

Scientific Committee Seventeenth Regular Session

11th-19th August 2021

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

WCPFC-SC17-AR/CMM-04

COOK ISLANDS



Contents

	Executive Summary											
1	Background	4										
2	FLAG STATE REPORTING											
	2.1 Catch and Effort Trends	4										
	2.2 Catch and Effort Spatial Distribution	8										
	2.3 Licencing and Fleet Structure	10										
3	Coastal State Reporting	11										
	3.1 Catch and Effort Trends	11										
4	Socio-economic Factors	13										
5	New Fishery Developments	13										
6	Research and Statistics	14										
	6.1 Log sheet data collection and verification	14										
	6.2 Observer Programme	14										
	6.3 Port Sampling Programme	15										
	6.4 Research Activites	15										
7	Addendum	15										

Introduction

The 2020 Cook Islands national fleet consisted of 14 longline vessels, 10 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. The national longline fleet total fishing effort¹ in number of hooks decreased 17% from 10.8 million hooks in 2019 to 9 million hooks in 2020. The total catch of primary species ² 1,775t decreased by 41% compared with 2019 catch levels (2,983t). Albacore accounted for 65% (1,162t) of the total longline catch within the Convention Area, followed by yellowfin tuna at 19% (354t), bigeye at 5% (96t) and the remaining 6% as bycatch (109t). National longline and purse seine fleet estimates are based on nominal catch and effort data. Longline logsheet coverage was 100% and purse seine logsheet coverage was 100% in 2020 for days fished³.

No vessels targeted marlin or swordfish. All marlin catch were taken as bycatch, from which billfish catch, blue marlin was the highest (47t), followed by black marlin (21t) and then swordfish (20t). Artisanal fishers reported catch of 109t, spanning across 11 of the 12 inhabited Cook Islands. Yellowfin tuna is the dominant catch, caught predominantly by trolling and hand lining. The artisanal fishery catch and effort data is based on nominal catches for the months January - December 2019.

The Cook Islands purse seine national fleet consisted of 1 vessel. In addition to the national fleet, there were 69 foreign flagged vessels authorised to fish in the Cook Islands EEZ, consisting of 52 Chinese flagged longline, 2 Spanish, 3 Ecuadorian, 1 Korean, 2 Vanuatu, 1 Tuvalu, 7 Kiribati and 1 New Zealand flagged purse seine vessels. Total 2020 purse seine national fleet catch in the WCPF-CA was 981t representing 55% decrease from 2019 catch levels (2,169t). Total purse seine catch in the Cook Islands EEZ⁴ was 12,424t representing a 56% decrease from 2019 catch levels (28,211t). 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.

¹Dorado:LL report 1

²Primary species for longline gear is albacore, yellowfin, bigeye and skipjack tuna, black marlin, blue marlin, striped marlin and swordfish, Dorado LL report 2

³Dorado: RECON 2.2.4(LL), 2.1.4 (PS)

⁴Dorado:PS report 12

1 Background

In 2020, 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 2020, the Cook Islands caught 4,240t of albacore accounting for 62% of purchased quota (6,880t) and 435t of bigeye tuna accounting for 35% of purchased quota (1,250t)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 overal effort increased with growing interest from other foreign fleets under bilateral agreements. In 2020 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. Two small locally based fresh fish longline vessels operated out of Rarotonga in 2020, targeting tuna and billfish for the local market. These vessels are below 80 Gross Registered Tonnage (GRT) and typically operate 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

Total national longline fleet effort within the Convention Area is approximately 9 million hooks, with approximately 2.5 million hooks attributed to the Cook Islands EEZ⁶ (Table 1). Total catch of tuna and billfish within the convention area gradually increased from 2016 and peaked in 2018, then decreased significantly in 2020 by 44% (1,917t) (Figure 1). One of the reasons for this reduction in catch is because the Cook Islands did not charter vessels compared to previous years, compounded by a climate variability experienced during El Nino oscillations, saw tuna catches increase in the western central pacific. In 2020, 72% (65,085 hks) of the total longline effort and 76% (1,379t) of the total catch 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.

⁵CK QMS database

⁶Dorado:LL report 11,12

Albacore remained the primary target species for the national fleet within the Convention Area, comprising of 64% (1,162t) of the total 2020 catch, relatively consistent with 2018-19 catch composition. Yellowfin accounted for 21% (386t) of 2020 catches, which was an increase from 2019, while bigeye composition increased to 5% (98t) of the total catch compared to 2019 levels. The remaining 10% was bycatch species.

The artisanal fishery operates out of each inhabited island. Yellowfin tuna is the main target species with 65t caught in 2019 (Table 1b). 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 subsidised 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.

