1 of Appendix IV-R).

An immediate concern was raised with regard to the location of proposed exploration Block AA. The concern relates to the fact that the proposed exploration area (Block AA) envelopes Closed Area 12. It was highlighted that the SEAFO closed areas were define on the basis of GEBCO data which is a low bathymetric resolution dataset. For this reason it was noted that fishing in proposed Block AA may encroach on Closed Area 12 – a concern that should be addressed. In addition to this it was noted that a named seamount, Schwabenland Seamount, is located in proposed Block AA and that this may present problems with regard to approval of the proposal.

In closing it was noted that the spatial sampling resolution for future exploratory fishing should be structured in such a manner as to ensure adequate spatial coverage of proposed fishing areas. The justification for this is that a 1° x 1° block/area cannot be opened to commercial fishing on the basis of exploratory fishing results that were spatially confined to a narrow region of the block.

10 Draft Status Reports for commercially important species

All reports for the major SEAFO species have been completed and will be distributed as separate documents to the SC report. Status reports are on the following species:

10.1 Patagonian toothfish (*Dissostichus eleginoides*)

10.2 Alfonsino (*Beryx splendens*)

10.3 Deep-sea red crab (*Chaceon erytheiae*)

10.4 Orange roughy (*Hoplostethus atlanticus*)

10.5 Southern boarfish/pelagic armourhead (Pseudopentaceros richardsoni).

11 Review research activities in the SEAFO CA (Sept 2011 – Nov 2012).

The Executive Secretary reported that a research survey was conducted during March 2012 on the Walvis Ridge with the aim to dredge 40 seamounts along the southwest portion of the Walvis Ridge. Intensive

mapping and dredging was conducted with the aim of obtaining high-precision radioactive aging data and geochemical analyses for each seamount. This research was undertaken by Oregon State University, Texas A&M University and Columbia University.

SC was unable to review this research as the results were not yet available.

12 Review landings, spatial and temporal distribution of fishing activity and biological data on bycatch species.

Catch data were presented by the Executive Secretary. SC has agreed that in future only observer data should be used to present annual catches. Tables presenting bycatch data to date are listed under section 7.

13 Review the spatial distribution of reported catches of benthic organisms (corals, sponges etc.).

SC reviewed information contained in the NAFO list and CCAMLR guide on VME indicator species and compiled a provisional VME list for the SEAFO CA (Table 19).

Table 19: Provisional list of benthic invertebrate VME indicator species/groups for the SEAFO CA.

Group/Species code	Phyllum/Order/Family	Common name
PFR	Porifera	Sponges
GGW	Gorgonacea (Order)	Gorgonian corals
AZN	Anthoathecatae (Family)	Hydrocorals
CSS	Scleractinia (Order)	Stony corals
AQZ	Anthipatharia (Order)	Black corals
ZOT	Zoantharia (Order)	Zoanthids
AJZ	Alcyonacea (Order)	Soft corals
NTW	Pennatulacea (Order)	Sea pens
BZN	Bryozoa	Erect bryozoans
CWD	Crinoidea (Class)	Sea lilies
OWP	Ophiuroidea (Class)	Basket stars
SZS	Serpulidae (Family)	Annelida
SSX	Ascidiacea (Class)	Sea squirts

Available data for bycatches of live corals and sponges are presented in Tables 20-23.

Table 20: Catches (kg) of gorgonians (VME indicators)

SEAFO Area	**D**
Nations	**Japan**
Fishing method	**Demersal longline**
Catches (bycatch)	
2011	30
2012*	31

* Provisional (October 2012)

Table 21: Catches (kg) of black corals and thorny corals (VME indicators)

SEAFO Area	D
Nations	Japan
Fishing method	Demersal longline
Catches (bycatch)	
2012*	0.02

* Provisional (October 2012)

Table 22: Catches (kg) of Scleratinia (VME indicators).

SEAFO Area	D
Nations	Japan
Fishing method	Demersal longline
Catches (bycatch)	
2011	15
2012*	18

* Provisional (October 2012)

Table 23: Catches (kg) of sea pens (VME indicators).

SEAFO Area	D
Nations	Japan
Fishing method	Demersal longline
Catches (bycatch)	
2012*	0.02

* Provisional (September 2012)

There were no recorded instances in 2010, 2011 and 2012 of individual set bycatches exceeding the current VME threshold values (60kg for corals and 800kg for sponges). Set-by-set data for longliners fishing in 2010 showed an overall range of coral and sponge bycatch from 0.06 to 4.2kg (mean: 0.96kg) and 0.002 to 6.8kg (mean: 0.93kg), respectively. Set-by-set data for longliners fishing in 2011 showed an overall range of coral bycatch from 0.005 to 4.5kg (mean: 1.1kg). There has been no sponge bycatches reported in 2011 to date. Very low bycatches have been recorded during 2012 covering a range of 0.02 to 31kg for various VME indicators (see Tables 20-22 for specifics).

The spatial distribution of recorded bycatches of corals and sponges in 2010 to 2012 is shown in Figure 2.

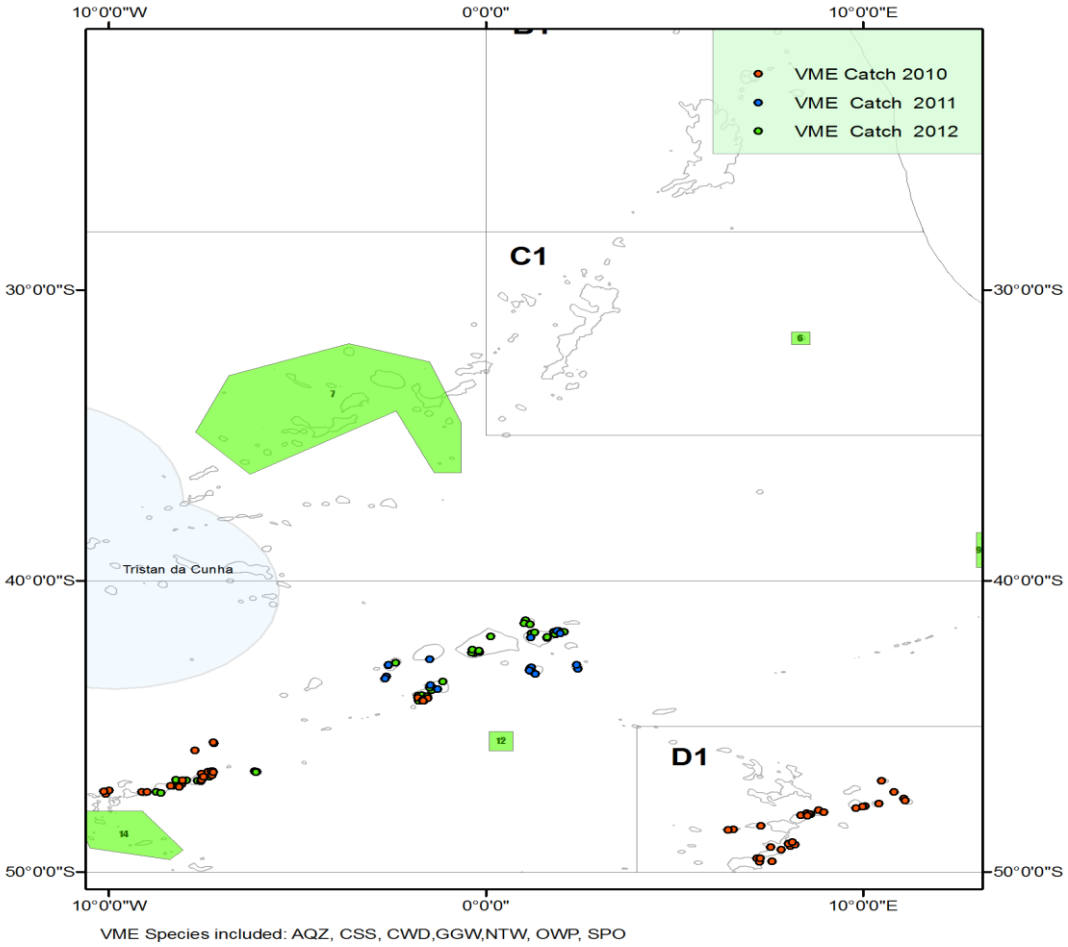


Figure 2: Catch positions of VME indicators (2010-2012 Oct.).

14 Examine, where appropriate, assessments and research done by neighbouring organisations (such as BCLME/BCC, CCAMLR, GCLME, ICCAT, SWIOFC).

SC reviewed assessments conducted by neighbouring organizations such as CCAMLR in relation to Patagonian toothfish resources and noted that CCAMLR experienced similar challenges related to data-poor situations in some Sub-areas and Divisions as is currently the case in the SEAFO CA.

15 Review of methodologies used to determine harvest specifications for data-poor stocks and evaluation of their appropriateness for SEAFO stocks: catch-based approaches and assessments.

A summary of the latest proposal to evaluate data-poor stocks in the ICES was presented to the SC. It was recognised that in the future, stock assessments for SEAFO stocks will follow similar approaches.

16 Review Conservation Measure 20/10: on Total Allowable Catches and related conditions for the Patagonian toothfish, Orange roughy, Alfonsino and Deep-sea red crab in the SEAFO Convention Area in 2011 and 2012.

Having considered all scientific advice from the 2012 Scientific Committee meeting – inclusive of the Stock Status Reports, work conducted by other RFMOs and working documents the SC recommends the following Total Allowable Catch limits for species within the SEAFO CA for 2013:

By-catch
SC noted that in certain fisheries, such as the alfonsino and Southern boarfish (pelagic armourhead) fisheries, large quantities of bycatch of TAC species have been defined are landed.

Patagonian toothfish
Based on the exploratory data analyses, it was found that mean lengths and depths showed decreasing trends (2009-2011) while nominal CPUE showed contradictory trends between areas. With this information, it is not possible to provide the status of the Patagonian toothfish stock in the SEAFO CA.

SC thus recommends to uphold the 2010 recommendation which was based on two opinions of **200t** and **260t**, for the 2013 fishing season.

Deep-sea red crab
It was agreed that for the SEAFO deep-sea red crab stock assessment a standardized CPUE series will suffice at this time for management purposes. However, the standardization of the deep-sea red crab CPUE is not as straight-forward as was expected and thus could not be completed within the context of the SC meeting. It was thus agreed that the CPUE standardization will be completed inter-sessionally and management advice updated by the next SC meeting in 2013.

SC therefore recommends that the status quo be maintained as set in 2010 (i.e. **200t** of Sub-division B1, and **200t** for the remainder of the SEAFO CA).

Orange roughy
There is no data available for orange roughy within the SEAFO CA, as a result SC cannot provide a reliable state of the stock assessment within the CA. SC recommends that orange roughy assessment should be done separately for each aggregation area found in the SEAFO CA and subsequent quotas.

SC therefore recommend a status quo for the 2013-2014 TAC: Zero (0) tonnes in Sub-Division B1 and **50t** in the remainder of the SEAFO CA.

Alfonsino
Information available on the stock status does not allow evaluating the stock status of the species. SC considers that there is not enough information to revise the TAC that has been proposed in 2010. SC agreed that inter-sessional work will be done in order to improve and update the advice on this species.

SC recommends a TAC of **200t** is fixed for the SEAFO CA for 2013 and 2014.

Southern boarfish (pelagic armourhead)
SC could not reach a consensus on the recommendation regarding the Southern boarfish TAC and thus presents the three views discussed during the meeting:

Opinion 1 (Member Adoption: 4):
Southern boarfish adulthood population is concentrated in restricted area on the summit of seamounts. The actual fishing grounds are located in a small area of about 200 km^2 at Valdivia Bank. The spatial behaviour of species and of the fishery makes the use of a local depletion method an adequate tool to evaluate the status of the population. The model results obtained show that the actual level of exploitation over the stock is too high and is likely to drive the population to extremely low levels. This condition of the stock is consistent with trend of annual catches and fishing effort (in number of fishing hauls) since the start of the

fishery in 2010 (Fig. 3). For this unmanaged stock the catch in 2011 represents nearly 15% of that from 2010. This decrease occurred even though the fishing effort did not significantly differ between the two years. In 2012, although the fishing season has not finished yet the effort thus far is at the same level as that of 2011 (2011: 85 hauls, 2012: 89 hauls).

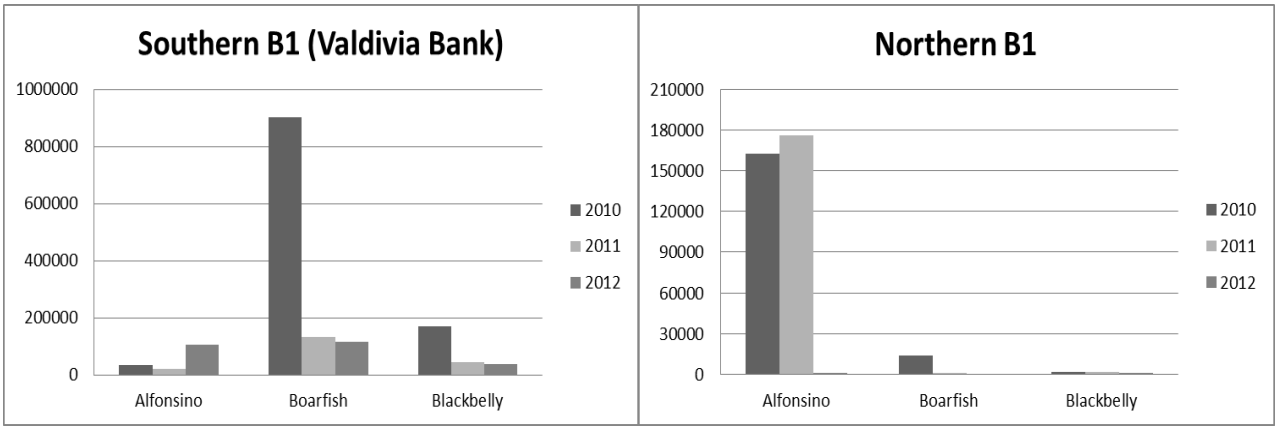


Figure 3: SEAFO CA catch trends from the mid-water trawl fishery for 2010-2012.

The spawning behaviour of the species strengthens the negative impact of fishing, since spawners are concentrated in the area and spawning is likely to occur in a specific season. Available data indicate that spawning in SEAFO takes place during the 2nd quarter of the year (May-June).

By considering the 2010 estimate of the biomass at the beginning of the fishing season (851 t) as a proxy virgin stock biomass(Bv) the BMSY estimate will be equal of about 425.5t. Following Gulland (1971) method (MSY = 0.5*M*Bv) and assuming 0.279 the estimate of natural mortality for the species, the maximum sustainable yield, MSY, estimate equals 120 t.

SC reviewed work from the North Pacific Armourhead fishery and notes that this stock failed to recover after an initial intense exploitation rate (Fig. 4). It was recognized that since this species have similar biology and population dynamics, when subjected to a similar exploitation, the fishery can deplete the stock within 1-3 years (Anon 2012).

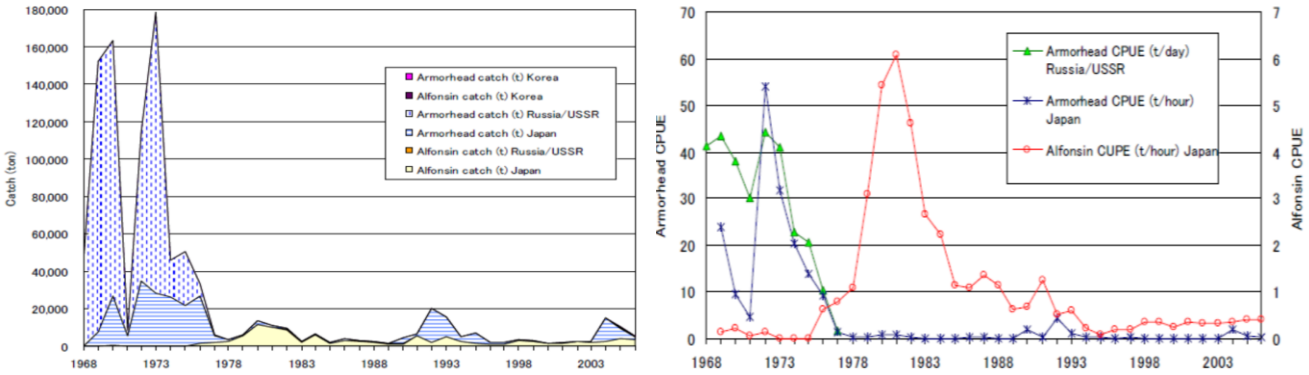


Figure 4: Catch and CPUE trends from the North Pacific armourhead and alfonsino fishery in the North Pacific (Anon 2012).

Recommendation: For **Option 1** it is recommended that the 2013 TAC for Armourhead be set at **120t** for Sub-division B1.

Opinion 2 (Member Adoption: 1):

- The average length for 2010-2011 September: decreased (44.3 to 44.1 cm) and the median remained constant at 41.0cm.
- The estimated biomass (by Local depletion model) at the beginning of the fishing season for 2010-2011 decreased (¼ from 2010 to 2011).
- The fishing ground of *P. richardsoni* by Korean trawls: concentrated at Valdivia Bank (aggregate at the adulthood)
- The level of exploitation over the stock was considered high

∴ Setting a proper fishery management is required

Considering TAC

1. Bmsy was estimated as: 0.5*B=0.5*850=425 t (375-548).

   Summary statistics of the biomass (tonne) at the beginning of the fishing season derived from 2000 bootstrap re-sampling estimates

Year	25% Percentile	Estimate	75% Percentile l
2010	751	851	1096
2011	137	176	229

- The model to estimate virgin biomass (B_0) used CPUE (haul-by-haul) and catch only without considering biological characteristics.
- The estimated biomass has many uncertainties because of unfitted assumptions for the population and lack of data for stock assessments.
- The estimated biomass through the process of the used model just reflected the catches.
- The estimated value is too small to use as the base value for calculating TAC.
- To get more reasonable results it is required to collect more data for a few years.

2. Need to consider catch and CPUE trend
- Mean catch for 2010-2011: (918+132)/2=525 t
3. Mean value between 425 (Bmsy) and 525 t (Mean catch): 475 t

Recommendation: For **Option 2** it is recommended that the 2013 TAC for Armourhead be set at **450t** for Sub-division B1.

Opinion 3 (Member Adoption: 1):

Due to difficulties to have scientifically robust results on the status of the Armourhead stock in the 2012 SC, SC faced difficulties to produce the agreed TAC. However, as the SC has the consensus to suggest the TAC; it is suggested as the 3rd opinion, that the average catch in 2010-2011 (525 t) is proposed. Then, each year TAC needs to be reviewed scientifically with new information until the consensus is reached.

