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

WCPFC-SC13-AR/CCM-19 (Rev01)

PAPUA NEW GUINEA

Western and Central Pacific Fisheries Commission
13th Regular Session of the Scientific Committee

Rarotonga, Cook Islands
09rd -17th August, 2017

ANNUAL REPORT TO THE COMMISSION

PART 1: INFORMATION ON FISHERIES, RESEARCH AND STATISTICS, 2016.

PAPUA NEW GUINEA

National Fisheries Authority,
Port Moresby, PNG.

Scientific data was provided to the Commission in accordance with the decision relating to the provision of scientific data to the commission by the 30th April 2017.	**YES**

Revision Notes:

Rev.1	***29/09/2017***	***Changed year from 2015 to 2016 for Table A1 legend in Section 7 – CMM Reporting*** ***Changed period for Table 5 legend in Section 3 – Coastal State Reporting***

Summary

The Papua New Guinea (PNG) tuna fishery is made up of both the purse-seine and longline sectors with a small handline sector. The longline and handline vessels fish exclusively in PNG waters. The purse-seine sector is a mix of both domestic and foreign access vessels. The domestic sector comprises the PNG flag vessels and PNG chartered vessels (locally-based foreign) which support processing facilities onshore in PNG.

Total catch estimate of 2016 by PNG purse seine vessels was 286,417 mt. A total of 67 vessels in the PNG national fleet (both PNG Flag and LBF vessels) were active in the WCPFC Convention area with an estimated overall effort of 8,865 fishing days. Only a total estimated catch of 1,055 mt was from the domestic tuna longline vessels fishing in 2016. A total of 15 vessels were actively fishing in PNG waters with and estimated effort of 28,092 hundred hooks. Estimated catch by foreign vessels fishing under bilateral and multilateral access agreements in PNG waters in 2016 was 103,455 mt with and estimated effort of 3,201 fishing days.

PNG is striving towards building its fishing industry; therefore fishing licenses are linked to onshore investment. At full capacity PNG is looking to processing all fish caught in PNG waters, back in PNG. The rights to fish in PNG are also linked to onshore investment.

1. Background

Tuna in the Papua New Guinea (PNG) national waters are caught by two main fishing methods, namely purse-seine and longline. Most of the catch (99%) is attributed to the purse-seine fishery. Purse-seining started in PNG waters in the early 1980s and has since intensified, with the 2010 catch being the highest on record (702,969 mt). The longline fishery started even earlier than the purse-seine fishery, originally only as access by foreign fleets. But in the mid-1990s a policy on domestication enabled the fishery to be a national activity only, hence doing away with access by foreign fleets.

The tuna fishery in PNG represents a balance of both domestic industry development and foreign distant water fishing nations (DWFN) access agreements. Domestic industry development is pursued by using a model whereby a fishing licence is granted on the condition that the vessels catch fish for processing facilities in-country. Vessels under this scheme are either re-flagged to PNG or are given incentives by way of reduced licence fees and allowing them to fish within archipelagic waters or sponsoring them to fish under the Federated States of Micronesia Arrangement (FSMA).

The fishery is guided by the National Tuna Fishery Management and Development Plan (NTFMDP) which establishes an overall management structure, and an application framework for all tuna fisheries. This include licence limits, catch and effort controls, gear restrictions, the use of Fish Aggregating Devices (FAD) and other management tools for the purpose of tuna resource conservation and management as well as combating illegal, unregulated and unreported fishing activities (IUU). The plan is updated where necessary to conform to the country's development plans as well as regional and international obligations and agreements.

The purse-seine fishery operates within the guidelines of important regional and sub-regional arrangements such as the Parties to the Nauru Agreement (PNA), whose requirements are incorporated in the National Tuna Management and Development Plan**.**

2. Flag State Reporting

This section reports activities by the national fleet in waters of the Western and Central Pacific Fisheries Commission (WCPFC) convention area including PNG's Exclusive Economic Zone (EEZ). The national fleet comprises of domestic longline and purse seine vessels which includes purse seine vessels under charter arrangements with domestic companies.

2.1 Purse Seine

PNG manages a purse seine fleet made up of two categories; Domestic PNG flagged vessels and Locally-Based Foreign (LBF). LBF vessels are foreign flagged and whose activities are governed under charter arrangements with locally based companies. These vessels support onshore processing plants in the country.

Table 1: Annual catch estimates and effort (mt) for the PNG purse seine fleet inside and outside of the PNG waters in the WCPFC Convention Area for 2012-2016.

Year	Vessels Category	Effort (Fishing Days)	SKJ (MT)		YFT (MT)		BET (MT)		OTH (MT)		TOTAL (MT)		WCPFC CA Total
			PNG Waters	Outside PNG	PNG Waters	Outside PNG	PNG Waters	Outside PNG	PNG Waters	Outside PNG	PNG Waters	Outside PNG	
2012	PNG Flag	2370	27,934	79	16,775	34	752		513		45,973	113	46,086
	LBFV	7332	80,602	65,418	28,638	12,911	275	224	5,018	39	114,533	78,591	193,124
2013	PNG Flag	2058	21,520	1,054	14,787	404	417		237	2	36,961	1,459	38,420
	LBFV	7770	79,890	66,394	27,741	7,349	287	266	6,602	114	114,520	74,122	188,642
2014	PNG Flag	2150	28,929	9,529	14,846	1,024	279	46	117	0	44,172	10,599	54,771
	LBFV	6403	44,719	87,866	18,643	7,413	334	694	93	670	63,789	96,644	160,433
2015	PNG Flag	3143	13,087	60,086	10,862	8,410	181	488	1,138	1,382	25,267	70,367	95,633
	LBFV	3243	21,927	54,394	13,531	14,340	516	750	1,842	1,585	37,815	71,068	108,884
2016	PNG Flag	4530	30,895	69,478	18,739	16,330	579	1,321	196	91	50,409	87,220	137,629
	LBFV	4335	51,665	43,237	40,266	12,003	584	904	106	23	92,621	56,168	148,788
Average		*8,667*	*80,233*	*91,507*	*40,966*	*16,043*	*841*	*939*	*3,172*	*781*	*125,212*	*109,270*	*234,482*

Catches by purse seine vessels in the national fleet comprise mostly of skipjack with the highest composition, followed by yellowfin and bigeye tuna. Although, skipjack is the main target species in this fishery, yellowfin and bigeye are also commercially important. Catch by these vessels have increased over the years to an average 234,482 mt in the last 5 years.

