SPRFMO
South Pacific Regional Fisheries Management Organisation

10TH MEETING OF THE SCIENTIFIC COMMITTEE

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SC10 – Doc10

A Summary of Current SPRFMO Bycatch Records (Including species of concern)

Secretariat

1. Background

- This paper updates SC9-Doc11 to summarise bycatch information held by the Secretariat including originating from fishing activity data to 2021 and observer reports to 2020 in order to assist the SC to fulfil its obligations. Members are invited to check the data contained in this paper and liaise with the Secretariat in cases where updates are needed.
- SC10 is invited to consider the observed bycatch levels, observer coverage rates, observed bycatch rate and total effort in SPRFMO fisheries and provide any advice it deems appropriate.

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 02-2022 (Data standards):

Scientific name	English name	FAO Species Code
Carcharhinus longimanus	Oceanic whitetip shark	(OCS)
Carcharodon carcharis	Great white shark	(WHS)
Cetorhinus maximus	Basking shark	(BSK)
Lamna nasus	Porbeagle shark	(POR)
Manta spp.	Manta rays	(MNT)
Mobula spp.	Mobula nei	(RMV)
Rhincodon typus	Whale shark	(RHN)

Both fishing activity and observer information were examined for marine mammal, seabird, reptile, and other species of concern captures, from the following fishing gear types: bottom longline, trawl, purse seine, squid jigging, and potting. There are no records of bycatch (from fishing activity and observer data) of marine mammals, seabirds, reptiles, or other species of concern associated with potting; therefore, there is no table presented in this document for that gear type. The bycatch records for the remaining four gear types are summarised in Tables 1-4. These tables also contain columns for observer coverage, observed bycatch rate and total effort. Observer bycatch rate was calculated as the number of individuals caught divided by the portion of total effort that was observed.

Table 1: Summary of captures of seabird, mammal, reptile and species of concern in bottom longline fishing from SPRFMO submissions (Observer coverage by hooks)[1].

Fishery	Member	Code	Species	Common name	Year	Unk[2]	Dead	Alive	Weight (kg)	Datasets	Observer coverage	Observed bycatch rate	Total effort
Bottom Longlining	AUS	WSH	*Carcharadon carcharis*	Great white shark	2016	3				FA[3]	11%	Not Applicable	710 197
Bottom Longlining	AUS	WSH	*Carcharadon carcharis*	Great white shark	2017	1				FA	14%	Not Applicable	826 500
Bottom Longlining	AUS	TUG	*Chelonia myas*	Green turtle	2016	2				FA	11%	Not Applicable	710 197
Bottom Longlining	AUS	EZZ	Elapidae	Sea snakes nei	2016	1				FA	11%	Not Applicable	710 197
Bottom Longlining	AUS	PFC	*Puffinus carneipes*	Flesh-footed shearwater	2008		2			FA,Obs[4]	7%	4E-5	761 700
Bottom Longlining	AUS	PFC	*Puffinus carneipes*	Flesh-footed shearwater	2016	1				FA	11%	Not Applicable	710 197
Bottom Longlining	AUS	PRX	Procellariidae	Petrels and shearwaters nei	2015	1				FA	11%	Not Applicable	744 900
Bottom Longlining	NZL	PWA	*Pterodroma leucoptera*	Gould's Petrel	2014		1			FA,Obs	11%	4E-5	784 000
Bottom Longlining	NZL	DIM	*Thalassarche melanophrys*	Black-browed albatross	2018			1		Obs	18%	5E-5	110 000
Bottom Longlining	NZL	PRO	*Procellaria aequinoctialis*	White-chinned petrel	2018			1		Obs	18%	5E-5	110 000
Bottom Longlining	NZL	PRK	*Procellaria parkinsoni*	Parkinson's petrel	2018			1		Obs	18%	5E-5	110 000
Bottom Longlining	NZL	POR	*Lamna nasus*	Porbeagle	2015	1			20	FA	11%	5E-5	179 026
Bottom Longlining (Exploratory)	NZL	HBE	*Halobaena caerulea*	Blue Petrel	2019			1		Obs	100%	3E-6	307 363
Bottom Longlining	NZL	PRX	Procellariidae	Petrels and shearwaters nei	2020	1				FA, Obs	100%	Not Applicable	200 875
Bottom Longlining	AUS	PRX	Procellariidae	Petrels and shearwaters nei	2021		2			Obs	100%	1.8E-2[5]	Not Available

