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

**WCPFC-SC11-AR/CCM-26
Rev1 (29 July 2015)**

TUVALU



Fisheries Department
Ministry of Natural Resources
Government of Tuvalu



**ANNUAL REPORT TO THE WESTERN CENTRAL PACIFIC
FISHERIES COMMISSION**

**PART 1: INFORMATION ON FISHERIES, RESEARCH AND
STATISTICS**

Scientific data was provided to the Commission in accordance with the decision relating to the provision of scientific data to the Commission by 6 July 2015	YES
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1.0 ABSTRACT

The primary fisheries of interest to the Commission in Tuvalu are the industrial tuna purse-seine and longline fisheries, and the artisanal fishery for tunas. Overall the total catch for Purse seine decreased in 2014 compared to 2013. With a total catch of 6206mt while for longline vessels was increased in catch from 216mt in 2013 to 445mt in 2014. Skipjack continued to dominate the catch of the Tuvalu-flag purse-seiner in 2014 with accounting for 96% of the total. Then yellowfin catch of (3%) and bigeye of (0.1%) of the total catch. For longline active vessels, bigeye has a big catch of 41%, then follow by yellowfin (38%) and albacore (14%). Blue marlin is the most dominant catch of non-target species with a total of 156tonnes.

Six Tuvalu flagged vessels in the Commission RFV's with five vessels active and were engaged fishing in the WCPO. Distribution of fishing effort for Tuvalu purse seine vessel occurred mostly in the Southern part of Kiribati EEZ, while for longline vessels the hotspot effort and catches were in the Northern part of Tuvalu's EEZ. The total number of fishing licenses increased from 205 to 298 in 2014. Purse seine vessels have the most licensing issuance in 2014 with a total of 187 number of fishing license follows with longline vessels of 43 in total. Majority of purse seine operation were under multilateral arrangements such as the US treaty vessels while longline for bilateral arrangement.

In 2014, a significant increase of 43 transshipments in Tuvalu designated port of Funafuti. Majority of these transshipment activities purse seiners which are licenced in Tuvalu waters. The increase of transshipments in Tuvalu port enabled to place more observers on board purse seine vessel that were licensed to fish in Tuvalu waters. Tuvalu Fisheries Observer Program was 100% coverage on purse seine vessels requirement, the observer program also recruit new observers through the regional trainings held by FFA and SPC. The number of observers in 2014 was 34 in total.

2.0 BACKGROUND

Tuvalu engages primarily in two key commercial tuna fisheries: purse seine and longline. Most fishing is undertaken by foreign vessels operating under access agreements. These vessels also fish in other countries.

Tuvalu has a small domestic fishing fleet which in 2014 comprised one purse-seiner, two longliners and three bunker vessels. Four longliners were de-flagged in 2013, reducing the size if the domestic fleet in 2014 compared to previous years. The Tuvalu domestic purse seine vessel *Taumoana* fished mainly in the EEZ of Kiribati, Marshall and Tuvalu's in 2014. *Taumoana* is not authorized to carry out any fishing activities in the high seas and did not fish in the high seas in 2014. The two longliners

mainly fished in Tuvalu EEZ, Kiribati EEZ and in the adjacent high sea pockets to the east and west of Tuvalu.

Small-scale fishing for tuna in inshore waters (mostly by trolling, but some hand-lining) is also an important part of Tuvalu's domestic artisanal fishery.

3.0 FLAG STATE REPORTING

3.1 Domestic fleet

There are six Tuvalu Flagged vessels on the Commission RFV as in 2014 reporting period, of which five were active or engaged fishing/ fishing related activity in the WCPO.

Star Tuna is reported to be no longer engaged in fishing or fishing related activity in 2014 according to VMS data.

Table 1. Number of Tuvalu purse seine flagged vessels and size category, active in the WCPFC Convention Area for 2011-2014.

Year	00-500 GRT	501-1000 GRT	1001-1500 GRT	1500+ GRT	Total Vessels
2010	0	0	0	1	1
2011	0	0	0	1	1
2012	0	0	0	1	1
2013	0	0	0	1	1
2014	0	0	0	1	1

Table 2: Number of Tuvalu longline flagged vessels and size category, active in the WCPFC Convention Area for 2010-2014.

Year	00-50 GRT	51-200 GRT	201-500 GRT	500+ GRT	Total Vessels
2011	0	2	0	4	6
2012	0	2	0	4	6
2013	0	0	0	2	2
2014	0	2	0	0	2

3.2 Data coverage

Table 3 provides information on the extent of coverage of data on Tuvalu's national fishing fleet

Table 3: Estimated annual coverage of operational catch/ effort, port sampling and observer data for the Tuvalu national fleet in 2014

Data type	Purse-seine coverage rate	Longline coverage rate
Logsheets	100%	95.05%
Observer	100%	0%
Port Sampling	N/A	N/A

Tuvalu is currently finalizing the terms of a Memorandum of Agreement with the Fiji Fisheries Department to ensure a minimum of 5% observer coverage on Tuvalu's two longliners, which are based in Fiji.

