



**SCIENTIFIC COMMITTEE
EIGHTEENTH REGULAR SESSION**

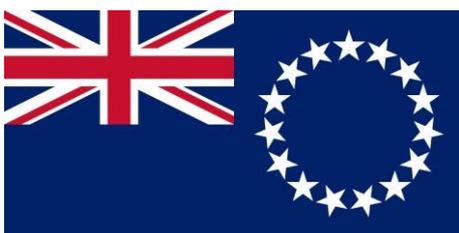
ELECTRONIC MEETING

10-18 August 2022

ANNUAL REPORT TO THE COMMISSION
PART 1: INFORMATION ON FISHERIES, RESEARCH, AND STATISTICS

WCPFC-SC18- AR/CMM-04 (Rev.01)

COOK ISLANDS



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Executive summary

The 2021 Cook Islands national fleet consisted of 11 longline vessels, 7 bunker vessels and 1 purse seine vessel operating within the Western and Central Pacific Fisheries Convention Area (WCPF-CA). Most vessels operate south of the equator with the occasional purse seine set north of the equator. The national longline fleet total fishing effort¹ in number of hooks decreased 34% from 9 million hooks in 2020 to 5.9 million hooks in 2021. The total catch of primary species² 1,216t decreased by 31% compared with 2020 catch levels (1,775t). Albacore accounted for 61% (741t) of the total longline catch within the Convention Area, followed by yellowfin tuna at 25% (303t), bigeye at 7% (82t) and the remaining 7% as bycatch (90t). The national longline and purse seine fleet estimates are based on nominal catch and effort data, data. with 100% longline purse seine logsheet coverage for 2021 was achieved.

No flagged vessels target marlin or swordfish. All marlin catch were taken as bycatch, from which billfish catch, blue marlin was the highest (37t), followed by black marlin (9t), blue marlin (9t) and then swordfish (8t). Artisanal fishers reported catch of 83t, spanning across 11 of the 12 inhabited Cook Islands. Yellowfin tuna (44t) is the dominant catch which makes up 53% of the artisanal catch composition, caught predominantly by trolling and hand lining. The artisanal fishery catch and effort data is based on nominal catches for the months January to December 2021.

The Cook Islands purse seine national fleet consisted of one vessel. In addition to the national fleet, there were 61 foreign flagged vessels authorized to fish in the Cook Islands EEZ, consisting of 51 Chinese flagged longline vessels, 3 Spanish, 3 Ecuadorian 3 Kiribati and 1 New Zealand flagged purse seine vessel.

The total 2021 purse seine national fleet catch in the WCPF-CA was 3,770t representing a 73% increase from 2020 catch levels (981t). Total purse seine catch in the Cook Islands EEZ⁴ was 2,459t representing an 80% decrease from 2020 catch levels (12,424t). The Cook Islands has a purse seine effort limit of 1,250 days. The retention of any shark or shark parts by fishing vessels within the Cook Islands EEZ is prohibited.

1 Background

In 2021, the Cook Islands national fleet consisted of longline and purse seine fishing vessels targeting tuna and tuna-like species. Additionally, there is an artisanal fishery operating out of twelve inhabited islands. In December 2016 the Marine Resources (Large Pelagic Longline Fishery and Quota Management System) Regulation (QMS). In 2021, the Cook Islands caught 2,841 tonnes (t) of albacore accounting for 54% of purchased quota (5,170t) and 483t of bigeye tuna accounting for 42% of purchased quota (1,150t)⁵.

The majority of longline fishing activity is concentrated in the northern Cook Islands waters, delineated north of 15 degrees south latitude. Some longline fishing by Cook Islands vessels also takes place in areas beyond national jurisdiction, within the Convention Area.

Historically purse seine fishing has been conducted in the Cook Islands EEZ by US Treaty vessels; however, in 2015 the overall effort increased with growing interest from other foreign fleets under bilateral agreements. In 2021 the Cook Islands had one flagged purse seine vessel operating in the Western and Central Pacific Ocean (WCPO).

