



**SCIENTIFIC COMMITTEE  
EIGHTH REGULAR SESSION**

7-15 August 2012  
Busan, Republic of Korea

---

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

---

**WCPFC-SC8-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 2012**

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 2012	YES
--	-----

***Abstract.***

The tuna fishery has continued to be the main export earner for Samoa over the years. The fishery is comprised of the Tuna Longline fishery and the smaller scale troll fishery. Both fisheries operate within Samoa’s Exclusive Economic Zone (EEZ) of approximately 120,000 km<sup>2</sup> involving vessels ranging from nine meters to over 20 meters in length

Longline catches from the Samoa fleet in 2011 has decline dramatically from 3306 metric tonnes in 2010 to 2047 metric tonnes, a reduction of around 38 percent and the lowest recorded for over the past five years.

Around 334 MT of Skipjack was landed from the troll fishery in 2011, an increase of over 200% from the 104MT landed in 2010. The 2011 Skipjack catch which accounts for over 96% of the total troll catch is the highest in the Troll fishery for the past five years.

A total of 46 fishing vessels were involved in the longline fishery in 2011, four less from the number involved in the fishery in 2010. Thirty five of these vessels could only deploy a maximum of three sets per trip due to capacity limitations. The rest of the fleet could spend much more time out fishing ranging from two weeks up to a month.

Samoa’s national observer programme will be carrying out coverage of around ten percent for its domestic longline fleets. This is a priority area of work identified under the newly approve shark and sea turtle management plan. This work will be carried out for a period of three fiscal years starting FY 2011-2012.

***1.1 Annual Fisheries Information***

The tuna fishery has continued to be the main export earner for Samoa over the years. The fishery is comprised of the Tuna Longline fishery and the smaller scale troll fishery.. Both fisheries operate within Samoa’s Exclusive Economic Zone (EEZ) of approximately 120,000 km<sup>2</sup> involving vessels ranging from nine meters to over 20 meters in length. Participation in the Samoa tuna fishery is exclusively domestic with all the vessels in the fishing fleet being based and landed all its catch in Samoa.

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. In some cases, the catch is completely sold out at the port of landing which is usually in the rural areas. This

fishery mainly supply's the domestic/local market and occasionally to the canneries in American Samoa.

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 (albacore) 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 around however, fishing effort intensify during the albacore season which is usually occurs from May until October and in some years, November. The by-catch from this fishery contributes significantly to food security in Samoa Annual catch by species, gear in the WCPFC Convention Area.

Longline Fishery

Longline catches from the Samoa fleet in 2011 has decline dramatically from 3306 metric tonnes in 2010 to 2047 metric tonnes, a reduction of around 38 percent and the lowest recorded for over the past five years. South Pacific Albacore continues to dominate the total longline catch at around 70 percent. An estimated 1,415 metric tons of albacore was caught in 2011. This is a significant reduction of over 44% from the 2010 catch levels and the lowest recorded over the past five years. The albacore catch trend for the Samoa longline fishery generally continues to decline since 2007.

Yellowfin catch in 2011 is relatively stable at 395 metric tonnes and accounts around 12 percent of the total longline catch. A reduction of over 33 percent in Bigeye catches from 2010 levels was observed in 2011. The catch is estimated at 71 metric tonnes and is the lowest Bigeye catch recorded since 2007. Skipjack catches was observed to be relatively stable at 51 metric tonnes in 2011

Other pelagic species including broadbill fish, wahoo, dolphin fish, other tuna like species and sharks made up the rest of Samoa's longline catch.

