

## Overview of SIOFA fisheries 2016

### Fleet composition

In the six years 2011 to 2016 (the most recent years reported by all parties), between 7 and 15 vessels fished each year in the SIOFA Area, across all the parties (Table 1).

Table 1. Provisional list of vessels (trawl, bottom longline and gillnet) undertaking fishing in the SIOFA area by members.

Flag	Gear	Year					
		2011	2012	2013	2014	2015	2016
Australia	Trawl	1	1	1	1	1*	1*
	Bottom Longline	0	0	0	0	1*	1*
Cook Islands	Trawl	3	3	2	2	2	2
European Union	Bottom Longline	2	2	2	1	1	2
	Gillnet	0	0	1	1	1	0
France Overseas Territories	Bottom Longline	2	2	2	2	2	2
Japan	Trawl	1	2	2	1	2	2
	Bottom Longline	0	0	1	0	0	0
Korea	Trawl	1	1	1	0	0	0
	Bottom Longline	1	1	3	0	0	0
<b>Total Trawl</b>		<b>6</b>	<b>7</b>	<b>6</b>	<b>4</b>	<b>4</b>	<b>4</b>
<b>Total Bottom Longline</b>		<b>5</b>	<b>5</b>	<b>8</b>	<b>3</b>	<b>2</b>	<b>4</b>
<b>Total Gillnet</b>				<b>1</b>	<b>1</b>	<b>1</b>	

\*vessel is multipurpose (trawl and bottom long-line)

### Fishing Effort

Provisional estimates of aggregated Trawl effort (days) across all members varied between 674 and 789 between 2011 and 2014 (Table 2). In 2015, this increased to 1065 days (Table 2). Trawl hours are also reported except for the Cook Islands where reporting at this level is not applicable.

The provisional estimate of aggregated Longline effort (Number of hooks) has varied between 634,682 hooks in 2014 and 2,696,938 in 2012 (Table 2).

Table 2. Provisional estimates of effort in the SIOFA fisheries between 2011 and 2015. Note Cook Islands are currently unable to report trawl hours. Total trawl hours excludes the Cook Islands. Longline hook numbers for the European Union between 2011 and 2014 are currently not available.

Flag	Gear	2011	2012	2013	2014	2015
Australia	Trawl days	132	104	32	63	12
	Trawl hrs	294	252	62	106	14
	Longline hooks	0	0	0	0	1,800
Cook Islands	Trawl days	599	490	524	523	501
European Union	Longline hooks	na	na	na	na	2,221,000
	Gillnet km	0	0	5,442	4,945	1,121
France Overseas Territories	Longline hooks	509,414	503,478	731,883	634,682	443,492
Japan	Trawl days	58	90	118	126	356
	Trawl Hrs	550	528	1,001	707	2,260
	Longline hooks	0	0	96,480	0	0
Korea	Trawl days	50	238	217	0	0
	Trawl hrs	286	623	233	0	0
	Longline hooks	355,192	2,193,460	1,023,252	0	0
<b>Total Trawl days</b>		<b>839</b>	<b>922</b>	<b>891</b>	<b>712</b>	<b>869</b>
<b>Total Trawl hrs*</b>		<b>1130</b>	<b>1403</b>	<b>1,296</b>	<b>813</b>	<b>2,274</b>
<b>Total hooks</b>		<b>864,606</b>	<b>2,696,938</b>	<b>1,851,615</b>	<b>634,682</b>	<b>2,664,492</b>
<b>Total Gillnet km</b>		<b>0</b>	<b>0</b>	<b>5,442</b>	<b>4,945</b>	<b>1,121</b>

### Catch composition

The catch of trawl vessels is predominantly alfonsino and orange roughy. Species also caught by trawling include pelagic armourhead, bluenose warehou, violet warehou, ocean blue-eye trevalla and oreo dories, cardinal fish, hapuku wreckfish.

The catch of longline vessels differs between two groups. There are longline vessels (reported by Japan, Korea and France Overseas Territories) that catch Patagonian toothfish and associated species such as blue antimora. The other longline vessels catch hapuku wreckfish and ocean blue-eye trevalla, pelagic armourhead, deepwater sharks (Squalidae), alfonsino, rubyfish and common mora.

The catch of the gillnet vessels is predominantly deepwater sharks (Squalidae), there is uncertainty on the species composition within this group.

### Catch volume

Provisional catch time series for 2006 to 2015 for Alfonsino, Orange Roughy, Patagonian Toothfish and deepwater sharks are presented in Figures 1, 2, 3 and 4 respectively.