Albacore tuna is the main target species for Cook Islands flagged longline vessels and skipjack tuna is the main target species for the Cook Islands flagged purse seine vessels, fishing in the Convention Area. One small locally based fresh fish longline vessel operated out of Rarotonga in 2021, targeting tuna and billfish for the local market. This vessel is below 80 Gross Registered Tonnage (GRT) and typically operates between 50nm and 100nm from Rarotonga. The other Cook Islands flagged vessels are based out of the foreign ports of Suva, Pago Pago and Apia with most of the unloading taking place in Apia, Pago Pago and Pape'ete.

2 Flag State Reporting

2.1 Catch and Effort Trends

The total national longline fleet effort within the Convention Area in 2021 is approximately 5.9 million hooks, with approximately 1.8 million hooks attributed to the Cook Islands EEZ and 3.9 million hooks beyond national jurisdiction (Table 1). Total catch of tuna and billfish within the convention area and peaked in 2018, then decreased significantly in 2021 by 37% (1,189t) (Figure 1). One of the reasons for this reduction in catch is because the Cook Islands did not charter vessels compared to previous years. In 2021, 68% (39,664 Hhks) of the total longline effort and 73% (903t) of the total catch of primary species by the national fleet was conducted in areas beyond national jurisdiction (Table 1). 100% of purse seine effort and catch was conducted outside national jurisdiction.

Albacore remained the primary target species for the national longline fleet within the Convention Area, comprising of 59% (741t) of the total 2021 catch, relatively consistent with 2018-19 catch composition. Yellowfin accounted for 24% (303t) of 2021 catches, which was a decrease from 2020, while bigeye composition increased to 6% (82t) of the total catch compared to 2020 levels. The remaining 10% was bycatch species.

The artisanal fishery operates out of each inhabited island. Yellowfin tuna is the main target

species with 44t caught in 2021 (Table 3). Trolling and hand lining are the most common fishing methods used by artisanal fishers. Artisanal catch reporting is not regulated; however, in June 2017 the Ministry of Marine Resources (MMR) established a fuel subsidy program as an incentive for fishers to voluntarily submit catch and effort data to MMR. The subsidized fuel is funded under the Sustainable Fisheries Partnership Agreement (SFPA) between the Cook Islands Government and the European Union. This subsidy was a major factor to improving the Cook Islands artisanal data collection programme, which has seen an increase in reporting of artisanal fishery data since 2017. The Tails application developed by the Pacific Community’s Oceanic Fisheries Programme (SPC-OFP) provides a workable technological solution for data collection from remote islands, using mobile devices. While hard copy catch data has been replaced by Tails there are still some islands that submit paper logsheets to MMR due to internet connectivity issues and poor computer literacy. Training and remote support is ongoing for Tails and the fuel subsidy program.

Table 1: Annual nominal catch and effort estimates for the national fleet, by gear and primary species within and beyond national jurisdiction in 2021.

Area	Gear	Effort	ALB	BET	YFT	SKJ	PBF	BLM	BUM	MLS	SWO
CK EEZ	LL	18,529 Hhks	213	23	56	4	0	6	6	8	3
	PS	0	0	0	0	0	0	0	0	0	0
Beyond CK EEZ	LL	39,664 Hhks	528	61	249	23	0	4	32	1	5
	PS	185	0	152	171	3447	0	0	0	0	0

