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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 ANDSTATISTICS

JULY 2015

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 2014	**YES**

Abstract

The total estimated catch from the tuna longline fishing fleet operating in Samoa's EEZ for 2014 is around 1177 metric tons. The catches of albacore tuna accounts for around sixty nine percent of the total catch with yellowfin tuna at around twenty percent and bigeye tuna at around four percent. The albacore catch for 2014 is estimated at 808 metric tons. This is the lowest recorded for the past five years and a drop of over fifty percent from the 2013 albacore catches.

In previous years, the Samoa domestic longline fleet operates all year round regardless of varying catch rates for certain periods of the year. In 2014, there were only a few larger commercial longliners that operates all year round, and this was done mainly to retain key crew members and to monitor catch rate levels

Background

Samoa has a tuna fishery that comprises mainly of a tuna longline fishery and a small scale troll fishery. The troll fishery involves Alia fishing vessels that operates five to nine miles offshore targeting free schools of skipjacks and those around FADs. The small size of the Alia and their limited range restricts their time out at sea to a one or two day fishing trip. The catch from the troll fishery is mostly sold at the local fish markets and restaurants. The Alia fishing fleet is also involved in the tuna longline fishery but their participation is very limited to peak months for this fishery and tends to change gear and target different species such as skipjack and bottom fish species for other months of the year.

The bigger vessels (over 12.5 meters in length) in the Samoa tuna fishery are all engaged in commercial tuna longline fishing targeting South Pacific Albacore tuna and operates exclusively in Samoa's EEZ. In previous years, fishing usually occurs throughout the year for this fishery with good catch rates occurring from May to October. In recent years, a number of vessels have been restricting their fishing operations to periods of good catch rates due to the unprofitability of fishing operation outside these periods.

The average annual albacore catch of this fishery constitute around 70% of the total catch and most is exported frozen to canneries in American Samoa. Matured Bigeye and Yellowfin tuna are also an important component of the catch as they are exported fresh chilled to New Zealand and mainland United States.

Annual catch by species, gear in the WCPFC Convention Area

The total estimated catch from the tuna longline fishing fleet operating in Samoa's EEZ for 2014 is around 1177 metric tons. The catches of albacore tuna accounts for around sixty nine percent of the total catch with yellowfin tuna at around twenty percent and bigeye tuna at around four percent. The broadbill catches and other pelagic made up the rest of the total tuna longline catch.

The albacore catch for 2014 is estimated at 808 metric tons. This is the lowest recorded for the past five years and a drop of over fifty percent from the 2013 albacore catches. The yellowfin tuna catch was estimated at 231 metric tons, the lowest also recorded for the past five years and a drop of around thirty percent from the 2013 yellowfin tuna catch. The catches of bigeye tuna was estimated at 48 metric tons, an increase of thirty three percent from the previous year bigeye catches.

Table 1: Annual catch estimates (in metric tons) for Samoa's long line fleet by primary species, for the WCPFC Convention Area, for years 2010-2014

SPECIES	2010	2011	2012	2013	2014
ALBACORE	2,529	1,415	2,038	1,642	808
BIGEYE TUNA	108	71	54	36	48
BLACK MARLIN	15	5	10	5	8
BLUE MARLIN	6	7	11	7	8
PACIFIC BLUEFIN		0.04	0.2		0
SKIPJACK	67	51	27	14	15
STRIPED MARLIN	16	4	3	5	4
SWORDFISH	7	5	5	3	4
YELLOWFIN	386	395	234	330	231
TOTAL	3132	1953	2383	2042	1126

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

The Samoan longline fleet operating in Samoa's EEZ ranges from over 12.5 meters to over 20.5 meters in length. Table 2 presents information on the particulars of each vessel category in which the Samoan fishing fleet is organize and apart from Class A, most of the vessels are under Class D. There were two vessels just starting operating in Samoa's EEZ under Class E towards the end of 2014.

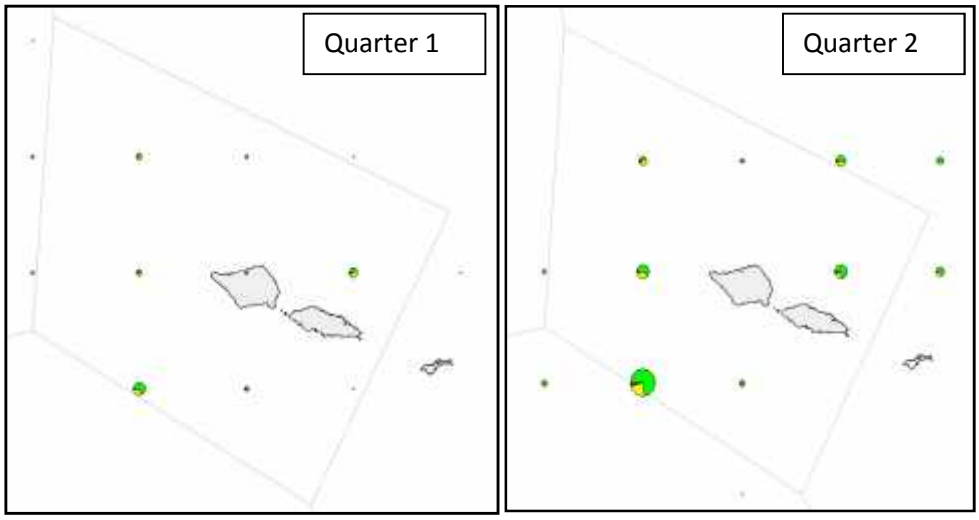
Table 2 : Number of Samoan vessels, by gear and size category, active in Samoa's EEZ from 2010 - 2014