Table 2: Number of PNG purse seine vessels by size category, active in the WCPFC Convention area for years 2012- 2016.

Size class (GRT)	2012	2013	2014	2015	2016
0–500	11	11	11	3	7
500–1,000	9	9	9	8	14
1,000–1,500	25	25	28	30	37
1,500+	6	6	7	11	9
Unknown	-	-	-	1	
Total	**51**	**51**	**55**	**53**	**67**

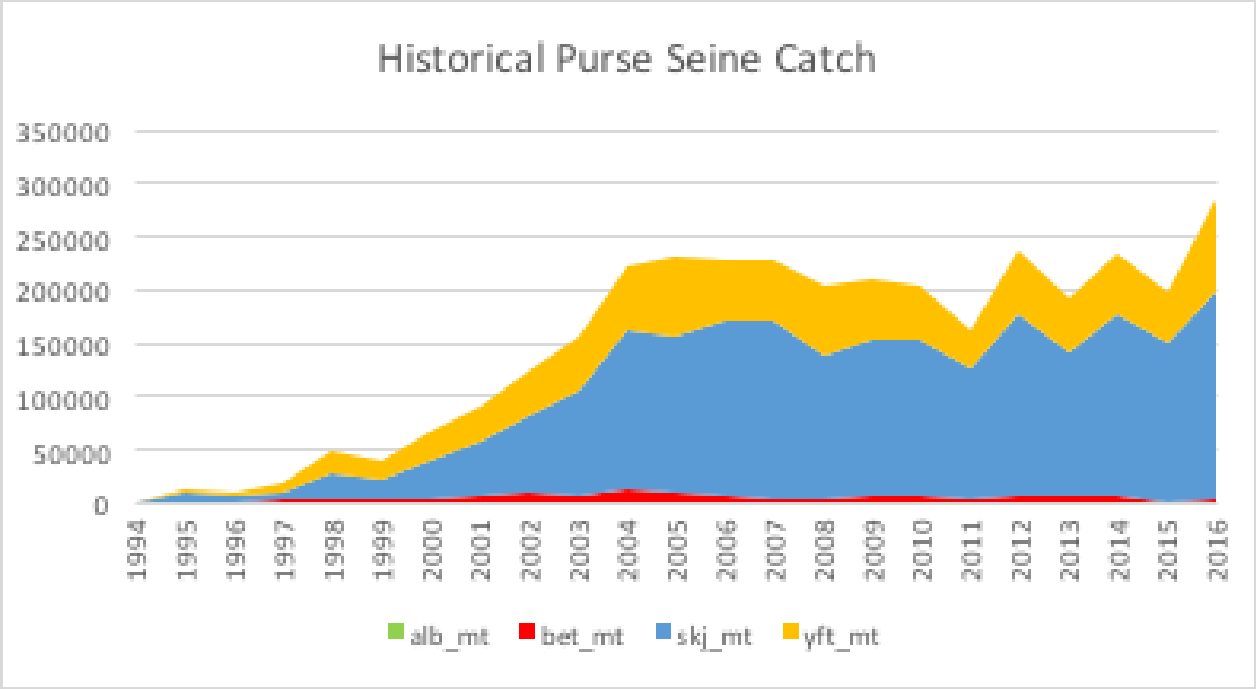

Figure 1: Historical annual catch for the PNG purse seine fleet by primary species in the WCPFC Convention area.

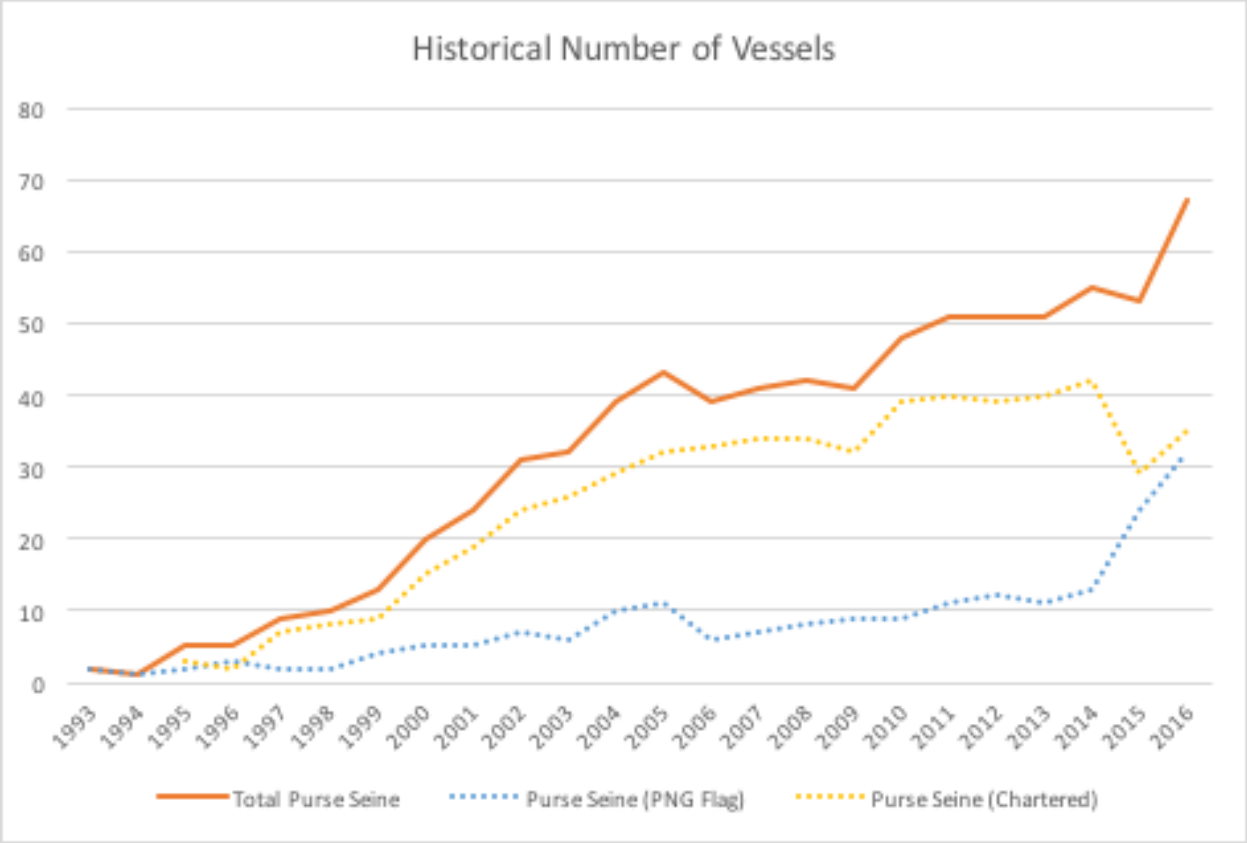

Figure 2: Historical annual vessel numbers for the PNG purse seine fleet in the WCPFC Convention area.

