
7TH MEETING OF THE SCIENTIFIC COMMITTEE

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SC7 – Doc13

A summary of current SPRFMO bycatch records (Including species of concern)

Secretariat

1. Background

Paragraph 1c) and 1e) of CMM 02-2018 (Data standards) require that “Members and Cooperating non-Contracting Parties (Members and CNCs) are to develop, implement and improve systems to:

ensure that data to assess the impacts of fishing on non-target and associated or dependant species are collected from vessels;

compile data on fishing activities and the impacts of fishing and provide these in a timely manner to the Secretariat of the South Pacific Regional Fisheries Management Organisation (SPRFMO) using the SPRFMO data submission templates. The data under this subparagraph will be used for the assessment and monitoring of stocks. Members and CNCs will provide by the 30th June, their previous (January to December) year’s data on fishing activities and the impacts of fishing described in sections 1b) – 1d) above.”

Paragraph 2a) similarly requires that “Members and CNCs are to develop, implement and improve observer programmes to attain the following objectives:

To collect vessel information, effort and catch data for all fisheries and fished species in the Convention Area, including target, by-catch and associated and dependent species;

Paragraph 19 of SPRFMO CMM (03-2019) requires that (beginning 2020) “The Scientific Committee shall provide advice biennially to the Commission on:

- a) direct and indirect interactions between bottom fishing and marine mammals, seabirds, reptiles and other species of concern;*
- b) any recommended spatial or temporal closures or spatially/temporally limited gear prohibitions for any identified hotspots of these species; and*
- c) any recommended bycatch limits and/or measures for an encounter protocol for any of these species.”*

And SPRFMO CMM 09-2017 (Seabirds) paragraphs 10 and 13 direct that:

“The Scientific Committee will report on the number and location of seabird interactions annually and provide advice and recommendations to the Commission on possible improvements to further mitigate seabird interactions, including inter alia, the potential use of trigger limits to manage the incidental catch of seabirds in the SPRFMO Convention Area. Further, the Scientific Committee shall consider any relevant advice from the ACAP Advisory Committee.

The Scientific Committee will annually review any new information on new or existing mitigation measures and on seabird interactions from observer programmes or other research and provide advice to the Commission on the need to implement particular measures for specific gear types or fisheries, or make other amendments to this Measure.”



Finally, the 2019 SC multi-annual work plan specifies the following tasks:

- *“Evaluate available observer data on seabird interaction rates (jack mackerel, different squid fisheries, demersal) and determine where estimates can be improved (2019)*
- *Refine quantitative risk assessment of Deepwater sharks caught in SPRFMO bottom fisheries (2020)*
- *Paragraph 19 of CMM 03-2019 (Bottom fishing) request regarding Marine mammals, seabirds, reptiles and other species of concern (2020)”*

The objective of this paper is to summarise bycatch information, held by the Secretariat and originating from fishing activity or observer reports, in order to assist the SC to fulfil the above obligations.

2. Marine mammal, Seabird, Reptile and Species of Concern capture records

The Secretariat holds Fishing Activity information from 2007 and Observer information from 2008. Vessels and observers are required to record incidental captures of marine mammals, seabirds, reptiles or other species of concern using the applicable templates.

Marine mammals, seabirds and reptiles are relatively well defined. “Other species of concern” refers to the list contained in Annex 14 of CMM 02-2018 (Data standards):

<i>Carcharhinus longimanus</i>	Oceanic whitetip shark	(OCS)
<i>Carcharodon carcharis</i>	Great white shark	(WSH)
<i>Cetorhinus maximus</i>	Basking shark	(BSK)
<i>Lamna nasus</i>	Porbeagle shark	(POR)
<i>Manta spp.</i>	Manta rays	(MNT)
<i>Mobula spp.</i>	Mobula nei	(RMV)
<i>Rhincodon typus</i>	Whale shark	(RHN)

Both Fishing Activity and Observer information were examined for marine mammal, seabird, reptile and other species of concern captures. The results are presented in Table 1.

Following the discussion held during last year’s SC6 (paragraph 191) in which SC6:

“Noted the system of indicators following the Pressure-State-Response framework being developed and implemented by ACAP;

Encouraged Members to collect and analyse data on seabird bycatch in a consistent way across fisheries, guided by the recommendations from ACAP; an”

And in relation to last year’s version of this paper SC6:

“recommended that observer coverage levels and total effort be reported in this summary document in future.”

In order to comply with the SC6 Recommendation, and to provide information consistent with ACAP Recommendations, the Secretariat has added 3 additional columns being:

- A measure of Observer coverage (presented either by Hook or Active Vessel Day);
- A simple ratio for Observed bycatch rate (only calculated if the capture was observed¹), and;
- Total Effort (derived from fishing activity data).

¹ And the observer data has been successfully uploaded into the SPRFMO Database.



Table 1: Summary of captures of seabird, mammal, reptile and species of concern from SPRFMO submissions