GROSS REGISTERED TONNAGE	CLASS	LENGTH (m)	FISHING METHOD	2010	2011	2012	2013	2014
0-10	A[1]	Up to 11	Longline and Troll	37	35	23	27	29
0-10	B	> 11-12.5	Longline	1	1	1	0	0
	C	>12.5-15	Longline	3	3	2	2	2
	D	>15-20.5	Longline	6	5	8	8	7
50-200	E	>20.5	Longline	3	2	2	2	4

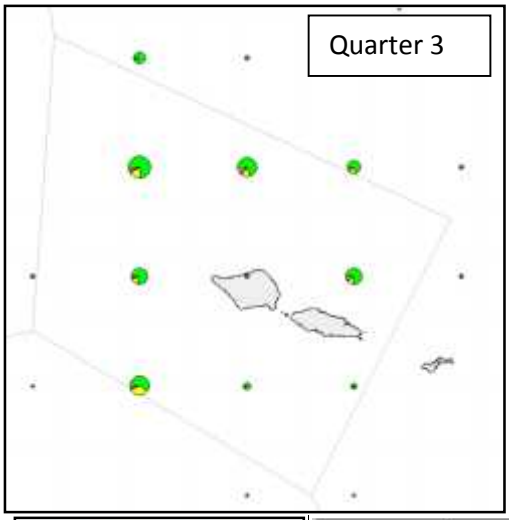
Fishing patterns (catch by time/area)

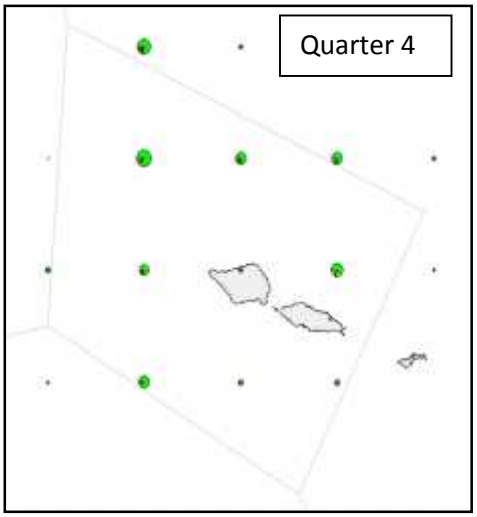
The distribution of Samoa's longline catch is limited within Samoa's EEZ, which approximately falls within a 5^o lat 5^o long grid. As illustrated in Figure 1, the bulk of the catch is albacore tuna with yellowfin species making up a significant secondary composition across each quarterly period. Albacore catches increase from mid-year towards the end year as reflected in the 3rd and 4th quarter with effort levels remaining low in the 1st quarter and picking up in the 2nd quarter. This reflects the seasonality of albacore within fisheries waters of Samoa.

Figure 1: Fishing pattern and quarterly distribution of key tuna species (kilograms) caught by Samoa's domestic fleet in Samoa's EEZ for 2014.



[1] 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.





Species	TOTAL WEIGHT (KG)			
	Q1	Q2	Q3	Q4
Albacore	46.49	203.08	336.93	221.87
Yellowfin	36.92	90.19	85.73	18.03
Bigeye	1.62	8.44	13.68	24.50
Others	6.94	8.67	40.24	33.61

Estimated catches of non-targeted species

Non-targeted species compose 4.3% of the total longline catch in 2014. At around 51 metric tonnes in total weight, the catch has decreased by 16% from 2013 levels. As is the case over the past four years, dolphin fish continues to dominate the non-target catch at 40% of the total weight in 2014, followed by wahoo at 36%. Both generate good prices at local markets and restaurants. A variety of species were also caught including moonfish, pomfret and escolar.

Table 3: Annual estimated catches (mt) of non-target, associated and dependent species, including sharks, by the Samoa tuna longline fleet, in the WCPFC Convection Area, for years 2010-2014

NON TARGETED SPECIES	2010	2011	2012	2013	2014
BIGEYE THRESHER SHARK (*Alopiassuperciliosus*)		0.01			-
BLUE SHARK *(Prionaceglauca)*	0.19	0.24	0.83	0.35	0.51
DOGTOOTH TUNA (*Gymnosarda unicolor*)	1.10				
DOLPHINFISH (*Coryphaenahippurs*)	64.50	20.70	35.59	31.50	20.5
ESCOLAR (*Lepidocybiumflavobrunneum*)					
GALAPAGOS SHARK (*Carcharhinusgalapagensis*)	0.03				
GREAT BARRACUDA (*Sphyraena barracuda*)	9.30	3.40	3.80	0.57	0.68