2.2 Domestic Tuna Longline

The target catches by tuna longline vessels in PNG waters are dominated by yellowfin tuna with an average of 1,088 mt in the last five years (2012-2016), followed by albacore (284 mt) and bigeye (50 mt). Billfishes that are caught by this fishery as bycatch are mainly blue marlin, swordfish, black marlin and striped marlin. Total sharks species also make up a significant amount of the catch with a combined average of 84 mt. The overall estimated catch in 2016 was 1,055 mt with an estimated effort of 28,092 hundred hooks. The annual catch and effort estimates for the previous 5 years are shown in Table 3. Table 4 shows the number of domestic longliners from 2012-2016.

Table 3: Annual catch estimates (mt) of primary species and effort estimate (hundred hooks) for PNG tuna longline fleet in PNG waters.

Year		2012	2013	2014	2015	2016	Average
Effort (HHooks)		71,675	30,138	16,163	35,190	28,092	38,291
Tuna	Albacore	528	220	182	407	80	284
	Bigeye	69	4	9	83	86	50
	Skipjack	1	0	0	7	1	2
	Yellowfin	2,017	852	555	1,288	728	1,088
Billfish	Black Marlin	25	22	10	18	39	23
	Blue Marlin	119	69	35	25	44	58
	Striped Marlin	6	0	5	8	6	5
	Swordfish	60	35	19	4	6	25
Shark	Blue Shark				0	-	0
	Silky Shark				7	0	3
	Mako Shark				0	-	0
	Oceanic White Tip				1	-	1
	Thresher Shark					-	-
	Shark Unidentified	79	115	202	4	0	80
Other	Others	250	119	52	66	63	110
Total		3,155	1,438	1,069	1,919	1,055	1,727

Table 4: Number of PNG longline vessels by size category, active in the WCPFC Convention area for years 2012- 2016.

Size class (GRT)	2012	2013	2014	2015	2016
0–50	7	3	3	5	6
50–200	29	17	9	15	9
200–500	0	0	0	0	0
500+	0	0	0	0	0
Total	**36**	**20**	**12**	**20**	**15**

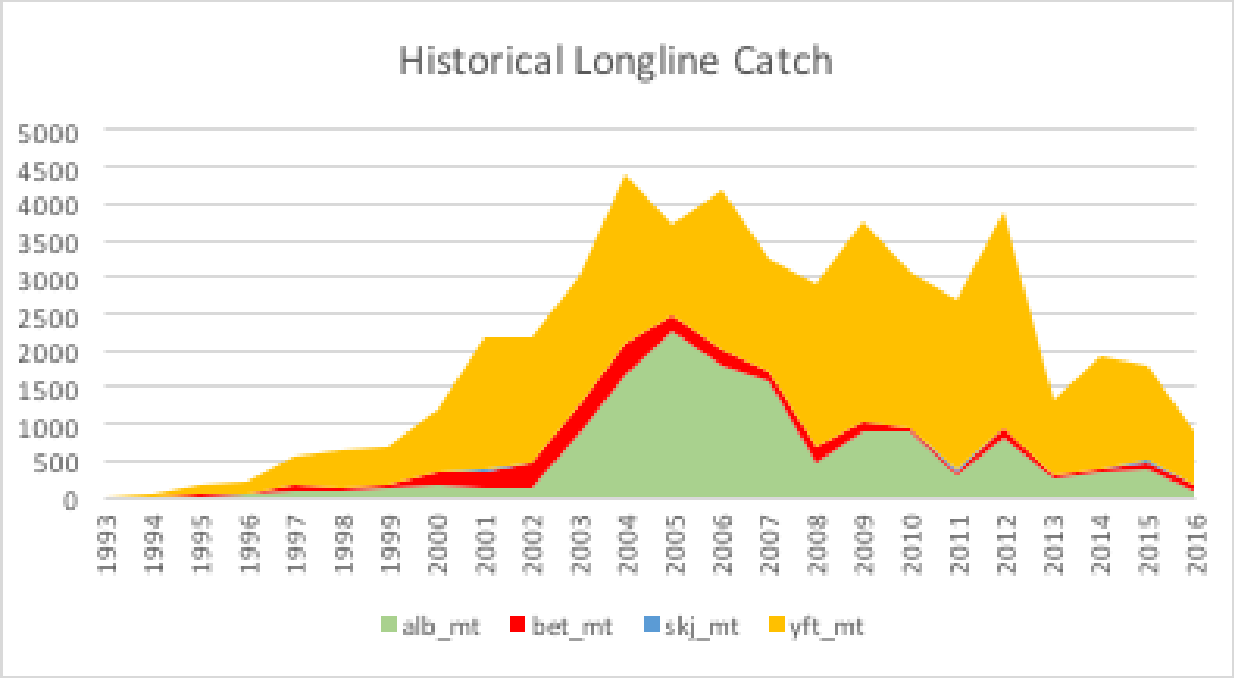

Figure 3: Historical annual catch for the PNG longline fleet by primary species in the WCPFC Convention area.