Around 334 MT of Skipjack was landed from the troll fishery in 2011, an increase of over 200% from the 104MT landed in 2010. The 2011 Skipjack catch which accounts for over 96% of the total troll catch is the highest in the Troll fishery for the past five years. Yellowfin tuna constitute around 3% of the troll catch and the second highest recorded ofr over the past five years. 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 2011 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	2007	2008	2009	2010	2011
SKIPJACK	101	141	86	104	334
YELLOWFIN	12	6	9	10	11
DOLPHINFISH	1	4.0	0.33	1.0	0.19
BARACUDA	.009	0.009	0.14	0.04	0.02
WHAOO	.007	-	0.40	-	0.03
KAWAKAWA	1.57	3.39	2.97	-	0.92
BIGEYE	.002	-	-	-	0.17
RAINBOW RUNNER	0.32	0.04	0.16	0.02	0.06

***TUNA LONGLINE***

Species	2007	2008	2009	2010	2011
YELLOWFIN	305	317	412	386	395
BIGEYE	101	106	117	107	71
BLUE MARLIN	21	16	9	6	7
BLACK MARLIN	13	15	13	15	5
SKIPJACK	40	31	77	66	51
ALBACORE	3,113	2,342	2,816	2,529	1,415
PACIFIC BLUEFIN TUNA	0	0	0	0	0.04
STRIPED MARLIN	21	21	7	16	4
SWORDFISH	5	6	5	7	5

**1.1.1 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 2011-2015 Samoa Tuna Management and Development Plan which categorized fishing vessels under five classes - Class A ( $\leq 11\text{m}$ ) Class B ( $>11\text{m} - \leq 12.5\text{m}$ ) Class C ( $>12.5 - \leq 15\text{m}$ ) Class D ( $>15\text{m} - \leq 20.5\text{m}$ ) and Class E ( $>20.5\text{m}$ ).

**Table 2. Number of Samoan vessels, by gear and size category, active in the WCPFC Convention Area, for years 2006 - 2011**

Gear	<b>LOGLINE</b>
Fleet	Locally-based fleet

Size class (GRT)	2006	2007	2008	2009	2010	2011
0-10	37	43	28	28	37	35
10-50	11	11	11	8	10	9
50-200	6	6	5	6	3	2
200-500						
500+						

Gear	<b>TROLL</b>
Fleet	Locally-based fleet

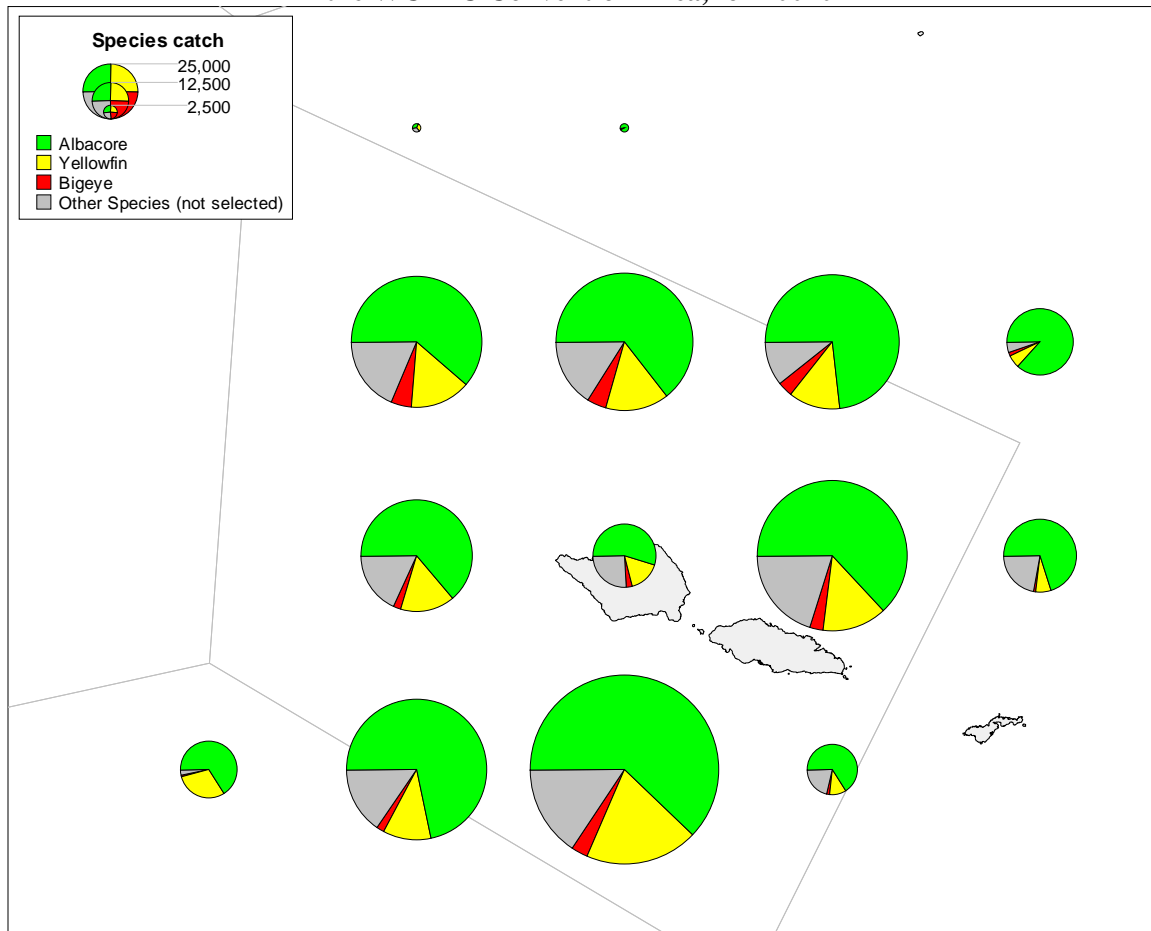
Size class (GRT)	2006	2007	2008	2009	2010	2011
0-10	15	24	25	30	40	50
10-50						
50-200						
200-500						
500+						