Table 1: Annual nominal catch and effort estimates for the national fleet, by gear and primary species within and beyond national jurisdiction in 2020.

Area	Gear	Effort	ALB	BET	YFT	SKJ	PBF	BLM	BUM	MLS	SWO
CK EEZ	LL	24,975	267	27	80	16	0	8	16	10	6
		hhks									
	PS	0 Day	0	0	0	0	0	0	0	0	0
Beyond	LL	65,085	895	71	306	48	0	13	31	0	15
CK EEZ		hhks									
	PS	36 Days	0	14	16	298	0	0	0	0	0

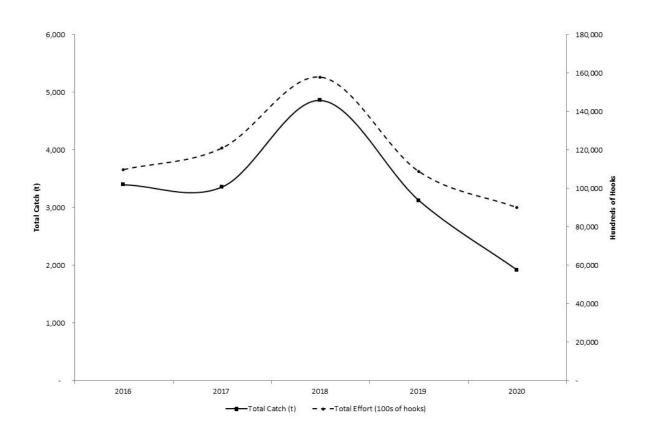


Figure 1: Historical total annual catch estimates for National Longline Fleet within the WCPF Convention Area, 2016–2020.

Table 2: Historical annual raised catch estimates in tonnes for the national longline fleet, by primary species in the Convention Area from 2016- 2020.

Area	Year	ALB	BET	YFT	SKJ	PBF	BUM	BLM	MLS	SWO
WCPFC-CA	2016	2, 041	330	572	45	4	111	15	18	42
	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
WCPFC-CA (Sth of equator ⁷)	2016	2,039	282	544	45	4	100	15	18	40
	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
WCPFC-CA (Nth of equator)	2016	1	48	28	1	0	11	0	0	1
	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
WCPO Area	2016	2, 041	330	572	45	4	111	15	18	42
	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
North Pacific Ocean	2016	1	48	28	1	0	11	0	0	1
	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
South Pacific Ocean	2016	2,039	282	544	45	4	100	15	18	40
	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

Table 3: Historical catch in tonnes and effort estimates for the national fleet by gear and primary species in the Convention Area, 2016-2020.

Year	Gear	Effort	ALB	BET	YFT	SKJ	PBF	BLM	BUM	MLS	SWO
2016	LL	54,382 hhks	2,041	330	572	45	4	15	111	18	42
	ART	14,965 hrs	7	0	77	7	0	0	0	0	0
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

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 2020. No key shark species were retained.

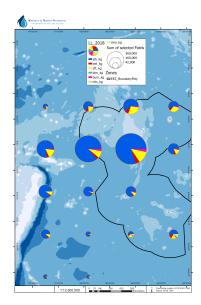
Gear	SSP	DOL	LAG	OIL	WAH
LL	13	15	3	18	44
PS	0	0	0	0	0
Artisanal	0	3	0	0	7

2.2 Catch and Effort Spatial Distribution

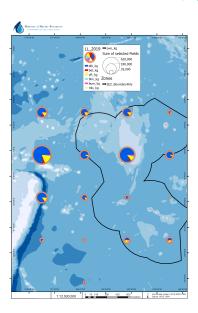
The Marae Moana Act 2017 set a 50 nautical mile (nm) commercial fishing exclusion zone around all islands in the Cook Islands. The Marae Moana Act 2017 is the overarching legislation for the ocean. Marae Moana is a zoned, multi-use marine park, which promotes the protection and use of

our ocean, and upholds high environmental and conservation principles. In 2020, 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 2020 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 2019 (Figure 5) and yelllowfin catch evident in 2020 (Figure 6).



x 5) of key tuna species for the x 5) of key tuna species for the **National Longline Fleet within** the WCPFC-CA 2018.



National Longline Fleet within the WCPFC-CA 2019.

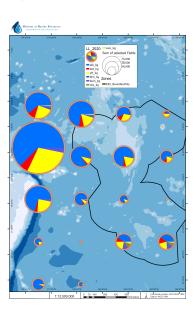


Figure 2: Catch distribution (5 Figure 3: Catch distribution (5 Figure 4: Catch distribution (5 x 5) of key tuna species for the **National Longline Fleet within** the WCPFC-CA 2020.