LONGNOSE LANCET FISH (*Alepisaurusferox*)	0.16	0.18			
MAKO SHARK		0.03	0.09	0.18	0.07
MOONFISH (*Lamprisguttatus*)	8.96	5.01	1.65	0.63	1.0
OCEANIC WHITETIP *(Carcharhinuslongimanus)*	0.19	0.24		0.12	-
OILFISH (*Ruvettuspretiosus*)	2.46	0.04	0.47	0.06	0.09
POMFRET	3.49	0.99	0.69	0.21	0.23
RAINBOW RUNNER (*Elagatisbipinnulata*)	0.01		0.08		
SAILFISH (*Istiophorusplatypterus*)			1.90	0.79	1.6
SHARK	1.89	0.43	0.08		0.11
SHORTBILL SPEARFISH (*Tetrapturusangustirostris*)	7.46	1.65	0.07		0.4
SILKY SHARK *(Carcharhinusfalciformis*)	0.03		0.09	0.24	0.08
SOUTHERN BLUEFIN TUNA (Thunnusmaccoyii)	0.01			0.01	-
SUNFISH (*Ranzanialaevis*)	0.09		0.09		
TUNA					7.4
WAHOO (*Acanthocybiumsolandri*)	74.20	43.80	33.72	26.38	18.6
TOTAL	**173.88**	**76.72**	**79.15**	**61.05**	**50.97**

There were no species of special interest (turtles, sea birds and dolphins) except for shark species (reported in table 3) reported from log sheets as well as observer data for 2014.

The estimates of oceanic whitetip and silky shark releases and their status upon release are presented in table 4. The estimates are from a very low coverage of observer data.

Table 4: Observed status of silky shark and oceanic whitetip shark caught by Samoa's longline fleet in 2014 from 4 observer trips.

	Observed		**Estimated**	
	Number of Release	**Status upon release**	**Number of Release**	**Status upon release**
Silky Shark	28	24 alive, 4 dead	840	720 alive, 120 dead
Oceanic Whitetip	19	16 alive, 3 dead	570	480 alive, 90 dead

Development/Trends in the Fshery

The Samoa domestic longline fishery as mentioned earlier has recorded the lowest albacore catches in 2014 for the past five years. It is also the second lowest albacore catch recorded for the past twelve years. In previous years, the Samoa domestic longline fleet operates all year round regardless of varying catch rates for certain periods of the year. In 2014, there were only a few larger commercial longliners that operates all year round, and this was done mainly to retain key crew members and to monitor catch rate levels. The rest of the fleet joined in towards the end of the second quarter when catch rate levels started to improve. The commercial longline operators informed that almost all

of their boats were tied up during most of the first half of 2014 as the catch rate was way too low to make fishing operation economical.

Disposal of catch

Total exports in 2014 have decreased by 49% from 2013 levels. This was directly due to an unfortunate scenario experienced by the fishing industry where most of the commercial fishing vessels were tied up in the 1st quarter of the year. A few were operating at a loss, struggling to maintain supply at local markets and restaurants. As presented in table 6, bulk of the export at 99% in weight was dominated by frozen albacore sent to the canneries in American Samoa for processing. The small remainder was exported to fresh-chilled markets in United States and New Zealand.

Table 5: Volume in (MT) of Samoa's frozen and fresh chilled fish exports from 2009 to 2013

EXPORT TYPE	2010	2011	2012	2013	2014
FROZEN	2,603	1,229	1,777	1,435	730
FRESH CHILLED	99	100	49	7	1.9
TOTAL	2,702	1,329	1,826	1,441	732

Research Activities

Samoa is working with SPC for the provision of tuna biological samples from tuna caught in Samoa's EEZ by Samoa's domestic fleet. These biological samples will be analyzed by SPC and is part of a project to strengthen our understanding amongst other things, on the movement and distribution of tuna species. A biological sampling training was carried out by SPC for port samplers, observers and Fisheries staff in Samoa and equipments and materials required for the collection and storing of biological samples have already being supplied.

Data Collection System

Catch Log sheets and port sampling data continues to provide information on catch and effort as well as size data on tuna caught in Samoa's EEZ. The forms used for the collection of these data and information are regional forms used by SPC and FFA members. The information and data collected are entered into the TUFMAN database where the data is processed and stored. Observer placement was also carried out but the coverage remains low and this will be given prioritization for 2015 to achieve a coverage level close to five percent.

There was hundred percent coverage achieved for log sheets from the domestic longline fishing fleet operating in Samoa's EEZ as shown in Table 7. Log sheets provide information on operational catch and effort data for all species caught in Samoa's EEZ from the Samoan Longline fleet. Port Sampling data provides information on size data

while observer data is mostly used to understand interaction of the fishery with the environment. Port sampling and observer data are also use for verification of log sheet data.

Table 6: Coverage of catch and effort and size data for all species caught in Samoa's EEZ in 2014

	No. of fishing trips	**No. Collected/conducted**	**Coverage (%)**
Log sheets	120	120	100
Port Sampling	120	28	23
observer	120	4	3.3