6th Meeting of the Southern Indian Ocean Fisheries Agreement (SIOFA) Scientific Committee (SC6)

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National Report of the European Union (2021)

Relates to agenda item: 3

Working paper 🖂 Info paper 🗌

Delegation of the EU

ABSTRACT

This report presents an overview of the fishery data available from the European Union (EU) fleets operating at SIOFA area updating previous reports to the end of 2020. Information about Catch, CPUE, Data collection, VME and other data of interest are included.

While France did not request any authorisation in 2020 and therefore did not fish in the SIOFA area, Spanish fishing activities have been focused in three fishing grounds, namely Walter Shoals (Area 2), Southwest Indian Ridge (Area 3b and 3a) and more recently in the SE Indian Ocean (Area 7). In 2020 a few fishing sets have also been located in the Ninety-Degree East Ridge (Area 4).

RECOMMENDATIONS (Working papers only)

It is recommended that the SC:

- Notes the National Report provided by the EU.
- Notes that the EU has complied with the annual reporting requirements of the SIOFA Scientific Committee.

European Union 2021 annual report on fishing activities in the Southern Indian Ocean Fisheries Agreement Area

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National Report European Union (EU) 2021

1. Description of fisheries

Fleet composition

This section includes fleet composition data from the EU Member States active in SIOFA (France and Spain) during the period 2000-2020 as indicated in Tables 1 and 2 respectively for France (2009-2020) and Spain (2000-2020).

Year	Number of vessels
2009	2
2010	2
2011	2
2012	2
2013	2
2014	1
2015	Interruption
2016	1
2017	1
2018	0
2019	0
2020	0

Table 1: Summary of EU-France fleet activity in the SIOFA Area.

Two EU-France longliners, less than 25m, have a demersal fishery history in the SIOFA Area, in the Saya de Malha Bank, in addition of their tuna directed activities. There was no request for any authorisation in 2020 and therefore, there was no fishing in the SIOFA area.

EU-Spain fishing activities within the SIOFA Convention Area (CA) have been focused in three fishing grounds, namely Walter Shoals (Area 2), Southwest Indian Ridge (Area 3b and 3a) and more recently in the SE Indian Ocean (Area 7). Historically have also been some activities in the Madagascar ridge (Area 1).

In 2020 a few fishing sets have also been located in the Ninety Degree East Ridge (Area 4), Figure 1.

Information on Table 2 summarizes the fishing periods by gear (trawl, bottom longline and bottom gillnet) conducted by the EU-Spain fleets within the SIOFA CA.

Only bottom longlines have been used from April 2015 up to now, mainly using the Autoline system. In 2018 a second vessel has participated using the bottom Spanish system LL. In 2020 only one vessel has been fishing with Autoline system (282 fishing days).

Year	Number vessels	Fishing period	Gear
2000	1	May - November	Bottom trawl / Midwater trawl
2001	1	October - November	Bottom trawl / Midwater trawl
2003	1	May - June	Bottom longline
2004	2	August - November September - December	Bottom longline
2005	2	August - November January-February & November - December	Bottom longline
2006	2	August - December January & November - December	Bottom longline
2007	2	January - December January-February & December	Bottom longline
2008	2	January - May January - December	Bottom longline
2009	1	January - March	Bottom longline
2013	1	January - December	Gillnet
2014	1	January - December	Gillnet
2015	1	January - December	Gillnet: January-March Bottom longline: April-December
2016	1	January - December	Bottom longline
2017	1	January & May-December	Bottom longline
2018	2	January-February & April-October (1 vessel) May-August (1 vessel)	Bottom longline
2019	1	January-December	Bottom longline
2020	1	January-December	Bottom longline

Table 2: Summary of EU-Spain fleet activity in the SIOFA Area.

Fishing footprint

The fishing footprint of the EU fleet in 2020 is shown in Figure 1 (below), using a 10'x10' grid. Fishing took place in Areas 2, 3a, 3b, 4 and 7. Grid colours are classified by the number of sets in a grid.



Figure 1: EU-Spain 2020 footprint.