3.3 Catch and effort data

3.3.1 Purse-seine

In 2014, Tuvalu purse seine vessels estimated a total catch of 6,206 mt in the Convention area, making it the lowest catch of the past five years (Table 4). The relatively low catch is attributed to the vessel undergoing a long period of maintenance in 2014.

Table 4: Annual catch estimates (tonnes) for Tuvalu Purse Seine Fleet, in the WCPFC convention area (2010-2014). (Source –TUFMAN, raised where appropriate)

Year	Skipjack Catch (MT)	Yellowfin Catch (MT)	Bigeye Catch (MT)	TOTAL (MT)
2010	8459	2071	35	10565
2011	4320	1767	2	6089
2012	9691	1077	44	10812
2013	9806	1050	10	10866
2014	5963	231	12	6206

Skipjack continued to dominate the catch of the Tuvalu-flag purse-seiner during 2014, accounting for 96% of the total. In previous years the percentage of skipjack ranged from 70 to 80%. Yellowfin has previously been from 14% to 26% of the catch, but in 2014 was only 3%. The bigeye component has never exceeded 3% of the catch, but in 2014 was only 0.1%.

Figure 1 shows a graph of catch volumes by the three main species over the past 5 years.

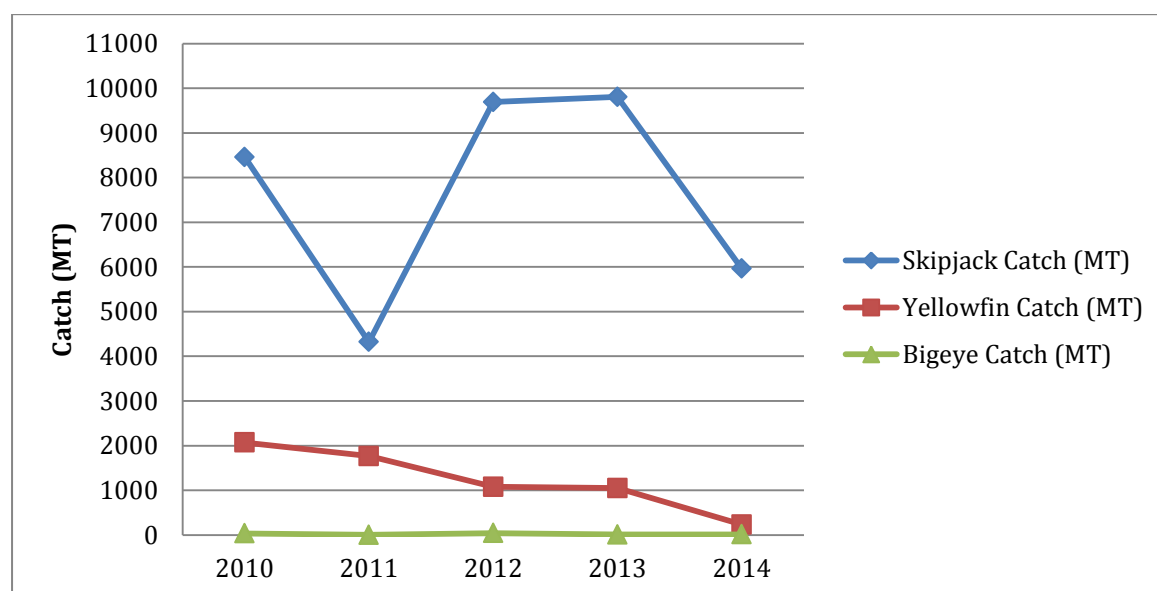


Figure 1: Chart of annual catches of target species for Tuvalu Purse seiner for the WCPFC Convention Area over the past 5 years

Apart from the consistent high proportion of skipjack and much lower proportions of yellowfin and bigeye over the 5-year period covered by the graph, no other trends are evident from the graph.

3.3.2 Longline

In 2014, the total catch for all species in the Convention area for Tuvalu flagged longline vessel is estimated at 445mt (Table 5).

Table 5: Annual catch estimates (tonnes) for the Tuvalu Longline fleet, in the WCPFC Convention Area. (Source – Regional database TUFMAN)

Year	ALB	YFT	BET	SKJ	BLM	BUM	MLS	SWO	TOTAL
2011	184	362	384	0	16	60	2	14	1022
2012	401	471	922	0	21	98	4	34	1951
2013	167	114	120	5	10	14	0	6	436
2014	63	170	183	4	6	11	0	8	445

The significant decline in catches which commenced in 2013 and continued in 2014 is attributed to the de-flagging of four longliners in 2013. This reduced the longline fleet from six vessels to two, with a consequent reduction in catch volumes.

Figure 2 shows a graph of longline catch volumes for the three main species over the past 5 years.

