SCIENTIFIC COMMITTEE
SEVENTH REGULAR SESSION

9-17 August 2011
Pohnpei, Federated States of Micronesia

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

WCPFC-SC7-AR/CCM-20

SAMOA

INDEPENDENT STATE OF SAMOA

ANNUAL REPORT TO THE COMMISSION

PART 1: INFORMATION ON FISHERIES, RESEARCH AND STATISTICS.

FISHERIES DIVISION
Ministry of Agriculture and Fisheries
Government of Samoa.
July 2011

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 2011	YES

Abstract.

Samoa's tuna fishery is comprised of the troll fishery and the longline fishery. Both fisheries operate within Samoa's Exclusive Economic Zone (EEZ) of approximately 120,000 km^2 involving vessels raging from nine meters to over 20 meters in length.

Over 103 MT of Skipjack was landed from the troll fishery in 2010, an increase of over 21% from the 85 MT landed in 2009. Yellowfin tuna constitute around 10% of the troll catch which is a slightly increase from the 2009 catch. Other pelagic species including dolphin fish, barracuda, kawakawa and rainbow runner are also caught from the troll fishery but to a lesser amount, making up the rest of the 2010 troll catch.

A decline of over 10% in albacore catches was observed from the longline fishing fleet in 2010 compared to the amount caught in 2009. An estimated 7 MT of swordfish was landed in 2010, the highest recorded over the past six years. Yellowfin, Bigeye and Skipjack tuna all shows decreasing catches in 2010 relative to 2009 catches.

The increase in the number of troll fishing vessels is mostly attributed to the number of new alia fishing vessels that were constructed and distributed to affected areas in the September 2009 Tsunami. An increase in the number of longline vessels was observed in 2010 from 2009. This increase is mainly attributed from the increase in the number of alia fishing vessels participating in the fishery which in previous years were either engaged in full time bottom fishing or trolling, or were out of operations.

Samoa is in the final process of developing its sea turtle and shark plans. Both of these plans are scheduled to be approved in 2011.

Port sampling activities and catch logsheet continue to provide the main data for the estimation of annual catches and effort levels for the domestic longline fleet.

1.1 Annual Fisheries Information

Samoa's tuna fishery is comprised of the troll fishery and the longline fishery. Both fisheries operate within Samoa's Exclusive Economic Zone (EEZ) of approximately 120,000 km^2 involving vessels ranging from nine meters to over twenty meters in length. Participation in the Samoa commercial tuna fishery is exclusively domestic with the fishing fleet all locally based.

Troll fishing in Samoa occurs all throughout the year targeting mainly schools of skipjack tuna in the open sea and around fish aggregating devices (FAD). Other tuna and pelagic species are also caught including yellowfin tuna and dolphin fish. The troll fishing fleet comprised of alia fishing vessels (catamaran style) of nine to eleven meters in length. The catch is mainly sold at the main fish markets in both Upolu and Savaii, where the catch estimates are obtained from. In some cases, the catch is completely sold out at the port of

landing which is usually in the rural areas. This fishery mainly supplies the domestic/local market.

The tuna longline fishery in Samoa is much more industrialized and the bulk of the catch is exported. The fishery targets South Pacific Albacore tuna and all the catch is landed locally. Matured yellowfin and bigeye tuna of over 30 kilograms are also important component of the tuna longline catch. The fishery involves alia vessels and some bigger vessels of 12.5 to over 20.5 meters in length. The tuna longline fishing fleet operates all year round however, fishing effort intensify during the albacore season which is usually occurs from May until October and in some years, November. Both the troll and the longline fishery operate only in the EEZ of Samoa.

1.1.1 Annual catch by species, gear in the WCPFC Convention Area.

Over 103 MT of Skipjack was landed from the troll fishery in 2010, an increase of over 21% from the 85MT landed in 2009. The 2010 Skipjack catches which accounts for over 86% of the total troll catch is also the second highest in the Troll fishery for the past five years. Yellowfin tuna constitute around 10% of the troll catch which is a slightly increase from the 2009 catch, but below that of the 2007 and 2006 Yellowfin tuna catches. Other pelagic species including dolphin fish, barracuda, kawakawa and rainbow runner are also caught from the troll fishery but to a lesser amount, making up the rest of the 2010 troll catch.