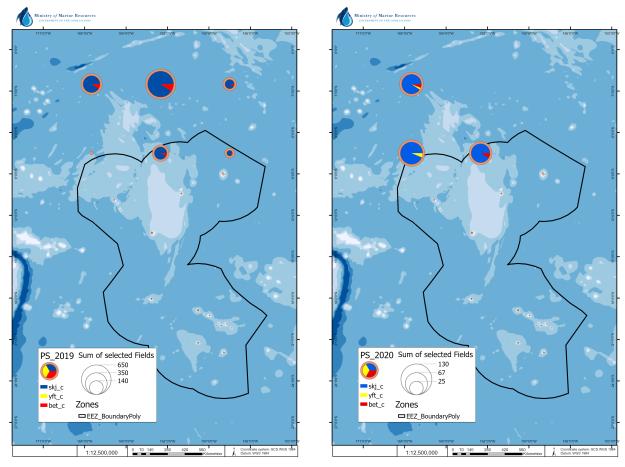


Figure 5: Catch distribution (5 x 5) of key tuna species for the National Purse Seine Fleet within the WCPFC-CA 2019.

Figure 6: Catch distribution (5 x 5) of key tuna species for the National Purse Seine Fleet within the WCPFC-CA 2020.

2.3 Licencing and Fleet Structure

Since January 2017 the Cook Islands in zone commercial longline fishery has been managed by the QMS, which removed the vessel limits previously in place. In 2020, the Cook Islands national fleet consisted of fourteen longline vessels, one purse seine vessel and eleven bunker vessels operating within the Convention Area. No vessels were chartered to the Cook Islands for 2020.

Twelve longline vessels were authorised to fish in the Cook Islands EEZ and on the High Seas. An additional seven vessels were authorised to fish on the high seas only; and two vessels were authorised to fish within the Cook Islands EEZ only. Eleven bunker vessels were authorised in the Convention Area.

Thirteen licensed commercial longline vessels were between 51 and 200 GRT; one longline vessel between 200 and 500 GRT; and all purse seine and bunker vessels were over 500 GRT (Table 5). Vessels licenced to fish in zone were prohibited from fishing within 50nm around any island in accordance with the Marae Moana Act 2017. In 2020, 171 artisanal vessels reported catch and effort

data, with fishing activities occurring mostly within the territorial waters.

Table 5: Number of national fleet vessels by gear, size and authorised area, active within the Convention Area 2015-2020.

Year	00-50 GRT		51-200 GRT		201-5	00 GRT	500	Total	
	LL	Artisinal	LL	Troll	LL	PS	PS	Bunker	Total
2016	0	292	10	0	1	-	-	4	15
2017	0	265	17	0	21	-	-	6	46
2018	0	304	22	0	11	-	-	8	41
2019	0	236	16	0	1	-	1	11	29
2020	0	171	13	-	1	0	1	9	24

3 Coastal State Reporting

3.1 Catch and Effort Trends

Foreign flagged longline vessel catch within the Cook Islands EEZ was 7,076t (Table 6), comprising of 94% of the total longline catch caught in zone. The foreign longline fleet composition was 84% China flagged vessels, followed by Federated States of Micronesia (14%) and Kiribati (1%) (Figure 7). Albacore comprised of 56% for overall longline catch composition, followed by yellowfin tuna, comprised of 24% and other species catch comprised 11%. bigeye tuna comprised of 7% and skipjack comprised of 2% of the total catch (Figure 8).

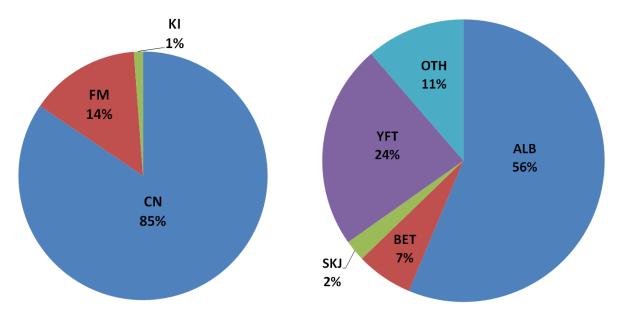
The Cook Islands purse seine fishery has been limited to 1,250 days in any consecutive 4 quarter period. The US fleet took 61% of the overall purse seine catch followed by Ecuador (17%) and then Spain (10%), highlighted in Figure 9. Foreign flagged purse seine vessel catch totalled 12, 424t, with skipjack accounting for 89%, yellowfin (8%) and bigeye (3%) 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 2020. 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	TOTAL
LL	261,334 Hhks	4,226	485	1,757	182	0	14.5	352	16.2	43	7,076
PS	343 Days	0	325	967	11,120	0	0	3	0	0	12,424

