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

WCPFC-SC15-AR/CCM-21

INDEPENDENT STATE OF SAMOA

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ANNUAL REPORT TO THE COMMISSION

PART 1: INFORMATION ON FISHERIES, RESEARCH ANDSTATISTICS

JUNE 2019

FISHERIES DIVISION
MINISTRY OF AGRICULTURE AND FISHERIES
GOVERNMENT OF SAMOA

Scientific data was provided to the Commission in accordance with the decision relating to the provision of scientific data to the Commission by 30 April 2019	**YES**

Abstract

Samoaôs tuna fishery comprises of a longline fishery and troll fishery. Both fisheries operate within Samoaôs Exclusive Economic Zone (EEZ) of approximately 120,000km^2. The main targeted species for these fisheries are Albacore (*Thunnus alalunga)*, Yellowfin(*Thunnus albacares)*, Bigeye (*Thunnus obesus)* and Skipjack (*Katsuwonus pelamis)*. The domestic longline fleet of 2018 reported an estimated catch of 2240 metric tons and the South Pacific Albacore (*Thunnus alalunga*) accounted for 75 percent of these landings. Yellowfin tuna came at 17 percent whereas Bigeye tuna came at 3 percent.The foreign fishing vessel fleet showed a similar catch composition in where the South Pacific Albacore accounted for most of the catch.

The introduction of the Foreign Fleet to fish in Samoan waters commenced in 2015. The number of licensed foreign vessels has changed considerably from 2015 where it started with only 10 fishing vessels. In 2018, a total of 16 foreign fishing vessels were based out of Apia.

Logsheets and port sampling continued to be the main source of fisheries data with VMS data being used for verification.

Exports for 2018 showed a slight increase in export mostly due to foreign catches from that are then exported out of Samoa. The majority of frozen exports goes to the canneries in American Samoa while the rest is exported either frozen or chilled to the United States of America, Japan and New Zealand.

Background

There are 2 main types of fishing gear used to target tuna in Samoa. These vessels operate using either trolling or longline gear. Samoa's tuna fishery consists primarily of a tuna longline fishery and small scale troll fishery. The troll fishery involves Alia fishing vessels of around 9 to 11 meters in length that targets Skipjack (*Katsuwonus pelamis)* that operates a few miles offshore targeting free schools or fad associated pelagics. The catches from the troll fishery are sold locally at restaurants, fish markets and various hotels and is the preferred tuna for local consumption..

The tuna longline fleet (both domestic and foreign) targets South Pacific Albacore (*Thunnus alalunga)*. Bigeye (*Thunnus obesus)* and Yellowfin (*Thunnus albacares)* are important components of the tuna longline industry and are mostly exported as fresh chilled products to New Zealand and the United States of America.

The Alia fishing fleet is involved as well with the tuna longline fishery but their contribution is limited to peak months for this fishery. Alia fishing vessels have the ability to change their fishing gear type depending on the season of these highly migratory tuna species. During off season months, there is a switch back to trolling and bottomfishing gears until the next season. There is a tendency to change gear type to target these highly migratory tuna species for peak months and a switch back to trolling and bottomfishing gear for other months of the year.

Purse seine fishing activities in Samoaôs EEZ is limited to vessels under the agreement between the United States of America and Pacific Island States (US Treaty). Samoa has declared a limit of 150 days for purse seine fishing in its EEZ as per requirement under the CMM 2015-01[1].

Annual catch by species, gear in the WCPFC Convention Area

The total catch from the domestic tuna longline fleet operating in Samoaôs EEZ for 2018 is estimated at around 2240 metric tons. The catches of south pacific albacore tuna accounts for over 75 percent of the total catch with yellowfin tuna at around 17 percent and bigeye tuna at around 2.6 percent. Billfish and other pelagic species make up the rest of the total tuna longline catch.

The albacore catch for 2017 is estimated at 1684 metric tons, adecrease of around24 percent from last yearôs catch. The yellowfin tuna catch isestimated at 401 metric tons, adecreaseof183 metric tons from 2017. There was a decrease of bigeye catches at an estimated 60 metric tons in 2018 from 140 metric tons in 2017.