Recommendation: For **Option 3** it is recommended that the 2013 TAC for Armourhead be set at **525t** for Sub-division B1.

17 Review Conservation Measure 15/09.

17.1 On reducing incidental bycatch of seabirds in the SEAFO Convention Area

A proposal to amend Conservation Measure 15/09 was presented to SC (JPN_DOC #4 (Rev_2) - see Appendix V-R for the revised CM). The proposal was to amend CM 15/09 to be in line with existing seabird bycatch mitigation measures in CCAMLR with regards to the sinking rate of the fishing gear.

17.2 Proposal to amend paragraph 5 for day operation

The proposed amendments to paragraph 5 (in **bold**) was adopted as follows:

Longlines shall be set at night only (i.e., during the hours of darkness between the times of nautical twilight (1)). During longline fishing at night, only the minimum ship's lights necessary for safety shall be used. **However, this shall not apply only if a vessel can demonstrate its ability to fully comply with one of the 3 protocols described in Appendix C. In case, vessels having caught a total of three (3) seabirds during one fishing trip shall revert to the night setting immediately and resume the day operations from the next trip or in 3 months period from the date of 3rd capture of seabird, whichever is longer, subject to fully comply with one of the 3 protocols**.

18 Review Conservation Measure 22/11 on Bottom Fishing Activities in the SEAFO Convention Area.

18.1 Amendment of the move-on rule (2.2 b, 2. Existing bottom fishing area, Annex 5)

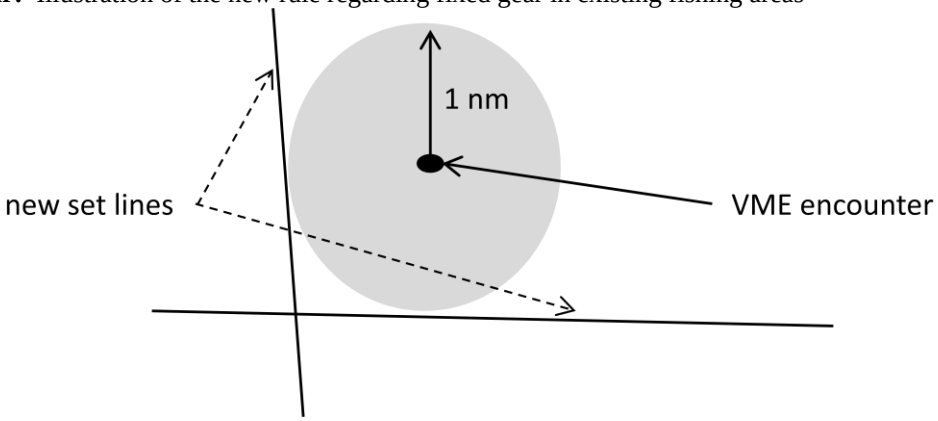
A proposal to amend the VME encounter Move-On Rule (Conservation Measure 22/11) was submitted to SC (JPN_DOC #5 – see Appendix VI-R for amended version). It was suggested that the current rule be changed to restrict subsequent fishing efforts to a 1 and 2 nm (longline and trawl gear, respectively) radius around the VME encounter point. Amendments have been made to sections 2.2b and 3 and are highlighted in yellow (with additional images for clarification):

“

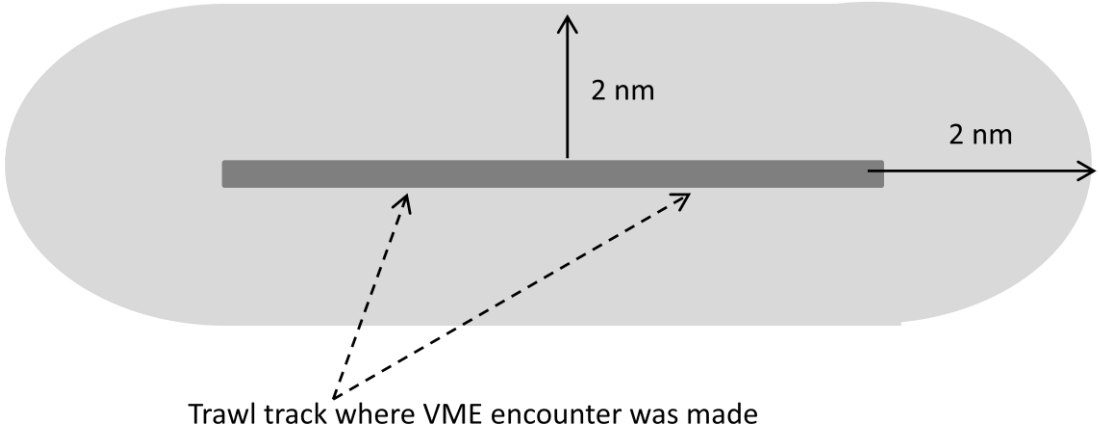
Existing bottom fishing areas:

2.2.b. The vessel master shall cease fishing, haul the gear, and move away at least 1 nautical mile for fixed gears from the mid-point of the line 1200m section (longline and pot) (Paragraph 4) from which the VME-indicator units are recovered, and for trawlers 2 nautical miles from the endpoint of the tow/set in the direction least likely to result in further encounters. **Any further longline or pot sets shall be set outside a radius of 1 nautical mile from the point where the VME encounter was made. Any further tow or trawl sets shall be set a distance of 2 nautical miles away from the entire tow/trawl track where the VME encounter was made.** The master shall use his or her best judgment based on all available sources of information. Longliners and pot-vessels shall clearly mark fishing lines into line segments and collect segment specific data on the number of VME indicator units (Paragraph 4).

Fixed gear: Illustration of the new rule regarding fixed gear in existing fishing areas



Trawl/towed gear: Illustration of the new rule regarding fix trawl/towed gear in existing fishing areas



3. New fishing areas:

3.3. The vessel shall cease fishing, haul the gear, and move away at least 2 nautical miles for trawlers from the endpoint of the tow/set in the direction least likely to result in further encounters, and for fixed gears from the mid-point of the line 1200m section (longline and pot) from which the VME-indicator units are recovered. Vessels shall clearly mark fishing lines into line segments and collect segment specific data on the number of VME indicator units (see Paragraph 4). **Any further longline or pot sets shall be set outside a radius of 2 nautical mile from the point where the VME encounter was made. Any further tow or trawl sets shall be set a distance of 2 nautical miles away from the entire tow/trawl track where the VME encounter was made**. The master shall use his or her best judgment based on all available sources of information.

”

18.2 Other matters

SC was informed of changes in the NEAFC thresholds for VME encounters. It was noted that in 2012 these threshold levels were reduced by 50%. SC has reviewed the ***“Conservation Measure 20/11: on Bottom Fishing Activities in the SEAFO Convention Area”*** in relation to the threshold levels. Changes have only been made to Annex 5, section 4 (see Appendix VI-R for amendments). SC reviewed available information from NAFO and NEAFC regarding their protocols for threshold levels of VME indicators and decided to propose a reduction in the threshold levels for trawl tows. Thus the new threshold levels for the SEAFO CA are suggested to be lowered as follows:

"

4. Threshold levels

An encounter with VME indicator species is defined for each of the following fishing gears as follows:

Trawl tow – more than **300kg** of live sponges and/or **30kg** of live coral in existing fishing areas and more than **200kg** of live sponges and/or **30kg** of live coral in new fishing areas.

Longline set – at least 10 VME-indicator units (1 unit = 1kg or 1 litre of live coral and/or live sponge) in one 1200m section of line or 1000 hooks, whichever is the shorter, in both existing and new fishing areas;

Pot set – at least 10 VME-indicator units (1 unit = 1kg or 1 litre of live coral and/or live sponge) in one 1200m section of line in both existing and new fishing areas.

The definition of VME indicator units for bottom longlines and pots is as follows:

The quantity of VME-indicator organisms (i.e. live corals and/or live sponges) recovered during hauling should be reported for each 1200m section of the longline or potline (in the case of longlines - or 1000 hooks whichever is the shorter) as:

a) Volume (litre) for VME-indicator organisms which fit into 10-litre container;

b) Weight (kg) for VME-indicator organisms which do not fit 10-litre container (e.g. branching species); and

c) VME-indicator units which is the combined total of volume of VME-indicator organisms which fit into 10-litre and weight of VME-indicator organisms which do not fit into containers of 10-litre (i.e. unit = volume + weight).

The Commission would like to express concern that the duration of tow is not specified and request that the Scientific Committee consider this in the next SC meeting.

"

19 Review of progress regarding the development of an ID guide for fish, crustaceans and incidental bycatch species.

The Executive Secretary informed SC on the progress of the development of an ID guide for fish, crustaceans and incidental bycatch species. The ES noted that the FAO has been contacted in constructing the ID guide and that this exercise carries a NAD120,000 (US$13,528) financial implication.

It was noted that, as agreed during the 2011 SC meeting, the most important component of the SEAFO species ID guide is related to the classification of the various species found in the SEAFO CA. For this reason it was suggested that a substantial portion of the budgeted ID funds be utilised for taxonomic clarification (i.e. contracting a taxonomist to clearly delineate very closely related species such as that of the deep-sea red crab group).

FAO note: There may be an avenue through FAO cooperation regarding the taxonomic component of this SEAFO ID guide project specifically under the Deep Sea Project.

20 Review the list of species found in commercial and research catches in the SEAFO CA and analysis of the Species Profile work already done and future progress.

The Executive Secretary informed SC that the existing species list on the SEAFO website does not contain all the species that have been recorded from fishing operations in the CA and that SC should consider updating the list to include all species recorded in the CA to date.

SC agreed that a request will be forwarded to the Data Manager to compile a list of all new species not already included in the current species list and circulate this list to SC members before the 2013 meeting for consideration.

SC further noted that the species profiles for some of the commercial species have been updated and that work is ongoing for other species such as the deep-sea red crabs.

21 Review progress regarding development of a SEAFO series of Working Documents.

The Executive Secretary informed the SC that the Commission has adopted the SC-proposed format for referencing working documents in SEAFO. The Executive Secretary requests that SC identify working documents to be uploaded to the website. SC will revisit this issue in 2013.

SC requests the Secretariat to formulate a template for working documents to be discussed at the next SC meeting.

22 Finalize revision of Scientific Committee Rules and Regulations.

SC reviewed the Committee Rules and Regulations adopted by the Commission in 2011 and effected minor grammatical and spelling corrections.

SC has taken note of the Commission's approval for access to data for work in the Scientific Committee and has finalized the Rules for Access and Use of SEAFO Data (Appendix VII-R) and recommends the Commission to adopt it.

It was also noted that the Secretariat intends to reform the website with the aim of making the SEAFO database accessible via the members' only section of the SEAFO website. This will make access to data contained within the SEAFO database readily accessible to all SC members who may need the data for inter-sessional work. This will be subject to the new Data Access and Use rules once approved.

23 Co-operation with other organizations/science programs.

23.1 Invitation for SEAFO to contribute to and participate in an FAO Project: "Demonstration and pilot implementation in 2 Areas Beyond National Jurisdiction (ABNJ) areas of management and

conservation tools for deep-sea fisheries, and conservation and sustainable use of VMEs & EBSAs (Regional)".

Ms. J. Sanders from the FAO presented information on the ABNJ Deep Sea Project of the FAO Deep Sea Programme. Details are provided below:

Topic: *Sustainable fisheries management and biodiversity conservation of deep-sea ecosystems in areas beyond national jurisdiction*

Outline: The FAO will be starting the development of the above project in December 2012 and would like to invite SEAFO to be a partner and participate in the project development process. The project will involve four main components: (i) improved application of policy and legal frameworks for sustainable fisheries and biodiversity; (ii) Reduced significant adverse impacts on vulnerable marine ecosystems (VMEs) and ecologically or biologically significant areas (EBSAs); (iii) improved planning and adaptive management for deep-sea fisheries; and (iv) development and testing of a methodology for area-based planning (led by UNEP). The project will be global in scope, but will also include focal areas for specific activities which are preliminarily identified as the SE Atlantic region, the Indian Ocean region, and as well as the SE Pacific.

23.2 CWP & FIRMS

The Executive Secretary reported that SEAFO has been invited to the Steering Committee meeting of the Coordinating Working Party on Fishery Statistics (CWP) and Fishery Resources Monitoring System (FIRMS) during February 2013. The SC noted that SEAFO has an obligation to annually submit catch data to the FAO.

24 Advice and Recommendations to the Commission:

- *Exploratory fishing proposals for 2013*: Regarding the exploratory fishing by Japan in 2013 two submissions were made to the SC. The first pertains to a revisit of the same area explored during 2012 and the 2nd relates to a new area in Division D that Japan intends to explore in 2013 (Appendices II-R and III-R). The SC has reviewed both proposals and concluded that both meet the conditions defined for exploratory fishing within the CA.

- *SEAFO ID guide*: SC requests NAD120 000 for the development of the SEAFO ID guide. It is further recommended that additional work is required regarding the taxonomy of certain deep-sea species (such as red crab and some mid-water trawl species) of the SEAFO CA.

- *"Rules on Access and Use of SEAFO data*": SC has taken note of the Commission's approval for access to data for work in the Scientific Committee and has finalized the Rules for Access and Use of SEAFO Data (Appendix VII-R) and recommends that the Commission approves the amendments.

- *Historical data contained outside SEAFO*: SC has taken note that there has been fishing for Orange roughy, and other species, in the SEAFO CA historically, but that this data is not contained within the SEAFO database. SC thus recommends that the Commission request all CPs and non-CPs to provide data they might have on Orange roughy.

- *Bycatch reporting*: SC recommends that all CPs and non-CPs fishing in the SEAFO CA should report discarded bycatches and not only bycatches that are retained.

With regard to TACs for the various species in SEAFO CA, SC recommends the following:

- **By-catch**
  SC recommends that all by-catches of TAC species should be deducted from the respective TACs.

- **Patagonian Toothfish**
  SC recommends to uphold the 2010 recommendation which was based on two opinions of **200t** (supported by 4 CPs) and **260t** (supported by 2 CPs), for the 2013 fishing season.

- **Deep-sea red crab**
  SC recommends that the status quo be maintained with regards to the TAC set for the SEAFO CA in 2010 (i.e. **200t** of Sub-division B1 and **200t** for the remainder of the SEAFO CA).

- **Orange roughy**
  SC recommends a status quo for the 2013 and 2014 TAC: Zero (0) tonnes in Sub-Division B1 and **50t** in the remainder of the SEAFO CA.

- **Alfonsino**
  SC recommends an annual catch limit of **200t** is fixed for the SEAFO CA for 2013 and 2014.

- **Southern boarfish (pelagic armourhead)**
  SC could not reach a consensus on the 2013 TAC for Armourhead, and thus forwards three options to the Commission for consideration:
  [1] a TAC of **120t** for Sub-division B1 (supported by 4 CPs);
  [2] a TAC of **450t** for Sub-division B1 (supported by 1 CP); and
  [3] a TAC of **525t** for Sub-division B1 (supported by 1 CP).

- *Seabird bycatch mitigation rule*: SC reviewed the proposed amendment and recommends that the Commission adopts the revised Conversation Measure 15/09 (Appendix V-R).

- *VME move-on rule and threshold levels*: SC reviewed the *"Conservation Measure 20/11: on Bottom Fishing Activities in the SEAFO Convention Area"* in relation to the move on rule and VME threshold levels and recommends that the Commission adopts the revised Conservation Measure (Appendix VI-R)

- *ABNJ Deep Sea Project*: SC reviewed the proposal by FAO and recognises the benefits for co-operation on the Deep-sea Project. The SC recommends that the Commission approve the participation by SEAFO in the project.

- *Opening of bottom fishing footprint*: SC deliberated on the setting of rules for the opening of new fishing areas. A set of rules has been drafted and is recommended to Commission for approval (Appendix VIII-R).

- *5-day catch report form*: SC reviewed the current 5-day report format and recommends it to the Commission for adoption (see Appendix IX-R for new form)

25 Future work program for 2013.

The SC made a note of inter-sessional work to be completed based on the outcomes of the 2012 SC meeting, and these are listed below:

- ⇨ Stock Assessment (Deep-sea red crab and Alfonsino)
- ⇨ Training of observers on seabird mitigation measure in the trawl fisheries.
- ⇨ FAO ABNJ Deep-sea Project
- ⇨ The Secretariat to annually confirm Scientific Coordinators for the various CPs.
- ⇨ Data required for SC to be compiled and forwarded to the Data Manager by Scientific Coordinators.
- ⇨ Review development of a SEAFO series of Working Documents reference guidelines (inter-sessionally).
- ⇨ SC to draft specific rules and guidelines for biological data sampling (e.g. maturity, sample size, weight and length frequency).

26 Budget for 2013.

- ⇨ NAD120 000 for the FAO ID guide;
- ⇨ NAD140 000 for the new deep-sea red crab stock, Alfonsino and other TAC assessment work (travel and accommodation costs); and
- ⇨ Bird Life International has offered to provide training to observers in the trawl fishery, but will require assistance with regard to travelling and accommodation costs (NAD50 000 for a 5-day period).
    - o A need was recognised for training of observers in the trawl fishery on the risks of seabird-trawl interactions in the mid-water trawl fishery. Proposal is to be submitted to the Secretariat by Bird Life International in support of the need for training of observers regarding seabird-trawl interactions in the SEAFO CA.

27 Any other matters.

⇨ *Data quality*

SC has noted that data quality still remains a concern within the SEAFO fisheries that needs to be addressed. SC recommends that data quality control measures are set up within the SEAFO database.

⇨ *Rules for sampling and data reporting*

The SC concluded that specific rules and guidelines regarding the biological data sampling procedures (e.g. maturity, sample size, weight and length frequency) need to be drafted and implemented.

SC noted that no FAO codes exist for some SEAFO species and recommended that the Secretariat forward the names of such species to the FAO to be updated.

⇨ *Second Japanese proposal for exploratory fishing in 2013*

Japan submitted a proposal to SC for conducting an exploratory fishing exercise in the SEAFO CA (see Appendix c for detail). Japan aims to explore the same area as it did during the 2012 fishing exploration in line with the new rule of "Opening new fishing areas" after two years.

28 Election of Chairperson.

SC, by consensus, elected Mr. Paul Kainge as Chair, and Mr. Tsutomu Nishida as vice-Chair of the Scientific Committee. Term of service is 2013-2015 for both positions.

29 Adoption of the report.

The Report was unanimously adopted by the 8th SEAFO Scientific Committee meeting.