A total of 46 fishing vessels were involved in the longline fishery in 2011, four less from the number involved in the fishery in 2010. Thirty five of these vessels could only deploy a maximum of three sets per trip due to capacity limitations. The rest of the fleet could spend much more time out fishing ranging from two weeks up to a month.

The increase in the number of troll fishing vessels from forty in 2010 to fifty in 2011 could be a result of good catch rates experienced by the number of vessels initially engaged in theree fishery. The additional vessels in the fleet were from those vessels that were engaged in bottom fishing and those that were not active for some time

### 1.1.2 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 2010



Samoa's tuna longline catch is distributed approximately within a 5 by 5 grid. As shown in Figure 1, the bulk of the catch is Albacore tuna, Yellowfin and Bigeye tuna are also important component of the tuna longline catch.

### 1.1.3 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 2006 – 2011**

<b>Non Target Species</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
BIGEYE THRESHER SHARK ( <i>Alopias superciliosus</i> )		0.05				0.01
Mako Shark						.03
BLACKTIP REEF SHARK ( <i>Carcharhinus melanopterus</i> )						
BLUE SHARK		1.03			0.19	.24
DOGTUOTH TUNA ( <i>Gymnosarda unicolor</i> )	0.37			0.3	1.1	
DOLPHINFISH ( <i>Coryphaena hippurs</i> )	64.97	51.20	39.19	81.6	64.5	20.7
ESCOLAR ( <i>Lepidocybium flavobrunneum</i> )	0.09	0.23				
GALAPAGOS SHARK ( <i>Carcharhinus galapagensis</i> )		0.11			0.034	
GREAT BARRACUDA ( <i>Sphyraena barracuda</i> )	5.75	10.79	8.18	11.0	9.3	3.4
LONGNOSE LANCET FISH ( <i>Alepisaurus ferox</i> )	0.11	0.04	0.02		0.162	0.18
MARLIN <sup>1</sup>	2.58	7.54	15.71	9.8	10.0	8.5
MOONFISH ( <i>Lampris guttatus</i> )	1.92	2.29	10.67	9.5	8.96	5.01
OCEANIC WHITETIP		0.36			0.19	0.24
OILFISH ( <i>Ruvettus pretiosus</i> )	0.04	1.93	1.04	0.2	2.46	.04
POMFRET <sup>2</sup>	3.21	2.80	3.1	4.8	3.49	.99
RAINBOW RUNNER ( <i>Elagatis bipinnulata</i> )		0.06			0.008	
SAILFISH ( <i>Istiophorus platypterus</i> )	2.32	3.13	7.21	13.3	13.42	7.83
SHARK <sup>3</sup>	3.45	4.77	1.69	1.6	1.89	.43
SHORTBILL SPEARFISH ( <i>Tetrapturus angustirostris</i> )	4.21	6.58	1.21	2.6	7.46	1.65
SILKY SHARK ( <i>Carcharhinus falciformis</i> )		0.07			0.033	
SOUTHERN BLUEFIN TUNA ( <i>Thunnus maccoyi</i> )	0.23	0.03			0.006	
SUNFISH ( <i>Ranzania laevis</i> )	0.10		0.38		0.087	-
TUNA <sup>4</sup>	0.51	0.71	0.91			
WAHOO ( <i>Acanthocybium solandri</i> )	35.30	54.99	62.14	88.4	74.2	43.8
<b>Total</b>	<b>125.16</b>	<b>148.71</b>	<b>151.45</b>	<b>223.1</b>	<b>197.49</b>	<b>93.05</b>

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

