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

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SAMOA

INDEPENDENT STATE OF SAMOA



ANNUAL REPORT TO THE COMMISSION

PART 1: INFORMATION ON FISHERIES, RESEARCH AND STATISTICS

JULY 2020

**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 th April 2020.	YES
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Abstract

Samoa's tuna fisheries consist of a longline and troll fishery. Both fisheries operate within Samoa's Exclusive Economic Zone (EEZ) of 120,000km². The main targeted species for these fisheries are South Pacific Albacore (*Thunnus alalunga*), Bigeye Tuna (*Thunnus obesus*), Yellowfin Tuna (*Thunnus albacares*) and Skipjack (*Katsuwonus pelamis*). Bycatch species such as Dolphinfin (*Coryphaena hippurus*) also play an important role in domestic markets as well as international markets. The longline fleet operating in Samoa reported an annual catch of 3301 MT of fish caught in their waters. From these catches, South Pacific Albacore accounted for the majority of catches accounting for around 72 percent of total catches. Yellowfin tuna followed with 14.7 percent with Skipjack at 5.7 percent. Bigeye tuna accounted for the least in terms of tuna species with 4.4 percent. Both the domestic fleet and foreign fleet has similar catch compositions as summarized above.

In 2015, the Foreign Fleet was introduced in Samoa which accounted for a steady increase of catches in Samoa's EEZ. The number of foreign licensed fishing vessels has changed considerably from 2015 which had 10 foreign fishing vessels. Last year, in 2019, there were a total of 15 foreign fishing boats licensed to fish in Samoa's EEZ.

Logsheets from fishing vessels and port sampling data collected by the Fisheries Division continues to be the main source of fisheries data along with the Vessel Monitoring System (VMS) being used for verification.

In 2019, there was a slight increase in exports from Samoa. This is due to foreign fishing catches that are caught in other EEZ's that are then re-exported out of Samoa. The majority of frozen catches are exported to canneries such as the one in American Samoa whereas the rest is exported either frozen or fresh chilled to countries like New Zealand, Japan and the United States of America.

Background

There are 2 main types of fishing gear used to target tuna in Samoa. These vessels range from small alia catamarans to larger commercial fishing vessels. The alia catamarans operate either with trolling or longline gear depending on the season whereas larger commercial fleets tend to operate solely on longline gear. The troll fishery operators alia catamarans are 9 to 11 meters in length that targets Skipjack (*Katsuwonus pelamis*) and operates a few miles offshore targeting free schools or FAD (*Fish Aggregating Devices*) associated pelagics. The catches from the troll fishery are sold locally at fish markets, restaurants and various hotels.

The tuna longline fleet (both domestic and foreign fishing fleet) targets South Pacific Albacore (*Thunnus alalunga*), Yellowfin (*Thunnus albacares*) and Bigeye (*Thunnus obesus*). South Pacific Albacore are mostly exported frozen to canneries. Bigeye Tuna and Yellowfin Tuna are important components of the tuna longline industry with the majority being exported fresh chilled to New Zealand and the United States of America.

The Alia fishing fleet is involved in the tuna longline fishery as well, however, their contribution is limited to the peak months of the year. This fleet has the capability of changing their fishing gear to meet demands as well as prepare for peak months of a fishery that is dependent on this highly migratory species. During off season months, there is a switch back to other gears such as trolling and bottomfishing.

Purse Seine fishing activities in Samoa's 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 – 011.

Annual Catch by species and by gear of Samoa's National Fleet in the WCPFC Convention Area.

The total catch from the domestic tuna longline fleet operating in Samoa's EEZ for 2019 is estimated to be 3297 metric tons. This is a increase of around 1057 metric tons. The catches for South Pacific Albacore accounts for over 72 percent of the total catch with Yellowfin tuna at around 16% percent. Bigeye Tuna accounted for the least with 3 percent and bycatch species accounting for the remaining percentages

The albacore catches within the WCPFC Convention Area is estimated to be around 2408 metric tons, a increase of around 42 percent from the previous year. Yellowfin tuna catches is estimate to be around 486 metric tons, a increase of about 85 metric tons. Bigeye catches had a big increase in numbers from 62 metric tons in the previous year to 145 metric tons this year.

