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

WCPFC-SC10-AR/CCM-26

TUVALU

Annual Report to the Western and Central Pacific Tuna Commission
Part 1: Information on Fisheries, Research and Statistics
Tuvalu
2013

Summary:

Key trends of tuna fisheries in Tuvalu for 2013:

Flag state reporting

1. Substantial increase in artisanal catch data, thanks to the JTF for funding the 'Artisanal Tuna Data Collection' project.
2. Huge drop in the domestic longline catch with more than 80 % as a result of four vessels de-flagging.
3. A huge decrease in Purse seine catches of 40% from that of 2012.

Coastal State Reporting – foreign fleet

4. Pole and line licenses tremendously increased by more than 150%, while Korea remains leading in the most number of licenses issued with, particularly for purse seine fishery
5. A slight decrease of 10% for Purse seine catch with skipjack still dominating the target species.
6. A new record for longline catch of 1954.3 metric tonnes
7. Submission of catch and effort data remains a challenge as was in previous years

1. Background:

There has been a slight drop in domestic operations in 2013 mainly as a result of the de-flagging of four longline vessels. At the same time fishing licenses issued for 2012 was the lowest for the reporting period and the licensing history. Despite that, the catches of key species show moderate increase only, particularly for the purse fishery.

Reporting of data and compliance (by both the distant and national fleets concerning their fishing activities) remains challenging despite progress work to better coordinate data collection, management and analyses. There are also capacity difficulties within the department of fisheries with respect to close monitoring of reporting and data management.

2. Flag State Reporting:

Tuvalu continues to explore ways to increase the economic return derived from the tuna fishery. In 2013 Tuvalu government still maintain its joint ventures from previous years. The number of Tuvaluan flagged fishing vessels remains at 7. All these 7 boats fish in the Tuvalu EEZ as well as waters of neighbouring countries from Marshall Islands, PNG, Nauru, Kiribati and Fiji.

2.1 Catch and effort data

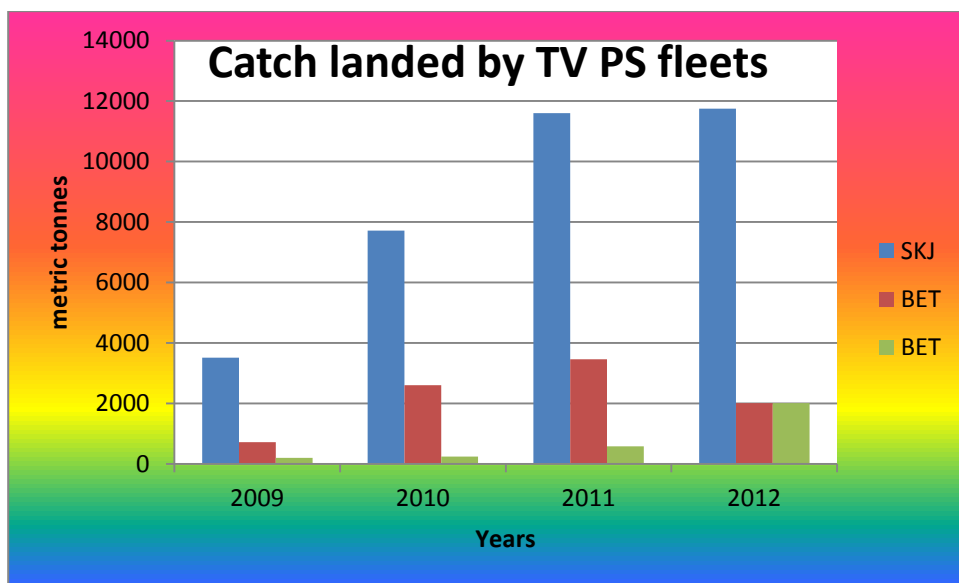
2.1.1 Purse seine fleet – 2013 is the fifth year of fishing operation for the Tuvalu purse seine fleet. The 2012 catch was expected to be larger than the observed catch in terms of tonnage. Unfortunately, due to fishing vessel's late and failure in submissions of logsheets, the catch for 2012 is only provisional. Decline in catch is also a result of the implementation of PNA VDS variation, mainly increasing in price per day.

Overall, the one and only Tuvaluan purse sein fleet managed to land a total of 10863 metric tonnes of catch. A 40% decrease from 2012's record of 18059 metric tonnes. With that total, skipjack continues to dominate the catch, followed by yellowfin.