2. Catch, effort and CPUE summaries

<u>Effort</u>

The fishing effort in 2014 was high although only one vessel using gillnets was operating (Fig. 2). In 2015 the vessel using gillnets replaced the gear to bottom longline Autoline. Effort remained stable in the period 2016-2017 at a level of around 3 200 000 hooks per year (one vessel), in 2018 increased up to 4 940 000 hooks per year (two vessels), finally decreasing in 2019 and 2020.



Figure 2: EU-Spain Fishing effort by gear (Bottom Longliners: № hooks*1000, Gillnets: km) from 2014 to 2020.

Tables 3a and 3b summarize the effort by area and gear (GN and LLS respectively).

Year	2
2014	4945.2
2015	1121.3

Table 3a: Bottom Gillnet effort (km) by year and area

Table 3b: Bottom Longline effort (Nº hooks*1000) by year and area

Year	2	3a	3b	4	7
2015	2370.4	0.0	0.0	0.0	0.0
2016	3223.5	0.0	0.0	0.0	0.0
2017	1793.6	0.0	1403.3	0.0	0.0
2018	2383.9	0.0	2119.3	0.0	928.8
2019	1902.5	0.0	552.5	0.0	995.7
2020	910.7	249.1	810.1	50.8	530.6

<u>Catch</u>

Historically, the target species of EU fleet operating in SIOFA seamounts were: Alfonsino (*Beryx* spp.); Orange roughy (*Hoplostethus atlanticus*); Wreckfish (*Polyprion* spp.); Portuguese dogfish (*Centroscymnus coelolepis*); Southern boarfish (*Pseudopentaceros richardsoni*); and Patagonian toothfish (*Dissostichus eleginoides*). Within the by-catch species of commercial interest it can be highlighted: the Bluenose warehou (*Hyperoglyphe antarctica*); Blackbelly rosefish (*Helicolenus dactylopterus*); Common mora (*Mora moro*); Oilfish (*Ruvettus pretiosus*); Black cardinal fish (*Epigonus telescopus*); Birdbeak dogfish (*Deania calcea*); Kitefin shark (*Dalatias licha*); Gulper sharks (*Centrophorus* spp); Lanternshark (*Etmopterus* spp); Roudi escolar (*Promethichthys prometheus*); Violet warehou (*Schedophilus velaini*); Oreo dories (*Oreosomatidae*) and others. Identification of all deep-seas harks to the lowest taxonomical level is not possible where no scientific observer is onboard. Surveys with observer coverage identify most of the sharks to the species level.

From 2017 all fishing vessels targeting Patagonian toothfish have 100% observer coverage.

Following the entry into force of CMM-2019-12, the EU fleet has ceased the fishery targeting sharks and performance measures were adopted in the case of by-catch of these species.

In Table 4a and 4b show the catch (tons) from 2014 to 2020 by Area and gear (GN and LLS respectively).

Table 4a: GN (t) by area

Year	2
2014	1527.3
2015	515.0

 Table 4b:
 LLS catches(t) by area

 Year	2	3a	3b	4	7
2015	1384.1	0.0	0.0	0.0	0.0
2016	1840.8	0.0	0.0	0.0	0.0
2017	1060.2	0.0	253.6	0.0	0.0
2018	1406.1	0.0	314.4	0.0	362.6
2019	1014.3	0.0	106.5	0.0	183.9
2020	619.7	79.8	277.4	12.7	87.1

Table 5a shows the catch by year of the 8 most fished species (from 2001 to 2020) and in Table 5b the discards of these species, together with the Total.

The Portuguese dogfish (CYO) has been the main species of the catch in 2020 followed by the Patagonian toothfish (TOP).

Year	СҮО	SCK	DCA	ТОР	RIB	GUP	SHL	WRF	Others	Total
2001	0.0	3.1	0.0	0.0	0.6	0.0	0.0	0.8	27.6	32.0
2003	0.0	0.0	0.0	24.5	0.0	0.0	0.0	0.0	0.0	24.5
2004	419.8	0.0	0.0	1.2	6.6	0.0	0.0	85.8	87.3	600.7
2005	0.0	0.0	0.0	0.0	3.9	0.0	0.0	51.4	94.4	149.7
2007	0.0	0.0	0.0	3.5	2.7	0.0	0.0	2.3	12.7	21.2
2008	293.2	224.7	186.8	0.0	90.2	106.1	0.0	11.1	143.1	1055.1