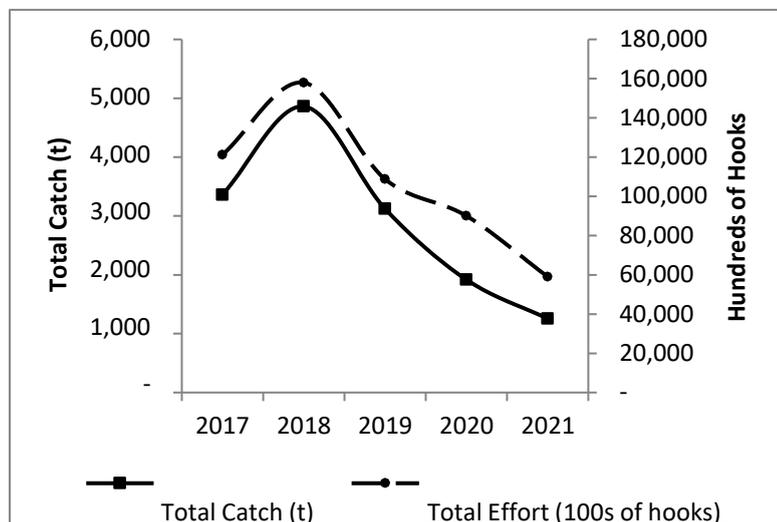


Figure 1: Historical total annual catch estimates for National Longline Fleet within the WCPF Convention Area, 2017– 2021.

Table 2: Historical annual raised catch estimates in tonnes for the national longline fleet, by primary species in the Convention Area from 2017- 2021.

Area	Year	ALB	BET	YFT	SKJ	PBF	BUM	BLM	MLS	SWO
WCPFC-CA										
	2017	2,567	298	608	67	2	41	89	24	56
	2018	3,363	265	629	81	0	16	127	9	44
	2019	2,235	120	395	115	0	23	61	18	23
	2020	1,162	99	388	64	0	47	21	10	21
	2021	714	82	303	27	0	37	9	9	8
WCPFC-CA (Sth of equator [/])										
	2017	1,868	156	439	50	1	58	28	16	34
	2018	3,074	179	521	75	0	105	16	9	40
	2019	2,235	120	395	115	0	23	61	18	23
	2020	1,162	99	388	64	0	47	21	10	21
	2021	714	82	303	27	0	37	9	9	8
WCPFC-CA (Nth of equator)										
	2017	3	22	13	1	0	3	0	0	0
	2018	2	16	10	0	0	2	0	0	0
	2019	0	0	0	0	0	0	0	0	0
	2020	0	0	0	0	0	0	0	0	0
	2021	0	0	0	0	0	0	0	0	0
WCPO Area										
	2017	1,807	173	449	50	1	61	28	16	33
	2018	3,075	195	531	75	0	108	16	9	41
	2019	2,235	120	395	115	0	23	61	18	23
	2020	1,162	99	388	64	0	47	21	10	21
	2021	714	82	303	27	0	37	9	9	8
North Pacific Ocean										
	2017	4	22	13	1	0	4	0	0	0
	2018	2	16	10	0	0	2	0	0	0
	2019	0	0	0	0	0	0	0	0	0
	2020	0	0	0	0	0	0	0	0	0
	2021	0	0	0	0	0	0	0	0	0
South Pacific Ocean										
	2017	2,276	178	453	55	2	58	33	18	39
	2018	3,073	179	521	75	0	105	16	9	40
	2019	2,235	120	395	115	0	23	61	18	23
	2020	1,162	99	388	64	0	47	21	10	21
	2021	741	82	303	27	0	37	9	9	8

Table 3: Historical catch in tonnes and effort estimates for the national fleet by gear and primary species in the Convention Area, 2017-2021.

Year	Gear	Effort	ALB	BET	YFT	SKJ	PBF	BLM	BUM	MLS	SWO
2017	LL	43,605 Hhks	2,567	298	608	67	2	41	89	24	56
	ART	17,302 hrs	0	0	92	4	0	0	3	1	0
2018	LL	154,699 Hhks	3,363	265	629	81	0	16	127	9	44
	ART	17,651 hrs	1	1	87	5	0	1	2	0	0
2019	LL	108,626 Hhks	2,235	120	395	115	0	23	61	18	23
	PS	94 days	0	158	4	2010	0	0	0	0	0
	ART	13,642 hrs	3	1	64	7	0	1	2	1	0
2020	LL	90,060 Hhks	1,162	99	388	64	0	47	21	10	21
	PS	36 days	0	14	16	298	0	0	0	0	0
	ART	10,890 hrs	0	0	69	5	0	2	2	0	0
2021	LL	58,193 Hhks	741	82	303	27	0	37	9	9	8
	PS	185 Days	0	152	171	3447	0	0	0	0	0
	ART	13,295 hrs	0	0	44	3	0	0	1	0	0