<sup>1</sup> 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.

<sup>2</sup> This includes *Brama brama*, *Eumegistus illustris*, *Taractichthys steindachneri* and all other pomfrets coded BRZ

<sup>3</sup> Sharks unloaded from longline vessels without fins and tails.

<sup>4</sup> Tuna unloaded from longline vessels covered with sheets to be exported fresh chilled

<sup>3</sup> Sharks unloaded from longline vessels without fins and tails.

<sup>4</sup> Tuna unloaded from longline vessels covered with sheets to be exported fresh chilled



up the rest of the tuna longline catch. Logsheets collected from the longline fishing fleet together with port sampling data for 2011 all shows no reports of sea turtles catches.

#### 1.1.4 Useful Information

Samoa's national observer programme will be carrying out coverage of around ten percent for its domestic longline fleets. This is a priority area of work identified under the newly approve shark and sea turtle management plan. This work will be carried out for a period of three fiscal years starting FY 2011-2012.

**Table 4: Volume in (MT) of Samoa's frozen and fresh chilled fish exports from 2007 to 2011**

<b>Year</b>	<b>Frozen</b>	<b>Fresh chilled</b>	<b>Total Exports</b>
2007	2737	437	3174
2008	2083	125	2208
2009	2412	149	2561
2010	2603	99	2702
2011	1229	100	1329

Samoa's fish export in 2011 has dropped significantly from 2010 levels. This is directly resulted from poor catches from the longline fleet recording lowest albacore catches since 2006. Fresh chilled exports however is relatively stable in 2011 at 100 metric tones.

## 1.2 Research and Statistics

**Table 5: Estimated annual coverage of operational catch/ effort logsheet and port data for the Samoas tuna longline fishing fleet for 2011**

		<b>Logsheet coverage</b>	<b>Port Sampling coverage</b>
<b>No. of fishing trips/unloads</b>	271	100%	225 (83%)
<b>No. fishing days</b>	1896	100%	1543 (81%)

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

Samoa in 2011 has adopted the SPC/FFA regional log sheet for longline fishing vessels. These logsheets are collected from the captains of each fishing vessel, and then it is registered and entered into the offshore database for processing. Samoa is now using TUFMAN for entering, processing and storage of tuna fisheries data.

Market landings survey provides catch estimates for troll catches. It is conducted in a similar way with the port sampling activity however only a portion of the whole catch from a troll vessel is sampled. SPC has been assisting Samoa fisheries with the development of an artisanal fisheries survey form for our alia fishing fleet. Samoa will be

using the information from this new form for the estimation of the Troll catches in the very near future.

---