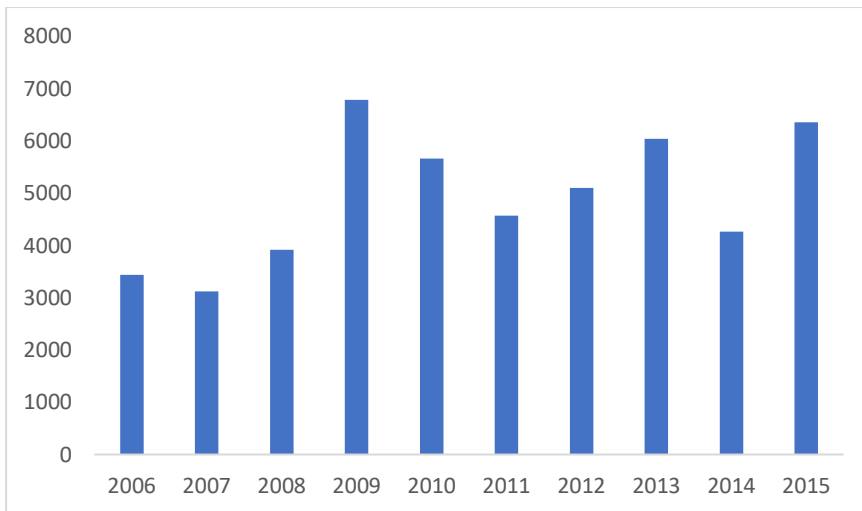


Figure 1 Provision catch annual catches (tonnes) between 2006 and 2015 (x-axis) for alfonsino. Note this catch history does not include the historical or current catch of non-contracting parties.

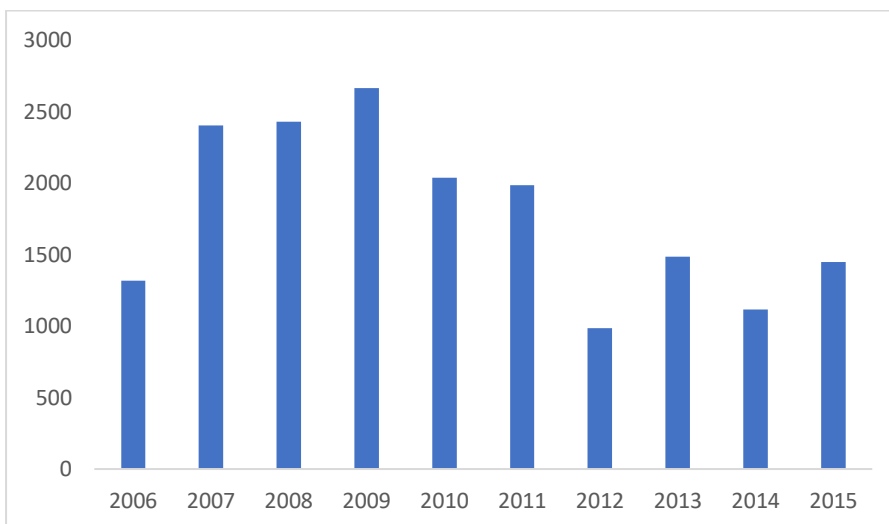


Figure 2 Provision catch annual catches (tonnes) between 2006 and 2015 for orange roughy (x-axis). Note this catch history does not include the historical or current catch of non-contracting parties

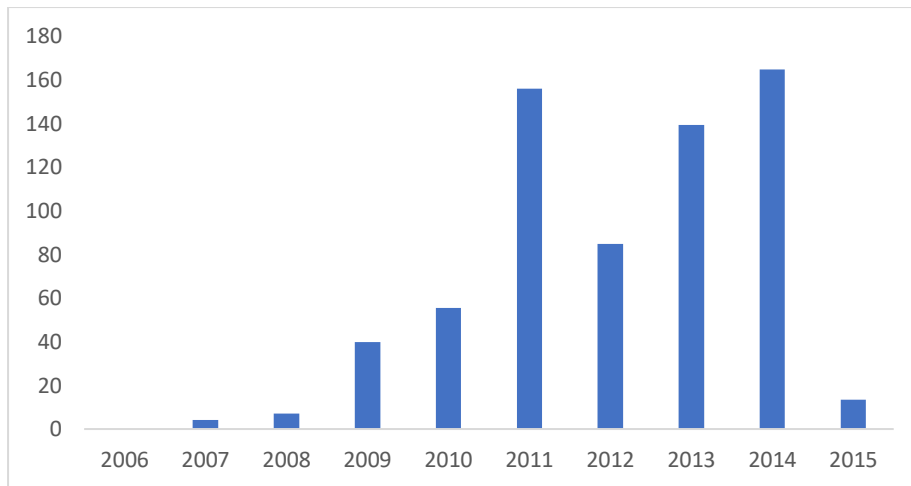


Figure 3 Provisional annual catches (tonnes) between 2006 and 2015 (x-axis) for Patagonian Toothfish. Note this catch history does not include the historical or current catch of non-contracting parties.