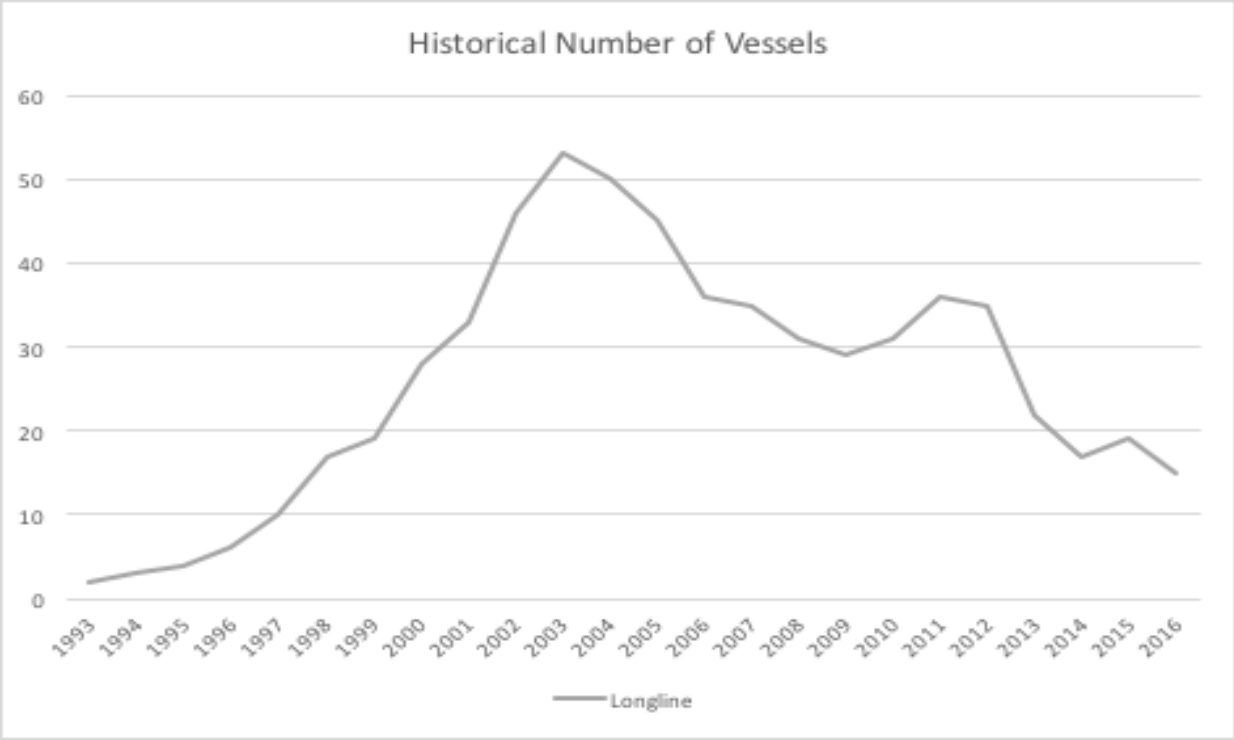

Figure 4: Historical annual vessel numbers for the PNG longline fleet in the WCPFC Convention area.

3. Coastal State Reporting

This section reports activities in national waters by foreign fleets which comprise of tuna purse seine vessels. Activities of a domestic shark longline and a very small handline fishery are also reported in this section since all their activities are inside PNG waters.

3.1 Purse Seine - Foreign Vessels

Foreign vessels that fish in PNG waters are mainly purse-seiners and are licensed under the conditions of access agreements between PNG and their company, fishing association or home party state and also include foreign vessels fishing under the terms of the US Treaty and FSM Arrangement. In the last five years, catches by foreign vessels fishing in PNG waters has averaged around 217,460 mt. Table 5 shows the annual catch and effort estimates for the years 2012-2016.

Table 5: Catch and effort estimates for foreign purse seiners fishing in PNG waters from 2012-2016.

Year	*Fishing Days*	Catch (mt) / Species				
		SKJ	YFT	BET	OTH	Total
2012	*14,498*	286,642	66,980	3,393	829	**357,844**
2013	*14,980*	287,764	71,030	2,977	424	**362,195**
2014	*8,907*	134,352	51,033	2,292	434	**188,112**
2015	*3,219*	49,827	23,872	1,884	110	**75,694**
2016	*3,201*	75,173	26,840	1,436	6	**103,455**
Average	8,961	166,752	47,951	2,396	361	**217,460**

3.2 Shark Longline

The shark longline fishery was managed under a separate management plan from the tuna longline fishery. The fishery was limited to 9 vessels, setting 1,200 hooks per day with a total allowable catch of 2,000 mt dressed weight per year. All vessels in this fishery fished only in PNG waters.

The shark fishery was closed in the first quarter of 2014. Figure 9 and 10 shows the recorded catch, number of vessels and effort (hundred hooks) since 2009. Considerable amount of tuna (mainly yellowfin) and billfishes are also caught in this fishery as bycatch. The average estimated catch in 2010-2015 was 1,344.26 mt with 1011.47 mt being shark catches alone (Table 6).

Table 6: Annual catch estimates (mt) of shark species and effort estimate (hundred hooks) for PNG domestic shark longline fleet in waters under national jurisdiction. Data source: NFA.

Year		2010	2011	2012	2013	2014	Average
Effort (HHooks)		*22,790*	*27,934*	*20,817*	*16,367*	*6,129*	*18,808*
Catch (mt)	Blacktip Shark	18.93	2.81	1.31	5.59	7.45	9.22
	Blacktipped Reef Shark	19.75	43.98	36.53	11.17	12.79	24.85
	Blue Shark	10.21	18.93	16.08	16.59	9.38	14.24
	Galapagos Shark	0.99	0.29	0.06	2.89	2.69	1.38
	Grey Reef Shark	23.87	8.42	2.59	4.68	2.10	8.33
	Hammerhead Shark	39.15	22.34	18.64	31.06	15.09	25.26
	Oceanic White Tip	12.90	7.15	3.74	7.42	7.66	7.77
	Silky Shark	907.26	1,292.90	902.46	796.12	399.27	859.60
	Silvertip Shark	6.37	0.45	0.39	0.38	0.30	1.58
	Tiger Shark	8.76	2.15	1.21	2.16	0.16	2.89
	Shark Unidentified	71.72	80.25	52.65	54.61	22.60	56.37
	SHARK TOTAL	**1,119.90**	**1,479.66**	**1,045.64**	**932.65**	**479.48**	**1,011.47**
	Albacore	1.46	7.32	9.68	1.37	0.23	4.01
	Bigeye	3.66	2.37	10.69	18.96	15.56	10.25
	Yellowfin	140.03	173.98	205.34	112.84	25.58	131.55
	Black Marlin	10.85	4.38	3.51	9.12	2.79	6.13
	Blue Marlin	53.92	113.04	65.63	64.83	16.32	62.75
	Sailfish	43.85	65.90	35.16	28.69	9.98	36.72
	Striped Marlin	0.99	1.23	1.69	1.13	0.65	1.14
	Swordfish	49.30	77.57	86.61	56.39	21.71	58.31
	Other	36.75	21.79	20.53	26.37	4.28	21.94
	OVERALL TOTAL	**1,460.72**	**1,947.22**	**1,484.46**	**1,252.35**	**576.57**	**1,344.26**