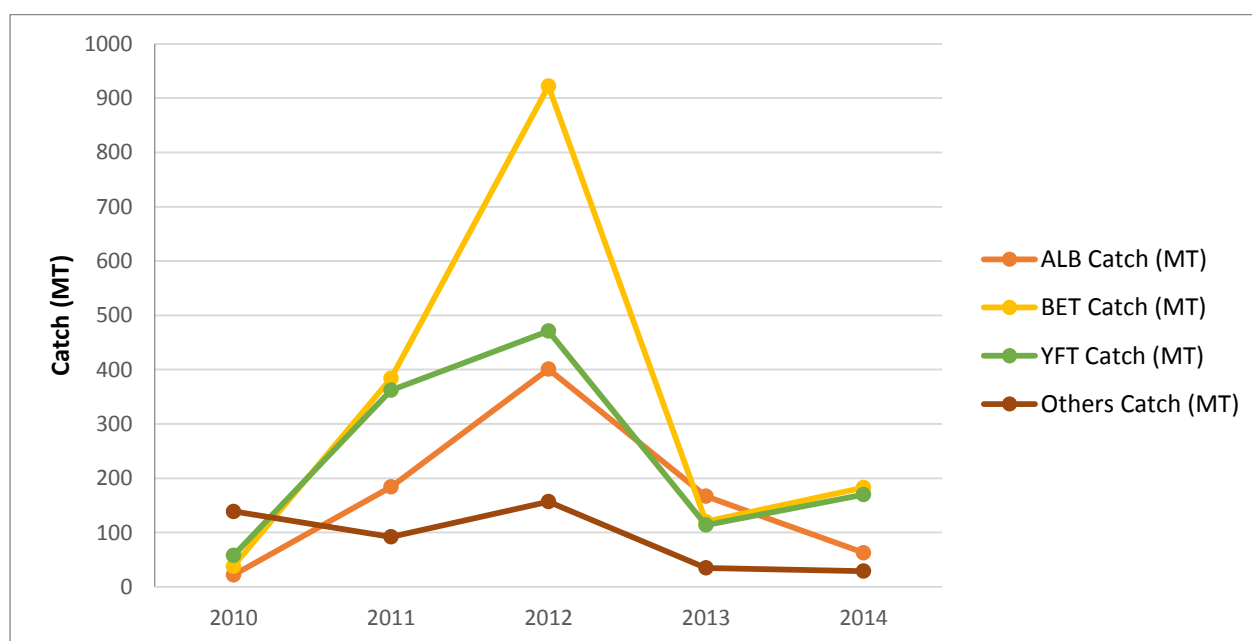


Figure 2: Historical annual catch for Tuvalu flagged vessels, by gears and primary species for the WCPFC Convention Area

The total catch by active vessels is comprised of 41% bigeye (lower than the 4-year average of 48%), 38% yellowfin (higher than the 4-year average of 25%), and 14% albacore (lower than the 21% 4-year average).

3.4 Fishing pattern and distribution

3.4.1 Purse-seine

Distribution of fishing effort by Tuvalu's purse-seiner is shown in figure 3 below.