[1]Para 23 of CMM 2015-01

Table 1: Annual catch estimates (in metric tons) for Samoa's domestic long line fleet by primary species, for the WCPFC Convention Area, for years 2014-2018

SPECIES	2014	2015	2016	2017	2018
ALBACORE	808	840	946	2227	1684
BIGEYE TUNA	48	48	61	140	60
BLACK MARLIN	8	7	4	5	3
BLUE MARLIN	8	7	6	80	33
OCEANIC WHITETIP	0	0	0	0	0
PACIFIC BLUEFIN					
SKIPJACK	15	20	20	59	44
SILKY SHARK	0.08	0.08	0	0	0
STRIPED MARLIN	4	4	3	1	2
SWORDFISH	4	5	3	14	12
YELLOWFIN	231	252	239	584	401
TOTAL	1126	1183	1282	3110	2240

16 foreign fishing vessels were licensed to fish in Samoa's EEZ for 2018. These licenses were issued under a fishing access agreement with a foreign based company. The catches for these foreign vessels are listed in table 2 below. The catch composition for the foreign fleet is similar to that of the domestic in regards to south pacific albacore accounts for most of the catch followed by yellowfin tuna.

Table 2: Annual catch estimates (in metric tons) of foreign long line fleet by primary species, for the WCPFC Convention Area, for years 2014-2018

SPECIES	2014	2015	2016	2017	2018
ALBACORE		219	493	421	659
BIGEYE TUNA		10	43	20	20
BLACK MARLIN		2	3	1	2
BLUE MARLIN		8	14	18	23
PACIFIC BLUEFIN					0
SKIPJACK		21	19	10	14
STRIPED MARLIN		1	1	0	0.6
SWORDFISH		2	5	4	4
YELLOWFIN		64	113	155	117
TOTAL		327	691	629	839.6

Number of vessels by gear type, size (fleet structure)

Samoa's commercial fishing fleet comprises of both domestic fishing vessels and foreign fishing vessels licensed to fish in Samoa's EEZ. All catches from these vessels are landed and processed in Samoa ports. These catches are then exported to various market around the world.

Samoa's domestic longline fleet ranges from fishing vessels of around 12.5 meters to over 20.5 meters in length. Table 3 below shows the particulars of each vessel Class in terms of length, gears licensed to use and number of vessels in each Class. Class A alia catamaran vessels are 8 to 11 meters in length and are un-decked with outboard motors. These fishing vessels fish a few miles offshore and are engaged in surface trolling for skipjack tuna and bottomfishing for deep water snappers.

There was a decrease in number of active vessels for 2018 with a reduction in both Class A and Class D vessels. This is due to some licenses not being renewed for this year.

Table 3: Number of Samoan vessels, by gear and size category, active in Samoa's EEZ from 2014 - 2018

GROSS REGISTERED TONNAGE	CLASS	LENGTH (m)	FISHING METHOD	2014	2015	2016	2017	2018
0-10	A[2]	Up to 11	Mixed	29	42	57	49	42
10-50	B	> 11-12.5	Long line	0	0	0	0	
	C	>12.5-15	Long line	2	1	1	1	1
	D	>15-20.5	Long line	7	6	6	7	4
50-200	E	>20.5	Long line	4	4	4	4	4

Note: Mixed year, vessels shift gear from longline, trolling and bottom fishing.

There were 1 additional foreign longline fishing vessels added in 2018 with 6 flagged to Cook Islands and 10 to Vanuatu. In total, this makes around 16 foreign fishing vessels in Samoa.

[2]This vessel Class is made up of Alia fishing vessels only and their operational range is between six to nine miles offshore from the coast. These vessels are un-decked and have outboard motors and there operations are small scale (artisanal) but is considered very important for livelihoods and food security in Samoa.

Table 4: Number of Foreign vessels (CLASS F), by gear and size category, active in Samoa's EEZ from 2014- 2018

GROSS REGISTERED TONNAGE	LENGTH (m)	FISHING METHOD	FLAG	2014	2015	2016	2017	2018
50-200	>20.5	Long line	Cook Islands		1	1	1	6
			Kiribati		1	1	0	0
			Vanuatu		8	8	10	10
			Taiwan		-	4	4	0

Fishing patterns (catch by time/area)

Samoa's longline catches are limited to within its EEZ. The tuna longline fishery in Samoa occurs all year around with distinct periods of good catch rates from periods of relatively lower catch rates. The distribution of Samoa's longline catch is currently confined to within Samoa's EEZ. Catches in 2014 were mostly taken from the western part of Samoa's EEZ, relative to the location of the two main islands, compared to 2015 where the majority of catches were taken in the southern part of the EEZ. In 2016, the majority of catches were taken from the Northern part of Samoa's EEZ and was fairly distributed in 2017. In 2018, the majority of catches was taken from the South and South Western part of Samoa's EEZ.