Table 1: Annual catch estimates (in Metric Tonnes) for the Samoa's Tuna Fishery by gear and primary species, for the WCPFC Convention Area.

TROLL						
Species	2005	2006	2007	2008	2009	2010
SKIPJACK		94.22	100.64	140.51	85.52	103.52
YELLOWFIN		25.87	12.03	6.35	9.33	10.39
DOLPHIN FISH		4.11	0.99	4.11	.33	.83
BARACUDA		0.41	0.09	0.09	.14	0.04
WHAOO		0.31	0.07		.04	
KAWAKAWA		0.49	1.57	3.39	2.97	5.26
BIGEYE		0.14	0.02			
RAINBOW RUNNER		0.14	0.32	0.04	.16	0.02
Species	2005	2006	2007	2008	2009	2010
YELLOWFIN	199	264	305	**317**	412	386
BIGEYE	64	128	101	**106**	117	107
BLUE MARLIN	15	20	21	16	9	5.6
BLACK MARLIN	9	3	13	15	13	15
SKIPJACK	100	59	40	20	77	66
ALBACORE	1263	2113	3113	**2342**	2816	2529
PACIFIC BLUEFIN	0	0	0	**0**	0	0

STRIPED MARLIN	4	7	21	21	7	16
SWORDFISH	1	3	5	6	5	7

A decline of over 10% in albacore catches was observed from the longline fishing fleet in 2010 compared to the amount caught in 2009. This however is the third highest recorded over the past six years with 2007 being the highest and 2009 being the second highest. Despite the observed decline in albacore tuna catch in 2010, it continues to dominate the tuna longline catch in Samoa at 2,529 MT.

An estimated 7 MT of swordfish was landed in 2010, the highest recorded over the past six years. The 2011 Striped Marlin catch estimates from the longline fleet is around 16 MT, Black marlin at 15 MT and Blue marlin at 5.6 MT.

Yellowfin, Bigeye and Skipjack tuna all shows decreasing catches in 2010 relative to 2009 catches. Yellowfin tuna catch in 2010 is however the second highest over the past six years while both 2010 catches of Bigeye and Skipjack are the third highest over the same period of time.

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

Fishing vessels comprising up the Samoa's commercial fishing fleet are all locally based and all their catch are landed in Samoa ports. Commercial fishing vessels are licensed according to length under the 2005-2009 Samoa Tuna Management and Development Plan. This has seen fishing vessels categorised under five classes - Class A (≤11m) Class B (>11m -≤12.5m) Class C (>12.5 -≤15m) Class D (>15m-≤20.5m) and Class E (>15m).

Table 2: Number of Samoan vessels, by gear and size category, active in the WCPFC Convention Area, for years 2005 - 2010

Gear	**LONGLINE**
Fleet	Locally-based fleet

Size class (GRT)	2005	2006	2007	2008	2009	2010
0–10	20	37	43	28	28	337
10–50	7	11	11	11	8	10
50–200	5	6	6	5	6	3
200–500						
500+						