30 Date and place of the next meeting.

SC noted that normally the date and venue of the SEAFO meetings are set by the Commission, but that Angola has provisionally offered to host the 2013 SC meeting in Lobito, Angola.

SC proposed the following dates for the 2013 SC meeting: 30 September to 11 October 2013. SC further notes that dates for other RFMOs have already been set and that this date proposed here also presents some difficulties with regard to attendance of SC members.

31 Closure of the meeting.

On Friday 30 November 2012 at 16h12, the Chairperson declared the closure of the meeting after all items have been concluded. In his closing remarks, the Chair expressed his satisfaction for the work accomplished and thanked all participants for their valuable contributions.

32 References

Anon (2012) – The stock assessment workshop for North Pacific Armourhead, Shimizu, Shizuoka, Japan. Workshop Report. March 2012

Gulland J.A. (1971) – The Fish Resources of the Ocean. Fishing News (Books), West Byfleet, 255 pp.

Japp D. (1999) – An updated review of the catch statistics in the SEAFO Area was prepared by D.W. Japp, Fisheries & Oceanographic Support Services cc, Cape Town for consideration at the SEAFO Meeting in Cape Town on 27 September 1999. Unpublished.

NAFO WP 2012 – NAFO Working Paper 12/6. 34th Annual Meeting September 2012. 12pp.

SEAFO (2004) – Report of the 1st Annual of the Commission Meeting
(http://www.seafo.org/CommAnnualReports.html)

APPENDIX I-R – List of Participants

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APPENDIX II-R – Results of exploratory fishing by Japan in Division D of the SEAFO CA.

Report of the Japanese exploratory fishing
by FV Shinsei-maru No. 3 in 2012

National Research Institute of Far Seas Fisheries (NRIFSF)
Fisheries Research Agency (FRA), Japan

November, 2012

Abstract

FV Shinsei maru No. 3 conducted the exploratory bottom fishing operations in the new fishing ground (see Map 1) for 40 days from August 15 to September 22, 2012. Based on the results of the exploratory fishing data from FV Shinsei maru No3, it was found that (a) there were very minor VMEs and (b) Patagonian toothfish resources (catch and CPUE) were similar to those in the existence fishing (footprint) areas. The latter item (b) implies that habitats of Patagonian toothfish resources in both existing and exploratory fishing areas are likely homogenous nature. In addition, the bottom longline fishing is the VME safe gear. Thus there are no doubts that VME will not be significantly affected and Patagonian toothfish resources will not be also significantly affected unless otherwise a large fishing pressure occurs. As a conclusion, this exploratory fishing area can be classified as the existing fishing (footprint) area.

Contents

Submitted to the SEAFO 8th Scientific Committee (November 19-30, 2012) (Busan, Korea)

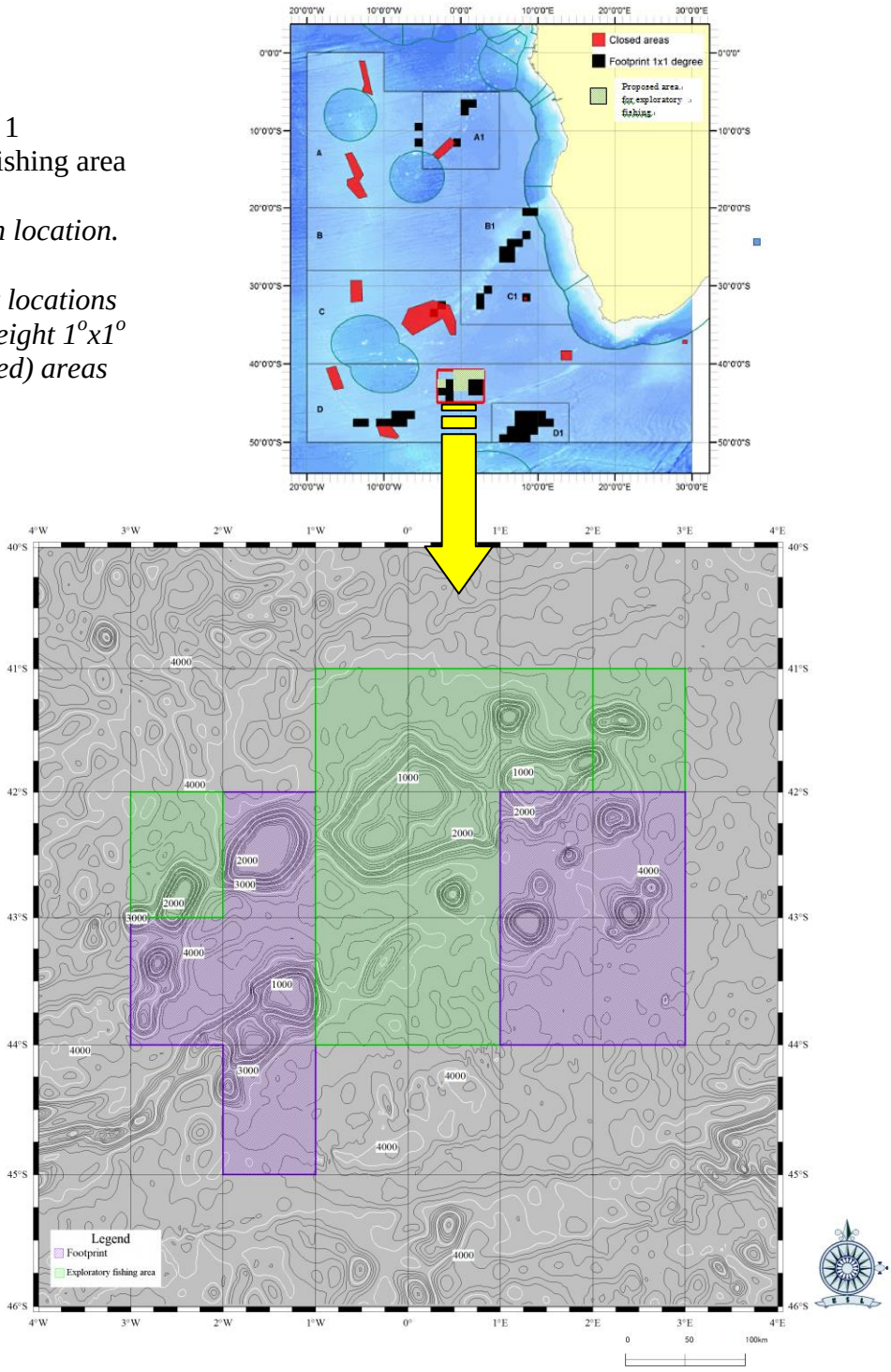
1. Introduction

FV Shinsei maru No. 3 conducted the exploratory bottom fishing operations in the new fishing ground for 40 days from August 15 to September 22, 2012. The exploratory fishing grounds are shown in Map 1.

Map 1
Exploratory fishing area

Above: rough location.

Below: exact locations presented by eight $1^o x 1^o$ (green shaded) areas



The original plan of this exploratory fishing is attached in Appendix A, which was approved by the SEAFO Scientific Committee and the Commissioners. The full observer report has been submitted to the SEAFO Secretariat and detail data are available in that report. Here we made the visualized summary of the observer report.

2. Results of the exploratory fishing

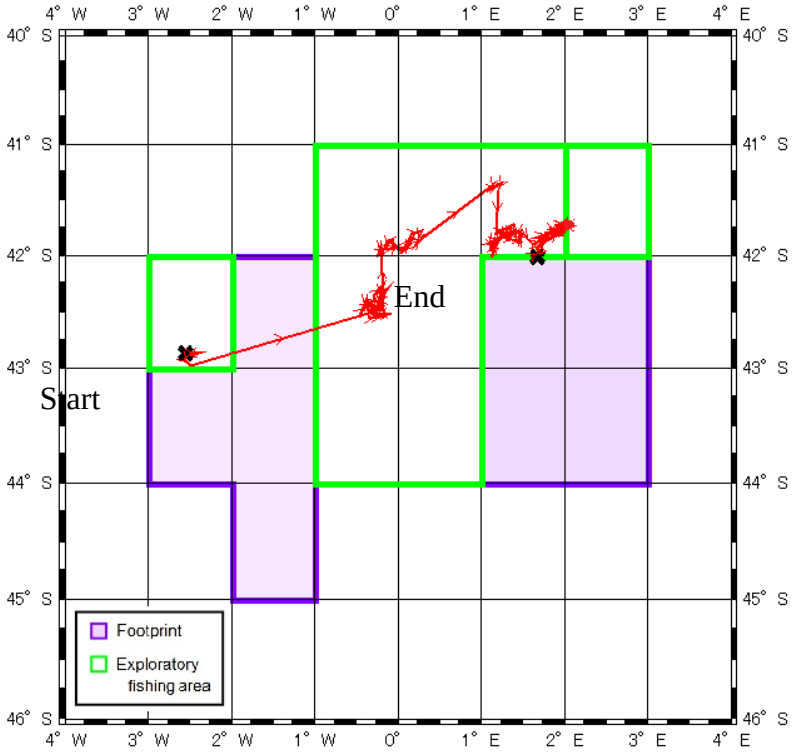
2.1 Catch, fishing effort and species compositions

FV Shinsei maru No 3 (bottom longline fishing vessel) conducted 98 fishing operations during the exploratory fishing in the new fishing ground in 40 days from August 15 to September 22, 2012. Table 1 shows the summary of total fishing effort and catch for 3 major species (Patagonian toothfish, rattail and deep sea cod) during the exploratory fishing operations.

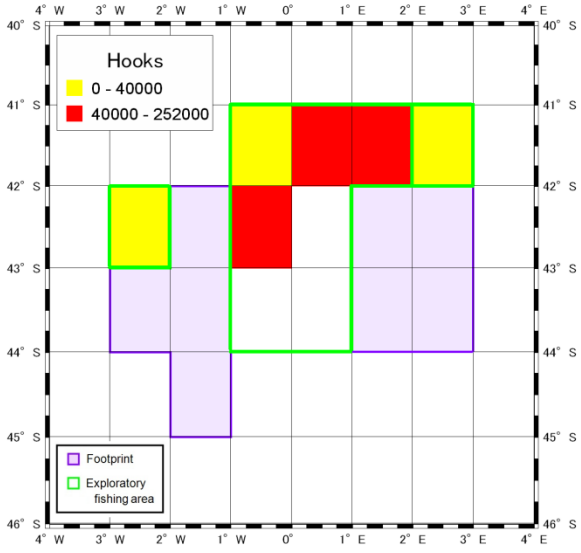
The track line of this vessel is shown in Map 2. Map 3 shows distributions and densities of fishing effort (hooks) by $1^{o}x1^{o}$ area during the exploratory fishing. Map 3 shows distributions and densities of species compositions of 3 major species by $1^{o}x1^{o}$ area. Map 5-7 shows distributions and densities of catch and CPUE of 3 major species (Patagonian toothfish, rattail and deep sea cod) respectively.

Table 1 Summary of total fishing effort and catch for 3 major species in the exploratory fishing operations

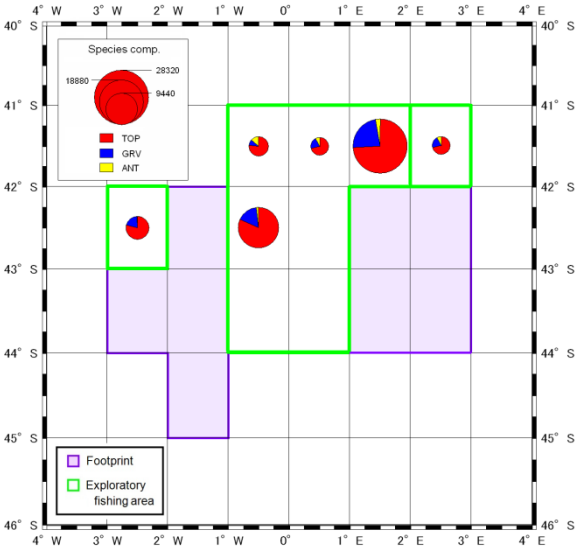
Category		Numbers
Fishing effort	Fishing days	40 days
	Number of hooks used	479,910 hooks
	Number of total operations	98 operations
Catch by species	Patagonian toothfish (TOP)	43.94 tons
	Rattail (GRV) (discarded)	11.55 tons
	Deep sea code (ATN) (discarded)	1.73 tons



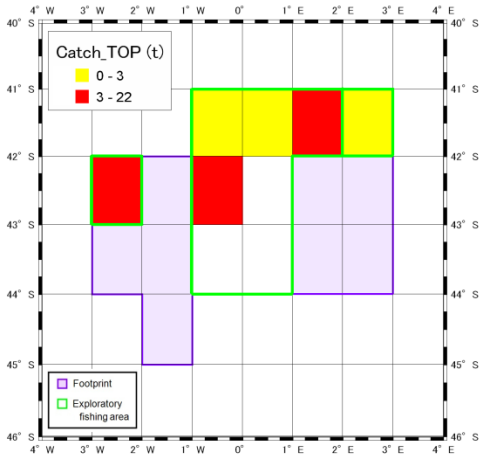
Map 2 Track line of the RV Shinsei Maru No. 3 during the exploratory fishing

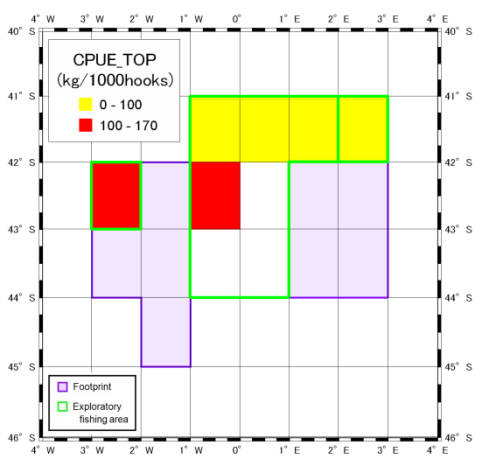


Map 3 Distribution and density of fishing effort (hooks) during the exploratory fishing

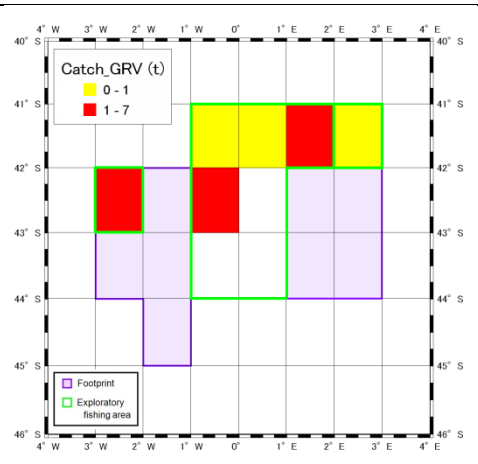


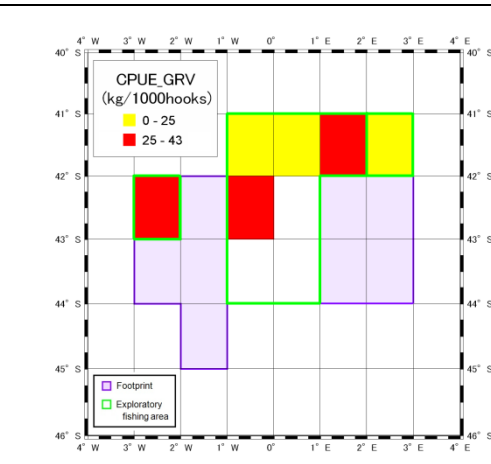
Map 4 Distribution of species compositions of 3 major species during the exploratory fishing



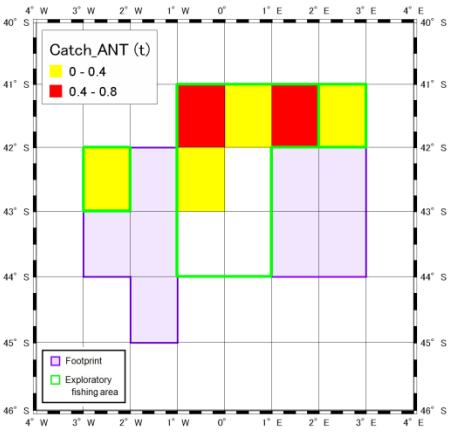


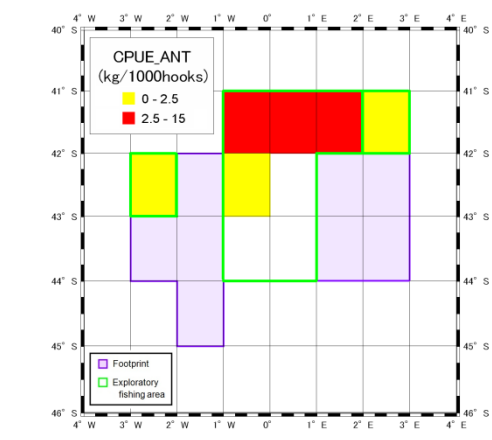
Map 5 Distributions and densities of catch (left) and CPUE (right) : Patagonian toothfish (TOP)





Map 6 Distributions and densities of catch (left) and CPUE (right) : Rattail (GRV)





Map 7 Distributions and densities of catch (left) and CPUE (right) : Deep sea cod (ANT)