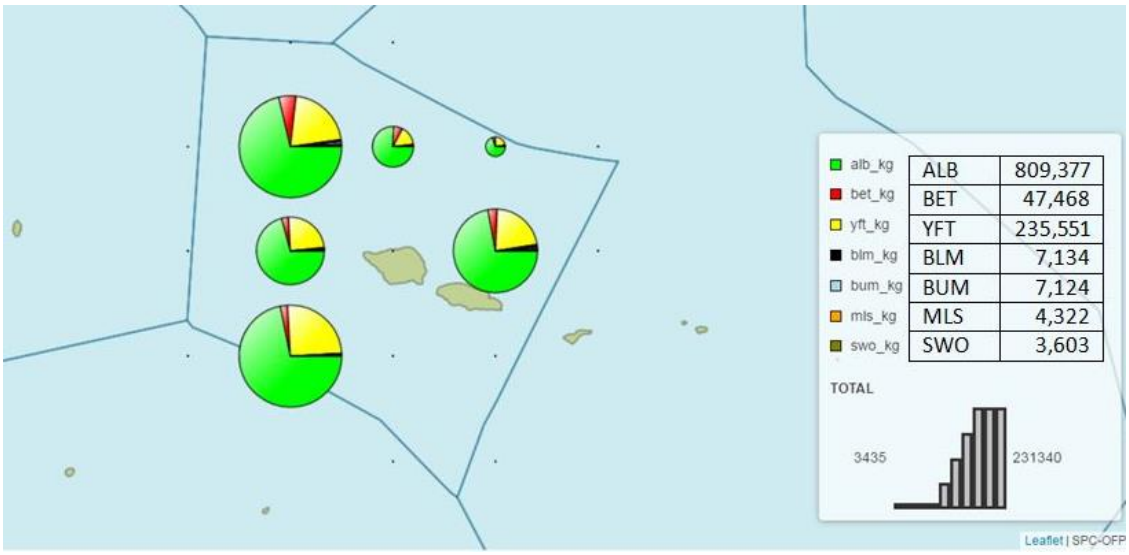

Figure 1: Catch distribution of key species from Samoa's domestic longline fleet in Samoa's EEZ for 2014

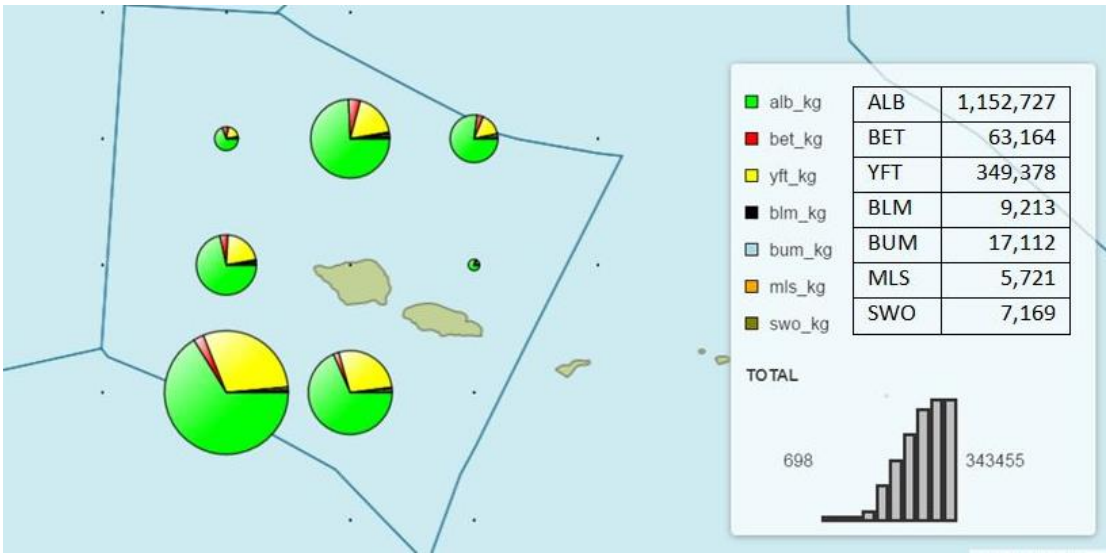

Figure 2: Catch distribution of key species from Samoa's domestic longline fleet in Samoa's EEZ for 2015