Table 1 – Annual catch estimates for the NATIONAL PURSE SEINE FLEET, in the WCPFC convention Area (2009-2013). (Source - Tuvalu TUFMAN)

Year	Skipjack Catch (MT)	Yellowfin Catch (MT)	Bigeye Catch (MT)	Total (MT)
2009	3507	720	201	4,428
2010	7717	2600	237	10,554
2011	11599	3454	576	15,629
2012	11745	5143	1171	18059
2013	9803	1050	10	10863

Figure 1 – fishing catch (mt) by species landed by the Tuvaluan purse seine fleet for the reporting period (2008-2012). (Source – Tuvalu TUFMAN)



2.1.2 Long line –

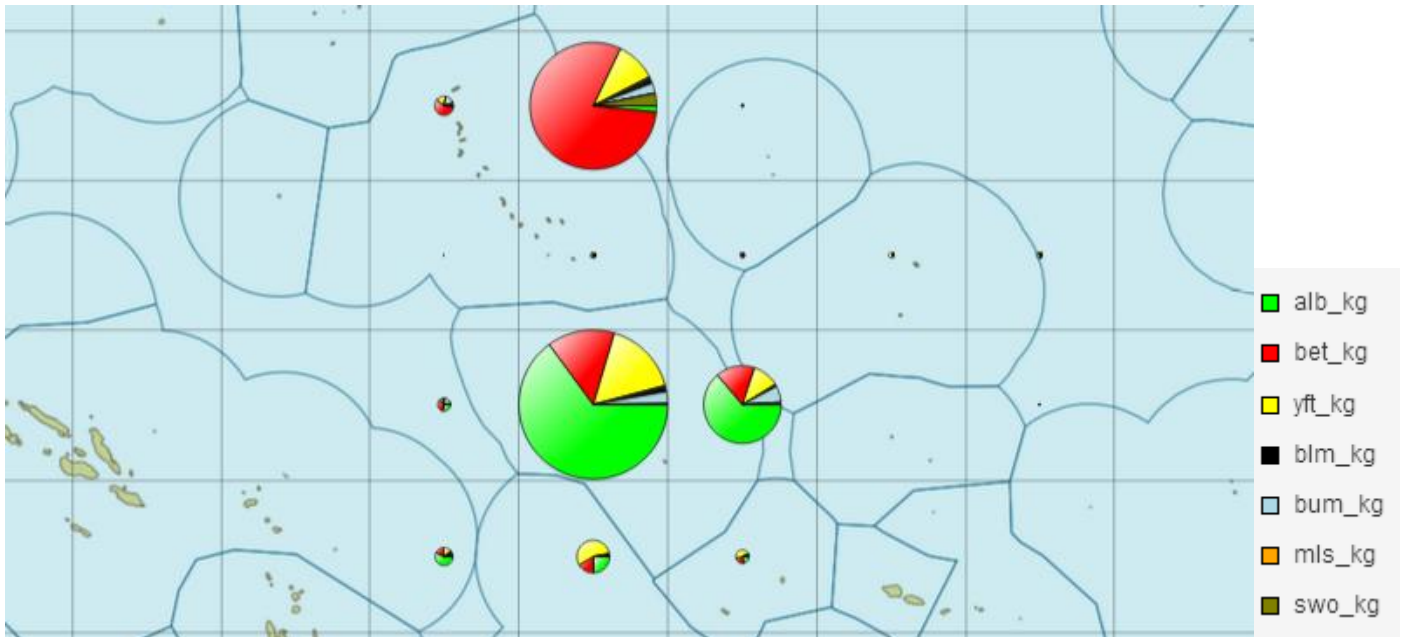
The domestic long line vessels managed to land a total of 312 metric tonnes of catch for 2013. This is considered to be the lowest catch for the reporting period. It was mainly due to the de-flagging of 4 longline vessels namely the Yuh Yow 137, 227, 609 and 703 towards the mid of last year.

Overall, the catch for all species were lowest for all the reporting period. A decrease of 89% from the record of 2012’s catch. With more data to come, it is expected that the total catch for 2013 would beat that of 2011. Therefore this catch is provisional.