Table 1: Annual Catch Estimates (in metric tons) for Samoa's National Fleet by primary species, for the WCPFC Convention Area.

	2015	2016	2017	2018	2019
Albacore	840	946	2374	1684	2408
Bigeye	48	61	150	62	145
Black Marlin	7	4	6	3	2
Blue Marlin	7	6	83	33	51
Blue Shark	2	0	0	0	0
Hammerhead Shark	0	0	0	0	0
Mako Shark	0	1	0	0	0
Oceanic Whitetip	0	0	0	0	0
Silky Shark	0	1	0	0	0
Skipjack	20	20	62	44	188
Striped Marlin	4	3	2	2	2
Swordfish	5	4	16	11	15
Thresher Shark	0	0	1	0	0
Yellowfin	252	239	644	401	486

Fleet Structure by size and gear type

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's ports. These catches are then exported to various markets around the world.

Samoa's domestic longline fleet ranges from fishing vessels of around 12.5 meters to over 20.5 meters in length. The table below shows the particulars of each vessel class in terms of length, gears licensed to use and number of active vessels in each class. Class A Alia catamarans 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, longlining for pelagic species and bottomfishing for deepwater snappers.

Table 2: Number of Samoan Vessels, by gear and size category, active in the WCPFC Convention Area from 2015 - 2019

Gross Registered and Tonnage	CLASS	Length (Meters)	Fishing Method	2015	2016	2017	2018	2019
0 – 10	A	>8 - 11	Mized	42	57	49	42	48
10 – 50	B	>11-12.5	Longline	0	0	0	0	0
	C	>12.5-15	Longline	1	1	1	1	1
	D	>15-20.5	Longline	6	6	7	4	4
50 - 200	E	>20.5	Longline	4	4	4	4	4

Table 3: Number of Foreign Fishing Vessels, by gear and size category, active in Samoa's EEZ from 2015 - 2019

Gross Registered and Tonnage	LENGTH (Meters)	FISHING METHOD	FLAG	2015	2016	2017	2018	2019
50 - 200	> 20.5	Longline	Cook Islands	1	1	1	6	6
			Kiribati	1	1	0	0	0
			Vanuatu	8	8	10	10	9
			Taiwan	0	4	4	0	0

There was one less foreign longline fishing vessel operating in Samoa in 2019. In total, there were 15 foreign longline fishing vessels for 2019. From these vessels, 6 were flagged to Cook Islands and 9 were flagged to Vanuatu.

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 round with distinct periods of good catch rates to periods of relatively lower catch rates. The graphs on the following page showcase where the majority of catches came from the past 5 years in the Convention 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 2015 was taken mostly 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 whereas last year saw a majority of catches being taken from the Northern side.