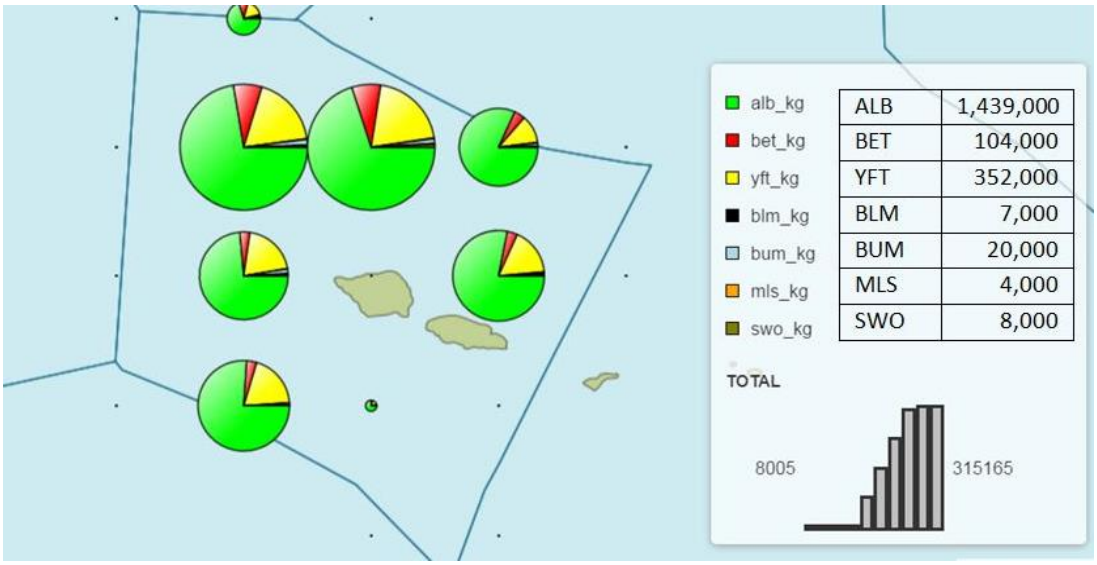

Figure 3: Catch distribution of key species from Samoa's domestic longline fleet in Samoa's EEZ for 2016