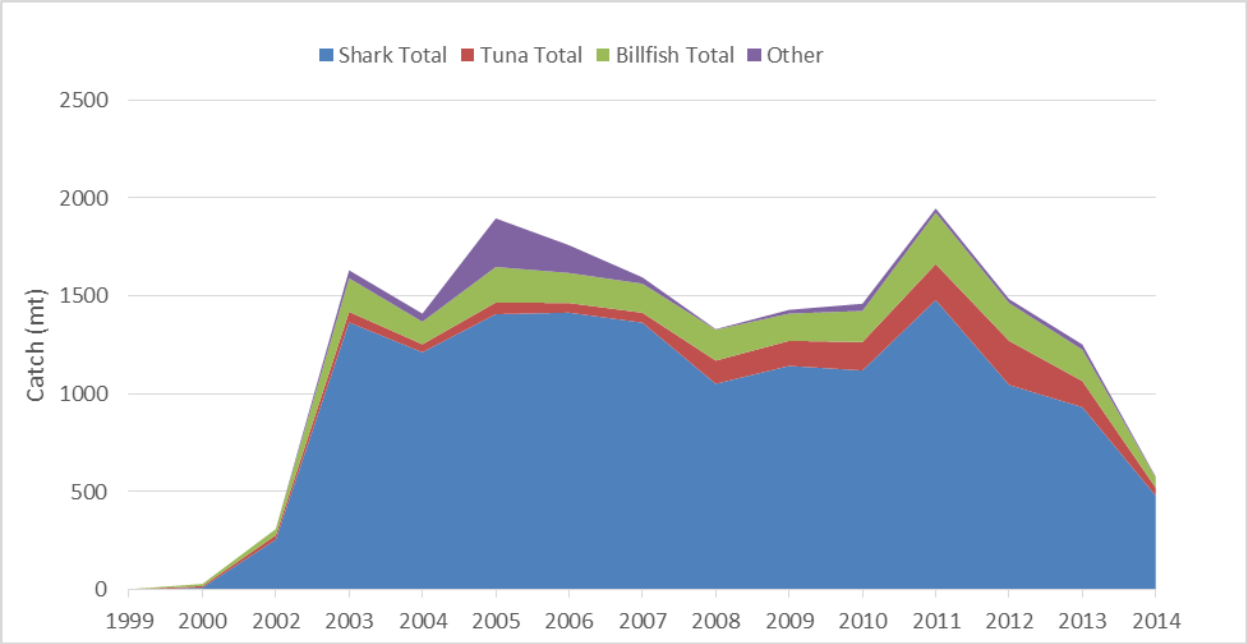

Figure 5: Catch estimate by shark longline vessels. Data source: NFA

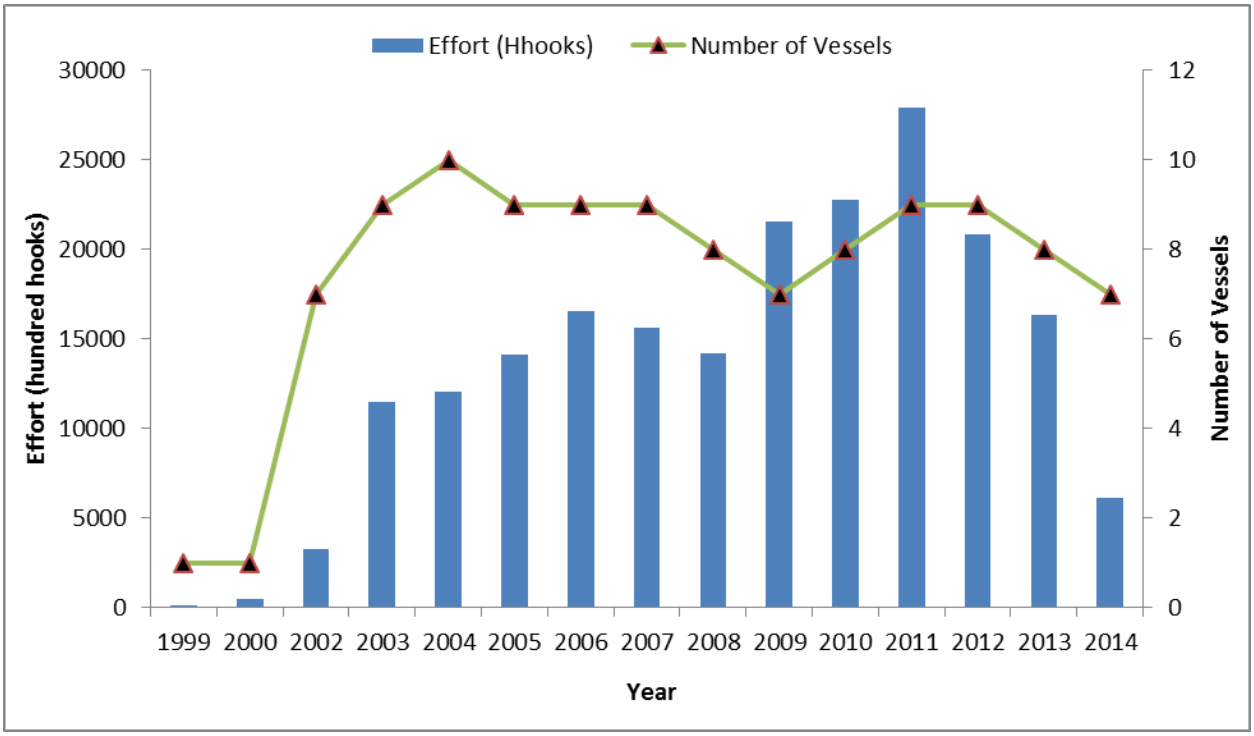

Figure 6: Effort estimates (hhooks) and the number of shark longline vessels. Data source: NFA

3.3 Handline

Since the trial of handline fishery in 2005, the number of pumpboats reduced from 10 to 5 vessels in 2009 (Kumoru, 2010). Although there is some growth potential for this fishery, most of the vessels failed to continue fishing mainly due to lack of proper business management, and the high operational cost for artisanal operators during its inception. Currently, the small handline fleet of about 5 vessels is operating in waters around Madang and Morobe provinces. The vessels are solely owned and operated by local fishermen. Catch by these vessels, which do not normally exceed 10 mt (estimate) per year, is sold to processing companies as well as local supermarkets.

4. Socio – Economic Factors

Papua New Guinea is focused on building its domestic tuna industry to an extent where the generated revenue can offset that currently obtained from bilateral access fees. The government's main objective is to maximize the benefits from tuna resource to citizens and promote the involvement of nationals in the industry. A growth in the industry would provide an increase in employment opportunities, increased foreign exchange earnings for the country and direct and indirect spin-off benefits among other benefits of value-adding the tuna resources. Currently, the industry supports almost 7,000 people in direct employment and almost 2,000 indirect employments in the country of over 6 million people. New commitments and investments would triple these figures.