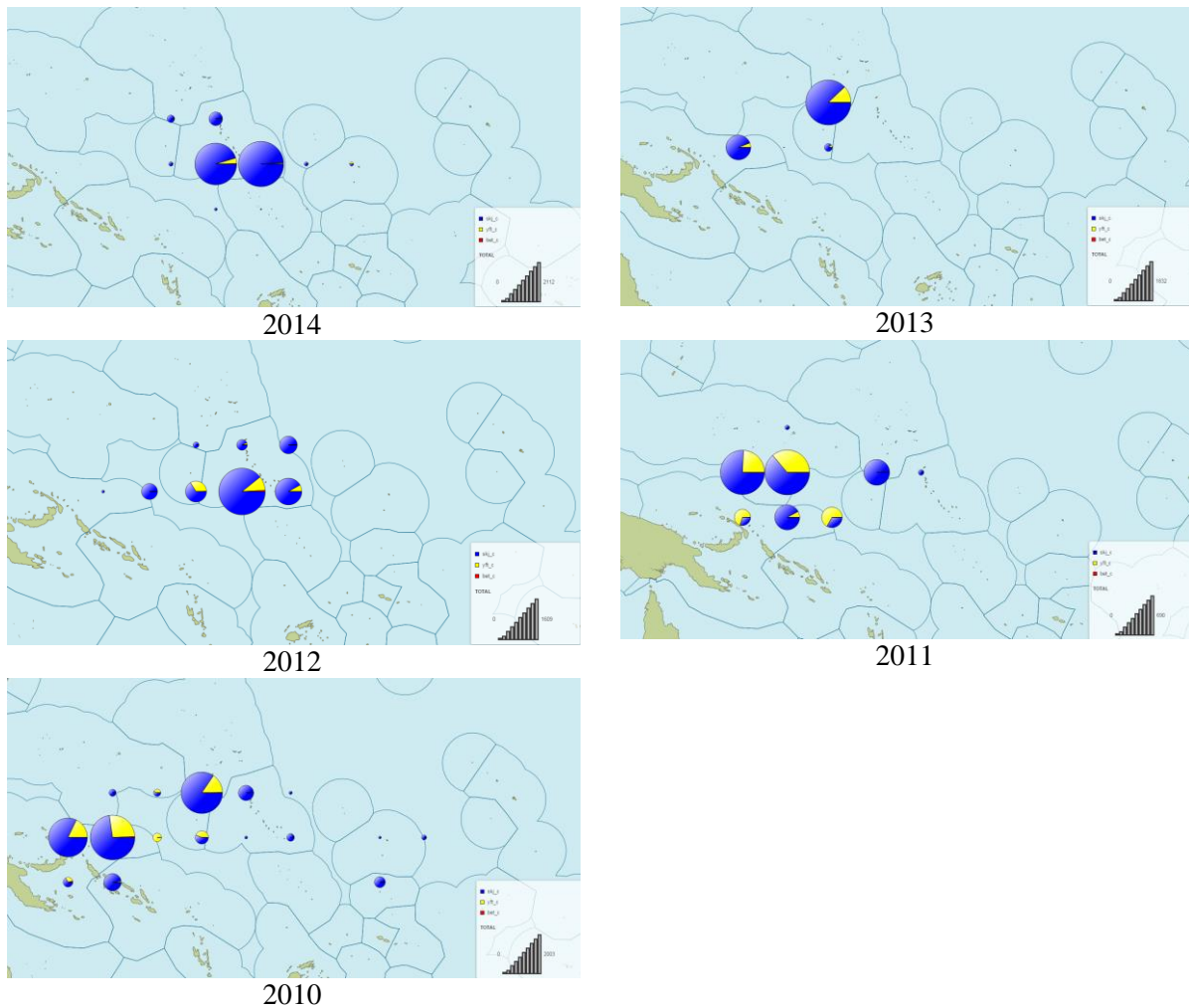


Fig 3. Distribution of fishing effort (days) by the national PS fleet in 2014 and the four preceding years. (Source –Regional database - TUFMAN)

In 2014, few fishing effort with high catches from purse seine vessels were found at the southern end of Kiribati EEZ. Based on the observer report a total of 8 trips for purse seine vessel in 2014, this is because the fishing vessels were under maintenance. The distribution of fishing patterns from previous years, in 2013 the fishing vessel took some fishing activities in the Marshall Islands and Papua New Guinea. In 2010 mostly they fished in Papua New Guinea & Marshall Islands.

3.4.2 Longline

In 2014, more than 80% Tuvalu flagged longline fleet had the fishing effort took place within Tuvalu EEZ. The hotspot of fishing effort and catches in the North of Tuvalu EEZ, while others scattered along the high seas pocket next Wallis & Futuna and Kiribati group (**Fig 3a**). The majority of tuna are skipjack and yellowfin species were found in the North of EEZ.

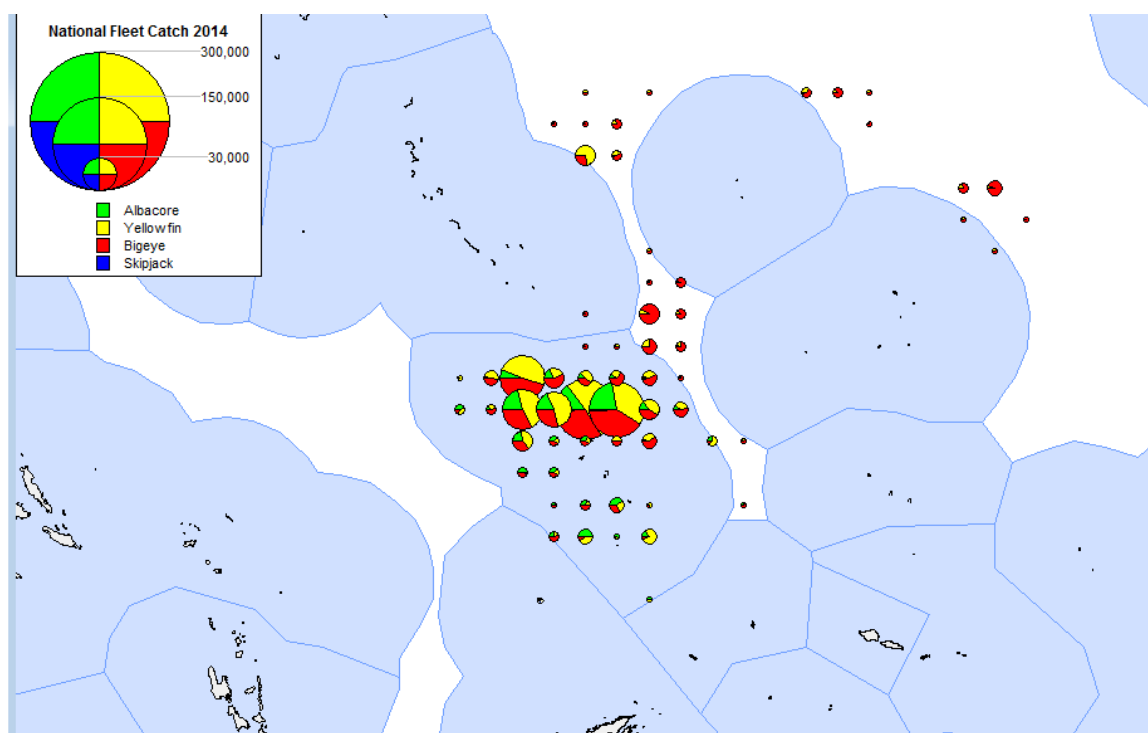


Figure 4. Distribution of Long line catches of tuna species in the WCPFC convention area by Tuvalu domestic fleets in 2014. (Source – National TUFMAN database)