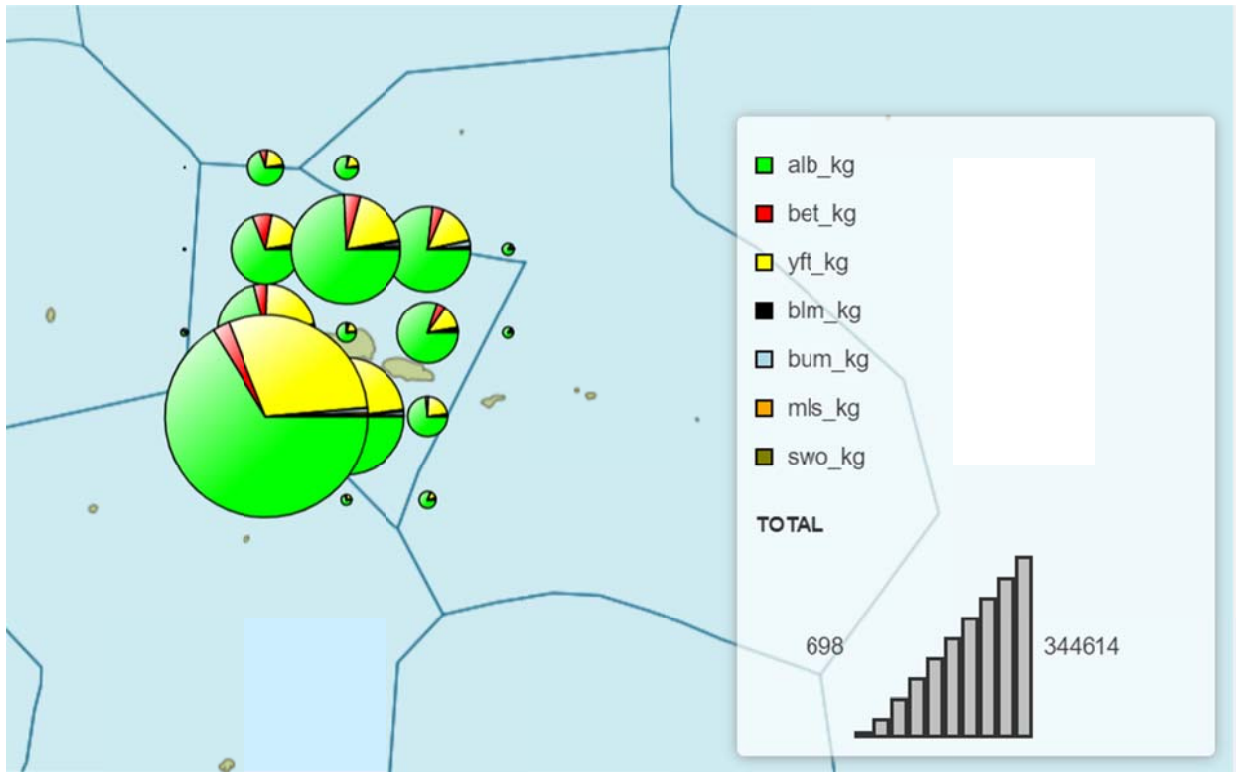


Figure 1: 2015 Catch Trends

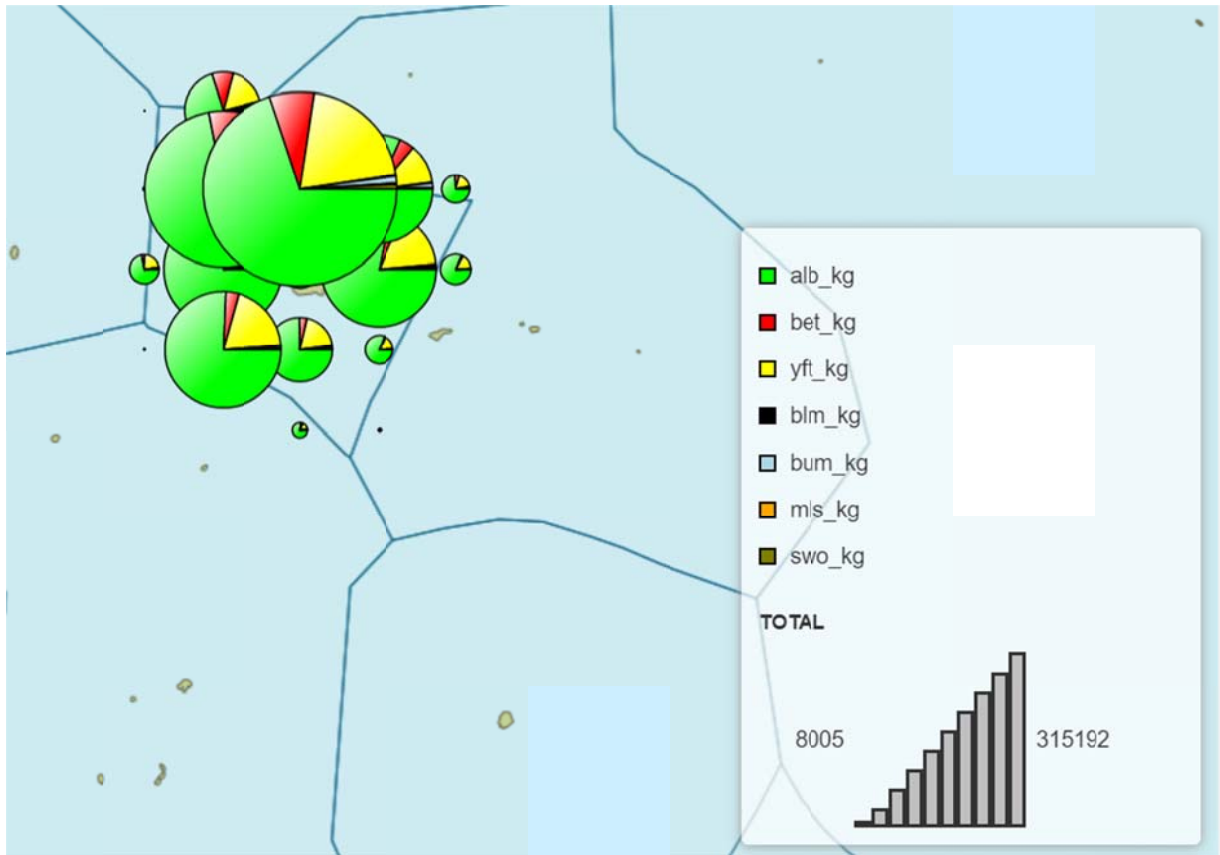


Figure 2: 2016 Catch Trends

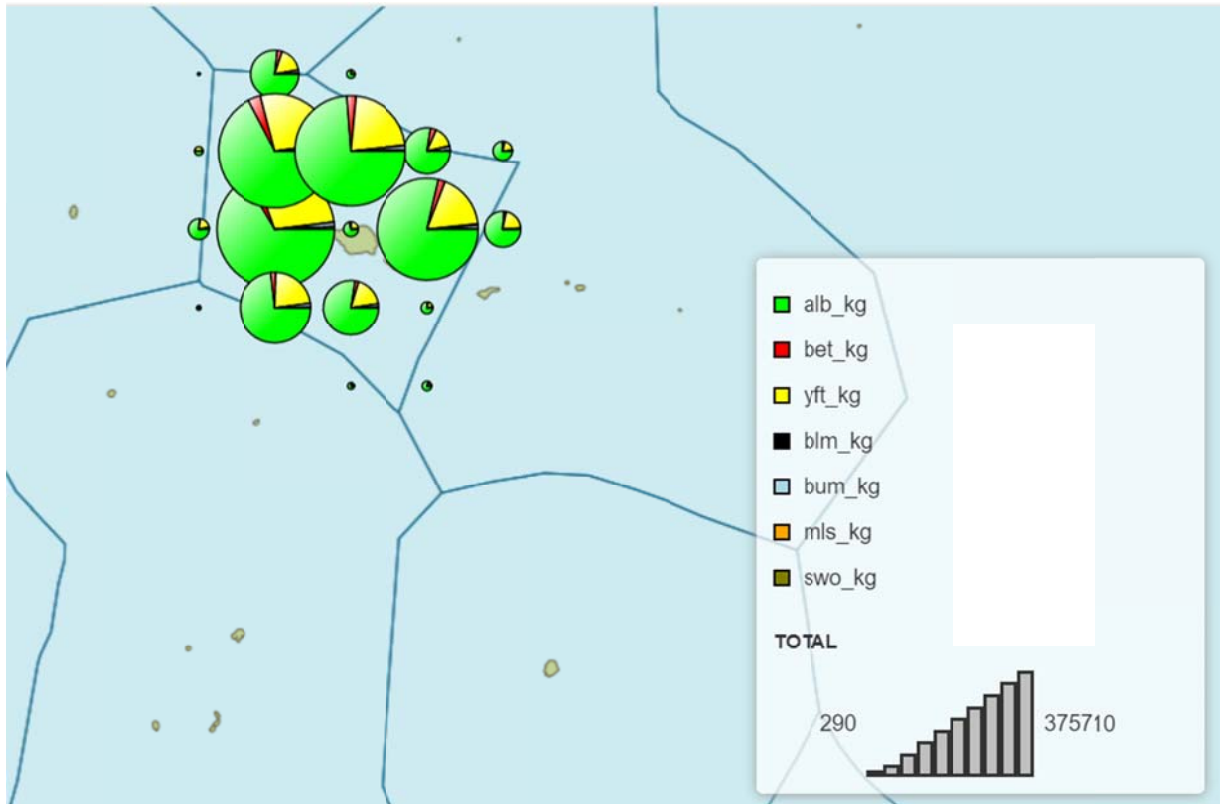