5. Exports

The quantity of exports in the domestic industry have been steadily increasing since the 90's to over 100,000 mt of processed products in 2012 and 2013 (Figure 11). In relation, the value of exports have also been increasing to over USD270 million in 2012. The total value estimated in 2014 was around USD218 million. This growth is in line with the country's industry development aspirations. Analysis of export figures for the year 2015 was not ready at the time of writing this report.

Most of the export products are canned and frozen tuna (Figure 12). The quantity of canned tuna exports have been increasing with more fish processed onshore and the trend is likely to continue as more processing facilities are being developed in the country.

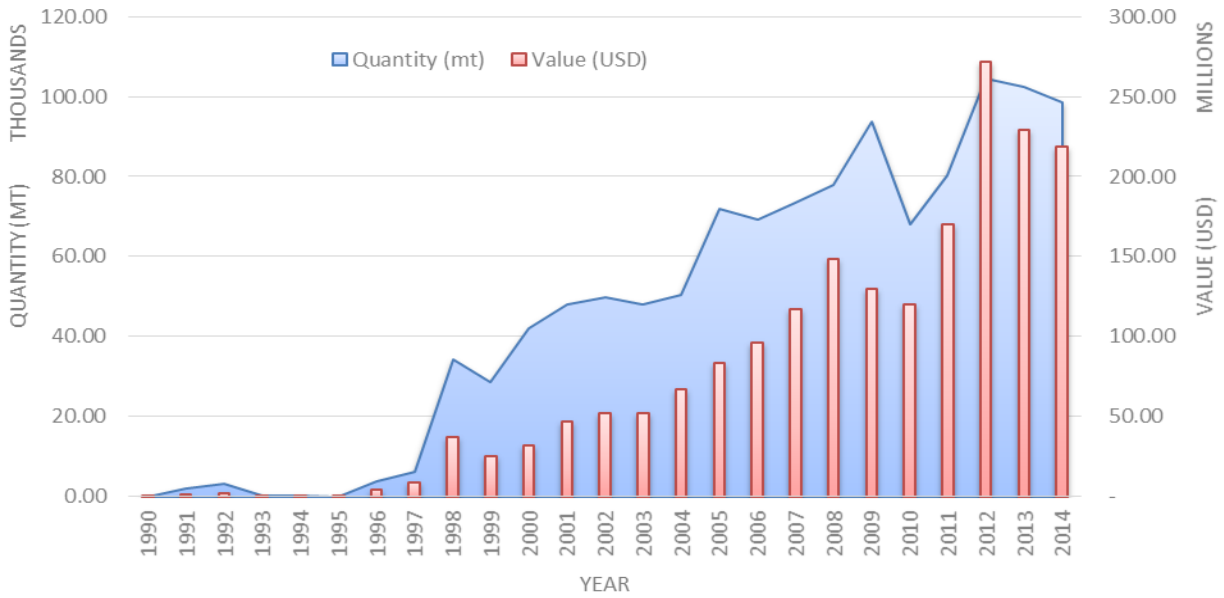

Figure 7: Quantity (mt) and value (USD) of processed tuna export products by domestic companies. Data source: NFA

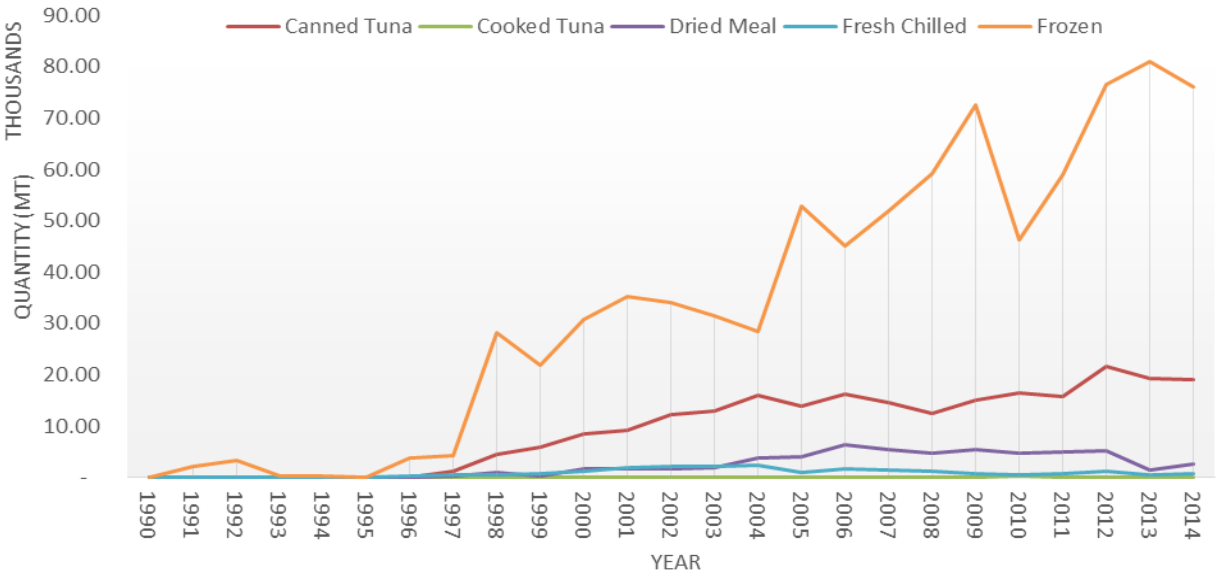

Figure 8: Quantity of exports by processed product type. Data source: NFA

6. References

Kumoru, L.2010. Annual Report to the Commission, Part 1: Information of Fisheries, Research and Statistics, WCPFC-SC6-AR/CCM18.

7. ADDENDUM – CMM REPORTING

Specific information as required by CMMs.