3.4.3 Artisanal fisheries

The artisanal tuna data collection programme is funded under Japanese Trust fund through SPC and has been implemented in Tuvalu since 2013. The small scale fishery operates in all 9 Tuvalu islands. Data is collected from all but one of them (Niulakita) by contracted data collectors stationed on each island. Data forms are returned to the Fisheries Department in Funafuti for entry and analysis.

The main target species were tuna essentially by hand trolling fishing. The total catches of 65% (222.7t) skipjack, 17% (57.9t) of yellowfin, others species of (14%) 48.4t then follow by bigeye of 4% (14.17t). A tremendous growing in the trend of these catches from 2013 to 2014 (Table 6).

Table 6: Annual catches (tonnes) landed by Artisanal Fishermen for 2013-2014. Source – Tuvalu Fisheries database – TUFART)

YEAR	BET	YFT	SKJ	OTH	TOTAL
2013	5.429	5.016	67.405	19.378	97.23
2014	8.7436	52.87	155.32	29.03	245.96

The current external funding arrangements for this programme will come to an end in September 2015. The Tuvalu Fisheries Department will identify alternative sources of funding to allow the programme to continue.

3.5 Species of special interest

Based on the data available, there were no catches of species of special interest (SSI). No catches of SSI reported by observers on Tuvalu Flagged vessels.

3.6 Non-target associated or dependent species

Non-target, associated or dependent species were taken in both purse-seine (PS) and longline (LL) fisheries, as shown in table 7 below.

Table 7: Annual catch estimates (tonnes) of non-target, associated or dependent species for Tuvalu-flag vessels in the WCPFC Convention Area. (Source – Regional database TUFMAN, raised where appropriate)

YEAR	BUM	BLM	MLS	SWO	SFA	FAL	OCS	POR
<i>Purse-seine</i>								
2011	0	6.98	0	0	0	4.12	0	0
2012	0	8.7	0	0	0.04	0.09	0	0
2013	0	15.67	0	0	0	0.43	0	0
2014	0	0	0	0	0	0	0	0
<i>Longline</i>								
2011	60.421	16.416	2.214	14.27	0.335	0	0.06	0
2012	98.179	21.045	4.289	34.47	0	0	0.03	0
2013	14.395	9.835	0.26	6.205	0.115	0	0	0.225
2014	11.635	6.84	0.1	8.427	0.6	0	0	0.095

4.0 COASTAL STATE REPORTING

4.1 Fishing licences

Licences from the Tuvalu Government are required for all commercial fishing activities in Tuvalu, and are issued and administered by the Department of Fisheries. Artisanal fishing does not require a commercial fishing licence, but may be subject to the local business licensing requirements of each island council.

Table 8 below shows the number of licences issued by gear type, as well as for support vessels (carriers and bunkers).

Table 8: Number of fishing licences issued for the Tuvalu EEZ, by gear, from 2010-2014

Year	Long line	Purse seine	Pole and Line	Fish Carrier	Bunker	TOTAL
2010	135	158	17	6	4	320
2011	96	125	5	0	4	230
2012	108	100	5	18	2	233
2013	33	146	16	7	3	205
2014	43	187	20	29	6	285

In most cases licences are issued on an annual basis, but some vessels apply for licenses for 6 months only. This can occasionally lead to a situation in which one vessel may operate under two licences in a given year. In the case of pole-and line vessels, licences are issued on a per-trip basis.

Figure 5 shows a breakdown of vessels licensed to operate in Tuvalu waters by nationality or multilateral arrangement.