2.2 Size, weight and maturity (Patagonian toothfish)

(1) Frequency distribution of total length and weight

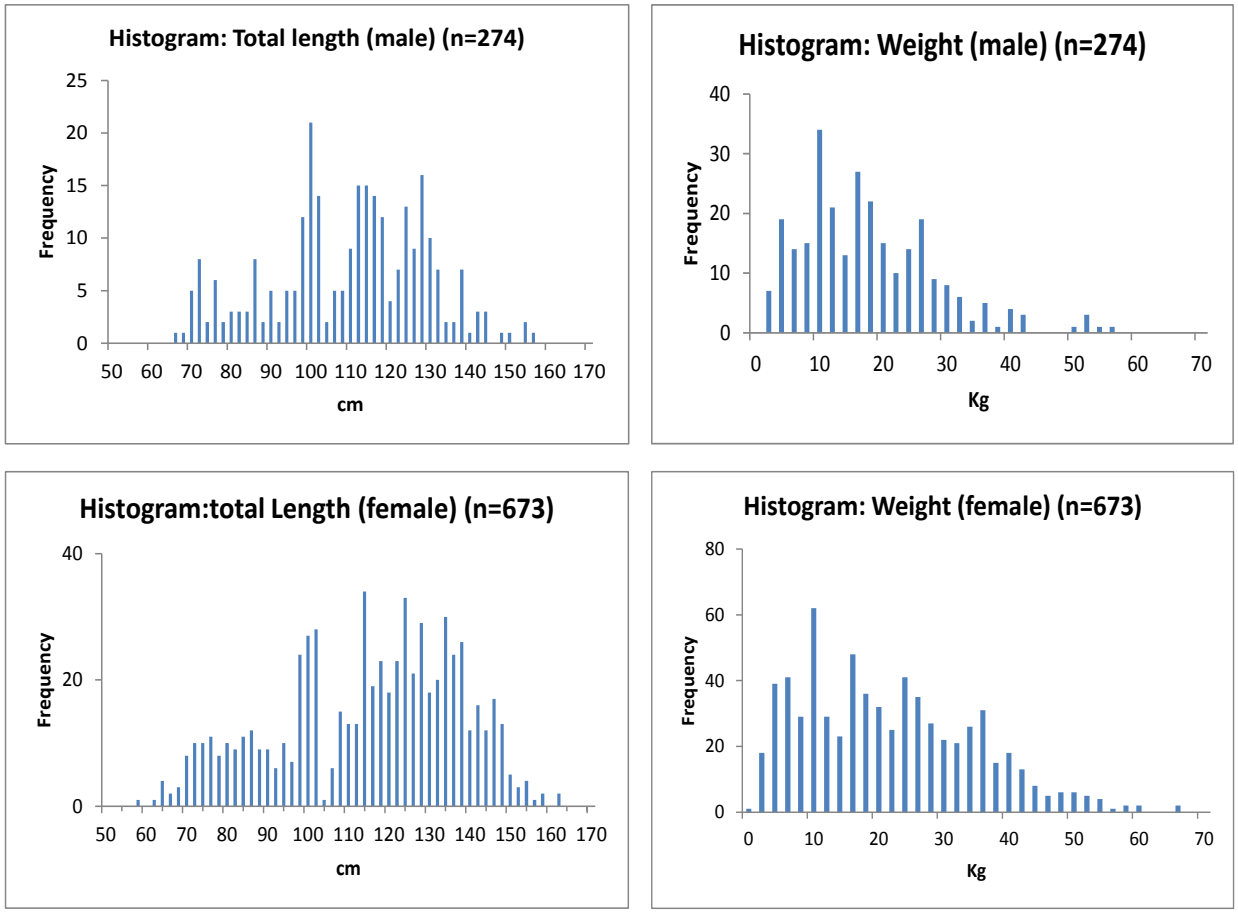


Fig. 1 Frequency distribution of total length (left) and whole weight (right) by sex

(2) LW relations

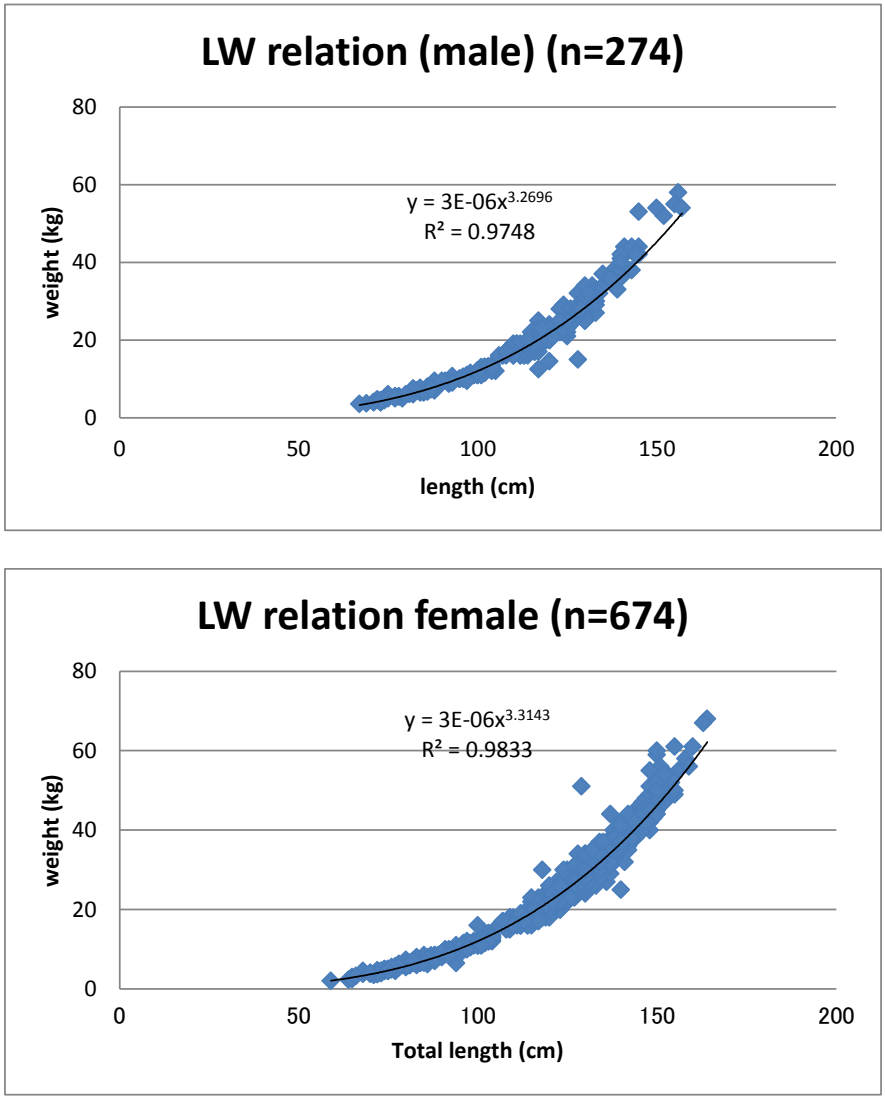


Fig. 2 LW relation of Patagonian toothfish (above male and below female)

(3) Frequency distribution of gonad weight

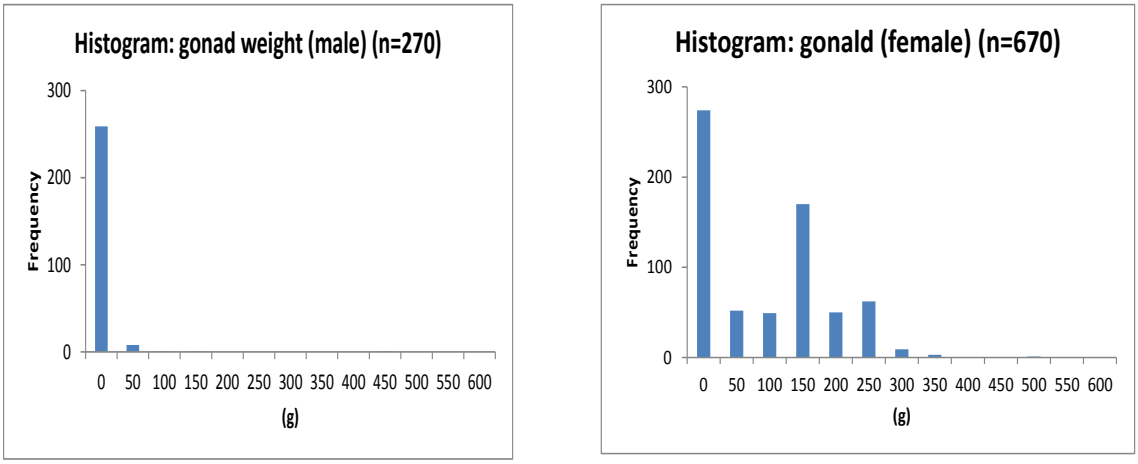


Fig. 3 Frequency distribution of gonad weight by sex

(4) Weight and gonad weight relations

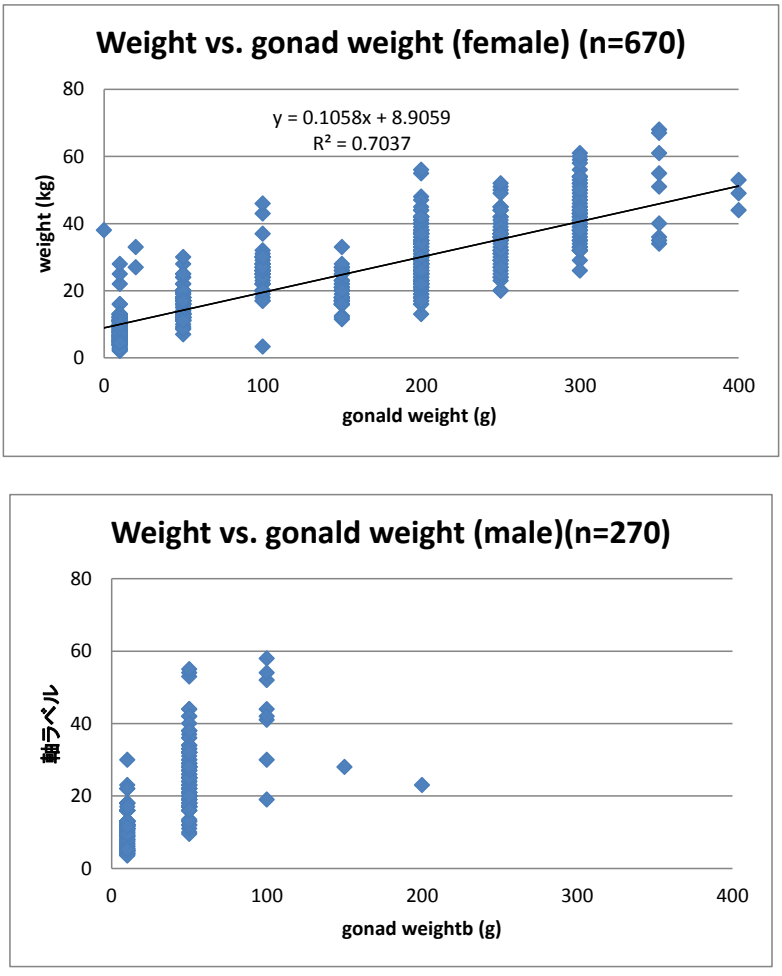


Fig. 4 Weight and gonad weight relations by sex

(5) Frequency distribution of stomach fullness

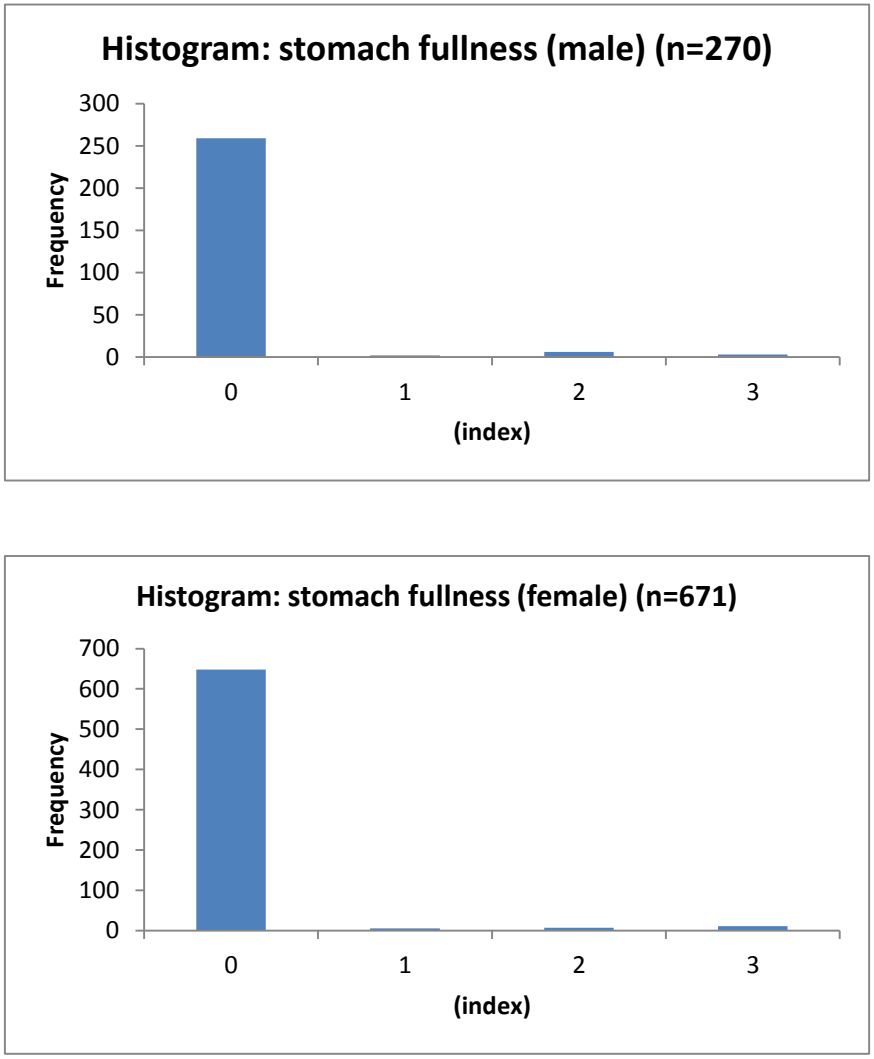


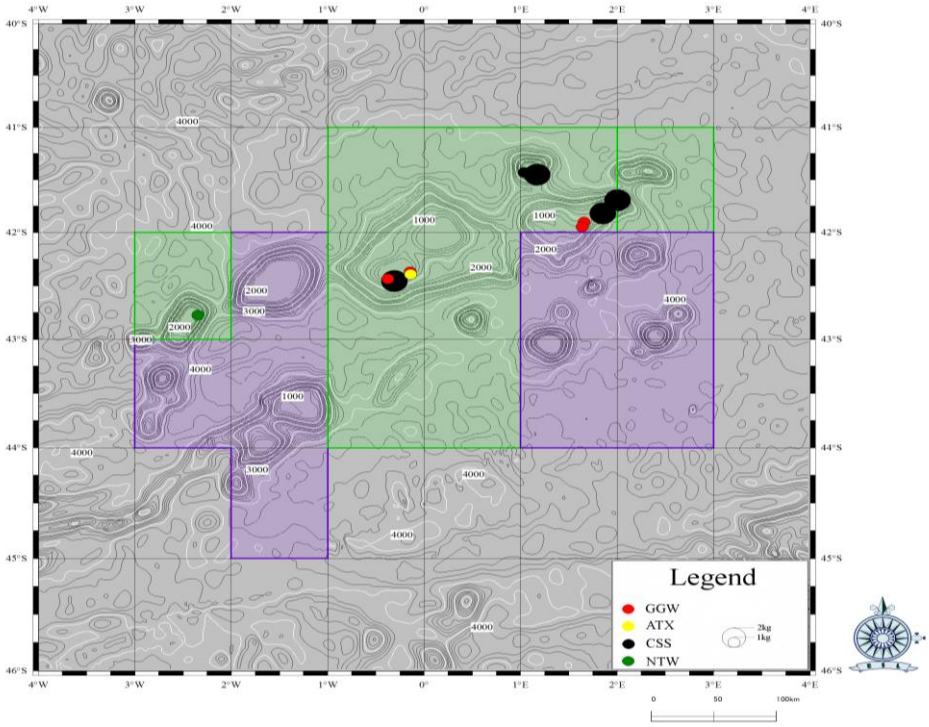
Fig. 5 Frequency distribution of stomach fullness

2.3 Seabirds mitigation

- Offal dumped during hauling were always conducted
- Bird scaring devices were always used during hauling.

2.4 VME

During the exploratory fishing, 3 VME species were found in 11 locations (Map 8) and amounts of 11 samples were less than 2 Kg.



Map 8. Locations and weights of corals caught by the exploratory fishing

code	Scientific name	English name	Japanese name
GGW	Gorgoniidae	Soft coral	ヤギサンゴ
ATX	Actiniaria	Sea anemone	イソギンチャク VME?
CSS	Scleractinia	stony corals	イシサンゴ
NTW	Pennatulacea	Sea pen	シーペン（ウミエラ）

3 Discussion

Based on the results of the exploratory fishing data from FV Shinsei maru No3, it was found that (a) there were very minor VMEs and (b) Patagonian toothfish resources (catch and CPUE) were similar to those in the existence fishing (footprint) areas. The latter item (b) implies that habitats of Patagonian toothfish resources in both existing and exploratory fishing areas are likely homogenous nature. In addition, the bottom longline fishing is the VME safe gear. Thus there are no doubts that VME will not be significantly affected and Patagonian toothfish resources will not be also significantly affected unless otherwise a large fishing pressure occurs. As a conclusion, this exploratory fishing area can be classified as the existing fishing (footprint) area.

APPENDIX A: SURVEY PLAN

PROPOSAL OF EXPLORATORY FISHING IN NEW BOTTOM FISHING GROUND IN THE SEAFO CONVENTION AREA

MEMBER COUNTRY: JAPAN
DATE OF SUBMISSION: 2 APRIL, 2012

1. HARVEST PLAN

(1) Purpose
In 2011, existing bottom fishing areas have been identified in response to 2006 UNGA resolution 61/105. This has resulted to split some of fishable sea mountains shallower than 2000m such as Discovery Seamounts into existing and new bottom fishing areas. There is no clear geographical boundary around Discovery Seamounts so it is considered that fish might move across the boundary of existing and new bottom fishing areas. Furthermore VME information, fish distribution, detailed sea bed map, etc. in new bottom fishing area will never be known unless fishing activities occur.

We believe that collecting these primary data in new bottom fishing areas is meaningful and accumulating them could contribute to achieve the objective of the convention to ensure the long term conservation and sustainable use of fishery resources.
Then we would like to propose to conduct exploratory long line fishing in new bottom fishing areas as follows.

(2) Target Species
Patagonian toothfish *(Dissostichus eleginoides)*

(3) Fishing season
Around Jun/2012 – Aug/2012 changeable due to fishing condition/plan

(4) Intended area of exploratory fishing (Fig. 1, page 2)
(41:00-42:00°S/ 01:00°W-00:00°), (42:00-43:00°S/ 01:00°W-00:00°),
(41:00-42:00°S/ 00:00°-01:00°E), (42:00-43:00°S/ 00:00°-01:00°E),
(43:00-44:00°S/ 00:00°-01:00°E), (41:00-42:00°S/ 01:00°E-02:00°E),
(42:00-43:00°S/ 03:00°W-02:00°W), (43:00-44:00°S/ 01:00°W-00:00°),
(41:00-42:00°S/ 02:00°-03:00°E)
Please note above nine (9) $1^{o}x1^{o}$ fine scale rectangles is regarded as one research area.

(5) Method of exploratory fishing
Following research activities will be undertaken during exploratory fishing.