Table 2.3 a – Annual catch estimates for the NATIONAL LONGLINE FLEET, in the WCPFC Convention Area. (Source – regional database, CES)

Year	Albacore Catch (MT)	Yellowfin Catch (MT)	Bigeye Catch (MT)	Skipjack Catch (MT)	Black Marlin Catch (MT)	Blue Marlin Catch (MT)	Striped Marlin Catch (MT)	Swordfish Catch (MT)	Total (MT)
2009	0	0	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0	0	0
2011	200	340	125	0	20	13	1	2	701
2012	226	610	1895	0	23	15	1	3	2773
2013	115	60	112	0	8	14	0	3	312

Figure 2.3 a – Long line catch of tuna species in the Convention area by the Tuvaluan domestic fleet in 2013. (Source – regional database, CES



2.4 Fishing pattern and distribution

Purse seine fleet – the lone purse seine began its fishing operation in mid 2009 and had been fishing mainly within and around Kiribati waters. In 2010 fishing effort and area coverage had expanded and also shifted westward. In 2010 the fleet (of one boat) fish largely in the waters of Papua New Guinea and Marshall Island. Fewer fishing effort had occurred in Kiribati EEZ and to a lesser extent in the Tuvalu EEZ. It is not known what caused this westward shift in fishing by the fleet in 2010. In 2011 and 2012, it stretched out to the FSM and PNG where most of its fishing activities took place and across to Nauru and Kiribati waters as well. Most of its fishing trips last year were in Kiribati waters.

Figure 2.4a - Distribution of fishing effort (days) by the national PS fleet in 2009. (Source – Tuvalu TUFMAN)

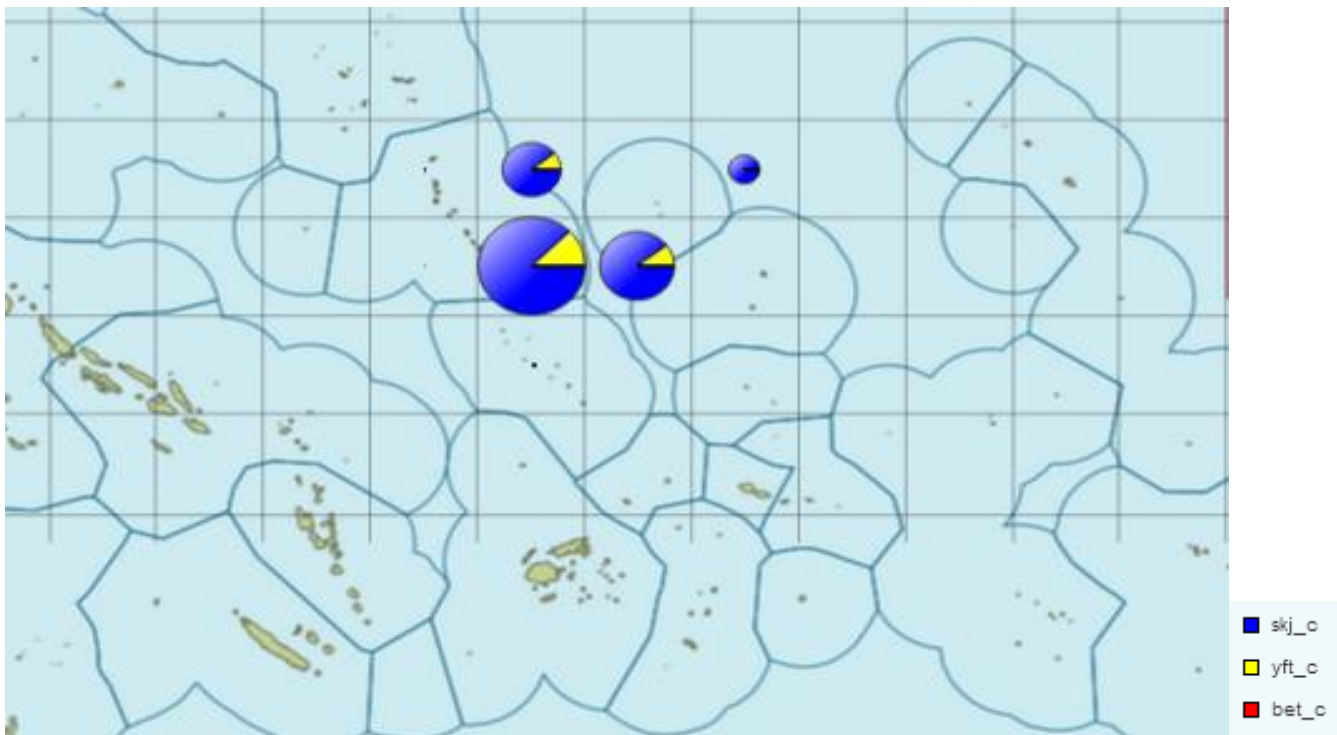


Figure 2.4b - Distribution of fishing effort (days) by the national PS fleet in 2010. (Source – Tuvalu TUFMAN)