Gear	**TROLL**
Fleet	Locally-based fleet

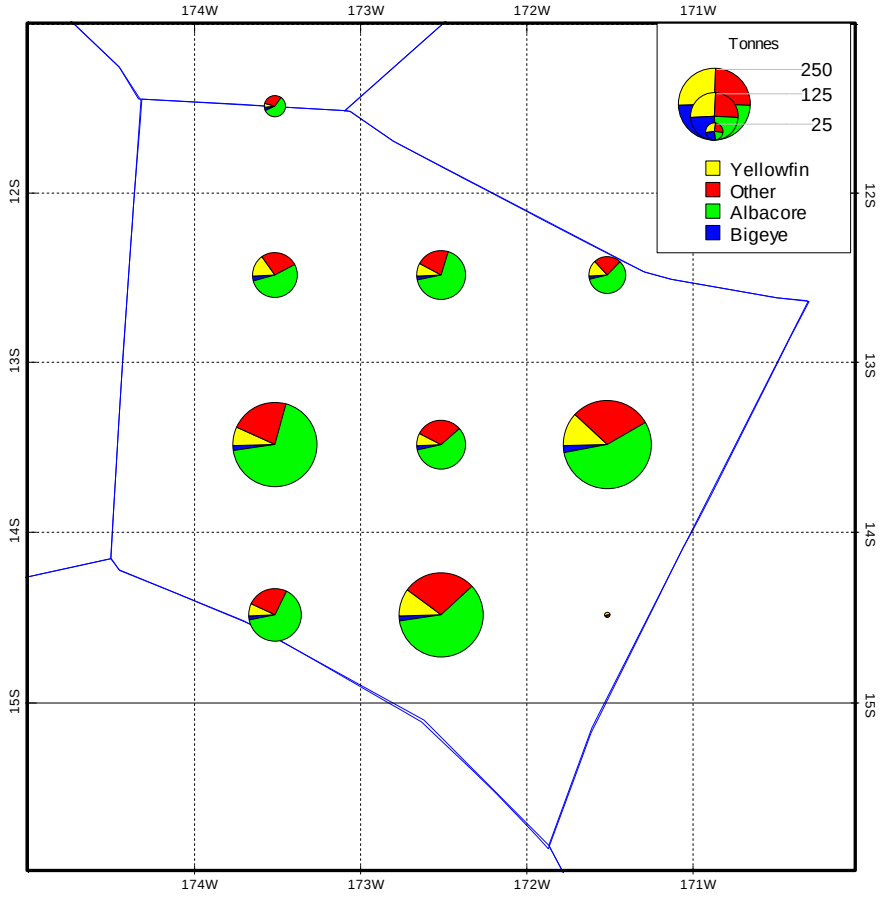
Size class (GRT)	2006	2007	2008	2009	2010
0–10	15	24	25	30	40
10–50					
50–200					
200–500					
500+					

An increase in the number of longline vessels was observed in 2010 from 2009. This increase is mainly attributed from the increase in the number of alia fishing vessels participating in the fishery which in previous years were either engaged in full time bottom fishing or trolling, or were out of operations. These vessels are below eleven meters in length. The differences in the number of bigger vessels over the past six years is mainly attributed to vessels being out of operation, and old vessels which haven't being active for some years being refurnished and reengaged in tuna longline fishing activities. There are no fishing vessels entering the tuna longline fishery in 2010.

The increase in the number of troll fishing vessels is mostly attributed to the number of new alia fishing vessels that were constructed and distributed to affected areas in the September 2009 Tsunami. This is the government assistance to those rural coastal fishing villages to revive their fishing activities in which their livelihoods depends on mostly.

1.1.3 Fishing patterns (catch by time/area.

Figure 1: Annual distribution of target species catch by the Samoa longline fleet active in the WCPFC Convention Area, for 20010



Samoas tuna longline catch is distributed approximately within a 5 by 5 grid. As shown in Figure 2, the bulk of the catch is Albacore tuna, Yellowfin and Bigeye tuna are also important component of the tuna longline catch.

1.1.4 Estimated catches on non target species.

Table 3. Annual estimated catches of non-target, associated and dependent species, including sharks, by the Samoa tuna longline fleet, in the WCPFC Convention Area, for years 2005 – 2009