[1] Observer coverage in Bottom fishing is expressed as the percentage of the total number of observed hooks (Annex 8, CMM 03-2020)
[2] Unk = unknown status
[3] Reported only in Fishing Activity data, hence calculating an Observed bycatch rate is not applicable
[4] Reported in both Fishing Activity and Observer data
[5] Bycatch rate reported by Australia is per 1,000 hooks. This figure was reported by email as observer data are not yet available.

Table 2: Summary of captures of seabird, mammal, reptile and species of concern in trawl fishing from SPRFMO submissions (Observer coverage by days)[6].

Fishery	Member	Code	Species	Common name	Year	Unk	Dead	Alive	Weight (kg)	Datasets	Observer coverage	Observed bycatch rate	Total effort
Bottom Trawling	AUS	BSK	*Cetorhinus maximus*	Basking shark	2019			1	8000	FA,Obs	100%	0.022	46
Bottom Trawling	NZL	PDM	*Pterodroma macroptera*	Great-winged petrel	2015			2		Obs	100%	0.007	303
Bottom Trawling	NZL	WFS	*Pelagodroma marina*	White-faced storm petrel	2016			1		Obs	100%	0.003	328
Bottom Trawling	NZL	PDM	*Pterodroma macroptera*	Great-winged petrel	2017			1		Obs	100%	0.002	406
Bottom Trawling	NZL	PRX	*Procellariidae*	Petrels and shearwaters nei	2017			1		Obs	100%	0.002	406
Bottom Trawling	NZL	PDM	*Pterodroma macroptera*	Great-winged petrel	2018			1		Obs	100%	0.003	300
Jack mackerel (Trawl)	KOR	POR	*Lamna nasus*	Porbeagle	2015		7		62	FA,Obs	83%	0.081	104
Jack mackerel (Trawl)	KOR	POR	*Lamna nasus*	Porbeagle	2016	8			97	FA	80%	Not Applicable	195
Jack mackerel (Trawl)	KOR	POR	*Lamna nasus*	Porbeagle	2017		2		53	FA,Obs	100%	0.059	34
Jack mackerel (Trawl)	KOR	POR	*Lamna nasus*	Porbeagle	2019		20		276.2	Obs	100%	0.179	112
Jack mackerel (Trawl)	EU	POR	*Lamna nasus*	Porbeagle	2018		4		11	FA,Obs	40%	0.076	132
Jack mackerel (Trawl)	EU	POR	*Lamna nasus*	Porbeagle	2009				12	Obs	18%	0.013	436
Jack mackerel (Trawl)	EU	POR	*Lamna nasus*	Porbeagle	2019		2			Obs	55%	0.043	86
Jack mackerel (Trawl)	RUS	POR	*Lamna nasus*	Porbeagle	2021	7			72.04	FA	Not Available	Not Available	136
Bottom Trawling	NZL	PWV	*Pachyptila turtur*	Fairy prion	2021	1			1	FA	Not Available	Not Available	3

[6] Observer coverage in jack mackerel fisheries shall be calculated by reference to days for trawlers (para 24, CMM01-2020). Observer coverage for Bottom Trawling is also presented in days for ease of comparison.

Table 3: Summary of captures of seabird, mammal, reptile and species of concern in purse seining from SPRFMO submissions (Observer coverage by set)[7].