Table 4: Annual catch estimates in tonnes for the national fleet by gear in the Convention Area for non-target and bycatch species (including key shark species) for 2021. No key shark species were retained.

Gear	SSP	DOL	LAG	OIL	WAH
LL	4	20	3	4	20
PS	0	0	0	0	0
Artisanal	0	2	0	0	4

2.2 Catch and Effort Spatial Distribution

The Marae Moana Act 2017 set a 50 nautical mile (nm) commercial fishing exclusion zone around all islands in the Cook Islands. The Marae Moana Act 2017 is the overarching legislation for the ocean. Marae Moana is a zoned, multi-use marine park, which promotes the protection and use of our ocean, and upholds high environmental and conservation principles. In 2021, annual catch and effort distribution (Figure 4) reflects a increase of catch and effort beyond national jurisdiction by the national fleet compared to previous years (Figure 2, Figure 3). Albacore continues to dominate longline catches, with yellowfin and bigeye tuna being important secondary target species.

In August 2019, the Cook Islands flagged its first and only purse seine vessel. 99.6% of the catch was taken on the high seas above the Cook Islands EEZ, west of the Kiribati Line Islands. In 2021 100% of catch was taken in the same area with catch taking place between 10°N to 10°S (Figure 5, Figure 6). Skipjack tuna is the dominate purse seine catch, with bigeye tuna being secondary target catch in 2020 (Figure 5) and yellowfin catch evident in 2021 (Figure 6).

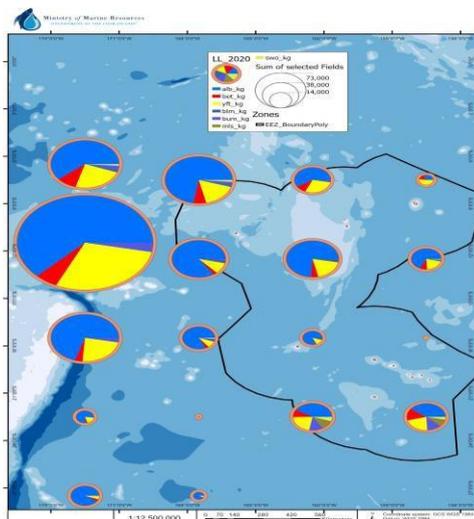


Figure 2: Catch distribution (5 x 5) of key tuna species for the National Longline Fleet within the WCPFC-CA 2020.

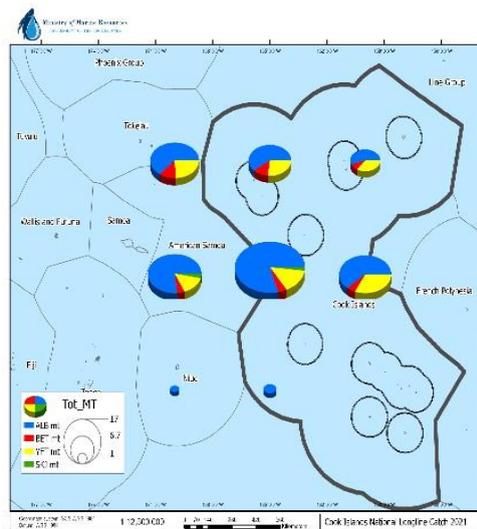


Figure 3: Catch distribution (5 x 5) of key tuna species for the National Longline Fleet within the WCPFC-CA 2021.