[A] On first entry of the research area, the first 10 hauls shall be research hauls and must satisfy following criteria.
: Each research haul must be separated by not less than 3 NM from any other research haul, distance to be measured from the geographical mid-point of each research haul.
: Each haul shall comprise at least 3500 hooks and no more than 5000 hooks.
: Each haul shall have a soak time of not less than 6 hours, measured from the time of completion of the setting process to the beginning of the hauling process.

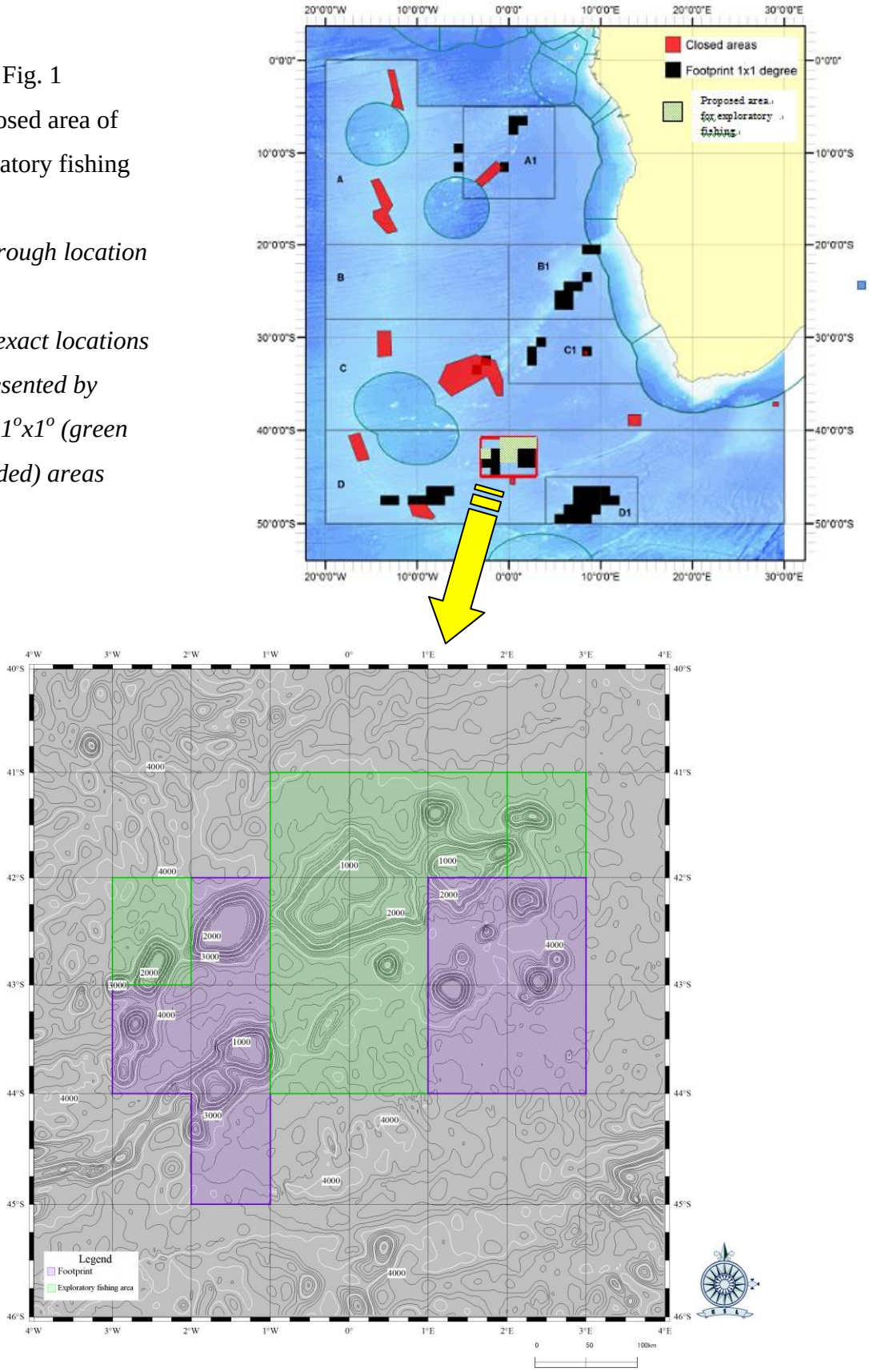
[B] On completion of 10 research hauls, the vessel is exempted from setting research hauls and may continue to fish within the research area.

(6) Observer
One observer will be assigned to collect necessary information described in this proposal, which will be reported to the SEAFO Secretariat.

Fig. 1
Proposed area of exploratory fishing

Above: rough location

Below: exact locations presented by eight $1^o x 1^o$ (green shaded) areas



2. MITIGATION PLAN TO PREVENT SIGNIFICANT ADVERSE IMPACT TO VME

The vessel will undertake to comply fully with Annex 3, 4 and 5 of conservation measure 22/11.

3. CATCH MONITORING PLAN

The vessel will undertake to collect following data while the vessel is engaged in exploratory fishing.

[For Patagonian toothfish *(Dissostichus eleginoides)*]

: Length measurement / Maximum 50fish/line
: Weight, sex, maturity, gonad state / Maximum 30fish/line
: Observation on occurrence and incidental mortality of seabirds and mammals in relation to fishing operation.

[For Rattail (*Macrourid* spp.)]

:Length and weight measurement / Maximum 10 fish/line

[Other by-catch species]

:Total weight measurement per line

4. DATA COLLECTION PLAN

[VME]

The observer on board the vessel will undertake to collect relevant VME data according to interim VME data collection protocol set out in Annex 4 of conservation measure 22/11.

[Fisheries resources]

All fisheries resources caught will be recorded according to the catch monitoring plan above.

5. IMPACT ASSESSMENT

The vessel has been using Trot line fishing method in the convention area. During the exploratory fishing in new bottom fishing area, the vessel will employ the same fishing method.

[Fishing gear configuration (Fig. 2, page 5)]

:201 drop lines per standard main line of 9000m (every 45m)
:One drop line has 5 clusters with 5 snoods and hooks . = 25 hooks per drop line.
:Distance between clusters is about 40cm. Snood length is about 50cm.
:Distance between the bottom clusters to concrete weight is about 1m.
:See Fig. 2 (page 5).

[Expected behaviour and feature of fishing gear]

:Trot line normally sinks vertically since the weight is attached on the bottom of each drop line.
:The line is hauled vertically by using hydraulic driven line hauler.
: Only both end of anchors and concrete weights are on the seabed constantly.
: Bottom section of drop lines, hooks and snoods could be on the seabed occasionally.

Taking above into consideration, the trot line would have much less impact against VME in comparison with other fishing method such as Autoline and Spanish line since the most part of main lines and snoods with hooks are constantly on the seabed with their methods.

6. VESSEL INFORMATION

(1)	Name of fishing vessel	Shinsei Maru No.3
	Previous names (if known)	Same as above
	Registration number	128862
	IMO number (if issued)	8520094
	External markings	Vessel marked with name and international radio call sign. White hull and white superstructure
	Port of registry	Yaizu - Japan
(2)	Previous flag (if any)	N/A
(3)	International Radio Call Sign	JAAL
(4)	Name of vessel's owner(s)	TAIYO A&F CO.,LTD.
	Address of vessel owner(s)	4-5,TOYOMI-CHO,CHUO-KU,TOKYO,JAPAN
	Beneficial owner(s) if known	Same as above
(5)	Name of licence owner	Same as the owner
	Address of licence owner (operator)	
(6)	Type of vessel	Longline fishing vessel
(7)	Where was vessel built	Shimizu, Shizuoka, Japan
	When was vessel built	1985
(8)	Vessel length overall LOA (m)	47.2
(9)	Details of the implementation of the tamper-proof requirements of the VMS device installed	*The vessel is fitted with MAR-GE Argos VMS system. This is a sealed unit which has own GPS inside to ensure the independence from other acoustic devices and protected with official seals that indicate whether the unit has been accessed or tampered.*
(10)	Name of operator	Same as the owner
	Address of operator	Same as the owner
(11)	Names and nationality of master and, where relevant, of fishing master	Master: Fuminori Kojima , Japanese Fishing master : Masayuki Matsumura , Japanese
(12)	Type of fishing method(s)	Bottom longline
(13)	Vessel beam (m)	8.7
(14)	Vessel gross registered tonnage	735
(15)	Vessel communication types and numbers	INMARSAT -FB : 773190498

	(INMARSAT A, B and C)	INMARSAT –C : 432521000@satmailc.com
(16)	Normal crew complement	33
(17)	Power of main engine(s) (kW)	735
(18)	Carrying capacity (tonne) Number of fish holds Capacity of all holds (m^3)	250M/T 4 holds 502.4 m^3
(19)	Any other information in respect of each licensed vessel they consider appropriate (e.g. ice classification) for the purposes of the implementation of the conservation measures adopted by the Commission.	*N/A*

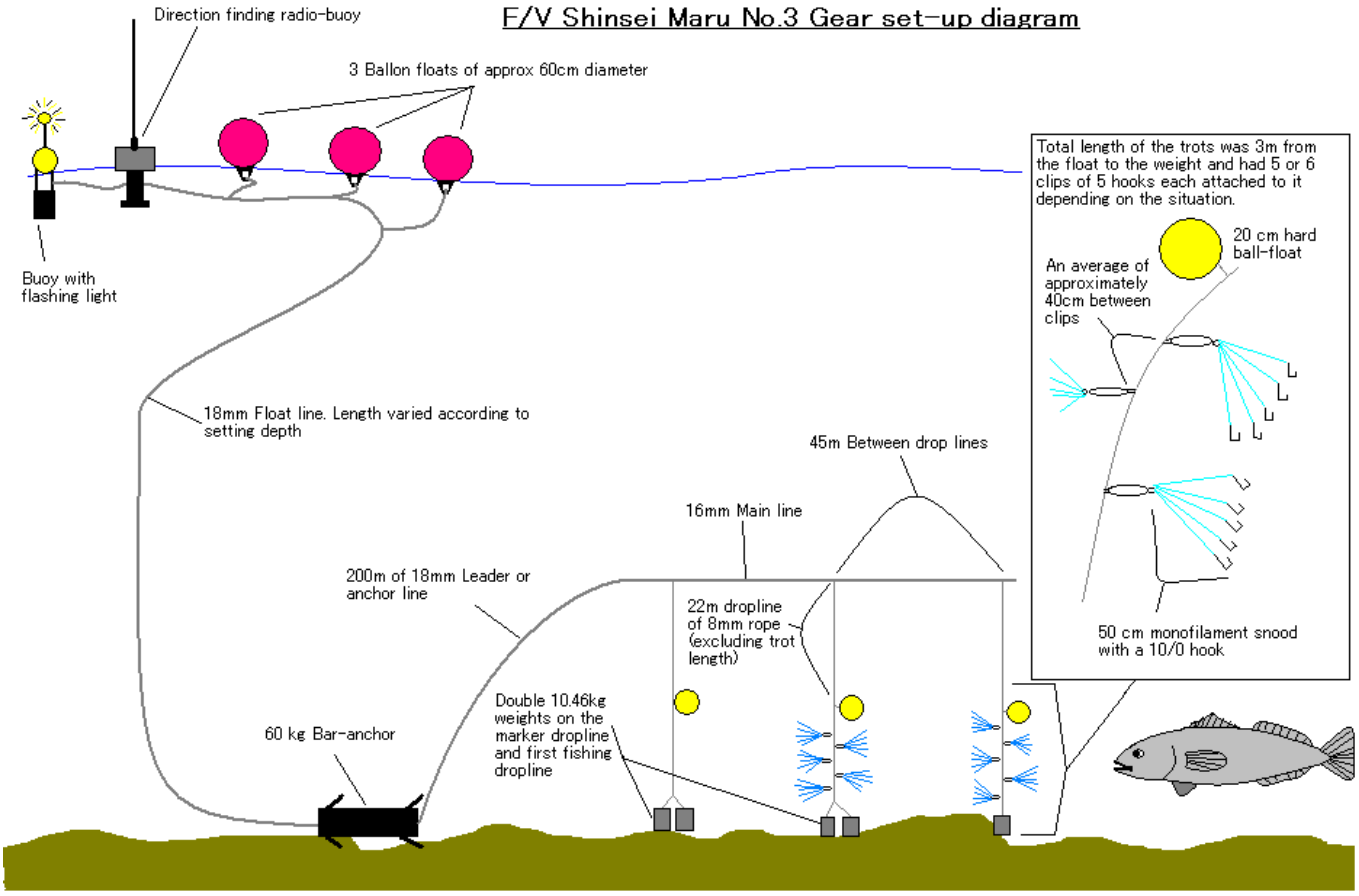


Fig 2. Fishing gear configuration

APPENDIX III-R – Proposal to Review the Bottom Fishing Footprint

PROPOSAL TO REVISE THE CURRENT BOTTOM FISHING AREAS (FOOTPRINTS)

National Research Institute of Far Seas Fisheries (NRIFSF)
Fisheries Research Agency (FRA), Japan

November, 2012

1. INTRODUCTION

In 2011, SEAFO $1^{o}x1^{o}$ based footprint areas were established using the information from 1987-July, 2011 (Fig. 1). However, we noticed that there were some missing footprint areas. In addition, we consider that new fishing areas were covered by our exploratory fishing operations in 2012. Given such situation, we would like to propose to add these missing and new fishing areas to the current bottom fishing footprint areas.

2. MISSING FOOTPRINT AREA *(covered by the fishing operation in July, 2011)*

There is one $1^{o}x1^{o}$ missing footprint area indicated by pink color (Areas ⑤ and ⑦ in Fig. 2). Areas ⑤and ⑦were covered by the fishing operations by FV Shinsei Maru No.3 in July, 2011 (haul numbers 55-57 and 73 respectively).

3. MISSING FOOTPRINT AREA *(from the view-point of the seafloor topography)*

We consider that Area ⑧ (also pink color in Fig. 2) is extended from the neighbouring bottom fishing area from the view-point of the seafloor topography (i.e., located in the same seamount). Thus, we would like to propose Area ⑧ as a part of the existing fishing grounds.

4. NEW FOOTPRINTS AREAS *(covered by the exploratory fishing in Aug-Sept, 2012)*

The FV Shinsei Maru No.3 conducted exploratory fishing operations during August-September, 2012, which covered 6 (six) $1^{o}x1^{o}$ areas (Areas ①, ②, ③, ④ and ⑥ indicated by blue color in Fig. 2). During the exploratory fishing operations, we found no significant VME encounters beyond the threshold values (for details, refer to our other document on the report of the exploratory fishing in 2012). Thus, we consider that these 6 (six) $1^{o}x1^{o}$ areas are regarded as the bottom fishing areas (footprints).

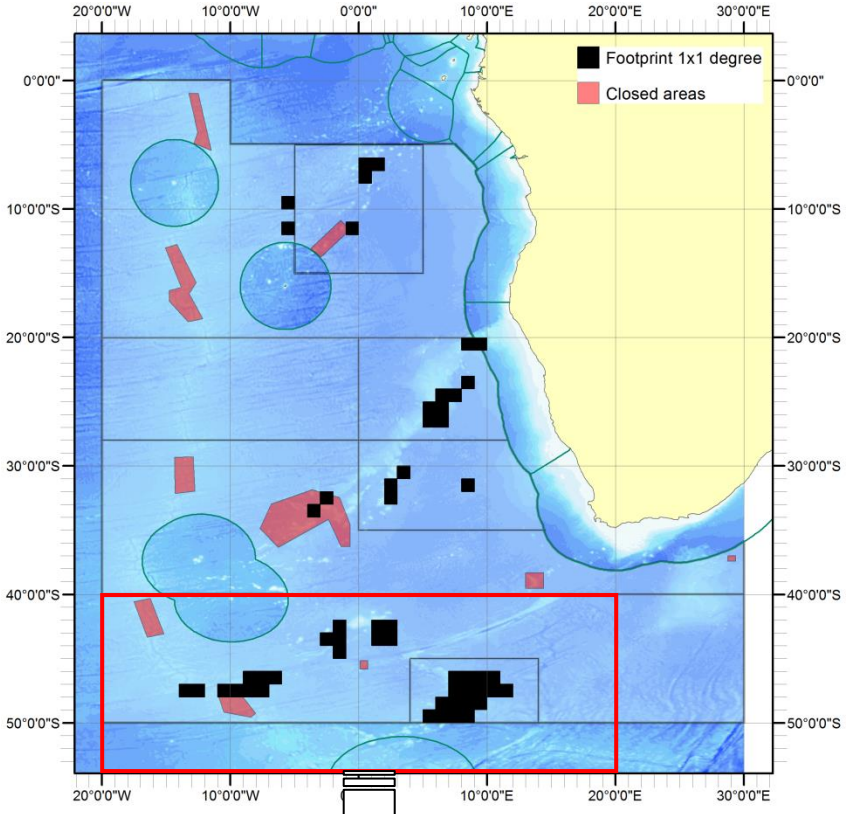
5. SUMMARY AND CONCLUSION *(refer to Table below and Fig. 2)*

Category/area➔		①	②	③	④	⑤	⑥	⑦	⑧
Current footprints									
Missing footprints									
New footprints									

As a conclusion, we would like to propose these 8 (eight) $1^{o}x1^{o}$ areas (①-⑧) as additional bottom fishing (footprint) areas.