Non Target Species	2005	2006	2007	2008	2009	2010
BIGEYE THRESHER SHARK (*Alopias superciliosus*)			0.05			
BLACKTIP REEF SHARK (*Carcharhinus melanopterus*)						
BLUE SHARK			1.03			0.19
DOGTOOTH TUNA (*Gymnosarda unicolor*)		0.37			0.3	1.1
DOLPHINFISH (*Coryphaena hippurs*)	26.50	64.97	51.20	39.19	81.6	64.5
ESCOLAR (*Lepidocybium flavobrunneum*)	0.13	0.09	0.23			
GALAPAGOS SHARK (*Carcharhinus galapagens*			0.11			0.034
GREAT BARRACUDA (*Sphyraena barracuda*)	3.78	5.75	10.79	8.18	11.0	9.3
LONGNOSE LANCET FISH (*Alepisaurus ferox*)		0.11	0.04	0.02		0.162
MARLIN[1]	17.77	2.58	7.54	15.71	9.8	10.0
MOONFISH (*Lampris guttatus*)	2.71	1.92	2.29	10.67	9.5	8.96
OCEANIC WHITETIP			0.36			0.19
OILFISH (*Ruvettus pretiosus*)		0.04	1.93	1.04	0.2	2.46
POMFRET[2]	2.78	3.21	2.80	3.1	4.8	3.49
RAINBOW RUNNER (*Elagatis bipinnulata*)	0.02		0.06			0.008
SAILFISH (*Istiophorus platypterus*)	2.79	2.32	3.13	7.21	13.3	13.42
SHARK[3]	2.38	3.45	4.77	1.69	1.6	1.89
SHORTBILL SPEARFISH (*Tetrapturus angustirostris*)	1.53	4.21	6.58	1.21	2.6	7.46
SILKY SHARK *(Carcharhinus falciformis*)			0.07			0.033
SOUTHERN BLUEFIN TUNA (Thunnus maccoyi		0.23	0.03			0.006
SUNFISH (*Ranzania laevis*)	0.11	0.10		0.38		0.087
TUNA[4]	0.46	0.51	0.71	0.91		
WAHOO (*Acanthocybium solandri*)	48.43	35.30	54.99	62.14	88.4	74.2
Total	**109.39**	**125.16**	**148.71**	**151.45**	**223.1**	**197.49**

Dolphin fish and Wahoo are important component of the tuna longline catch as it is utilized locally and occasionally for export even though they are not considered as a target species. A number of other pelagic species are also caught including sharks constituting up the rest of the tuna longline catch.

[1] This could be a combination of Blue, Black or Striped Marlin as it was difficult to identified during port sampling due to 1) it was already processed on board (sliced into pieces), 2) came out frozen and discolored.

[2] This includes *Brama brama*, *Eumegistus illustris*, *Taractichthys steindachneri* and all other pomfrets coded BRZ

[3] Sharks unloaded from longline vessels without fins and tails.

[4] Tuna unloaded from longline vessels covered with sheets to be exported fresh chilled

Logsheets collected from the longline fishing fleet together with port sampling data and very minimum observer data for 2010 all shows no reports of sea turtles catches.

1.1.5 Useful Information

Samoa is in the final process of developing its sea turtle and shark plans. Both of these plans are schedule to be approved in 2011. Priority will be given to the implementation of various projects and activities in these two by-catch plans in addition to various projects and activities also identified in the National Tuna Management and Development Plan 2011-2015.

Table 4: Volume in (MT) of Samoa's frozen and fresh chilled fish exports from 2005to 2009

Year	Frozen	Fresh chilled	Total Exports
2005	1101	230	1331
2006	1436	139	1575
2007	2737	437	3174
2008	2083	125	2208
2009	2412	149	2561
2010	2603	99	2702

Despite the lower total catch from the longline fleet in 2010, the volume of fish exports is observed to be increase over the past three years. Frozen export for 2010 is the second highest over the past six years. For the fresh chilled exports, the volume exported in 2010 is lowest for the last six years.

1.2 Research and Statistics

Port sampling activities and logsheet data continue to provide the main data for the estimation of annual catch and effort levels for the domestic longline fleet. The lengths data for all species landed however are sent to SPC for research purposes.

The logsheets are collected from the captains of each fishing vessel, and then it is registered and entered into the offshore database for processing. The same is done for port sampling data. Boat census data is also collected and entered in the offshore database. This is to verify the number of boats going out fishing and the number of fishing days for each vessel category against logsheets information of fishing days. This data is critical in the estimation of Samoa's catch and effort data from its tuna longline fishing fleet.

Funding assistance from the Japan Trust Fund has enable the continuation of Port samplings activities for the Samoa commercial tuna fisheries. Samoa will be adopting the TUFMAN system in September 2011 so as to improve and to keep up to date with regional developments in relation to tuna fisheries data collection.

Market landings survey provides catch estimates for troll catches. It is conducted a similar way with the port sampling activity however only a portion of the whole catch from a troll vessel is sampled.