Table 5a: Catch(t) by species(*) and year

Year	CYO	SCK	DCA	ТОР	RIB	GUP	SHL	WRF	Others	Total
2009	76.7	74.6	62.5	0.0	5.5	43.6	0.0	0.0	9.9	272.7
2013	316.1	409.9	369.9	0.0	143.2	127.7	0.0	1.1	144.3	1512.2
2014	505.0	341.4	314.5	0.0	159.1	106.1	0.0	0.0	101.2	1527.3
2015	924.9	365.9	290.7	0.0	128.2	133.7	0.0	0.8	54.9	1899.1
2016	1276.6	266.6	130.9	0.0	56.7	74.4	0.0	0.0	35.7	1840.8
2017	519.3	210.6	104.0	139.6	53.7	22.7	74.7	0.0	183.5	1308.2
2018	814.1	323.6	22.3	503.7	24.3	6.9	74.5	0.1	267.3	2036.9
2019	716.2	12.8	0.1	217.7	15.6	4.4	189.2	6.9	134.9	1297.8
2020	442.7	65.1	2.9	188.5	39.4	2.3	78.9	140.1	114.7	1074.6

Table 5a: Catch(t) by species(*) and year

*CYO: Centroscymnus coelolepis; SCK: Dalatias licha, DCA: Deania calcea, TOP: Dissostichus eleginoides, RIB: Mora moro, GUP: Centrophorus granulosus, SHL: Etmopterus spp, WRF: Polyprion americanus.

Year	СҮО	SCK	DCA	ТОР	RIB	GUP	SHL	WRF	Others	Total
2001	0.0	0.0	0	0	0.0	0	0.0	0.0	3.6	3.6
2004	1.0	0.0	0	0	7.3	0	26.0	0.1	34.2	68.6
2005	0.0	0.0	0	0	0.0	0	0.0	0.0	6.3	6.3
2007	0.1	0.2	0	0	0.0	0	0.9	0.0	4.2	5.4
2017	0.0	0.0	0	0	0.0	0	0.0	0.0	6.1	6.1
2018	0.0	0.0	0	0	0.0	0	0.2	0.0	46.4	46.6
2019	0.0	0.0	0	0	0.0	0	0.0	0.0	6.8	6.8
2020	0.0	0.0	0	0	0.0	0	0.0	0.0	3.9	3.9

Table 5b: Discards(t) by species* and year

*CYO: Centroscymnus coelolepis; SCK: Dalatias licha, DCA: Deania calcea, TOP: Dissostichus eleginoides, RIB: Mora moro, GUP: Centrophorus granulosus, SHL: Etmopterus spp, WRF: Polyprion americanus.

<u>CPUE</u>

The highest CPUE (catch by 1000 hooks) has been reached fishing the portuguese dogfish (CYO) that is fished mainly in area 2, when in one 2020 set reached a maximum of 2100 k/1000 hooks. The mean CPUE for CYO during all the period (2014-2020) is 357 k/1000 hooks (Figure 3).

In Del Cano rise and Williams ridge the main species caught is the Patagonian toothfish, with a mean CPUE of 148 k/1000 hooks and a maximum of 989 k/1000 hooks in a set hauled in 2018.



*CYO: Centroscymnus coelolepis, DCA: Deania calcea, EDR: Pseudopentaceros richardsoni, GRV:Macrourus spp, GUP: Centrophorus granulosus, RFA: Amblyraja taaf, SCK: Dalatias licha, TOP: Dissostichus eleginoides.

Figure 3: CPUE (k/1000 hooks) by area (up) and year (down) of the EU-Spain fleet for the LLS fleet (period 2015-2020).

3. Fisheries data collection and research activities

EU data were obtained from different sources: declaration system, records from the master and scientific observation, when available.

López-Abellán in 2005 presented a document to CCAMLR regarding a Spanish Patagonian toothfish fishery in the statistical FAO area 51: « Patagonian toothfish in international waters of the Southwest Indian ocean (statistical area 51) » that has been published in CCAMLR Science, Vol. 12 (2005): 207-214.