CMM Reference	Description	Response
CMM 2005-03 [North Pacific Albacore], Para 4	All CCMs shall report annually to the WCPFC Commission all catches of albacore north of the equator and all fishing effort north of the equator in fisheries directed at albacore. The reports for both catch and fishing effort shall be made by gear type. Catches shall be reported in terms of weight. Fishing effort shall be reported in terms of the most relevant measures for a given gear type, including at a minimum for all gear types, the number of vessel-days fished.* [* footnote 1: The first such report shall be due on April 30th, 2006 and shall cover calendar year 2004. Small Island Developing States will make their best efforts to comply with this first reporting deadline.] ** Note: WCPFC10 clarified that this reporting responsibility lies with the flag State*	There were no catches and effort directed at Albacore north of the equator by PNG vessels in 2013, 2014, 2015 and 2016.
CMM 2006-04 [South West striped Marlin], Para 4	In accordance with paragraph 1, CCMs shall provide information to the Commission, by 1 July 2007, on the number of their vessels that have fished for striped marlin in the Convention area south of 15°S, during the period 2000 – 2004, and in doing so, nominate the maximum number of vessels that shall continue to be permitted to fish for striped marlin in the area south of 15°S. CCMs shall report annually to the Commission the catch levels of their fishing vessels that have taken striped marlin as a bycatch as well as the number and catch levels of vessels fishing for striped marlin in the Convention Area south of 15°S.	Not applicable. There were no PNG vessels fishing south of 15°S.
CMM 2009-03 [Swordfish], Para 8	CCMs shall report to the Commission the total number of vessels that fished for swordfish and the total catch of swordfish for the following: a. vessels flying their flag anywhere in the Convention Area south of 20°S other than vessels operating under charter, lease or other similar mechanism as part of the domestic fishery of another CCM;	Not applicable. There were no PNG vessels fishing south of 20°S.

CMM Reference	Description	Response
	b. vessels operating under charter, lease or other similar mechanism as part of their domestic fishery south of 20°S; and c. any other vessels fishing within their waters south of 20°S. This information shall be provided in Part 1of each CCM's annual report. Initially, this information will be provided in the template provided at Annex 2 for the period 2000-2009 and then updated annually. 1 Reporting requirements requested by CMMs and decisions by the Commission, as of WCPFC 11 **Note: WCPFC11 confirmed a common understanding that "total catch" in this* *reporting requirement refers to both targeted and bycatch catches of swordfish.*	
CMM 2009-06 [Transshipment], Para 11 (ANNEX II)	CCMs shall report on all transhipment activities covered by this Measure (including transhipment activities that occur in ports or EEZs) as part of their Annual Report in accordance with the guidelines at Annex II. In doing so, CCMs shall take all reasonable steps to validate and where possible, correct information received from vessels undertaking transhipment using all available information such as catch and effort data, position data, observer reports and port monitoring data. ANNEX II TRANSHIPMENT INFORMATION TO BE REPORTED ANNUALLY BY CCMs Each CCM shall include in Part 1 of its Annual Report to the Commission: (1) the total quantities, by weight, of highly migratory fish stocks covered by this measure that were transhipped by fishing vessels the CCM is responsible for reporting against, with those quantities broken down by: a. offloaded and received; b. transhipped in port, transhipped at sea in areas of national jurisdiction, and transhipped beyond areas of national jurisdiction; c. transhipped inside the Convention Area and transshipped outside the	Refer to **Table A1** for 2016 estimates for required information 1a, b, c, e, f, g and 2a, b, c, e, f, g. For required information 1d) and 2d), please see catch tables above.

CMM Reference	Description	Response
	Convention Area; d. caught inside the Convention Area and caught outside the Convention Area; e. species; f. product form; and g. fishing gear used (2) the number of transhipments involving highly migratory fish stocks covered by this measure by fishing vessels that is responsible for reporting against, broken down by: a. offloaded and received; b. transhipped in port, transhipped at sea in areas of national jurisdiction, and transhipped beyond areas of national jurisdiction; c. transhipped inside the Convention Area and transhipped outside the Convention Area; d. caught inside the Convention Area and caught outside the Convention Area; and e. fishing gear.	
CMM 2010-07 [Sharks], Para 4	Each CCM shall include key shark species*, as identified by the Scientific Committee, in their annual reporting to the Commission of annual catch and fishing effort statistics by gear type, including available historical data, in accordance with the WCPF Convention and agreed reporting procedures. … *footnote 2: The key shark species are blue shark, silky shark, oceanic whitetip shark, mako sharks, and thresher sharks, porbeagle shark (south of 20°S, until biological data shows this or another geographic limit to be appropriate) and hammerhead sharks (winghead, scalloped, great, and smooth). **Note*; Whale Sharks (*Rhincodon typus*) was included as a key shark species by WCPFC9 (2012) *** Note also; para 4 is under the resolve part of the CMM* ***Commencing in reports that cover activities post-1 January 2013***	Refer to **Table A2** for 20156 estimates. Also refer to **Section 2.2** of the report for catch estimates by LL gear.

CMM Reference	Description	Response
CMM 2011-03 [Impact of PS fishing on cetaceans], Para 5	CCMs shall include in their Part 1 Annual Report any instances in which cetaceans have been encircled by the purse seine nets of their flagged vessels, reported under paragraph 2(b).	Refer to **Table A3** for 2016 estimates.
CMM 2011-04 [Oceanic whitetip sharks], Para 3	CCMs shall estimate, through data collected from observer programs and other means, the number of releases of oceanic whitetip shark, including the status upon release (dead or alive), and report this information to the WCPFC in Part 1 of their Annual Reports. ***Commencing in reports that cover activities post-1 January 2014***	Refer to **Table A4** for 2014 - 2016 estimates.
CMM 2012-04 [Whale sharks], Para 06	CCMs shall advise in their Part 1 Annual Report of any instances in which whale sharks have been encircled by the purse seine nets of their flagged vessels, including details required under paragraph 4(b). ***Commencing in reports that cover activities post-1 July 2014***	Refer to **Table A5** for 2014 and 2016 estimates.
CMM 2012-07 [Seabirds], Para 9 **Applies until 1 Jan 2017 (see CMM 2015-03 below)**	CCMs shall annually provide to the Commission, in Part 1 of their annual reports, all available information on interactions with seabirds reported or collected by observers, including mitigation used, observed and reported species specific seabird bycatch rates and numbers, to enable the Scientific Committee to estimate seabird mortality in all fisheries to which the WCPF Convention applies. See Annex 2 for Part 1 reporting template guideline. Alternatively, statistically rigorous estimates of species-specific seabird interaction rates (for longline, interactions per 1,000 hooks) and total numbers should be reported.	There were no seabird interactions with PNG LL vessels in 2014, 2015 and 2016 fishing period.
CMM 2013-08 [Silky sharks], Para 3	CCMs shall estimate, through data collected from observer programs and other means, the number of releases of silky shark caught in the Convention Area, including the status upon release (dead or alive), and report this information to the WCPFC in Part 1 of their Annual Reports.	Refer to **Table A6** for 2016 estimates.