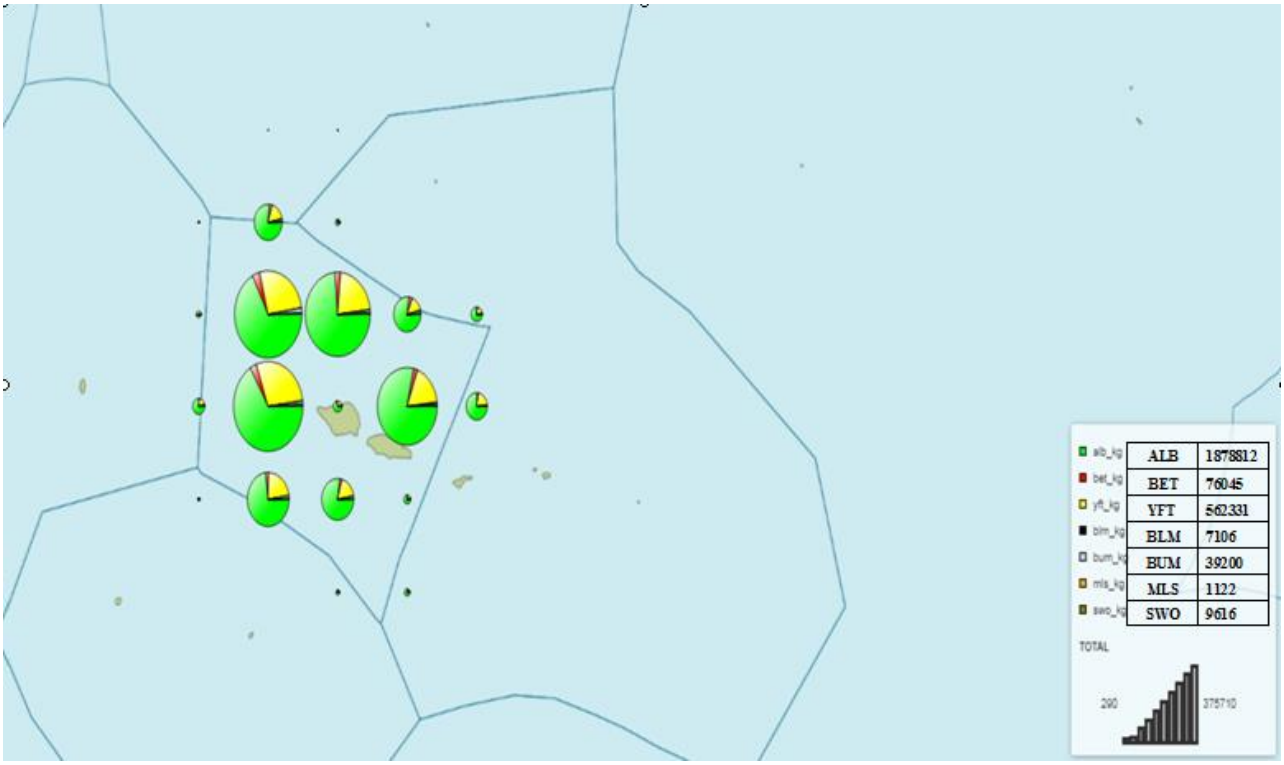

Figure 4: Catch distribution of key species from Samoa's national longline fleet in Samoa's EEZ for 2017

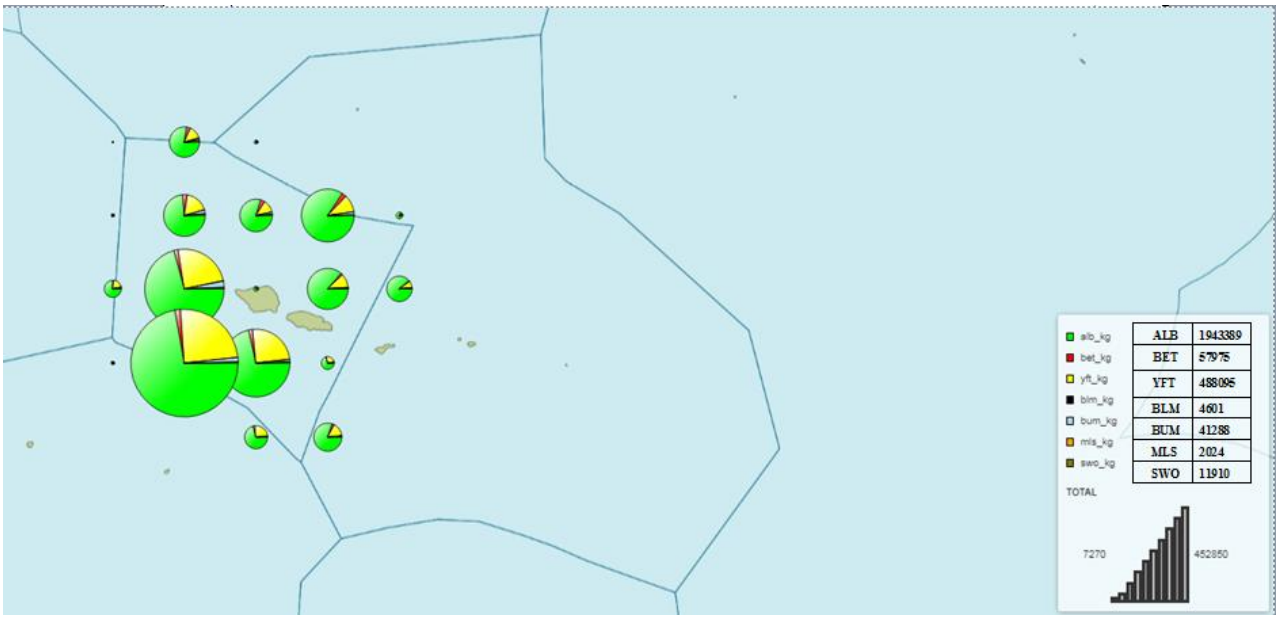

Figure 5: ***Catch distribution of key species from Samoa's national longline fleet in Samoa's EEZ for 2018***

Estimated catches of non-targeted species

Non-targeted species or bycatch species comprised of 2.4 percent of the total longline catches for 2018. Common Dolphinfish and Wahoo continues to dominate bycatch catches and are important commodities for local markets and restaurants.