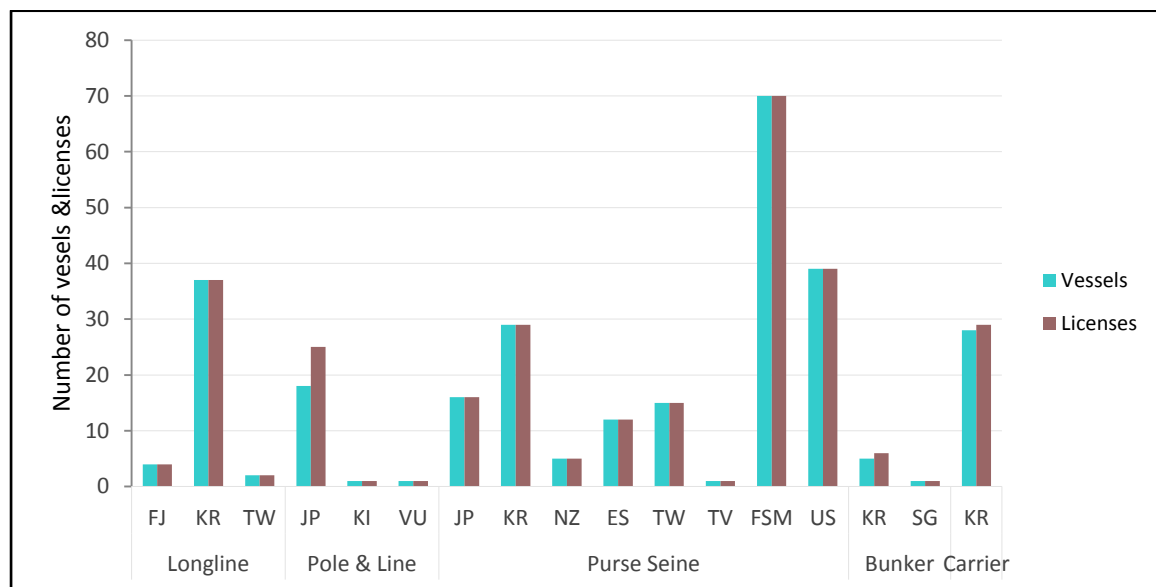


Figure 5: Annual number of fishing vessel licences by nationality and gear in 2014

The most numerous licensing category is for purse-seine vessels. The majority of these operate under multilateral arrangements – the FSM Arrangement (70 vessels) and the US Treaty (38 vessels), with the remainder being licensed on a bilateral basis. Most bilaterally-licensed purse-seiners are from Korea, Japan and Taiwan, with smaller numbers from Spain and New Zealand.

The second largest licensing category is for longliners, which all operate under bilateral arrangements. The number of longline licences issued has seen a decline in the past two years, which is thought to be a result of the downturn in profitability in the southern albacore fishery. Most longliners currently operating in Tuvalu waters are from Korea, with small numbers of Taiwanese and Fijian vessels. In the past Fijian vessels were far more numerous.

Tuvalu also licences pole-and-line vessels, most of which are long-range vessels from Japan which operate seasonally in Tuvalu waters.

4.2 Catch

Licensed fishing vessels operating under bilateral or domestic arrangements caught a total of 16,154 mt in the Tuvalu EEZ in 2014. The highest catch of 21,739.7mt (43%) was by US vessels, followed by Korean vessels 12,976 mt (25.8 %) then FSM vessels of 12,327mt (24.5%) (Fig 6).

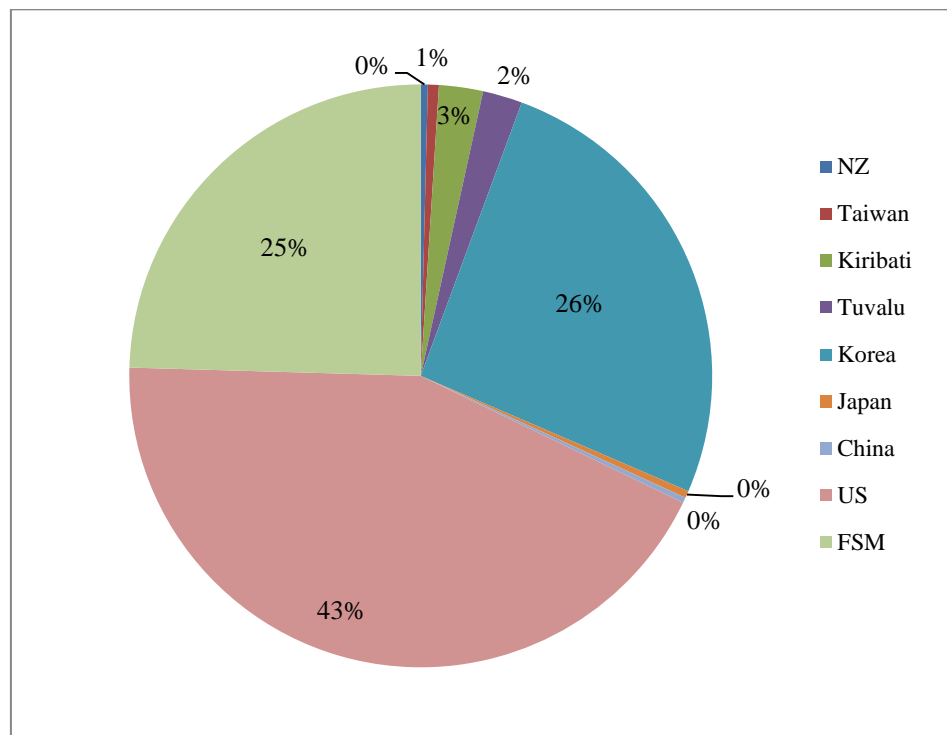


Figure 6: Total catches by flag state within the Tuvalu EEZ

5.0 SOCIO-ECONOMIC FACTORS

Fishery access arrangements provide a critical source of revenue for the Tuvalu Government. Revenues in 2014 were approximately US\$18 million, which is more than 55% of the Government's recurrent budget.