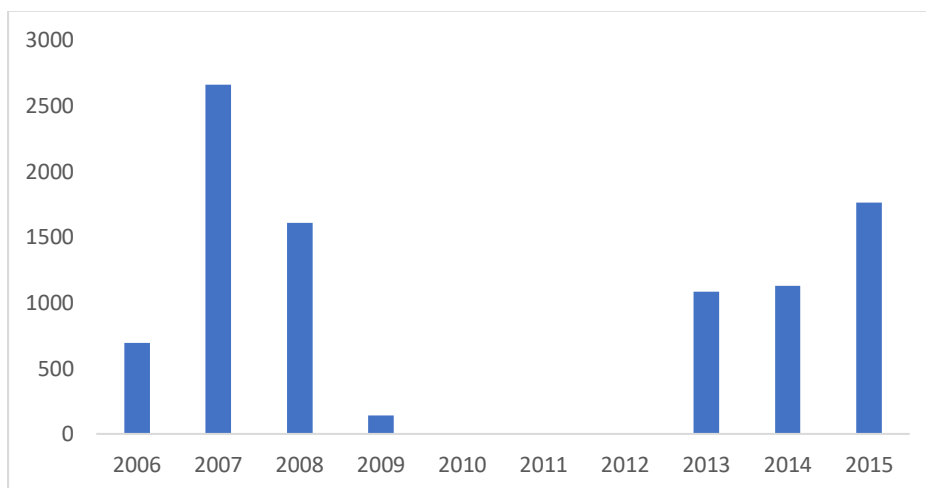


Figure 4 Provisional annual catches (tonnes) between 2006 and 2015 for deepwater sharks. Note this catch history does not include the historical or current catch of non-contracting parties

### **Vulnerable Marine Ecosystems**

One of the tools SIOFA implements to manage impacts on Vulnerable Marine Ecosystems (VME) from fishing is the application of move-on rules when thresholds of VME indicators are reached. Table 3 provides a summary of the thresholds and move-on rules applied by each Flag.

### **Observer programs**

SIOFA requires its members to implement Scientific Observer programs. Table 4 provides a summary of the observer programs implemented by each Flag.

Table 3. Summary of VME thresholds and Management Responses that were provided in the 2017 National Reports submitted to SC3.

Flag	VME Threshold	Management Response
Cook Islands	Trawl tow, the presence of more than 60 kg of live coral and/or 400 kg of live sponge.	Reported to Cook Islands within 24 hrs of encounter
	If any subsequent trawl within 1nm of the encounter trawl contains more than 30 kg of live coral/and or 200 kg of live sponge	The vessel must not fish within 5nm of that area until the Ministry of Marine Resources has completed an investigation. However, if the vessel deploys an underwater camera system on the trawl net, and the Cook Islands Observer verifies that no substantial VME structures are present, fishing can continue.
		Cook Islands vessels intending to transit any Benthic Protected Area shall: a. Give at least 24 hours advance notice to MMR prior to entering or exiting any Benthic Protected Areas; b. Ensure their vessel monitoring system polls once every hour while in the Benthic Protected Area; and c. Require that fishing gear is properly stowed before entering, and in transit through, a Benthic Protected Area and not able to be deployed.
Korea	The threshold for all bottom fishing vessels: > 60kg of coral per set or over 800kg of sponges per set.	If the amount of VME that exceeds the weight specified in the criteria, the vessel shall apply a 2 nmiles move-on rule to resume its fishing operation. The vessel shall relocate its fishing position until it reaches a point where no VMEs are confirmed. In accordance with Article 15 of Distant Water Fisheries Development Act, an automatic location communicator shall be installed on all vessels conducting bottom fishing activities, and an observer shall be on board each vessel for over 50% of the total number of days fished during the trip.
Australia	Trawl > 50 kg of corals or sponges in a shot for trawlers	In the SIOFA area of waters (a) if the combined catch of coral or sponge in any one trawl shot exceeds 50kgs the holder must cease fishing within an area two nautical miles either side of the trawl track extended by two nautical miles at each end of