Table 5: Annual catch estimates (in metric tons) of non target, associated and dependent species, including sharks, by the tuna long line fleet operating in Samoa's EEZ, in the WCPFC Convention Area for years 2014-2018 (2018 estimates are un-raised, log sheet coverage 99%)

NON TARGETED SPECIES	2014	2015	2016	2017	2018
THRESHER SHARK (*Alopias sp.*)			0.02		0
BLUE SHARK *(Prionaceglauca)*	0.51	1.10	0.09		0.0059
DOLPHINFISH (*Coryphaenahippurs*)	20.50	9.20	5.40	36.78	10.29
GREAT BARRACUDA (*Sphyraena barracuda*)	0.68	0.65	0.16	0.07	0.083
MAKO SHARK	0.07	0.25	0.09		0
MOONFISH (*Lamprisguttatus*)	1.00	0.04	0.19	0.07	3.33
OCEANIC WHITETIP *(Carcharhinuslongimanus)*					0
OILFISH (*Ruvettuspretiosus*)	0.09	0.35	0.06	2.84	1.25
POMFRET	0.23	1.30	0.05		0
RAINBOW RUNNER (*Elagatisbipinnulata*)					0
SAILFISH (*Istiophorusplatypterus*)	1.60	1.77		3.90	2.44
SHARK	0.11	0.22		0.12	0
SHORTBILL SPEARFISH (*Tetrapturusangustirostris*)	0.40	0.31		8.88	6.95
SICKLE POMFRET		0.11	0.01		0.12
SILKY SHARK *(Carcharhinusfalciformis*)	0.08	0.08			0
SOUTHERN BLUEFIN TUNA (Thunnusmaccoyii)					0
SUNFISH (*Ranzanialaevis*)		0.02			0
TUNA	7.40	0.65	3.82	11.35	0
WAHOO (*Acanthocybiumsolandri*)	18.6	19.30	14.78	52.77	30.01
TOTAL	**50.97**	**35.35**	**24.67**	**116.78**	**54.50**

Species of Special Interests.

For 2018, no vessels reported any species of special interest (turtles, sea birds and dolphins) apart from various shark species (reported in table 6). These information was reported from logsheets as release or discarded.

Table 6 below shows the number of released oceanic white tip and silky sharks based on data submitted from logsheets.

Table 6: Shark release/discards estimates from 2018 log sheets

SHARK SPECIES	RELEASED WEIGHT (MT)	RELEASED INDIVIDUALS (No.)
OCEANIC WHITETIP *(Carcharhinus longimanus)*	0.336	14
SILKY SHARK *(Carcharhinus falciformis*)	0.031	3
TOTAL	**0.367**	**17**

Note: status of release for the above sharks can be alive/dead as estimates were derived from log sheets

Development/Trends in theFishery

The Samoa domestic longline fishery continues to experience low catches throughout 2014 and 2015, however there was a slight increase in 2016 and 2017 before decreasing again in 2018. Recent catches are still below the longterm average, however, there were changes in the fleet with 3 less Class D vessels licensed to fish for the domestic fleet and an additional foreign fishing vessel added to the fleet for 2018.

A new fishing processing plant was established in 2015 bringing in Samoa foreign fishing vessels. There were 16 foreign fishing vessels that were issued foreign fishing license to fish in Samoaôs EEZ in 2018. There is also a similar arrangement that is currently being negotiated for another fish processing plant to be established bringing in more foreign fishing vessels to be based in Samoa.

Disposal of catch

2018 exports of highly migratory fish (HMF) have increased by 61 metric tons. The majority of these catches are from foreign fishing vessels that are based in Samoa, which is then re-exported out of Samoa. The majority of frozen catches are exported to the canneries based in American Samoa with the rest is exported frozen or fresh chilled to United States and other markets.

Table 6: Volume in (MT) of Samoa's HMF exports from 2014 to 2018

Year	2014	2015	2016	2017	2018
TOTAL	732	2226	4345	4104	4165

Research Activities

Samoa is continuing its working cooperation with SPC for the provision of tuna biological samples from tuna caught in Samoaôs EEZ by Samoaôs domestic fleet. These biological samples will be analyzed by SPC and is part of a project to strengthen our understanding on the movement and distribution of tuna species.

Data Collection System

Logsheets and port sampling data continues to be the main source of information on catch and effort of tuna and bycatch caught in Samoa's EEZ. Other forms of data collected includes size data as well as biological data. The forms used for this work are regional forms compiled from data collection committee meetings under the SPC and FFA Framework. The information and data collected are entered and stored into the TUFMAN 2 database on a cloud server hosted at SPC where the data is processed and stored.