Fisheries, including tuna fisheries, are also very important in the daily lives of Tuvaluans, who have one of the highest per capita fish consumption rates in the world. Fisheries make a major contribution to supporting livelihoods, food security and dietary health, especially in the outer islands.

6.0 DISPOSAL OF CATCH

Tuvalu flag vessels offloaded their catches at ports outside Tuvalu. Taumoana has been offloaded most of its catch in Majuro in 2014 whilst the other two Tuvalu Flagged longline vessels offloaded all catches in Suva port. Enforcement such as domestic & regional policies and law to put in place

mainly foreign fishing boats in throwing the undersized and damaged fish. In Tuvalu has a National Plan of Action (NPOA) on sharks and turtles and by-catches and still underway. The Tuna Management and Development Plan are currently under review.

7.0 ONSHORE DEVELOPMENTS

Tuvalu has no commercial onshore fish processing or marketing facilities. Attempts have been made to establish these in the past but have always been defeated by high costs, logistical difficulties, absence of fresh water and other diseconomies of isolation.

Tuvalu is currently investigating ways to ‘level the playing field’ by offering concessionary access to fishery resources and other incentives to fishing operators willing to establish processing facilities on shore.

8.0 FUTURE PROPECTS OF THE FISHERY

Because of the importance of fisheries to Tuvalu, significant investment is being made in improving national fisheries management capacity, with the support of several development partners including the Government of New Zealand and the World Bank. As of mid-2015 funds will be available to enhance data collection and entry arrangements, improve IT systems and internet facilities, and increase the level of aerial and sea patrols undertaken. The general Fisheries Department working environment will also be improved, with a new office building to be constructed in 2016.

9.0 STATUS OF TUNA FISHERY DATA COLLECTION SYSTEMS

9.1 Logsheet

All foreign and Domestic (Flagged) fishing vessels are obliged under our national laws to submit their fishing logsheets at the end of a fishing trip to the Department of Fisheries. Each trip report must be submitted 14 days after completion of every trip either by airmail or through email. Although there are laws in place to facilitate timely submission of these log sheets, the department is still facing problem of not receiving these information on time and as such result in the late preparation of our part 1 report to the Commission. The oceanic section is working to solve this problem with our bilateral and Flag vessels for the next reporting year.

9.2 Transshipment Data collection

There has been a significant increase in the number of licenced vessels engages in transshipment in Tuvalu designated port of Funafuti in 2014 as compared to the recent and past years. It is believed that due to lower transshipment fees Tuvalu imposed on these vessels prompted an increase in transshipment activities in Funafuti port. A total of 34 transshipment took place in port Funafuti in 2014. All of these boats engaged in transshipment are mainly purse seiners which are licenced in Tuvalu waters. Tuvalu Flag vessels never offload any of their catch in Funafuti port in 2014. The two Tuvalu Flagged LL offloaded all their catch in Suva, Fiji in 2014, whilst Taumoana (TV PS) offloaded its catch in Majuro and Kiribati. Observers are normally placed on board these purse seiner during transshipment to monitor the transshipment activity and to collect data on total catch being transhipped to fish carriers. Most of the catch transhipped are frozen Tuna for cannery market while a few for sashimi market. The total number of transshipment by Tuvalu Flag vessels and licenced fishing purse seiners in Funafuti port is appended below as appendix 1 to this report

9.3 Observers

The Tuvalu Fisheries Observer Program employs locals to work onboard foreign fishing vessel that licence to fish in our waters. It has increased its number of trained observer each year for the past 5 years. Since the national training held in Funafuti in 2004 the observer programmed failed to keep most of the trained observer due to the lack of opportunity on vessels mainly purse seiners and they ended up looking for other jobs. Since the 100% coverage on purse seine vessels requirement, the Tuvalu observer program began to recruit observers again through the regional trainings held by FFA and SPC.

In 2014 the number of observer was 34 including the additional 6 new observers recruited that year. Our observer are placed onboard vessels which have bilateral agreements with us or they can be employed under regional programs under the FFA and PNA. A total of 31 trips were done under our national program, 4 trips under the FFA program and 42 trips through the PNA Observer Program. An increased in transshipment in our port has given us the opportunity to place our observer onboard these vessel without the extra cost of sending them elsewhere which was always a problem in the past due to the unreliability of the airline.

Our program now faces another problem which is the lack of debriefers. In 2014 we had one certified debriefer and 2 trainee debriefer. A total of 86 trips were debriefed and most of these trips were trip

done in 2013. (63 national trips, 1 FFA trip and 22 PNA trips) The ratio under the PIRFO standard is 1 debriefer to 5 observers and with our small program it is a need to increase the number of our certified debriefers to ensure we get good quality and accurate data from our observers.

9.4 Artisanal tuna fishery data

The National Artisanal data collecting program that was funded by Japanese Trust Fund through the assistance from SPC will be end in September 2015. With the idea that the Tuvalu Fisheries will continue support this program with technical assistance and funding.