Table 5: Number of national fleet vessels by gear, size and authorized area, active within the Convention Area 2017-2021.

Year	00-50 GRT		51-200 GRT		201-500 GRT		500 GRT			Total
	LL	Artisinal	LL	PS	LL	PS	LL	PS	Bunker	Total
				-						
2017	0	265	17	-	21	-		-	6	309
2018	0	304	22	-	11	-		-	8	345
2019	0	236	16	-	1	-		1	11	265
2020	0	171	13	-	1	-		1	9	195
2021	0	188	12	-	1	-		1	7	209

3 Coastal State Reporting

3.1 Catch and Effort Trends

Foreign flagged longline vessel catch within the Cook Islands EEZ was 2,162t (Table 6), comprising of 86% of the total longline catch caught in zone. The foreign longline fleet composition was 100% Chinese flagged vessels. Albacore comprised of 53% for overall longline catch composition, followed by yellowfin tuna 28%, big eye tuna 8% skipjack tuna 1% and other species 10% of the total catch (Figure 8).

The Cook Islands purse seine fishery has been limited to 1,250 days in any consecutive 4 quarter period. The US fleet took 53% of the overall purse seine catch followed by Ecuador (37%) and then Spain (9%), highlighted in Figure 9. Foreign flagged purse seine vessel catches totaled 2,459t, with skipjack accounting for 82%, yellowfin (12%) and bigeye (6%) of the total catch (Figure 10).

Table 6: Annual provisional catch estimates in metric tonnes for all licensed foreign vessels by gear within the Cook Islands EEZ for tuna and billfish species in 2021. Operational logsheet data is nominal with 100% logsheet coverage for foreign flagged longline vessels and 100% logsheet coverage for foreign purse seine vessels.

Gear	Effort	ALB	BET	YFT	SKJ	PBF	BLM	BUM	MLS	SWO	OTH	TOTAL
LL	98,248 Hhks	1106	183	631	27	0	0	122	4	11	78	2084
PS	92 days	0	146	292	2019	0	0	0	0	0	2	2459

A total of sixty-one foreign flagged vessels were licensed and authorised to operate within the Cook Islands EEZ during 2021, 51 longliners and 10 purse seiners (Table 7). Foreign flagged fishing in 2021 was undertaken by six Chinese longline companies, one Spanish purse seine company, one Kiribati and one Ecuadorean and one New Zealand company.

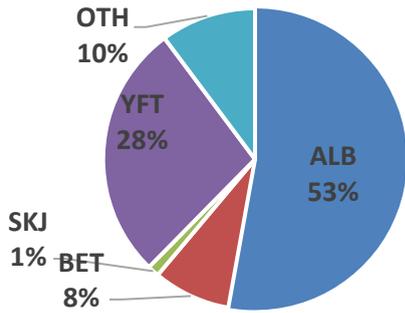


Figure 6: Foreign Longline fleet catch

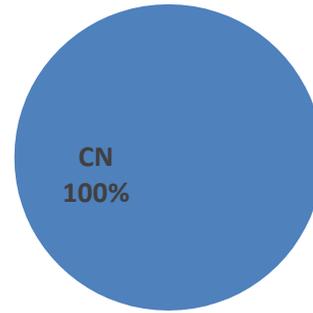


Figure 7: Foreign longline fleet catch

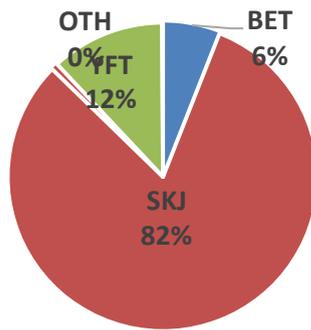


Figure 8: Purse seine catch composition by flagstate, based of logsheet data

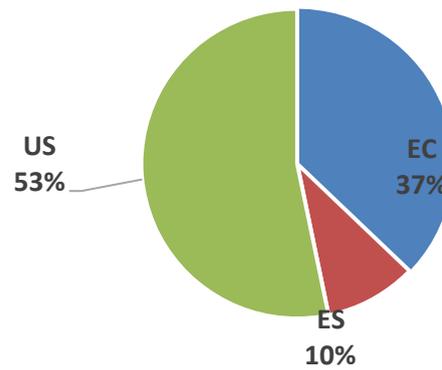


Figure 9: Purse seine catch composition by main species, based on logsheet data

Table 7: Number of active foreign flagged vessels by gear authorised to operate within the Cook Islands EEZ by size in 2021