CMM Reference	Description	Response
Observer coverage (WCPFC 11 decision – para 484(b)	CCMs are expected to include in Annual Report Part 1 their reported longline observer coverage for the 2014 calendar year.	No ROP trips in 2016.
CMM 2015-02 [South Pacific albacore], Para 4	CCMs shall report annually to the Commission the annual catch levels taken by each of their fishing vessels that has taken South Pacific albacore, as well as the number of vessels actively fishing for South Pacific albacore, in the Convention area south of 20°S. Catch by vessel shall be reported according to the following species groups: albacore tuna, bigeye tuna, yellowfin tuna, swordfish, other billfish, and sharks. Initially this information will be provided for the period 2006-2014 and then updated annually. CCMs are encouraged to provide data from periods prior to these dates.	Not applicable. There were no PNG vessels fishing south of 20°S during the period 2006-2010 and years after this period till current.

Table A1: Estimates for transhipment and landings by the National Fleet in 2016.

Activity	Areas	Gear	Number of Activity	BET (MT)			SKJ (MT)			YFT (MT)			ALB (MT)			Total (MT)		
				Frozen	Fresh	Other	Frozen	Fresh	Other	Frozen	Fresh	Other	Frozen	Fresh	Other	Frozen	Fresh	Other
Offloaded and received	*PG*	***PS***	131		-	-	41,421	-	-	2,722	-	-				44,143	-	-
		LL	63	83	3	-	-	-	-	699	29	-	77	3	-	858	36	-
Transhipped in Port	*PG*	***PS***	369	1,722	-	-	69,154	-	-	60,666	-	-	-	-	-	131,542	-	-
		LL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Other Ports in the Convention Area	***PS***	55	17	-	-	45,642	-	-	10,920	-	-	-	-	-	56,579	-	-
		LL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Ports Outside Convention Area	***PS***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		LL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transhipped at Sea	*PG*	***PS***	66	591	-	-	8,203	-	-	6,083	-	-	-	-	-	14,877	-	-
		LL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Other areas in the convention area	***PS***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		LL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Outside Convention Area	***PS***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		LL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A2. Estimates of sharks catches by gear and species in 2016.

Gear	Species	Number	Retained	Discarded	Finned and trunk Retained	Finned but Trunk Discarded
Purse Seine	BLUE SHARK	4	0	4	0	0
Purse Seine	SCALLOPED HAMMERHEAD	12	12	0	0	0
Purse Seine	LONG FINNED MAKO SHARK					
Purse Seine	OCEANIC WHITE-TIP SHARK	40	0	40	0	0
Purse Seine	BIG-EYE THRESHER SHARK	1	0	1	0	0
Purse Seine	SHORT FINNED MAKO SHARK					
Purse Seine	SILKY SHARK	8068	4	8064	0	5
Purse Seine	BLACK-TIP SHARK	70	0	69	0	0
Purse Seine	SMOOTH HAMMERHEAD	0	0	0	0	0
Purse Seine	WHALE SHARK	8	0	8	0	0

Table A3. Estimates of number of cetacean interactions with purse seine gear in 2016 from observer data.

Species	Date	Latitude	Longitude	EEZ	FATE	Number of Individuals
FALSE KILLER WHALE	05/11/2016	0226.239S	16116.371E	PG	DPA	1
FALSE KILLER WHALE	14/04/2016	0127.679S	14719.426E	PG	DPD	1
BRIDE'S WHALE	09/07/2016	0322.038S	14834.761E	PG	DPA	1
FALSE KILLER WHALE	22/11/2016	0140.548S	15238.832E	PG	DPA	6
BOTTLENOSE DOLPHIN	28/10/2016	0403.674S	15104.935E	PG	DPD	2
FALSE KILLER WHALE	22/11/2016	0140.548S	15238.832E	PG	DPD	1

Table A4: Estimates of the number of Oceanic White Tip Shark released dead or alive by gear type in 2014-2016.

Year	Gear	Alive	Dead
2014	LL	11	70
2014	PS	70	5
2015	LL	-	2
2015	PS	11	9
2016	PS	17	23
2016	LL	-	-

Table A5: Number of instances of Whale Shark interaction with purse seine gear in 2015 – 2016 by PNG flagged vessels.

Date	Latitude	Longitude	EEZ	FATE	# of Individuals	Metric Tons	Est
1/03/2015	0130.396S	16723.025W	IW	DPU	1	1	1
2/05/2015	0114.279S	14557.825E	PG	DPA	1	0.2	1
4/01/2015	0646.305S	15224.981E	PG	DPA	1	0	1
4/03/2015	0005.668N	15003.572E	PG	DPU	1	0	1
5/03/2015	0015.421N	15007.397E	PG	DPA	1	0	1
6/03/2015	0654.531S	15408.131E	PG	DPU	0	0	0
7/03/2015	0011.895S	15234.672E	PG	DPA	1	10	1
8/04/2015	0025.407N	15227.457E	FM	DPA	1	0.3	1
16/03/2015	0046.070N	15106.011E	PG	DPA	1	0	1
17/03/2015	0115.505N	15048.325E	PG	DPA	1	0	1
19/04/2015	0005.705S	14233.081E	PG	DPU	1	0.4	1
23/07/2015	0234.617N	16418.024E	FM	DPD	1	0.5	1
23/07/2015	0247.491N	16359.391E	FM	DPU	1	0.38	1
23/07/2015	0252.892N	16453.500E	FM	DPA	1	0.3	1
24/03/2015	0003.944S	15127.872E	PG	DPA	1	15	1
25/04/2015	0109.938S	14824.857E	PG	DPA	2	4	2
28/02/2015	0611.729S	15313.546E	PG	DPA	1	1	1

01/11/2016	0235.961S	14503.768E	PG	DPD	1	0.25	1
27/04/2016	0419.625S	15804.416E	PG	DPU	1	1	1
25/06/2016	0210.850S	14221.524E	PG	DPA	1	0	1
20/05/2016	1007.724S	16359.713E	SB	DPU	1	2	1
21/03/2016	0251.868S	16611.566E	NR	DPA	1	5	1
23/03/2016	0250.500S	16515.565E	NR	DPA	1	5	1
23/01/2016	0030.213N	16626.329E	NR	DPA	1	5	1
12/08/2016	0011.003N	14229.119E	PG	DPA	1	0.3	1

Table A6: Estimates of the number of Silky Sharks released by gear in 2014-2016

Year	Gear	Alive	Dead	Unknown	Total
2014	LL	180	108	12	300
2014	PS	41	3957	17	4015
2015	PS	2241	2998	177	5416
2016	PS	1713	5620	-	