A total of sixty four foreign flagged vessels were licenced and authorised to operate within the Cook Islands EEZ during 2020, 44 longliners and 17 purse seiners (Table 7). Foreign flagged fishing

in 2020 was undertaken by two Chinese longline companies, two Spanish purse seine companies, two Kiribati and one Vanuatu and US purse seine companies under the US Treaty.



tion within CK EEZ

Figure 7: Foreign Longline fleet catch composi- Figure 8: Foreign longline fleet catch composition by species within CK EEZ

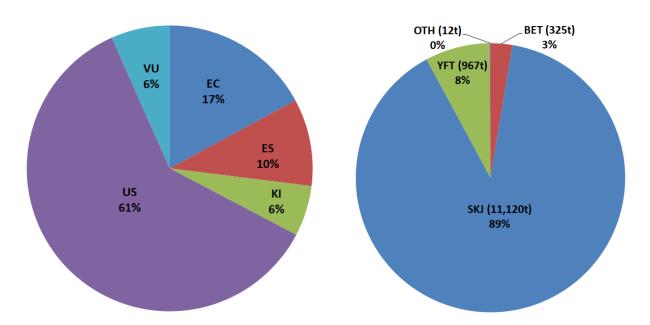


Figure 9: Purse seine catch composition by flag Figure 10: Purse seine catch composition by state, based of logsheeet data

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 2020

GRT Range	Longline	Carrier	Bunker	Purse Seine	Total
0-10	-	-	-	-	-
10-50	-	-	-	-	-
50-200	5	-	-	-	5
200-500	37	-	-	-	37
500+	2	-	3	17	22
Total	44	-	3	17	64

4 Socio-economic Factors

High operating costs out of Cook Islands ports continue to hinder domestic industry growth. In 2020 only two small scale domestic fresh fish vessels operated out of Rarotonga, with unloading to the Port of Avatiu. The local economy benefits from the purchase of fuel, temporary labour to assist with unloadings, 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 Longling 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 a donation from SPC of 15 tablets 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 Log sheet data collection and verification

100% logsheet coverage was achieved for the commercial longline fleet in 2020. 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 (Ollo) will be trialled 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 2020, 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 0 sea days due to Covid-19 restrictions, with a national fleet longline coverage of 0% in 2020. 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. Twelve placements were organised for 2020; one trip on longline and eleven trips on purse seiners.

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 2016 – 2020.

Year	Operational Catch & Effort	Port Sampling	Observer Data (Days at Sea)
2016	100%	18%	7.7%
2017	88%	10%	7.6%
2018	100%	9.6%	10.7%
2019	99%	10.7%	12.4%
2020	100%	6.9%	0%

6.3 Port Sampling Programme

In 2020 most port sampling occurred in Rarotonga on locally based fresh fish longliners which average a catch of 2-3t per trip. Coverage of port sampling of the domestic fleet in 2020 was 6.9% (Table 8).

6.4 Research Activites

No major research activities was carried out during 2020.

7 Addendum



ADDENDUM TO ANNUAL REPORT PART 1

15 February 2021

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

	2020			9006030	98.7%	0	0		
	2019			10262276	99.43%	0	0		
[Seabirds] Para 13		Number of vessels	Number of hooks	Observed hooks	% hooks observed	Number	Rate ²		
CMM 2018-03	Year		Fishing	Observed capt					
[Impact of PS fishing on cetaceans], Para 5									
CMM 2011-03	There were no	There were no interactions of cetaceans in 2020.							
CMM 2009-06 [Transshipment], Para 11 (ANNEX II)	NOT APPLICA Area in 2020.	NOT APPLICABLE. No Cook Islands flagged vessels transshipped in the Convention Area in 2020.							
Observer coverage (WCPFC 11 decision – para 484(b)	There was one a total of 34 vn coverage was 1	the to COVID-19 boarder restrictions there were no observer placements made on Cook ands flagged longline vessels in 2020. There was one registered observer trip for the Cook Island flagged purse seine vessel with total of 34 vms days observed and five days fished. The 2020 total purse seine observer verage was 14.7%.							
CMM 2009-03 [Swordfish], Para 8	In 2020, 105 S of 20°S. Six Co	cook Islands flagged vessels do not target Swordfish (SWO) it is retained as bycatch. 1 2020, 105 Swordfish weighing a total of 8.5t was caught in the Convention Area South f 20°S. Six Cook Islands flagged longline vessels registered SWO catch.							

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	Cook Islands flagged vessels do not target Striped Marlin (MLS) it is retained as bycatch. In 2020, 180 striped Marlin weighing a total of 10t was caught in the Convention Area South of 15°S.
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 2020.