Fig. 1

Current closed area (red) and foot print area (black)



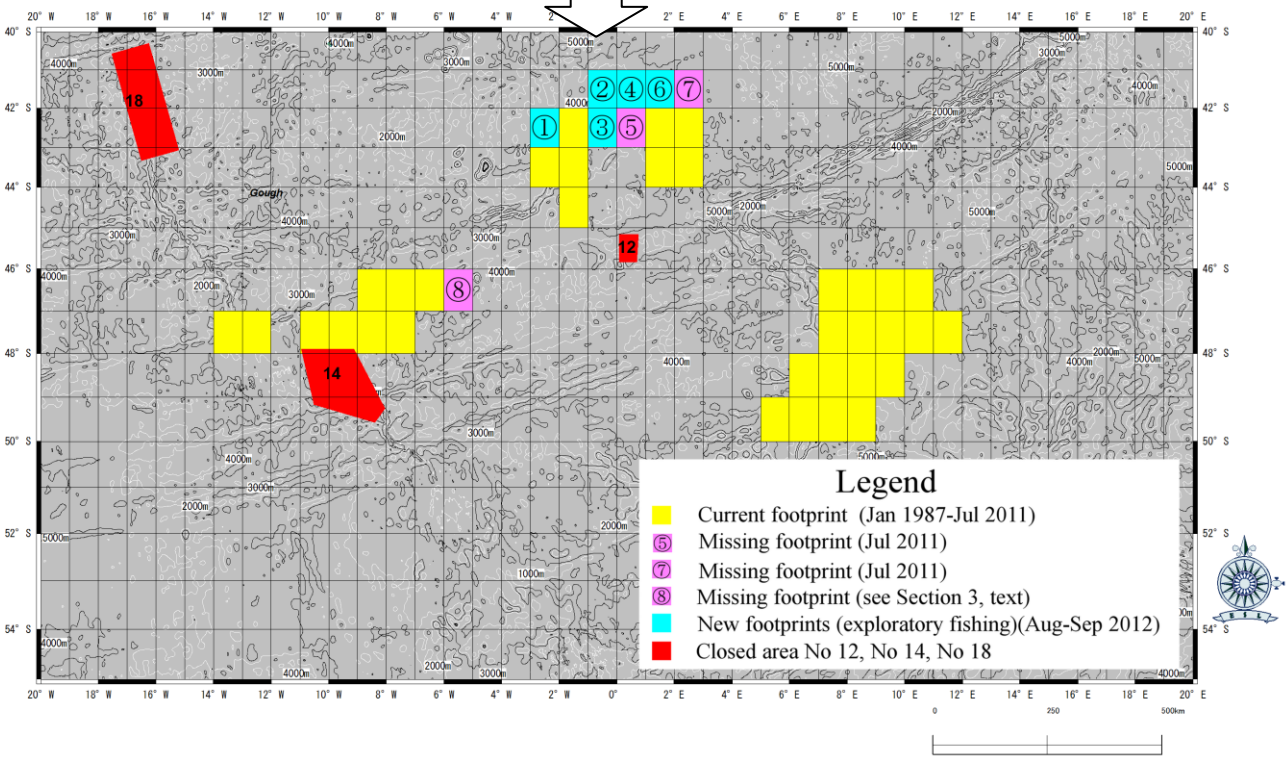


Fig. 2 Current footprint areas (yellow color) with missing footprints (pink) and those new areas covered by the 2012 exploratory fishing (blue) in the Patagonian toothfish fishing ground in the SEAFO CA.

APPENDIX IV-R – Exploratory Fishing Proposal by Japan in the SEAFO CA for 2013

PLAN OF EXPLORATORY FISHING IN NEW BOTTOM FISHING GROUND IN THE SEAFO CONVENTION AREA IN 2013 (REVISED VERSION)

Member country: Japan
Date of submission: November, 2012

1. OBJECTIVES

In 2011, existing bottom fishing areas have been identified in response to 2006 UNGA resolution 61/105. This has resulted to split some of fishable sea mountains shallower than 2000m such as Discovery Seamounts into existing and new bottom fishing areas.

There is no clear geographical (seafloor-topological) boundary around Discovery Seamounts, so it is considered that fish would move across the boundary between existing and new bottom fishing areas. Furthermore, information on VME, fish distribution, detailed seabed maps, etc. in new bottom fishing area will never be known unless fishing activities occur there.

We believe that collecting such primary information in new bottom fishing areas is meaningful and accumulating such information could contribute to achieve the objective of the SEAFO Convention to ensure the long term conservation and sustainable use of fishery resources. Under this circumstance, we have developed a plan to conduct the exploratory longline fishing in new bottom fishing areas in 2013 as follows.

2. PLAN OF EXPLORATORY FISHING

(1) Target Species

Dissosticus eleginoides (Patagonian toothfish)

(2) Period

Jun/2013 – Aug/2013 (subject to change due to fishing condition etc.)

(3) Area (Fig. 1, page 2)

Area AA (rectangle area excluding the closed area No. 12)
Left upper (NE) corner (1°00'W and 45°00'S) and Right lower (SE) corner (1°00'E and 47°00'S)

(Note) Closed area No.12
Left upper (NW) corner (0°05'E and 45°10S) and Right lower (SE) corner (0°42'E and 45°50'S)

Area BB (rectangle area)
Left upper (NW) corner (6°00'W and 46°00'S) and Right lower(SE) corner (4°00'W and 47°00'S)

(4) Methods

The exploratory fishing will be conducted following the step 1 and 2 below.

Step 1: On the first entry of the research area, the first 10 hauls shall be research hauls and must satisfy following criteria.

- Each research haul must be separated by not less than 3 NM from any other research haul, distance to be measured from the geographical mid-point of each research haul.
- Each haul shall comprise at least 3,500 hooks and no more than 5,000 hooks.
- Each haul shall have a soak time of not less than 6 hours, measured from the time of completion of the setting process to the beginning of the hauling process.

Step 2: On completion of 10 research hauls, the vessel is exempted from setting research hauls and may continue to fish within the research area. The same data will be also collected as in the research hauls.(5) Observer

One observer will be assigned to collect necessary information described in this plan, which will be reported to the SEAFO Secretariat.

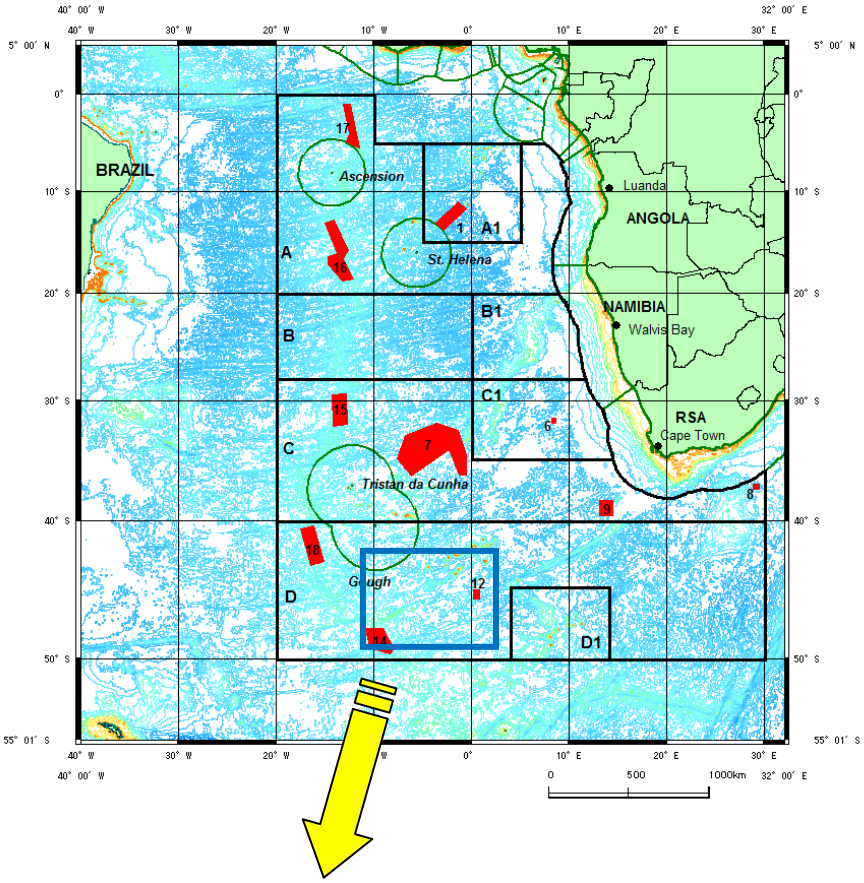
Fig. 1

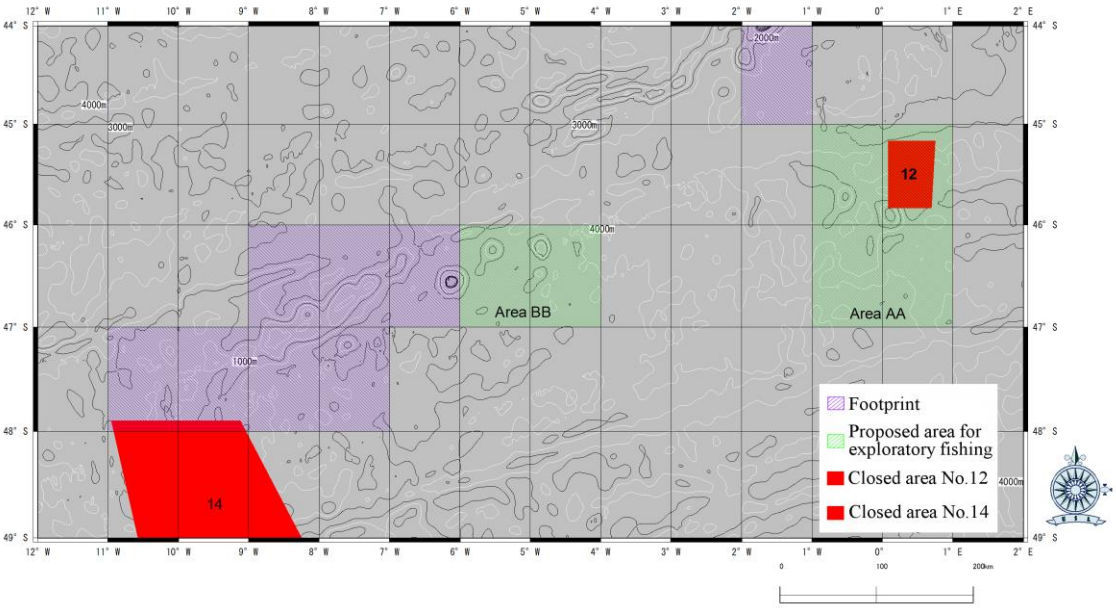
Proposed area

of exploratory fishing

in 2013

Area AA and Area BB





2. Mitigation plan to prevent significant adverse impact to vulnerable marine ecosystems

The vessel will be fully compliant with Annexes 3, 4 and 5 in Conservation Measure 22/11.

3. Data collection

The Observer will collect the following data while the vessel is engaged in exploratory fishing.

Patagonian toothfish (*Dissosticus eleginoides*)

- Total catch in weight/line
- Length measurement : Maximum 50 fish/line
- Weight, sex, maturity, gonad state: Maximum 30 fish/line

Rattail (*Macrourid* spp.)

- Total catch in weight/line
- Length and weight measurement : Maximum 10fish/line

Other by-catch species

Total catch in weight/line by the lowest taxon possible.

VME

VME data according to interim VME data collection protocol set out in Annex 4 of Conservation Measure 22/11.

4. Impact assessment

The vessel has been using the Trotline fishing method in the Convention Area. During the exploratory fishing in the new bottom fishing area, the vessel will employ the same fishing method.

Fishing gear configuration (Fig. 2, page 5)

- 201 droplines per standard main line of 9,000 m (one dropline every 45m of main line)
- One dropline has 5 cluster with 5 snoods and hooks = 25 hooks per dropline.
- Distance between clusters is about 40cm. Snood length is about 50cm.
- Distance between the bottom cluster to concrete weight is about 1m.

Expected behaviour and feature of fishing gear

- Trot line normally sinks vertically since the weight is attached on the bottom of each drop line.
- The line is hauled vertically by using hydraulic driven line hauler.
- Only both end of anchors and concrete weights are on the seabed constantly.
- Bottom section of drop lines, hooks and snoods could be on the seabed occasionally.

Taking above into consideration, the Trotline would have much less impact against VME in comparison with other fishing method such as Autoline and Spanish line since the most part of main lines and snoods with hooks are constantly on the seabed with these methods.

5. Vessel Information

(1)	Name of fishing vessel Previous names (if known) Registration number IMO number (if issued) External markings Port of registry	Shinsei Maru No.3 Same as above 128862 8520094 Vessel marked with name and international radio call sign. White hull and white superstructure Yaizu - Japan
(2)	Previous flag (if any)	N/A
(3)	International Radio Call Sign	JAAL
(4)	Name of vessel's owner(s) Address of vessel owner(s) Beneficial owner(s) if known	TAIYO A&F CO.,LTD. 4-5,TOYOMI-CHO,CHUO-KU,TOKYO,JAPAN Same as above
(5)	Name of licence owner Address of licence owner (operator)	Same as the owner
(6)	Type of vessel	Longline fishing vessel
(7)	Where was vessel built When was vessel built	Shimizu, Shizuoka, Japan 1985
(8)	Vessel length overall LOA (m)	47.2
(9)	Details of the implementation of the tamper-proof requirements of the VMS device installed	*The vessel is fitted with MAR-GE Argos VMS system. This is a sealed unit which has own GPS inside to ensure the independence from other acoustic devices and protected with official seals that indicate whether the unit has been accessed or tampered.*
(10)	Name of operator Address of operator	Same as the owner Same as the owner
(11)	Names and nationality of master and, where relevant, of fishing master	Master: Fuminori Kojima , Japanese Fishing master : Masayuki Matsumura , Japanese
(12)	Type of fishing method(s)	Bottom longline
(13)	Vessel beam (m)	8.7
(14)	Vessel gross registered tonnage	735
(15)	Vessel communication types and numbers (INMARSAT A, B and C)	INMARSAT -FB : 773190498 INMARSAT –C : 432521000@satmailc.com
(16)	Normal crew complement	33
(17)	Power of main engine(s) (kW)	735
(18)	Carrying capacity (tonne) Number of fish holds Capacity of all holds (m^3)	250M/T 4 holds 502.4 m^3
(19)	Any other information in respect of each licensed vessel they consider appropriate (e.g. ice classification) for the purposes of the implementation of the conservation measures adopted by the Commission.	*N/A*

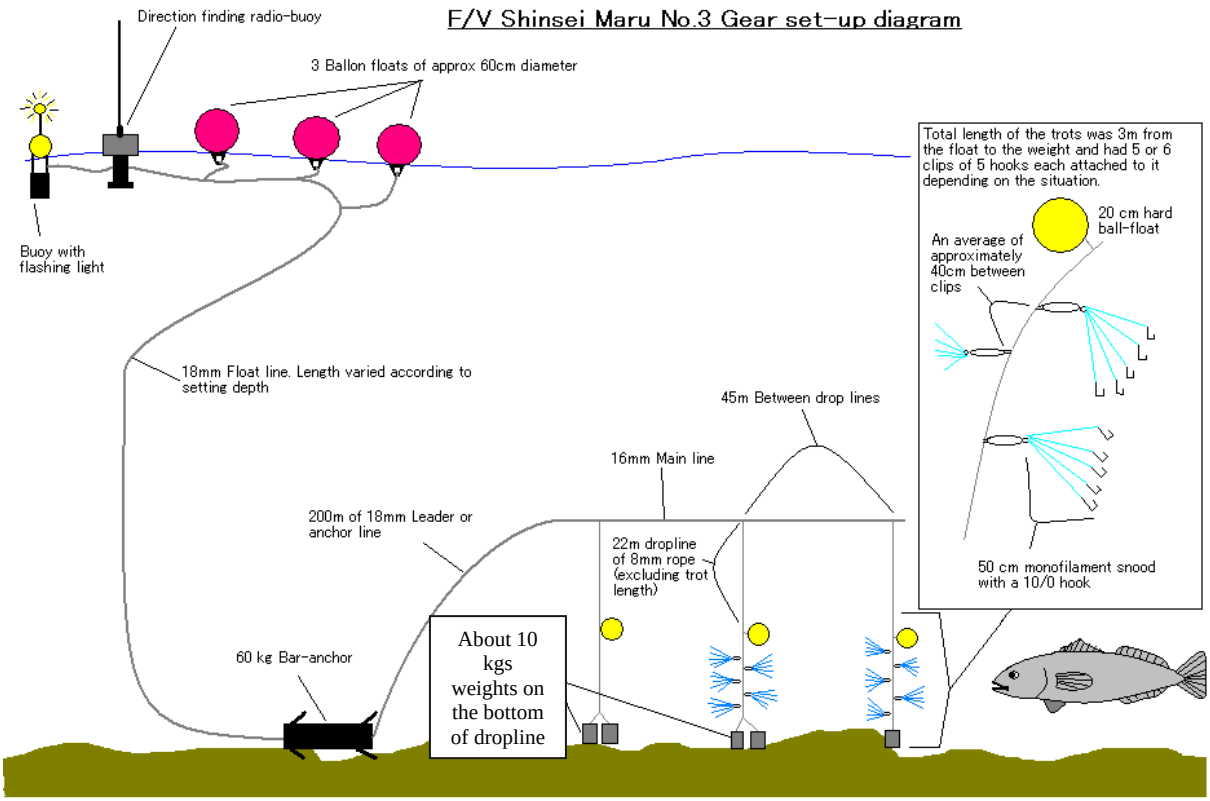


Fig. 2 Fishing gear configuration

APPENDIX V-R – Proposed *amendment of Conservation Measure 15/09*

Conservation Measure XXX/12: On Reducing Incidental By-catch of Seabirds in the

SEAFO Convention Area.

The Parties to the SEAFO Convention:

RECOGNISING the need to strengthen mechanisms to protect seabirds in the South-East Atlantic Ocean;

TAKING INTO ACCOUNT the United Nations Food and Agriculture Organisation (FAO) International Plan of Action for Reducing the Incidental Catch of Seabirds in Longline Fisheries (IPOA-Seabirds);

ACKNOWLEDGING that to date some Contracting Parties have identified the need for, and have either completed or are near finalising their National Plan of Action on Seabirds;

RECOGNISING the concern that some species of seabirds, notably albatross and petrels, are threatened with global extinction;

NOTING that the Agreement on the Conservation of Albatrosses and Petrels, done at Canberra on 19 June 2001, has entered into force;

Have agreed as follows:

1. Contracting Parties shall collect and provide all available information to the Secretariat on interactions with seabirds, including incidental catches by fishing vessels, fishing for fisheries resources covered by the SEAFO Convention, flagged to these Contracting Parties.

2. Each Contracting Party shall seek to achieve reductions in levels of seabird by-catch across all fishing areas, seasons, and fisheries through the use of effective mitigation measures.

Longlines

3. All longline vessels fishing south of the parallel of latitude 30 degrees South shall carry and use bird-scaring lines (tori poles):

   - Tori poles shall be in accordance with agreed tori pole design and deployment guidelines (provided for in Appendix A);
   - Tori poles shall be deployed prior to longlines entering the water at all times south of the parallel of latitude 30 degrees South;
   - Where practical, vessels shall be encouraged to use a second tori pole and bird-scaring line at times of high bird abundance or activity;
   - Back-up tori lines shall be carried by all vessels and be ready for immediate use.

4. The Commission shall, upon receipt of information from the Scientific Committee, consider, and if necessary, refine, the area of application of the mitigation measures specified in paragraph 3.