Also, several analysis of the Patagonian toothfish stock in the SIOFA CA from data collected from observers on board vessels that operated between 2017 and 2019 in SIOFA 51.7 and 57.4 areas have been presented both in SIOFA WG-SERA-19 (Sarralde and Barreiro, 2019) and CCAMLR WG-FSA-19 (Sarralde et al, 2019).

An analysis of tag recaptures in the SIOFA convention area from Patagonian toothfish tagged in the CCAMLR convention area was presented at CCAMLR WG-FSA-18 (Sarralde and Barreiro, 2018).

An analysis of the Marine Mammal interaction with fishing activities targeting Patagonian toothfish (CCAMLR, Gasco et al., 2019)

Finally, two documents were submitted to SERAWG and/or the SIOFA Scientific Committee in March 2020:

- Gasco N, Tixier P, Massiot-Granier F, Péron C, Selles J, Sarralde R, Soeffker M. 2020. No boundaries for whales interacting with fishing activities targeting Patagonian toothfish. SERAWG-2020.
- Sarralde R, F. Massiot-Granier2, J. Selles2, Soeffker M. 2020. Preliminary analysis of the Patagonian toothfish fishing data of the Del Cano Rise SIOFA. SERAWG-2020.

4. VME Thresholds

From 2019, the EU bottom longline fleet is applying the protocols adopted by SIOFA in the CMM 2019-01. Before 2019 the fishing vessels followed the rules adopted by the Fishing Administration, similar to those applied in SEAFO and CCAMLR in the definition of the VME encounter and thresholds. These measures are reflected in the following indications to the fishing vessels *:

"It is considered an encounter with Vulnerable Marine Ecosystems (VME) when the occurrence of VME indicators exceeds the established limits.

Vulnerable Marine Ecosystem (VME) indicators are considered:

- live corals (coral species identified as antipatharia, gorgonians, cerianthids, lophelias, and sea pens).
- live sponges.

When using the bottom longline will be taken into account:

• It is considered an encounter with Vulnerable Marine Ecosystems (VME) when 10 or more indicator units of a VME have been recovered in a single line section.

- A VME indicator unit refers to a liter of VME indicator organisms that can be placed in a 10-liter container, or one kilogram of VME indicator organisms that do not fit into a 10-liter container.
- A "line section" is a section of the line with 1,000 hooks or a section of 1,200 m in length, whichever is the shorter.

In case of encounter with VME indicators, the captain of the vessel:

- Quantify the species of the VME indicator, namely sea pens, coral and sponge.
- If the number of VME indicators exceeds the limits indicated above per set of fishing:
 - According to Annex 1 of CMM 2019-01, it will indicate the incident to the General Secretariat of Fisheries.
 - According to point 13(b) of CMM 2019-01, you will stop fishing and will be separated at least 1 nautical mile from the midpoint of the operation, in the direction least likely to lead to an additional encounter. The captain will use his best judgment based on all available sources of information. "

*Translation from Spanish instructions to the vessel

Gear/fishery	Threshold (kgs)	Move-on protocols
	10 or more indicator units of a	stop fishing and will be separated
LLS	VME have been recovered in a	at least 1 nautical mile from the
	single line section	midpoint of the operation

Table 6: Threshold levels for encounters with VMEs and move-on protocols

The yearly catch (k) by the main VME taxa is shown in Table 6a. Gorgonians (GGW) and Scleractinians (CSS) are the most abundant taxa.

The maximum encounters (in k) by taxa* in a line segment randomly selected for sampling, from the last Spanish surveys (from 2017 to 2020) within the SIOFA convention areas are shown in Table 6b.

The threshold of 10 or more VME indicator units by segment has never been reached.

Year	ATX	DMO	GGW	HXY	OEQ	AQZ	CSS	Others	Total VME
2017	0.4	0.6	0.5	0.0	0.1	0.0	0.0	0.1	1.7
2018	0.0	3.4	0.6	0.0	0.5	0.0	1.6	0.5	6.0
2019	0.5	4.5	4.5	0.1	0.0	0.1	4.8	3.4	17.8
2020	0.9	4.4	17.8	0.0	0.1	0.8	16.6	5.8	46.4

Table 6a: VME encounters (k) by taxa(*) and year (LLS fishery)

Table 6b: Maximum VME catch (k) encountered in a single set by area and taxa (*) from the logbook data.