GRT Range	Longline	Carrier	Bunker	Purse Seine	Total
0-10					
10-50					
50-200	11				11
200-500	38				38
500+	2		3	10	15
Total	51		3	10	4

4 Socio-Economic Factors

High operating costs out of Cook Islands ports continue to hinder domestic industry growth. In 2021 one small scale domestic fresh fish vessel operated out of Rarotonga, with unloading to the Port of Avatiu. The local economy benefits from the purchase of fuel, temporary labor to assist with unloading's, purchase of provisions and associated port fees. These vessels are also permitted to seasonally sell frozen by-catch to local businesses. The Ministry of Marine Resources conducts routine port side boarding and inspections and port

sampling of catches. MMR provides 50t bigeye and 50t albacore quota under the quota management system (QMS) to all domestically based vessels. The minimum mix is comprised of 20t bigeye and 25t albacore tuna under the Large Pelagic Longline Fishery and Quota Management System Regulation 2016.

5 New Fishery Developments

In 2019, MMR implemented trials between 'HiFish', which is an industry electronic reporting application and TUFMAN2. This process was expected to streamline the collection and transmission of catch and effort data from vessels using the HiFish application into the TUFMAN2 database. It is the second electronic reporting (ER) application for longline vessels alongside the SPC app 'Onboard' for the remaining licensed vessels. A number of technical issues were identified, with ongoing work in 2020 and 2021 to resolve these. This work has been undertaken in collaboration with SPC-OFP, vessel operators and the developer of the Hi-Fish application. MMR has noted several benefits with ER, including improved efficiencies in data management, access and use, which in turn support improved information for fisheries management purposes. As such, MMR has identified Onboard as the primary electronic reporting application for longline vessels and will be looking to roll out Onboard on to all longline vessels fishing with the Cook Islands EEZ.

MMR has experienced a significant increase to artisanal coverage since the introduction of the SPC 'Tails' application in 2017. The application is designed to populate artisanal catch data directly in to the Cook Islands catch and effort databases from mobile devices. A significant outcome is the

technology's ability to operate with limited internet connectivity. It has provided a solution to the problems of geographic isolation that is experienced on many islands. In 2021 MMR received 15 donated tablets from SPC to assist in electronic reporting programmes which include Ollo (Observer electronic reporting application) and Tails.

In 2019, the Cook Islands began consultations with stakeholders to develop a Natural Currency Standard (NCS) Policy for fisheries. It included the first standard to come under the policy for longline tuna. In 2020 a rollout of the Cook Islands NCS policy named the Mana Tiaki o te Moana was launched by the Prime Minister. The timeline for the development of this standard for longline tuna is about five years. Given, the inclusion of international policy and changes that must be made to policy and legislation in the Cook Islands to complete the standard.

6 Research and Statistics

6.1 Logsheet data collection and verification

100% logsheet coverage was achieved for the commercial longline fleet in 2021. Most logsheets were received as original copies via post after the completion of a trip or, received in electronic format via email either weekly or after the completion of a trip (scanned).

Unloading forms were received by all foreign flagged vessels. MMR aims to achieve 100% electronic reporting (ER) by 2022 and has implemented resources such as the ‘on-board’ application to achieve this. MMR aims to conduct annual industry consultations with operators fishing in Cook Islands waters. As a result, MMR expects a positive uptake with industry and the developments of ER applications to conform to WCPFC reporting standards and the Cook Islands catch and effort database, TUFMAN 2.