Figure 3: 2017 Catch Trends

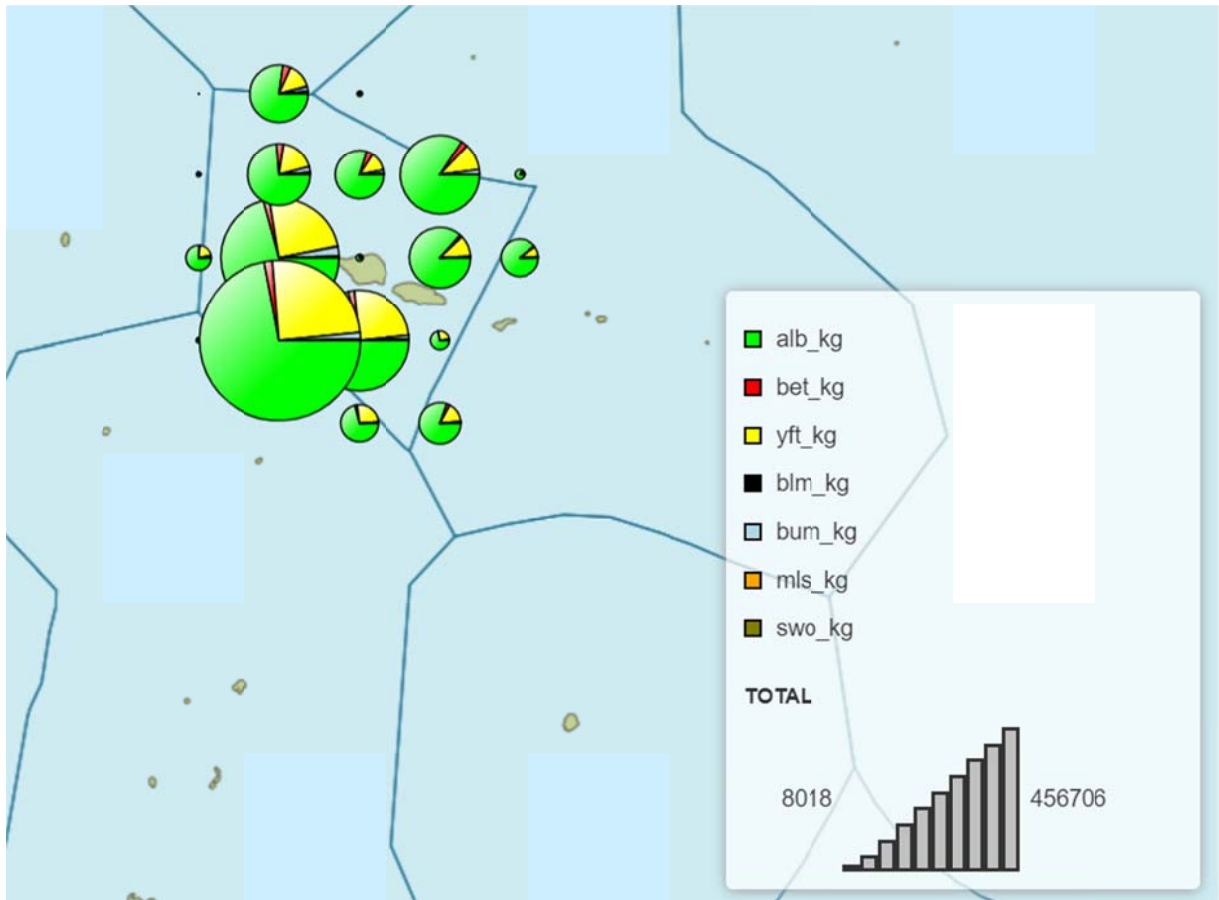


Figure 4: 2018 Catch Trends

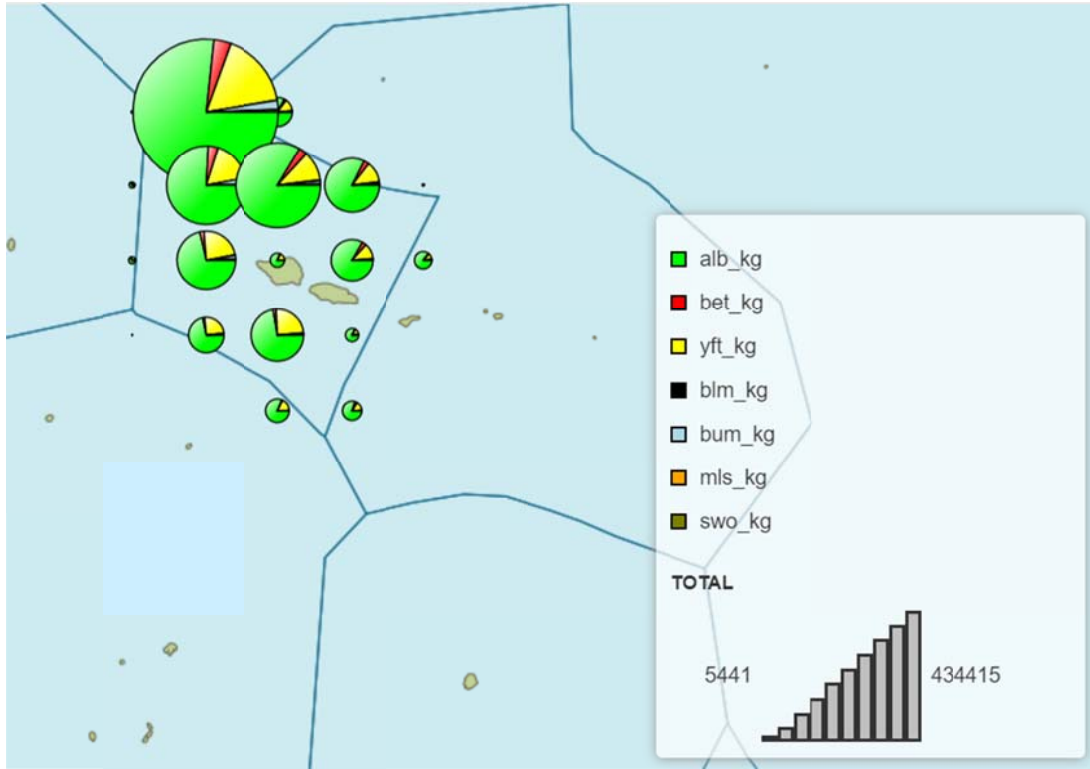


Figure 5: 2019 Catch Trends

Estimated Catches of non-targeted species

Non-targeted species or bycatch species comprised of 82.124MT of total longline catches for 2019. This is an increase of 27.6MT from 2018. Common Dolphinfish (*Coryphaena hippurus*) and Wahoo (*Acanthocybium solandri*) continues to account for the majority of catches and play an important role in local markets and restaurants.