Fishery	Member	Code	Species	Common name	Year	Unk	Dead	Alive	Weight (kg)	Datasets	Observer coverage[8,9]	Observed bycatch rate	Total effort
Purse Seining	CHL	DIC	*Thalassarche chrysostoma*	Grey-headed albatross	2017			5		Obs	13.3%	0.012	Not Available
Purse Seining	CHL	LDO	*Larus dominicanus*	Kelp gull	2017			8		Obs	13.3%	0.019	Not Available
Purse Seining	CHL	OCO	*Oceanites oceanicus*	Wilson's storm petrel	2017		1	5		Obs	13.3%	0.014	Not Available
Purse Seining	CHL	PFG	*Puffinus griseus*	Sooty shearwater	2017			32		Obs	13.3%	0.077	Not Available
Purse Seining	CHL	POR	*Lamna nasus*	Porbeagle	2017	1				Obs	13.3%	0.002	Not Available
Purse Seining	CHL	PUC	*Puffinus creatopus*	Pink-footed shearwater	2017		1			Obs	13.3%	0.002	Not Available
Purse Seining	CHL	SEL	*Otaria flavescens*	South American sea lion	2017		5	204		Obs	13.3%	0.502	Not Available
Purse Seining	CHL	TWH	*Pelecanus thagus*	Peruvian pelican	2017			7		Obs	13.3%	0.017	Not Available
Purse Seining	CHL	DBO	*Tursiops truncatus*	Bottlenose dolphin	2018		4			Obs	20.5%	0.006	Not Available
Purse Seining	CHL	DDU	*Lagenorhynchus obscurus*	Dusky dolphin	2018		2	1		Obs	20.5%	0.004	Not Available
Purse Seining	CHL	DIM	*Thalassarche melanophrys*	Black-browed albatross	2018		1			Obs	20.5%	0.001	Not Available
Purse Seining	CHL	DKK	*Dermochelys coriacea*	Leatherback turtle	2018			2		Obs	20.5%	0.003	Not Available
Purse Seining	CHL	PFG	*Puffinus griseus*	Sooty shearwater	2018		2			Obs	20.5%	0.003	Not Available
Purse Seining	CHL	PVF	*Spheniscidae*	Penguins nei	2018		1			Obs	20.5%	0.001	Not Available
Purse Seining	CHL	SEL	*Otaria flavescens*	South American sea lion	2018		2	296		Obs	20.5%	0.415	Not Available
Purse Seining	CHL	SJF	*Arctocephalus philippii*	Juan Fernandez fur seal	2018			1		Obs	20.5%	0.001	Not Available

[7] Observer coverage in Jack mackerel fisheries shall be calculated by reference to sets for Purse Seine vessels (para 24, CMM01-2020)

Fishery	Member	Code	Species	Common name	Year	Unk	Dead	Alive	Weight (kg)	Datasets	Observer coverage	Observed bycatch rate	Total effort
Purse Seining	CHL	LDO	*Larus dominicanus*	Kelp gull	2019			8		Obs	100%	2	Not Available
Purse Seining	CHL	PFG	*Puffinus griseus*	Sooty shearwater	2019		3			Obs	100%		Not Available
Purse Seining	CHL	PUC	*Puffinus creatopus*	Pink-footed shearwater	2019		1			Obs	100%	0.25	Not Available
Purse Seining	CHL	PVF	*Spheniscidae*	Penguins nei	2019			1		Obs	100%	0.25	Not Available
Purse Seining	CHL	SEL	*Otaria flavescens*	South American sea lion	2019		1	550		Obs	100%	138	Not Available
Purse Seining	CHL	TWH	*Pelecanus thagus*	Peruvian pelican	2019			4		Obs	100%	1	Not Available

Table 4: Summary of captures of seabird, mammal, reptile and species of concern in squid jigging from SPRFMO submissions (Observer coverage by day).

Fishery	Member	Code	Species	Common name	Year	Unk	Dead	Alive	Weight (kg)	Datasets	Observer coverage	Observed bycatch rate	Total effort
Squid jigging	CHN	TTL	*Caretta caretta*	Loggerhead turtle	2021			1		Obs	Not Available	Not Available	Not Available