	Line >10 kg of corals or sponges per 1000 hooks or 1200 metre section of line (whichever is shorter)	<p>the trawl track; or</p> <p>(b) if the combined catch of coral or sponge in any one shot for line method exceeds 10kgs for any 1000 hook section of line or a 1200 metre section of line, whichever is the shorter; the holder must cease fishing within a radius of one nautical mile from the midpoint of the line segment.</p> <p>The holder must not fish in that area using the same method as used for that shot that triggered the limit until AFMA notifies otherwise.</p> <p>In the SIOFA area of waters if a vessel exceeds the catch limit for coral and sponge then as soon as practicable, but in any event no later than 24 hours after the shot, the concession holder must notify AFMA's Service One section. The notification must include details of the shot including the location.</p>
Japan		<p>Following Article 11 CMM 2016/01, Japan temporarily establishes threshold levels for encounters with VMEs and move-on protocols. For trawl fisheries, as they operate in the mid-water, no threshold levels have been established.</p> <p>The threshold levels will be established when the observer recognizes that the operation is likely to come in contact with the seafloor or benthic organisms. As for the bottom longline fisheries, Japan applies those used in CCAMLR.</p>
European Union		<p>The EU-Spain bottom longline fleet is applying the rules adopted by the Fishing Administration, similar to those applied in SEAFO and CCAMLR in the definition of the VME encounter and thresholds, together with the protocols adopted in the CMM 2016-01.</p>

Table 4. Summary of Observer Programs that were provided in the 2017 National Reports submitted to SC3.

<b>Country</b>		<b>Position</b>
Australia	Coverage	Trawl gear – 100% since 2010
		Non-trawl – 20%
	Training	AFMA operated: Need relevant scientific or fishing experience: currently 16
	Collection	Data on vessel characteristics, fishing activity, catch composition, discarding and bycatch.  Do not record bycatch of marine mammals, seabirds or marine reptiles
Port Sampling	No: Landings monitored thru verified catch disposal records	
Cook Islands	Coverage	35% since 2015; Aiming for 100% by 2017/2018
	Training	In development
	Collection	
	Port Sampling	No: Vessels are monitored by port landing state
EU	Coverage	IOTC scientific observation system
	Training	
	Collection	
	Port Sampling	No
France (overseas territories)	Coverage	
	Training	
	Collection	
	Port Sampling	
Japan	Coverage	100%
	Training	Initiated September 2016
	Collection	Trawl Fisheries: items listed in Annex B, CMM 2016/02  Bottom longline fisheries: use CCAMLR
	Port Sampling	
Korea	Coverage	
	Training	Initiated 2012: overseen by NIFS; must have specified scientific or fishing experience
	Collection	
	Port Sampling	No

## FAO species codes and alternative names used by members of the Scientific Committee

FAO common name	FAO species code	Scientific name	Alternative common name
Alfonsinos nei	ALF	Beryx spp.	Alfonsino
Splendid alfonsino	BYS	Beryx splendens	Alfonsino
Bluenose warehou	BWA	Hyperoglyphe antarctica	Blue-eye trevalla, Antarctic butterflyfish
Orange roughy	ORY	Hoplostethus atlanticus	
		Schedophilus labyrinthicus*	Ocean blue-eye trevalla
Violet warehou	SEY	Schedophilus velaini	Indian Ocean trevalla
Pelagic armourhead	EDR	Pentaceros richardsoni	Southern boarfish
Patagonian toothfish	TOP	Dissostichus eleginoides	
Common mora	RIB	Mora moro	Ribaldo
Wreckfish	WRF	Polyprion americanus	
Portuguese dogfish	CYO	Centroscymnus coelolepis	
Hapuka	HAU	Polyprion spp.	Antarctic butterflyfish (Japan?)
Rubyfish	RYG	Plagiogeneion rubiginosum	
		Plagiogeneion spp.	Rubyfish
Smooth oreo dory	SSO	Pseudocyttus maculatus	
Spiky oreo	ONV	Neocyttus rhomboidalis	
Blue antimora	ANT	Antimora rostrata	
Hapuku wreckfish	WHA	Polyprion oxygeneios	Hapuku
Cardinalfishes nei	APO	Apogonidae	
Cardinal fishes nei	CDL	Epigonidae	Deepwater cardinalfishes
Oreo dories nei	ORD	Oreosomatidae	
Blackbelly rosefish	BRF	Helicolenus dactylopterus	

\*scientific name unaccepted, accepted species name is *Schedophilus velaini*, however reported in some fisheries as *Schedophilus labyrinthicus*