Table 4: Annual catch estimates (in metric tons) of non target, associated and dependent species, including sharks, by the tuna longline fleet operating in Samoa's EEZ, in the WCPFC Convention Area for years 2015 – 2019. (These estimates are un-raised, logsheet data)

NON – TARGETED SPECIES	2015	2016	2017	2018	2019
Thresher Shark (<i>Alopias sp</i>)	0	0.02	0	0	0
Blue Shark (<i>Prionace glauca</i>)	1.10	0.09	0	0.0059	0
Dolphinfish (<i>Coryphaena hippurus</i>)	9.20	5.40	36.78	10.29	6.189
Great Barracuda (<i>Sphyraena barracuda</i>)	0.65	0.16	0.07	0.083	1.535
Mako Shark	0.25	0.09			0.062
Moonfish (<i>Lampris guttatus</i>)	0.04	0.19	0.07	3.33	5.423
Oilfish (<i>Ruvettus pretiosus</i>)	0.35	0	2.84	1.25	10.2
Pomfret	1.30	0.01	0	0	0.047
Sailfish (<i>Istiophorus platypterus</i>)	1.77	0	3.90	2.44	0
Shark spp	0.22	0	0.12	0	0
Shortbill Spearfish (<i>Tetrapturus anguistrosis</i>)	0.31	0	8.88	6.95	14.29
Sickle Pomfret	0.11	0	0	0.12	0.588
Sunfish	0.02	0	0	0	0
Silky Shark (<i>Carcharhinus falciformis</i>)	0.08	0	0	0	0
Tuna spp	0.65	3.82	11.35	0	3.873
Wahoo (<i>Acanthocybium solandri</i>)	19.3	14.78	52.77	30.01	39.917
TOTAL	35.35	24.56	116.78	54.4789	82.124

Species of Special Interest

There were no reported species of special interest for 2019 in regards to turtles, sea birds and dolphins apart from the usual shark species. These information were reported from logsheets as discarded or released with their date being unknown.

SHARK SPECIES	RELEASED WEIGHT	RELEASED INDIVIDUALS	STATUS UPON RELEASE
Oceanic Whitetip (<i>Carcharhinus longimanus</i>)	0	130	UNKNOWN
Silky Shark (<i>Carcharhinus falciformis</i>)	0	119	UNKNOWN
TOTAL	0	249	UNKNOWN

Note: Status of release for the above sharks can be alive/dead as estimates were derived from logsheets.

Given as there is no observer data for 2019 in Samoa, there is no data that indicates the status upon release of Oceanic Whitetip (*Carcharhinus longimanus*) and Silky Shark (*Carcharhinus falciformis*). The data used for the estimation of these species is purely off logsheets.

Development/ Trends in the Fishery

The Samoa National Fleet partaking in the longline fishery experienced low catches throughout in 2015, however there was a slight increase in 2016 and 2017 before decreasing again in 2018. 2019 saw an increase in those numbers although 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 Samoa's 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.

Highly Migratory Fish Exports

Highly migratory fish exports has increased exponentially in 2019 with an estimated volume of 5,313 metric tons. This is an increase of 1,148 metric tons and are attributed to the foreign fishing fleet operating in multiple EEZs that are locally based in Samoa. This fish is then re-exported out of Samoa. The majority of frozen catches are exported to canneries based in American Samoa with the rest being exported to frozen or fresh chilled to other markets like New Zealand and the United States of America.

Table : Volume in (MT) of Samoa's HMF exports from 2015 to 2019

Year	2015	2016	2017	2018	2019
TOTAL	2226	4345	4104	4165	5313

Research Activities

Samoa is continuing their partnership with the Pacific Community (SPC) in the provision of tuna biological samples from domestic catches in Samoa’s EEZ. These biological samples once collected 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

Logheets from fishing vessels and port sampling activities continue to be the main source of information on catch and effort and tuna and bycatch species caught in Samoa’s EEZ. Other scientific data collected included biological sampling data and size data. The forms used for this work are 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 by SPC.

There was 99 percent coverage of 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 active domestic and foreign fishing fleet. Samoa is committed to strengthening its observer program to accommodate the observer needs of the foreign and domestic fishing fleet.

Coverage of catch and effort and size data for all species caught in Samoa’s EEZ in 2019 for Domestic Fishing Vessels.

Table 5: Data Collection Activities

	Coverage (%)
Log Sheets	98.47%
Port Sampling	17.7%
Fisheries Observer Trips	0

Port Sampling activities are limited to the domestic fishing vessels of Samoa.