5. Longlines shall be set at night only (i.e., during the hours of darkness between the times of nautical twilight (1)). During longline fishing at night, only the minimum ship's lights necessary for safety shall be used. **However, this shall not apply only if a vessel can demonstrate its ability to fully comply with one of the 3 protocols described in Appendix C. In**

case, vessels having caught a total of three (3) seabirds during one fishing trip shall revert to the night setting immediately and resume the day operations from the next trip or in 3 months period from the date of 3rd capture of seabird, whichever is longer, subject to fully comply with one of the 3 protocols.

6. The dumping of offal is prohibited while gear is being shot or set. The dumping of offal during the hauling of gear shall be avoided. Any such discharge shall take place, where possible, on the opposite side of the vessel to that where the gear is being hauled. For vessels or fisheries where there is not a requirement to retain offal on board the vessel, a system shall be implemented to remove fish hooks from offal and fish heads prior to discharge.

7. Contracting Party shall not authorise vessels to fish in the Convention Area which are so configured that they lack on-board processing facilities or adequate capacity to retain offal on-board, or the ability to discharge offal on the opposite side of the vessel to that where gear is being hauled.

8. Every effort shall be made to ensure that birds captured alive during fishing operations are released alive and that whenever possible hooks are removed without jeopardising the life of the bird concerned.

Trawl gear

9. A streamer (or tori) line shall be deployed outside of both warp cables, the tori lines shall be attached to the stern at the maximum practical height above water line. Back-up tori lines shall be carried by all vessels and be ready for immediate use. Technical specifications for tori lines are given in Appendix B.

10. The dumping of offal is prohibited while gear is being shot or set. The dumping of offal during the hauling of gear shall be avoided.

11. Nets shall be cleaned prior to shooting to remove items that might attract seabirds.

12. Vessels shall adopt shooting and hauling procedures that minimise the time that the net is lying on the surface with the meshes slack. Net maintenance shall, to the extent possible, not be carried out with the net in the water.

13. Each Contracting Party shall encourage their vessels to develop gear configurations that will minimise the chance of birds encountering the part of the net to which they are most vulnerable. This could include increasing the weighting or decreasing the buoyancy of the net so that it sinks faster, or placing coloured streamer or other devices over particular areas of the net where the mesh sizes create a particular danger to birds.

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(1) The exact times of nautical twilight are set forth in the Nautical Almanac tables for the relevant latitude, local time and date. All times, whether for ship operations or observer reporting, shall be referenced to GMT

Status of Conservation Measure xxx/12

14. Conservation Measure 15/09 is herewith repealed.

Appendix A

Guidelines for Design and Deployment of Longline Tori Lines

Preamble

These guidelines are designed to assist in the preparation and implementation of tori line regulations for longline fishing vessels. While these guidelines are relatively explicit, improvement in tori line effectiveness through experimentation is encouraged. The guidelines take into account environmental and operational variables such as weather conditions, setting speed and ship size, all of which influence tori line performance and design in protecting baits from birds. Tori line design and use may change to take account of these variables provided that line performance is not compromised. Ongoing improvement in tori line design is envisaged and consequently review of these guidelines should be undertaken in the future.

Tori Line Design

1. The streamer line should be a minimum of 150 m in total length, be attached to the vessel at a point >7 m above the sea surface (using a pole if necessary) and tow an object (such as a length of heavy rope) at its seaward end, which creates drag and stability. These specifications are critical to achieve the desired aerial extent (100 m), the active portion of the streamer line and minimize fouling with hooklines, floats and other fishing gear.

2. The above water section of the line should be sufficiently light that its movement is unpredictable to avoid habituation by birds and sufficiently heavy to avoid deflection of the line by wind.

3. Swivels positioned at the attachment point to the vessel, the towed object and where streamers join the backbone help to avoid twisting and wear. These can also incorporate breakaway points, in the event of snags with the hook line.

4. Each branch streamer should consist of two or more strands and should be constructed from brightly coloured, UV-protected rubber tubing. Streamers should be spaced at intervals of less than 5 m along the streamer line backbone. Branch streamers should be long enough to reach the sea surface in calm conditions.

5. Each streamer pair should be detachable by means of a clip so that line stowage is more efficient.

6. The in-water portion of the tori line (that creates tension on the streamer line and thereby holds the aerial portion aloft) should be adjusted (e.g. increasing the length of rope) to account for slower setting speeds and to ensure the minimum aerial coverage of 100 m is maintained consistently.

Deployment of Tori Lines

1. The line should be suspended from a pole affixed to the vessel. The tori pole should be set as high as possible so that the line protects bait a good distance astern of the vessel and will not tangle with the fishing gear. Grater pole height provides greater bait protection. For example, a height of around 6 m above the water line can give about 100 m of bait protection.

2. The tori line should be set so that streamers pass over baited hooks in the water.

3. Deployment of multiple tori lines is encouraged to provide even greater protections of baits from birds.

4. Because there is the potential for line breakage and tangling, spare tori lines should be carried on board to replace damaged lines and to ensure fishing operations can continue uninterrupted.

5. When fishers use a bait casting machine (BCM) they must ensure co-ordination of the tori line and machine by:

    a. ensuring the BCM throws directly under the tori line protection and

b. when using a BCM that allows throwing to port and starboard, ensure that two tori lines are used.

6. Fishers are encouraged to install manual, electric of hydraulic winches to improve ease of deployment and retrieval of tori lines.

Line weighting

1. Vessels using autoline systems should add weights to the hookline or use integrated weight hooklines while deploying longlines. Integrated weight (IW) longlines of a minimum of 50 g/m or attachment to non-IW longlines of 5 kg weights at 50 to 60 m intervals are recommended.

2. Vessels using the Spanish method of longline fishing should release weights before line tension occurs; weights of at least 8.5 kg mass shall be used, spaced at intervals of no more than 40 m, or weights of at least 6 kg mass shall be used, spaced at intervals of no more than 20 m.

3. Further, SEAFO recommends that longline fisheries consider the Chilean system (equivalent to CCAMLR Trotline system), which is designed to eliminate cetacean predation on demersal longlines, but simultaneously eliminates virtually all seabird bycatch. In this system, 4-10 kg weights are deployed per hookline.

Appendix B

Guidelines for Design and Deployment of Trawl Tori Lines

1. The main line should consist of 50 m of 9 mm line.

2. Streamers should be attached at 5 m intervals and be long enough to reach the water in calm conditions.

3. It is essential that streamers are made from semi-flexible tubing of high visibility. The commended material is UV-protected fluorescent red polythene tubing and alternatives such as fire hose; old waterproofs and dark coloured tubing are not acceptable.

4. The lines should be mounted two metres outboard of the trawl blocks on both the port and starboard sides. It may be necessary to weld short extension arms to the handrail in order to achieve this distance.

5. Streamer lines should be deployed once the trawl doors are submerged and retrieved as net hauling commences. It is important to retrieve the streamer lines before hauling as vessels often go astern during this process, which can suck the tori lines underwater and lead to problems.

6. A spare streamer line should be carried and deployed in the event of loss or damage of a line.

7. The tori lines should be deployed after shooting and retrieved prior to hauling to minimize entanglement, but should be flown during trawling.

Appendix C

Protocol A (for vessels monitoring longline sink rate with Time-Depth Recorders (TDRs) and using longlines to which weights are manually attached):

A1. Prior to entry into force of the licence for this fishery and once per fishing season, either prior to entering the Convention Area or at the first opportunity after entering the Convention Area and before commencing fishing, the vessel shall, under observation by a scientific observer:

(i) set a minimum of two longlines, unbaited if set in the Convention Area, with a minimum of four TDRs on the middle one-third of each longline, where:

(a) for vessels using the auto longline system, each longline shall be at least 6 000 m in length;

(b) for vessels using the Spanish longline system, each longline shall be at least 16 000 m in length;

(c) for vessels using the Spanish longline system, with longlines less than 16 000 m in length, each longline shall be of the maximum length to be used by the vessel in the Convention Area;

(d) for vessels using a longline system other than an autoline or Spanish longline system, each longline shall be of the maximum length to be used by the vessel in the Convention Area;

(ii) randomise TDR placement on the longline, noting that, except for trotlines, all tests should be applied midway between weights. In the case of trotlines TDRs should be placed on droppers less than 1 m from the attachment position of the uppermost cluster of hooks (i.e. hooks most distant from line weight);

(iii) calculate an individual sink rate for each TDR when returned to the vessel, where:

(a) the sink rate shall be measured based on an average of the time taken for the longline to sink from the surface (0 m) to 15 m;

(b) this sink rate shall be at a minimum rate of 0.3 m/s;

(iv) if the minimum sink rate is not achieved at all eight sample points (four tests on two longlines), continue the testing until such time as a total of eight tests with a minimum sink rate of 0.3 m/s are recorded;

(v) all equipment and fishing gear used in the tests is to be to the same specifications as that to be used in the Convention Area.

A2. During fishing, for a vessel to be allowed to maintain the exemption from night-time setting requirements (Paragraph 5), regular longline sink monitoring shall be undertaken by the scientific observer. The vessel shall cooperate with the observer who shall:

(i) attempt to conduct a TDR test on one longline set every twenty-four hour period; (ii) every seven days place at least four TDRs on a single longline to determine any sink rate variation along the longline;

(iii) randomise TDR placement on the longline, noting that all tests should be applied halfway between weights;

(iv) calculate an individual longline sink rate for each TDR when returned to the vessel;

(v) measure the longline sink rate based on an average of the time taken for the longline to sink from the surface (0 m) to 15 m.

A3. The vessel shall:

(i) ensure that all longlines are weighted to achieve a minimum longline sink rate of 0.3 m/s at all times whilst operating under this exemption;

(ii) report daily to its national agency on the achievement of this target whilst operating under this exemption;

(iii) ensure that data collected from longline sink rate tests and longline sink rate monitoring during fishing are recorded in the SEAFO-approved format(2) and submitted to the relevant national agency and SEAFO Executive Secretary within two months of the vessel departing a fishery to which this measure applies.

<u>Protocol B</u> (for vessels monitoring longline sink rate with bottle tests and using longlines to which weights are manually attached):

B1. Prior to entry into force of the licence for this fishery and once per fishing season either prior to entering the Convention Area or at the first opportunity after entering the Convention Area and before commencing fishing, the vessel shall, under observation by a scientific observer:

(i) set a minimum of two longlines, unbaited if set in the Convention Area, with a minimum of four bottle tests (see paragraphs B5 to B9) on the middle one-third of each longline, where:

(a) for vessels using the auto longline system, each longline shall be at least 6 000 m in length;
(b) for vessels using the Spanish longline system, each longline shall be at least 16 000 m in length;
(c) for vessels using the Spanish longline system, with longlines less than 16 000 m in length, each longline shall be of the maximum length to be used by the vessel in the Convention Area;
(d) for vessels using a longline system other than an autoline or Spanish longline system, each longline shall be of the maximum length to be used by the vessel in the Convention Area;

(ii) randomise bottle test placement on the longline, noting that, except for trotlines, all tests should be applied midway between weights. In the case of trotlines TDRs, bottles should be placed on droppers less than 1 m from the attachment position of the uppermost cluster of hooks (i.e. hooks most distant from line weight);

(iii) calculate an individual sink rate for each bottle test at the time of the test, where: (a) the sink rate shall be measured based on the time taken for the longline to sink from the surface (0 m) to 10 m;
(b) this sink rate shall be at a minimum rate of 0.3 m/s;

(iv) if the minimum sink rate is not achieved at all eight sample points (four tests on two longlines), continue the testing until such time as a total of eight tests with a minimum sink rate of 0.3 m/s are recorded;

(v) all equipment and fishing gear used in the tests is to be to the same specifications as that to be used in the Convention Area.

B2. During fishing, for a vessel to be allowed to maintain the exemption from night-time setting requirements (Paragraph 5), regular longline sink rate monitoring shall be undertaken by the scientific observer. The vessel shall cooperate with the observer who shall:
(i) attempt to conduct a bottle test on one longline set every twenty-four hour period; (ii) every seven days conduct at least four bottle tests on a single longline to determine any sink rate variation along the longline;
(iii) randomise bottle test placement on the longline, noting that all tests should be applied halfway between weights;
(iv) calculate an individual longline sink rate for each bottle test at the time of the test;
(v) measure the longline sink rate as the time taken for the longline to sink from the surface (0 m) to 10 m.

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(2) Included in the scientific observer electronic logbook.

B3. The vessel shall:
(i) ensure that all longlines are weighted to achieve a minimum longline sink rate of 0.3 m/s at all times whilst operating under this exemption;
(ii) report daily to its national agency on the achievement of this target whilst operating under this exemption;
(iii) ensure that data collected from longline sink rate tests and longline sink rate monitoring during fishing are recorded in the SEAFO-approved format1 and submitted to the relevant national agency and SEAFO Executive Secretary within two months of the vessel departing a fishery to which this measure applies.

B4. A bottle test is to be conducted as described below
Bottle Set Up
(i) 10 m of 2 mm multifilament nylon snood twine, or equivalent, is securely attached to the neck of a 500-1 000 ml plastic bottle(3) with a longline clip attached to the other end. The length measurement is taken from the attachment point (terminal end of the clip) to the neck of the bottle, and should be checked by the observer every few days.
(ii) Reflective tape should be wrapped around the bottle to allow it to be observed in low l light conditions and at night.
Test
(iii) The bottle is emptied of water, the stopper is left open and the twine is wrapped around the body of the bottle for setting. The bottle with the encircled twine is attached to the longline(4), midway between weights (the attachment point).
(iv) The observer records the time at which the attachment point enters the water as $t1$ in seconds. The time at which the bottle is observed to be pulled completely under is recorded as $t2$ in seconds(5). The result of the test is calculated as follows: Longline sink rate = $10 / (t2 - t1)$.
(v) The result should be equal to or greater than 0.3 m/s. These data are to be recorded in the space provided in the electronic observer logbook.

Protocol C (for vessels monitoring longline sink rate with either (TDR) or bottle tests, and using internally weighted

longlines with integrated weight of at least 50 g/m and designed to sink instantly with a linear profile at greater than 0.2 m/s with no external weights attached):

C1. Prior to entry into force of the licence for this fishery and once per fishing season either prior to entering the Convention Area or at the first opportunity after entering the Convention Area and before commencing fishing, the vessel shall, under observation by a scientific observer:

(i) set a minimum of two longlines, unbaited if set in the Convention Area, with either a minimum of four TDRs, or a minimum of four bottle tests (see paragraphs B5 to B9) on the middle one-third of each longline, where:

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(3) A plastic water bottle that has a 'stopper' is needed. The stopper of the bottle is left open so that the bottle will fill with water after being pulled under water. This allows the plastic bottle to be re-used rather than being crushed by water pressure.
(4) On autolines attach to the backbone; on the Spanish longline system attach to the hookline.
(5) Binoculars will make this process easier to view, especially in foul weather.

(i) set a minimum of two longlines, unbaited if set in the Convention Area, with either a minimum of four TDRs, or a minimum of four bottle tests (see paragraphs B5 to B9) on the middle one-third of each longline, where:

(a) for vessels using the auto longline system, each longline shall be at least 6 000 m in length;

(b) for vessels using the Spanish longline system, each longline shall be at least 16 000 m in length;

(c) for vessels using the Spanish longline system, with longlines less than 16 000 m in length, each longline shall be of the maximum length to be used by the vessel in the Convention Area;

(d) for vessels using a longline system other than an autoline or Spanish longline system, each longline shall be of the maximum length to be used by the vessel in the Convention Area;

(ii) randomise TDR or bottle test placement on the longline;

(iii) calculate an individual sink rate for each TDR when returned to the vessel, or for each bottle test at the time of the test, where:

(a) the sink rate shall be measured based on an average of the time taken for the longline to sink from the surface (0 m) to 15 m for TDRs and the time taken for the longline to sink from the surface (0 m) to 10 m for bottle tests;

(b) this sink rate shall be at a minimum rate of 0.2 m/s;

(iv) if the minimum sink rate is not achieved at all eight sample points (four tests on two longlines), continue the testing until such time as a total of eight tests with a minimum sink rate of 0.2 m/s are recorded;

(v) all equipment and fishing gear used in the tests is to be to the same specifications as that to be used in the Convention Area.

C2. During fishing, for a vessel to be allowed to maintain the exemption from night-time setting requirements (paragraph 5), regular longline sink rate monitoring shall be undertaken by the scientific observer. The vessel shall cooperate with the observer who shall:

(i) attempt to conduct a TDR or bottle test on one longline set every twenty-four hour period;

(ii) every seven days conduct at least four TDR or bottle tests on a single longline to determine any sink rate variation along the longline;

(iii) randomise TDR or bottle test placement on the longline;

(iv) calculate an individual longline sink rate for each TDR when returned to the vessel or each bottle test at the time of the test;

(v) measure the longline sink rate for bottle tests as based on the time taken for the longline to sink from the surface (0 m) to 10 m, or for TDRs the average of the time taken for the longline to sink from the surface (0 m) to 15 m.

C3. The vessel shall:

(i) ensure that all longlines are set so as to achieve a minimum longline sink rate of 0.2 m/s at all times whilst operating under this exemption;

(ii) report daily to its national agency on the achievement of this target whilst operating under this exemption;

(iii) ensure that data collected from longline sink rate tests and longline sink rate monitoring during fishing are recorded in the SEAFO-approved format1 and submitted to the relevant national agency and SEAFO Executive Secretary within two months of the vessel departing a fishery to which this measure applies.

APPENDIX VI-R – Proposed amendments of Conservation Measure 22/11

Conservation Measure XXX/12: on Bottom Fishing Activities in the SEAFO Convention Area

This is an interim measure addressing the 2006 UN General Assembly Resolution on Sustainable Fisheries (A/RES/61/105).

This measure applies in all existing and new bottom fishing areas outside SEAFO closed areas, cf. Conservation Measure 18/10

Article 1. Use of terms

1. The term 'bottom fishing activities' means 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 within a reference period of 1987 to Jul 2011 (Annex 1 and Annex 2). This shall be revised regularly in accordance with Article 2.4.

3. The term "new bottom fishing areas" means all other areas within the Regulatory Area that are not defined as existing bottom fishing areas. Fisheries conducted in new bottom fishing areas are regarded as "exploratory fisheries".

Article 2. Identification of existing bottom fishing areas

4. SEAFO shall proceed to map existing bottom fishing areas within the Convention Area for bottom fishing activities. Mapping of bottom trawling activity shall be given priority.

5. Contracting Parties with vessels involved in bottom fishing activities in the period of 1987 to Jul 2011 shall, for the purpose of Paragraph 2, submit 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.