Locally based commercial vessels undertake short trips (< 1 week), allowing MMR to provide feedback and regular updates on the implementation of ER. A newly developed observer data application (Olo) will be trialed onboard the domestic fleet. Vessels operating out of Pago Pago spend longer time at sea and are consequently more difficult to provide timely feedback to.

6.2 Observer Programme

In 2021, only five active Observers remained employed by the Cook Islands National Observer Programme. MMR continues to use contracted observers from other Pacific Islands national observer programmes. The Cook Islands National Observer Programme observed 90 sea days due to Covid-19 restrictions, with a national fleet longline coverage of 5.9% in 2021. 100% observer coverage was achieved for the flagged purse seine vessel, fishing within the Convention Area (Table 8).

The Cook Islands continues to aim for 100% of its observer data and reports to be debriefed by a certified Pacific Islands Regional Fisheries Observer (PIRFO) debriefer prior to the data being submitted to SPC for data entry. Four placements were organised for 2021; two trips on longline and two trips on purse seine.

Table 8: Estimated annual coverage of operational catch and effort, port sampling and observer data for the National Fleet, active in the WCPF Convention area for 2017 – 2021.

Year	Operational Catch & Effort	Port Sampling	Observer Data (Days at Sea)
2017	88%	10%	7.6%
2018	100%	9.6%	10.7%
2019	99%	10.7%	12.4%
2020	100%	6.9%	0%
2021	100%	20.3%	5.9%



ADDENDUM TO ANNUAL REPORT PART 1

SECTION A: SPECIFIC INFORMATION TO BE PROVIDED IN ANNUAL REPORT PART 1AS REQUIRED BY CMMS AND OTHER DECISIONS OF THE COMMISSION.

CMM 2009-03 [Swordfish], Para8	Cook Islands flagged vessels do not target Swordfish (SWO) it is retained as bycatch. In 2021, 48 Swordfish weighing a total of 3.3t was caught in the Convention Area South of 20°S. Three Cook Islands flagged longline vessels registered SWO catch.
Observer coverage (WCPFC 11 decision – para484(b))	There were two registered observer trips for the Cook Island flagged longline vessels with a total of 90 vms days observed and 59 days fished. The 2021 total longline observer coverage was 5.9%. Due to COVID-19 border restrictions, there was no observer trip for the Cook Islands flagged purse seine vessel.
CMM 2009-06 [Transshipment], Para 11 (ANNEXII)	NOT APPLICABLE. No Cook Islands flagged vessels transshipped in the Convention Area in 2021.
CMM 2011-03 [Impact of PS fishing on cetaceans], Para 5	There were no interactions of cetaceans in 2021.

CMM 2018-03 [Seabirds] Para 13	Year	Fishing effort				Observed Seabird	
		vessels Number of	hooks Number of	hooks Observed	hooks %	Number	Date
	2019			10262276	99.43 %	0	0
2020			9006030	98.7%	0	0	
2021		5902451		99.8%			

SECTION B: ADDITIONAL ANNUAL REPORTING REQUIREMENTS THAT COULD BE INCLUDED IN ANNUAL REPORT PART 1, IF NOT OTHERWISE REPORTED ANNUALLY TO WCPFC

CMM 2006-04 [South West striped Marlin], Para 4	<p>Cook Islands flagged vessels do not target Striped Marlin (MLS) it is retained as bycatch.</p> <p>In 2021 167 striped Marlin weighing a total of 8.2t was caught in the Convention Area South of 15°S</p>
CMM 2015-02 [South Pacific Albacore] Para 4	Addressed through the regular provision of operational catch/effort logsheet data to SPC-OFP, who automatically include these data in the WCPFC databases, as per the Cook Islands authorization.
CMM 2019-03 [North Pacific Albacore], Para 3	NOT APPLICABLE: No Cook Islands flagged vessels fished north of the equator in 2021.