10.0 CMM REPORTING

CMM Reference	Description	Response
CMM 05-03	North Pacific Albacore	Total catch of 0.215mt of NPA in 2014 was caught as bycatches by the 2 Tuvalu Flagged LL vessels in 2014
CMM 06-04	South West Striped marlin	No striped marlin catch south of 15°S
CMM 09-03	Swordfish	No SWO were caught south of 20 degrees south
CMM 09-06	Transshipments	Please see appendix 1 for details of transshipment data reported under this CMM
CMM 10-05	SP ALBACORE	No Tuvalu flag vessel fish in area South 20° South of Convention Area
CMM 10-07	Sharks	Other key shark species was reported of 50 Silky Shark and one Devil Manta Ray was discarded
CMM 11-03	Cetaceans	There is no data recorded on whether cetacean have been entangle by a PS net and this based on the observer available data
CMM 11-04	Oceanic White - Tips Sharks	There is no data on Oceanic white tip sharks has been recorded both from Tuvalu database (TUFMAN) and Observer reports
CMM 12-04	Whale Sharks	There is no report on an event that a whale shark encircled in the purse seine net
CMM 12-07	Mitigation impacts of fishing on seabirds	There was no report on interaction with seabirds in 2014 by observers.
CMM 13-01	Discard reporting	Majority of discarded species were skipjack, two yellowfin and one bigeye. Most of them were discarded due to gear damage and eventually too small.
CMM 13-08	Silky Sharks	Based on the observer report the Tuvalu flagged Purse Seine caught 50 Silky Sharks incidentally and were discarded (DUS)

TRANSHIPMENTS DATA FOR TUVALU FLAGGED VESSELS 2014– Appendix 1

Landing Dates	Name of Vessel	Flag	Gear Type	CATCH BREAKDOWN						TOTAL TRANSFERED (MT)	Fish Carrier	Port of Transhipment	AREA fish caught	Products form
				SKJ	YFT	BET	ALB	SWO	OTHERS					
TUVALU VESSELS - PS														
22/12/2013 - 02/01/2014	Taumoana	Tuvalu	PS	1115	25	0	0	0	0	1140	Hao Xiang	Majuro		
03/02/2014 - 08/02/2014	Taumoana	Tuvalu	PS	1130	0	0	0	0	0	1130	Huafu 107	Majuro	WCPO	FROZEN
09/03/2014 - 15/03/2014	Taumoana	Tuvalu	PS	930	30	0	0	0	0	960	MV Pharoster no.39	Majuro	WCPO	FROZEN
14/04/2014 - 16/04/2014	Taumoana	Tuvalu	PS	291	89	0	0	0	0	380	MV No.2 Pohah	Majuro	WCPO	FROZEN
12/09/2014 - 18/09/2014	Taumoana	Tuvalu	PS	1100	0	0	0	0	0	1100	Pharoster	Tarawa	WCPO	FROZEN
20/10/2014 - 25/10/2014	Taumoana	Tuvalu	PS	1095	35	0	0	0	0	1130	Hikari 7	Tarawa	WCPO	FROZEN
13/12/2014 - 24/12/2014	Taumoana	Tuvalu	PS	1060	50	0	0	0	0	1110	Suah	Majuro	WCPO	FROZEN
TUVALU VESSELS - LL														
4/2/2014	PAKASOA	Tuvalu	LL	0	0	0	0.7	42.4	4.55	47.65	Japan	Fiji	WCPO	FROZEN
5/30/2014	PAKASOA	Tuvalu	LL	0	0	0	4.3	25.96	5.29	35.55	Japan	Fiji	WCPO	FROZEN
8/5/2014	PAKASOA	Tuvalu	LL	0	0	0	6.1	31.79	3.44	41.33	Japan	Fiji	WCPO	FROZEN
10/15/2014	PAKASOA	Tuvalu	LL	0	0	0	12.3	44.26	4.66	61.22	Japan	Fiji	WCPO	FROZEN
10/23/2014	PAKASOA	Tuvalu	LL	0	0	0	12.5	31.7	5.1	49.3	Japan	Fiji	WCPO	FROZEN
2/25/2015	PAKASOA	Tuvalu	LL	0	0	0	3.84	50.6	6.75	61.19	Japan	Fiji	WCPO	FROZEN

4/2/2014	TUIPUGA	Tuvalu	LL	0	0	0	1	37.58	2.92	41.5	Japan	Fiji	WCPO	FROZEN
5/30/2014	TUIPUGA	Tuvalu	LL	0	0	0	3.5	31.5	3	38	Japan	Fiji	WCPO	FROZEN
8/5/2014	TUIPUGA	Tuvalu	LL	0	0	0	4.3	47.23	4.97	56.5	Japan	Fiji	WCPO	FROZEN
10/15/2014	TUIPUGA	Tuvalu	LL	0	0	0	13	50.25	2.79	66.04	Japan	Fiji	WCPO	FROZEN
11/13/2014	TUIPUGA	Tuvalu	LL	0	0	0	13	34	2.9	49.9	Japan	Fiji	WCPO	FROZEN
1/13/2015	TUIPUGA	Tuvalu	LL	0	0	0	6.3	42.3	4.4	53	Japan	Fiji	WCPO	FROZEN