There was 99 percent for logsheets from the domestic longline fishing fleet operating in Samoa's EEZ. Logsheets provide information on operational catch and effort data for all species caught in Samoa's EEZ from the domestic and foreign longline fleet. Samoa is committed to strengthening its observer program to accomodate the observer needs of the foreign fleet that is based out of Apia.

Table 8: Coverage of catch and effort and size data for all species caught in Samoa's EEZ in 2018 for Domestic Fishing Vessels

	NO. FISHING TRIPS	NO. COLLECTED/CONDUCTED	COVERAGE (%)
LOG SHEETS	102	97	95
PORT SAMPLING	102	16	15.6
OBSERVER	0	0	0

ADDENDUM TO ANNUAL REPORT PART 1

Specific information to be provided in Part 1 as required by CMMs[3]

22 February 2019

<table>
<tr><td>CMM 2005-03 [North Pacific Albacore],Para 4</td><td>Not applicable to Samoa as no Samoan flagged fishing vessels currently fish in the North of the Equator.</td></tr>
<tr><td>CMM 2006-04 [South West striped Marlin],Para 4</td><td>Samoa does not have fishing vessels that targets striped marlin. There are vessels that retain striped marlin as by catch from area south of 15°S. Table 1 portrays the estimates on these by catches and the number of vessels.

<table><tr><td>Flag</td><td>Year</td><td>Vessels</td><td>Catch (Numbers)</td><td>Catch (MT)</td></tr><tr><td>WS</td><td>2018</td><td>12</td><td>69</td><td>0.85</td></tr></table>Table 1:: Number of Samoan vessels that caught Striped marlin as by catch in 2018</td></tr>
<tr><td>CMM 2009-03 [Swordfish],Para 8</td><td>CMM not applicable to Samoa because no Samoan flagged vessels fish south of20° South.</td></tr>
<tr><td>CMM 2009-06 [Transshipment],Para 11 (ANNEX II)</td><td>Transhipment in Samoan Ports are carried out by foreign flagged vessels.</td></tr>
<tr><td>CMM 2010-07 [Sharks],Para 4</td><td>Samoa does not have a shark fishery, but some sharks are caught as by catch.</td></tr>
</table>

[3]Reporting requirements requested by CMMs and decisions by the Commission, as of WCPFC15(Dec 2018). First issued on 22 Feb 2019 and revised on 24 June 2019

	Annual Catch Estimates of Shark Species from 2014 - 2018 **SHARK SPECIES** **2014** **2015** **2016** **2017** **2018** THRESHER SHARK 0.05 0.02 0 0 BLUE SHARK 0.51 11 0.09 0 0 MAKO SHARK 0.07 0.25 0.09 0 0 OCEANIC WHITE TIP 0 0.336 SILKY SHARK 0.08 0.08 0 0.031 SHARK 0.11 0.22 0.216 0 Annual number of shark interactions (release) from observer reports in 2014-2018. **SHARK SPECIES** **2014** **2015** **2016** **2017** **2018** **BLUE SHARK** **OCEANIC WHITE TIP** 19 (16A, 3D) 8 (7A, 1D) **SILKY SHARK** 28 (24A, 4D) 6 (5A, 1D) A-Alive, D-Dead
CMM 2011-03 [Impact of PS fishing on cetaceans], Para 5	Not applicable as Samoa do not have a Purse Seine Fleet.
CMM 2011-04 [Oceanic whitetip sharks], Para 3	A total of 14 individuals were reported as discarded through Fishing Vessel Logsheets collected with 95% released alive.

CMM 2012-04 [Whale sharks], Para 06	Not applicable as Samoa does not have a Purse Seine Fleet.
CMM 2013-08 [Silky sharks],Para 3	A total of 3 individuals was estimated to be discarded through Fishing Vessel Logsheets. 100% estimated to be released alive
Observer coverage (WCPFC 11 decision – para 484(b)	Samoa is not yet a member of the Regional Observer Program.
CMM 2015-02 **[South Pacific Albacore] Para 4**	Addressed through the regular provision of operational catch/effort logsheet data to SPC, who automatically include these data in the WCPFC databases, as per our authorization.
CMM 2018-03 [Seabirds] Para 13	There are no reported interactions with seabirds over 2018 in Samoa's EEZ.