6. The Executive Secretary, assisted by the Scientific Committee, shall compile maps submitted by Contracting Parties pursuant to Paragraph 2. The Executive Secretary shall on that basis, as well as on any other data available to it, produce a comprehensive map of existing fishing areas. The Executive Secretary shall forward this map to the Scientific Committee for review and comment and thereafter to the Commission.

7. The comprehensive map of existing bottom fishing areas referred to in Paragraph 2 shall be revised regularly to incorporate any new relevant information.

Article 3. Bottom fishing activities in new bottom fishing areas

8. 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 3 shall apply.

9. Before exploratory bottom fishing can take place, a detailed proposal and impact assessment shall be submitted by the Contracting Party to the Scientific Committee for scrutiny by correspondence. The Committee will provide a recommendation within 30 days to the Commission who will decide within 30 days if the exploratory fishing may proceed. The exploratory bottom fishing activities shall be subject to the impactassessment 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.

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

11. 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 4 shall apply.

Article 4. Assessment of bottom fishing activities

12. On the basis of best available scientific information, the Scientific Committee shall identify vulnerable marine ecosystems in the Convention 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

13. Proposed bottom fishing activities in the Convention Area shall be subject to assessment by the Scientific Committee, 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.

14. Assessments 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 impact assessment of the known and anticipated impacts of its bottom fishing activities on vulnerable marine ecosystems, in advance of the next meeting of the Scientific Committee. 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 Committee and the Commission.

ii. The submission of such information shall be carried out in accordance with guidance developed by the Scientific Committee, or, in the absence of such guidance, to the best of the Contracting Party's ability.

iii. The Scientific Committee shall undertake an evaluation of the impactassessment, according to procedures and standards it develops, and 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. The Scientific Committee may use in its evaluation additional information available to it, including information from other fisheries in the region or similar fisheries elsewhere.

15. The Commission shall, taking account of advice and recommendations provided by the Scientific Committee, concerning bottom fishing activities, including data and information arising from reports pursuant to Article 5 adopt conservation and management measures to prevent significant adverse impacts on vulnerable marine ecosystems, that 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.

16. The Commission shall annually ask the Scientific Committee to provide advice to Commission on the timing and requirement for an impact assessment of a previously assessed bottom fishery.

Article 5. Encounters with vulnerable marine ecosystems

17. Contracting Parties shall require that vessels flying their flag cease bottom fishing activities in any site in the Convention 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 Executive 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.

18. The encounter protocol and operational procedures given as Annex 5 shall be followed.

Article 6: Closed Areas

19. In the case where a fishing foot print square would overlap with a closed area, the fishing foot print square would be deemed as closed.

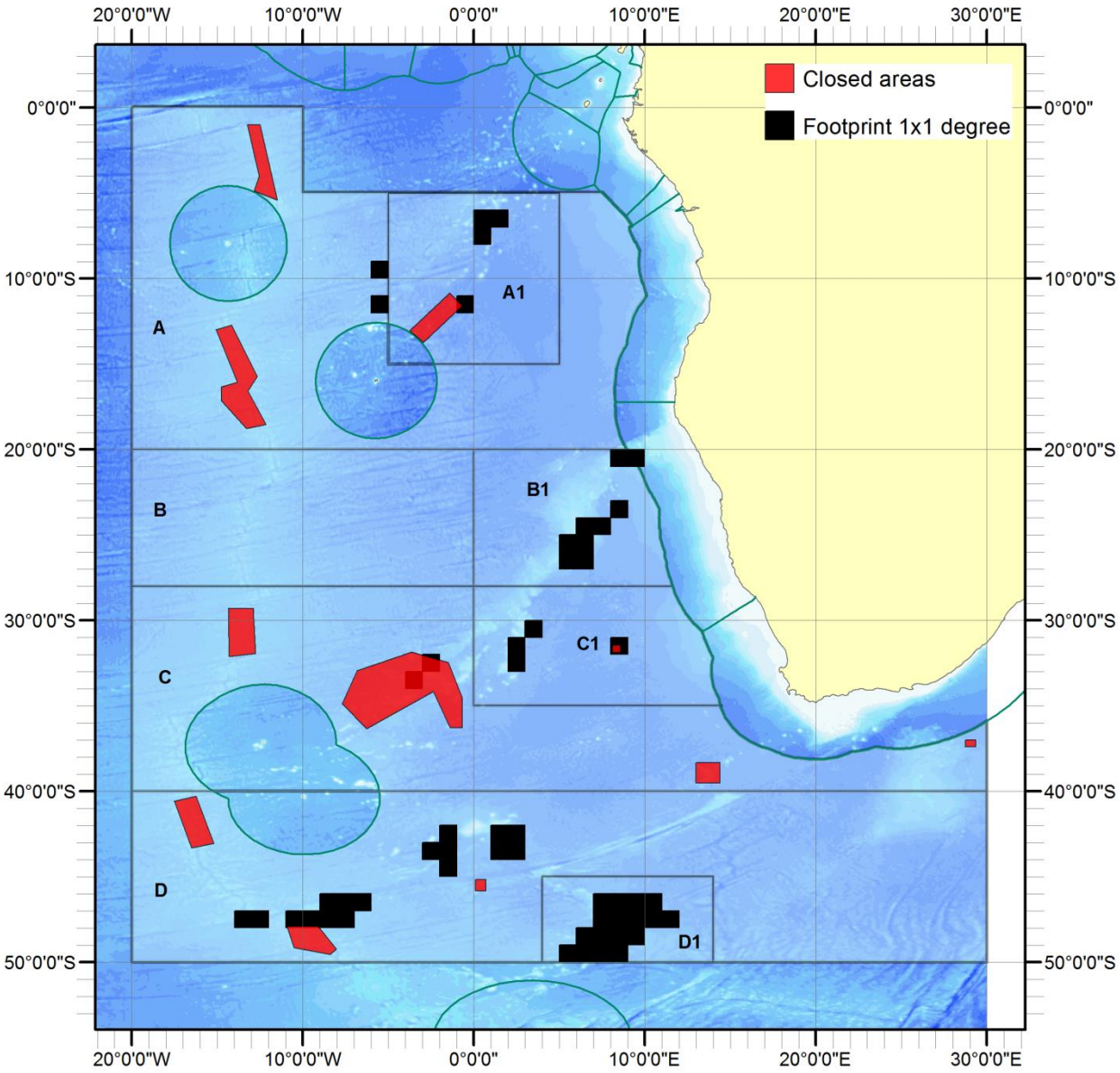
Article 7. Review

20. The Commission shall biannually examine the effectiveness of these provisions in protecting vulnerable marine ecosystems from significant adverse impacts.

Article 8. Status of Conservation Measure

Conservation Measures 22/11 is herewith repealed.

Annex 1



Annex 2

Latitude and Longitude of the fishing footprint squares

Area A:

Coordinate	Lat	Long
1	-11	-6
2	-11	-5
3	-12	-5
4	-12	-6
1	-9	-6

2	-9	-5
3	-10	-5
4	-10	-6

Area A1:

Coordinate	Lat	Long
1	-11	-1
2	-11	0
3	-12	0
4	-12	-1
5	-11.9	-1
6	-11.58	-0.6667
7	-11.257	-1

1	-7	1
2	-8	1
3	-8	0
4	-6	0
5	-6	2
6	-7	2

Area B1

Coordinate	Lat	Long
1	-20	8
2	-20	10
3	-21	10
4	-21	8

1	-27	5
2	-25	5
3	-25	6
4	-24	6
5	-24	8
6	-23	8
7	-23	9
8	-24	9
9	-24	8
10	-25	8
11	-25	7
12	-27	7

Area C:

Coordinate	Lat	Long

1	-32	-3
2	-32	-2
3	-32.3	-2
4	-32.04	-3

Area C1

Coordinate	Lat	Long
1	-33	2
2	-31	2
3	-31	3
4	-30	3
5	-30	4
6	-31	4
7	-31	3
8	-33	3

1	-31	8
2	-31	9
3	-32	9
4	-32	8

Area D:

Coordinate	Lat	Long
1	-48	-14
2	-47	-14
3	-47	-12
4	-48	-12

1	-48	-11
2	-47	-11
3	-47	-9
4	-46	-9
5	-46	-6
6	-47	-6
7	-47	-7
8	-48	-7
9	-48	-9

1	-45	-2
2	-44	-2
3	-44	-3
4	-43	-3
5	-43	-2
6	-42	-2
7	-42	-1

8	-45	-1
1	-44	1
2	-42	1
3	-42	3
4	-44	3

Area D1

Coordinate	Lat	Long
1	-50	5
2	-49	5
3	-49	6
4	-48	6
5	-48	7
6	-46	7
7	-46	11
8	-47	11
9	-47	12
10	-48	12
11	-48	10
12	-49	10
13	-49	9
14	-50	9

Annex 3

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 impact assessmentinformation has been provided to the Executive Secretary by the relevant Contracting Party:

1. A harvesting plan which outlines target fisheries resources, dates and areas, (areas to be defined as designated cells of 1 degree by 1 degree). Area and effort restrictions shall be considered to ensure fisheries occur on a gradual basis in a limited geographical area.
2. A mitigation plan including measures to prevent significant adverse impact to vulnerable marine ecosystems that may be encountered during the fishery.
3. A catch monitoring plan that includes recording/reporting of all fisheries resources caught. The recording/reporting of catch shall be sufficiently detailed to conduct an assessment of activity, if required.
4. A data collection plan to facilitate the identification of vulnerable marine ecosystems/fisheries resources in the area fished.

The Executive Secretary shall promptly forward this information to all Contracting Parties and the Scientific Committee.

Annex 4

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 11 of this Conservation Measure shall:

1. Monitor any set for evidence of VMEs and the presence of vulnerable marine fisheries resources.
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.
3. Collect representative biological samples from the entire VME catch. (Biological samples shall be collected and frozen when requested by the scientific authority in a Contracting Party). For some coral species that are under the CITES list this will not be possible and for these species photographs should be taken.
4. Provide samples to the scientific authority of a Contracting Party at the end of the fishing trip.

ANNEX 5

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 4 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 longline or pots) 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 1 nautical mile for fixed gears from the mid-point of the line 1200m section (longline and pot) (Paragraph 4) from which the VME-indicator units are recovered, and for trawlers 2 nautical miles from the endpoint of the tow/set in the direction least likely to result in further encounters. Any further longline or pot sets shall be set outside a radius of 1 nautical mile from the point where the VME encounter was made. Any further tow or trawl sets shall be set a distance of 2 nautical miles away from the entire tow/trawl track where the VME encounter was made. The master shall use his or her best judgment based on all available sources of information. Longliners and pot-vessels shall clearly mark fishing lines into line segments and collect segment specific data on the number of VME indicator units (Paragraph 4).

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 deep-sea 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 taxonomic level and apply the sampling protocol found in Annex 4 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 longline or pots) is beyond the thresholds 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 2 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.

3.3. The vessel shall cease fishing, haul the gear, and move away at least 2 nautical miles for trawlers from the endpoint of the tow/set in the direction least likely to result in further encounters, and for fixed gears from the mid-point of the line 1200m

section (longline and pot) from which the VME-indicator units are recovered. Vessels shall clearly mark fishing lines into line segments and collect segment specific data on the number of VME indicator units (see Paragraph 4). Any further longline or pot sets shall be set outside a radius of 2 nautical mile from the point where the VME encounter was made. Any further tow or trawl sets shall be set a distance of 2 nautical miles away from the entire tow/trawl track where the VME encounter was made. The master shall use his or her best judgment based on all available sources of information.

3.4 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

An encounter with VME indicator species is defined for each of the following fishing gears as follows:

Trawl tow – more than 300 kg of live sponges and/or 30 kg of live coral in existing fishing areas and more than 200 kg of live sponges and/or 30 kg of live coral in new fishing areas.

Longline set – at least 10 VME-indicator units (1 unit = 1kg or 1 litre of live coral and/or live sponge) in one 1200m section of line or 1000 hooks, whichever is the shorter, in both existing and new fishing areas;

Pot set – at least 10 VME-indicator units (1 unit = 1kg or 1 litre of live coral and/or live sponge) in one 1200m section of line in both existing and new fishing areas.

The definition of VME indicator units for bottom longlines and pots is as follows:

The quantity of VME-indicator organisms (i.e. live corals and/or live sponges) recovered during hauling should be reported for each 1200m section of the longline or potline (in the case of longlines - or 1000 hooks whichever is the shorter) as:

a) Volume (litre) for VME-indicator organisms which fit into 10-litre container;

b) Weight (kg) for VME-indicator organisms which do not fit 10-litre container (e.g. branching species); and

c) VME-indicator units which is the combined total of volume of VME-indicator organisms which fit into 10-litre and weight of VME-indicator organisms which do not fit into containers of 10-litre (i.e. unit = volume + weight).

The Commission would like to express concern that the duration of tow is not specified and request that the Scientific Committee consider this in the next SC meeting.

APPENDIX VII-R – ***Rules for Access and Use of SEAFO Data***

RULES FOR ACCESS AND USE OF SEAFO DATA

The following Rules for Access and Use of SEAFO Data were adopted by the ---------- Meeting of the Commission (----------, paragraphs to) :

It is recognised that:

1. All data (including haul-by-haul or set-by-set data) submitted to the SEAFO Secretariat, and maintained in the SEAFO Database, shall be freely available to Members for analysis and preparation of documents for the Commission, Scientific Committee and their subsidiary bodies.

2. Stock Assessment on SEAFO stocks shall be based on data contained in the SEAFO database.

3. Such data may be analysed in respect of:

A) Work specifically **outlined and endorsed** by the Commission or Scientific Committee;

- Inclusion of data, analyses or results from data held in the SEAFO Database into Working Papers and any other documents tabled at meetings of the Commission, Scientific Committee or one of their subsidiary bodies does not constitute publication and therefore is not a release into the public domain.

- Inclusion of data held in the SEAFO Database into the published reports of the Commission, Scientific Committee, Subsidiary bodies or any other SEAFO publication constitutes release into the public domain.

- Requests in support of analyses endorsed shall include the type of data requested, the degree of data aggregation required, the spatial and temporal detail required, and the anticipated format to be used in presenting results of the analyses. For such requests, the Secretariat shall ensure that each request meets the conditions of the approval granted for the original endorsement, and, if so, release the data and inform the data owner(s)/originator(s) accordingly. Release of data by the Secretariat to the requestor does not constitute permission to publish or release data into the public domain. Such permission remains a matter to be determined between the requestor and the data originator(s).

    - Originators/owners of data shall the right to:

        - be consulted (including assignation of authorship) on the preparation, if necessary including publication, of documents describing analyses and interpretation of their data;

        - approve the level of detail revealed in documents using their data;

        - stipulate terms and/or levels of data security if necessary.

- If approval for data release under is not forthcoming within the specified period, the Secretariat shall initiate and facilitate consultation between the data requestor and data owner(s)/originator(s). The Secretariat shall not release data without the written approval of the data owner(s)/originator(s). Failure to achieve agreement shall be brought to the attention of the Scientific Committee and Commission.

B) Work specifically **not endorsed** by the Commission or the Scientific Committee.

- Requests for data maintained in the SEAFO Database shall be directed via the Secretariat to the data owner (Commissioner) for approval in writing. The Secretariat is responsible for informing individual scientists or individuals requesting data of the rules governing access and use of SEAFO data and for obtaining agreement to comply with such rules.
    - Originators/owners of data shall the right to:
        - be consulted (including assignation of authorship) on the preparation, if necessary including publication, of documents describing analyses and interpretation of their data;
        - approve the level of detail revealed in documents using their data;
        - stipulate terms and/or levels of data security if necessary.
- Requests in support of non-endorsed analyses shall include the information listed in as well as details of the analytical procedures to be used and the opportunity for data owner(s)/originator(s) to be involved. For such requests, the Secretariat shall be satisfied that each request contains the required information before forwarding it to the data originator(s) for approval within a specified time period. Once approval has been received the Secretariat shall release the data. Release of data does not constitute permission to publish or for release into the public domain.
- If approval for data release under is not forthcoming within the specified period, the Secretariat shall initiate and facilitate consultation between the data requestor and data owner(s)/originator(s). The Secretariat shall not release data without the written approval of the data owner(s)/originator(s). Failure to achieve agreement shall be brought to the attention of the Scientific Committee and Commission.

4. Inclusion of data held in the SEAFO Database in any publication outside SEAFO constitutes release into the public domain.

5. The following statement shall be placed on the cover page of all Working Papers and any other papers tabled at meetings of the Commission, Scientific Committee or their subsidiary bodies:

   '*This paper is presented for consideration by SEAFO and may contain unpublished data, analyses, and/or conclusions subject to change. Data in this paper shall not be cited or used for purposes other than the work of the SEAFO Commission, Scientific Committee or their subsidiary bodies without the permission of the originators and/or owners of the data.*'

APPENDIX VIII-R – *Rules on Opening of new fishing areas after exploration*

Rules and procedures for **opening new fishing areas after exploratory fishing.**

1. It is required to have exploratory fishing data within a specified area without reaching the VME threshold to open that area for fishing:
   - two years of data within 5 year period for an area (<2000m) adjacent to an existing fishing area.
   - and three-years of data within 5 years for areas (<2000m) not adjacent to an existing fishing area.
   - Existing fishing records/data that contain VME data may be counted as a first year data set.
2. All 1x1° areas within the exploratory area that contain a VME encounter should be excluded from the proposed new fishing area.
3. Exploratory data stations should be set in such a way that it covers the exploratory area representatively above the 2000m depth isobar.
4. In case VME encounters are reported to the Executive Secretary after opening an area, the SC should re-evaluate the status of the newly opened fishing area.

*The term "Encounter" is defined in paragraph 4 of Conservation Measure 22/11 (xxx/12) ANNEX 5.

APPENDIX IX-R – *Revised 5-day Catch form*

SEAFO Data Form
5-DAY REPORT

(1) Vessel Information	
Vessel flag	
Vessel name	
Vessel call sign	
Email address of person responsible for data enquiries	

(2) Reporting Details

Reporting period	
Start date	
End date	
Type of fishing	
Target species	
Subarea or Division	

(3) Catch Data - Catch Data: all retained catch including discards of TAC species must be recorded

	Total
Total green weight caught (kg)	
[Species - FAO code]	
Total green weight caught (kg)	
[Species - FAO code]	
Total green weight caught (kg)	
[Species - FAO code]	
Total green weight caught (kg)	
[Species - FAO code]	
Total green weight caught (kg)	
[Species - FAO code]	
Total green weight caught (kg)	
[Species - FAO code]	
Total green weight caught (kg)	