COD_SP	2	3a	3b	4	7
AJH	0.0	0.0	0.0	0.6	1.5
AJZ	0.0	0.0	0.4	0.0	0.0
AQZ	0.0	0.2	0.4	0.0	0.0
ATX	0.3	0.0	0.2	0.0	0.3
AXT	0.1	0.9	0.0	0.0	0.0
AZN	0.0	0.0	0.1	0.0	0.0
BWY	0.0	0.0	0.0	0.0	0.0
BZN	0.0	0.2	0.4	0.0	0.0
CSS	0.4	0.8	1.8	0.0	0.6
CVD	0.0	0.0	0.0	0.0	0.0

* AJH: Anthozoa; AJZ: Alcyonacea; AQZ:Antipatharia; ATX:Actiniaria; AXT: Stylasteridae; AZN: Anthoathecatae; BWY: Bathylasmatidae; BZN:Briozoan; CSS:Scleractinia; CWD:Stalked crinoids; CXV: Chemosynthetic; DMO: Demospongiae; GGW: Gorgonacea; HXY: Hexactinellida; NTW: Pennatulacea; OEQ: Euryalida; PFR ; SZS: Serpulidae ; ZOT: Zoanthidea

5. Biological sampling and length/age composition of catches

Biological and size composition samplings are conducted by scientific observers on board the Spanish vessels from 2017 to 2020.

In Table 7 the biological sampling information of the species when more than 1000 specimens have been sampled from 2017 to 2020 is shown. Information about sex and maturity is also available.

Sp	Scientific_name	Num	Min	Max	Mean
ТОР	Dissostichus eleginoides	16013	36.0	188	87.3
CYO	Centroscymnus coelolepis	6463	39.0	158	93.0
SHL	Etmopterus spp	3630	25.0	82	59.0
ANT	Antimora rostrata	2861	30.0	78	57.4
MCH	Macrourus holotrachys	2508	12.0	98	36.8
ETM	Etmopterus granulosus	2445	35.0	77	59.7
GRV	Macrourus spp	1907	1.5	71	26.2
WRF	Polyprion americanus	1835	55.0	167	96.5
RAJ	Rajidae	1607	38.0	109	60.1
RIB	Mora moro	1390	35.0	85	59.7

Table 7: Biological sampling information of the species when more than 1000 specimens have been sampled (number of specimens sampled, min, max and mean length (cm).

6. Description of data verification mechanisms

Data from EU fleet are reviewed searching for outliers on catch and effort data; species names; and fishing set position errors. In the periods where scientific observation is available, data from the vessels are contrasted with the observer's data.

Vessels are also controlled through VMS positioning system.

7. Summary of observer and port sampling programs

Scientific observers have been deployed on board the one EU fishing vessel operating in the region in 2020. Reports on the scientific observations were prepared and provided to SIOFA Secretariat, and also information on Toothfish fishery tags recovered have been delivered. The observers were on board during 282 fishing days, meaning 100% of observation coverage.

The scientific observers (Biologist or Marine Science degree) are part of the personnel trained at the *Instituto Español de Oceanografía*, specific training is also adapted for all fleets that are monitored.

Table 8 shows the observer program design from 2017 to 2020. 6 out of 9 fishing trips have been

covered by observers (not included the last survey that is underway by February 2021 with an observer onboard). In 2020 the observer coverage has been the 100%.

Table 8: Observer progra	m design and	coverage summary table
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	trips coverage (%)	total no of sets/hauls	no of sets/hauls covered	within set/haul coverage (%)	incidental bycatch (bird, mammal) observation coverage (% set/haul)
LLS	67	1524	805	~25%	~25%

Accidental catches of Seabirds registered by the Scientific observers from 2017 to 2020 is found in Table 9. No mammal bycatch have been recorded.

Bycatch	LLS	
Diomedea exulans	1 (2017)	
Procellaria aequinoctialis	1 (2017)	
Thalassarche melanophris	1 (2020)	

Bird scare (tori) lines are deployed in most of the setting/hauling (if weather permits).

The EU has no port sampling program for vessels fishing within the SIOFA CA.

8. Relevant social and economic information (optional)

NA