Fishery	Member	Code	Species	Common name	Amount caught	Year	Datasets	Observe coverage	Observed Bycatch rate	Total Effort
Bottom Longline	AUS	PFC	<i>Puffinus carneipes</i>	Flesh-footed shearwater	2	2008	Fishing activity, Observer	7% (by Hooks) 7% (AVD)	0.0383 per 1000 hooks	761,700
Bottom Longline	AUS	PRX	Procellariidae	Petrels and shearwaters nei	1	2015	Fishing activity	-	-	744,900
Bottom Longline	AUS	TUG	<i>Chelonia myas</i>	Green turtle	2	2016	Fishing activity	11% (by Hooks) 14% (AVD)	-	710,179
Bottom Longline	AUS	XXS	Unknown	Sea Snake	1	2016	Fishing activity		-	
Bottom Longline	AUS	WSH	<i>Carcharodon carcharis</i>	Great white shark	3	2016	Fishing activity		-	
Bottom Longline	AUS	PFC	<i>Puffinus carneipes</i>	Flesh-footed shearwater	1	2016	Fishing activity		-	
Bottom Longline	AUS	WSH	<i>Carcharodon carcharis</i>	Great white shark	1	2017	Fishing activity	14% (by Hooks) 14% (AVD)	-	826,500
Bottom Longline	AUS	OCS	<i>Carcharhinus longimanus</i>	Oceanic whitetip shark	52 (kg)	2018	Fishing activity	-	-	753,400
Bottom Longline	NZL	PWA	<i>Pterodroma leucoptera</i>	Gould's Petrel	1	2014	Fishing activity, Observer	11% (by Hooks) 14% (AVD)	0.006 per 1000 hooks	212,916
Bottom Trawl	NZL	BSK	<i>Cetorhinus maximus</i>	Basking shark	480 (kg)	2010	Fishing activity	100%	-	1,006
Bottom Trawl	NZL	WFS	<i>Pelagodroma marina</i>	White-faced storm petrel	1 (alive)	2016	Observer	100%	0.001 per tow	985
Bottom Trawl	NZL	PDM	<i>Pterodroma macroptera</i>	Great-winged petrel	1 (alive)	2017	Fishing activity, Observer	100%	0.0017 per tow	1,457
Bottom Trawl	NZL	PRX	Procellariidae	Petrels and shearwaters nei	1 (alive)	2017	Fishing activity, Observer	100%		
Jack mackerel (Trawl)	EU	POR	<i>Lamna nasus</i>	Porbeagle shark	12 (kg)	2009	Observer	18% (AVD)	0.05 kg per tow	291
Jack mackerel (Trawl)	KOR	POR	<i>Lamna nasus</i>	Porbeagle shark	62 (kg), 7 events	2015	Fishing activity, Observer	83% (AVD)	0.34 kg per tow	198
Jack mackerel (Trawl)	KOR	POR	<i>Lamna nasus</i>	Porbeagle shark	194 (kg), 16 events	2016	Fishing activity	80% (AVD)	-	326
Jack mackerel (Trawl)	KOR	POR	<i>Lamna nasus</i>	Porbeagle shark	53 (kg), 2 events	2017	Fishing activity, Observer	100% (AVD)	0.91 kg per tow	58
Jack mackerel (Trawl)	KOR	POR	<i>Lamna nasus</i>	Porbeagle shark	21.4 (kg), 2 events	2018	Fishing activity	-	-	209
Jack mackerel (Purse)	CHL	DIC	<i>Thalassarche chrysostoma</i>	Grey-headed albatross	5 (alive)	2017	Observer	13.1% SC6-Doc25 Annual report (EEZ)	0.032 per day	unknown
Jack mackerel (Purse)	CHL	LDO	<i>Larus dominicanus</i>	Kelp gull	8 (alive)	2017	Observer		0.051 per day	
Jack mackerel (Purse)	CHL	OCO	<i>Oceanites oceanicus</i>	Wilson's storm petrel	5 (alive), 1 (dead)	2017	Observer		0.038 per day	
Jack mackerel (Purse)	CHL	PFG	<i>Puffinus griseus</i>	Sooty shearwater	32 (alive)	2017	Observer		0.205 per day	
Jack mackerel (Purse)	CHL	POR	<i>Lamna nasus</i>	Porbeagle shark	unknown	2017	Observer		-	
Jack mackerel (Purse)	CHL	PUC	<i>Puffinus creatopus</i>	Pink-footed shearwater	1 (dead)	2017	Observer		0.0064 per day	
Jack mackerel (Purse)	CHL	SEL	<i>Otaria flavescens</i>	South American sea lion	260 (alive), 5 (dead)	2017	Observer		1.07 per day	

Last year new records appeared for Oceanic whitetip shark (in bottom longline) as well as various bycatch species (mostly released alive) in the Jack mackerel purse seine fishery operating inside Chile's EEZ.

The 2010 Basking shark record is expected to a coding error and was likely a seal shark.

The information being provided by Korea continues to suggest that rare captures of porbeagle sharks is a consistent feature of its Jack mackerel fishery.

The Squid fishery operating on the western side of the south Pacific has never reported capturing any marine mammals, seabirds, reptiles nor any other species of concern.

3. SPRFMO SC Considerations

Seabirds (mainly petrels) are being caught by the SPRFMO bottom Trawl and longline fisheries in FAO Area 81; Currently those captures are averaging less than 1 death per year.

Seabirds are also being caught in the Jack mackerel purse seine fishery with the majority of those birds are being released alive (the Secretariat does not hold information on probability of survival).

- SC7 is invited to provide advice on possible improvements to further mitigate seabird interactions;
- SC7 is invited to provide advice to the Commission on the need to implement particular measures for specific gear types or fisheries, or make other amendments to *CMM 09-20170 (Seabirds)*;
- SC7 is invited to evaluate the available observer data on seabird interaction rates (jack mackerel, different squid fisheries, demersal) and determine where estimates can be improved".

Porbeagle sharks are being caught within the Jack mackerel offshore trawl fishery.

The Bottom Longline fishery appears to capture marine reptiles and certain shark species (identified as species of concern) infrequently.

The Jack mackerel purse seine fishery (which only operates infrequently in the SPRFMO Area) appears to have regular interactions with South America Sealions and possibly Porbeagle sharks.

- SC7 is invited to consider the observer coverage rates, observed capture rate and total effort in those fisheries and provide any advice it deems appropriate.