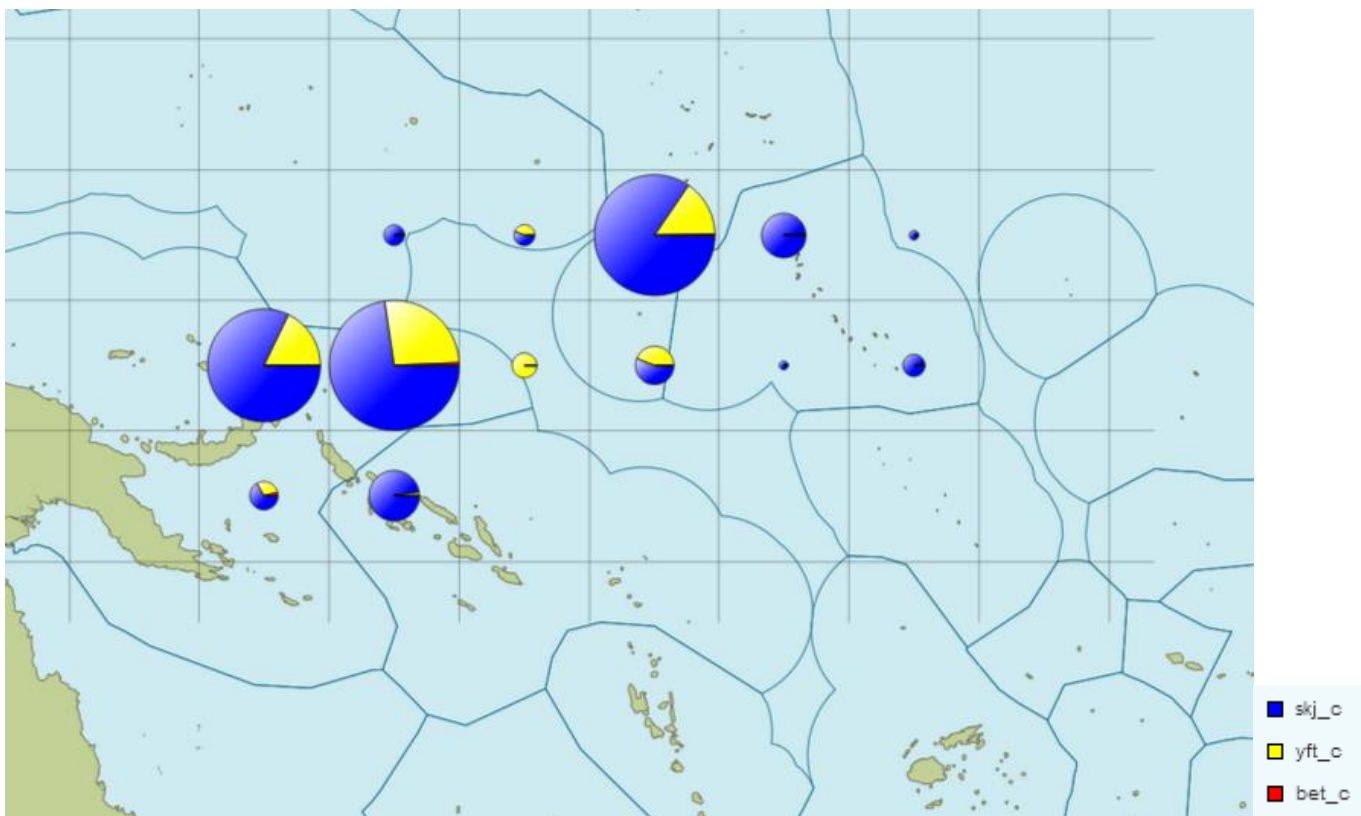


Figure 2.4c- Distribution of fishing effort (days) by the national PS fleet in 2011. (Source – Tuvalu TUFMAN)

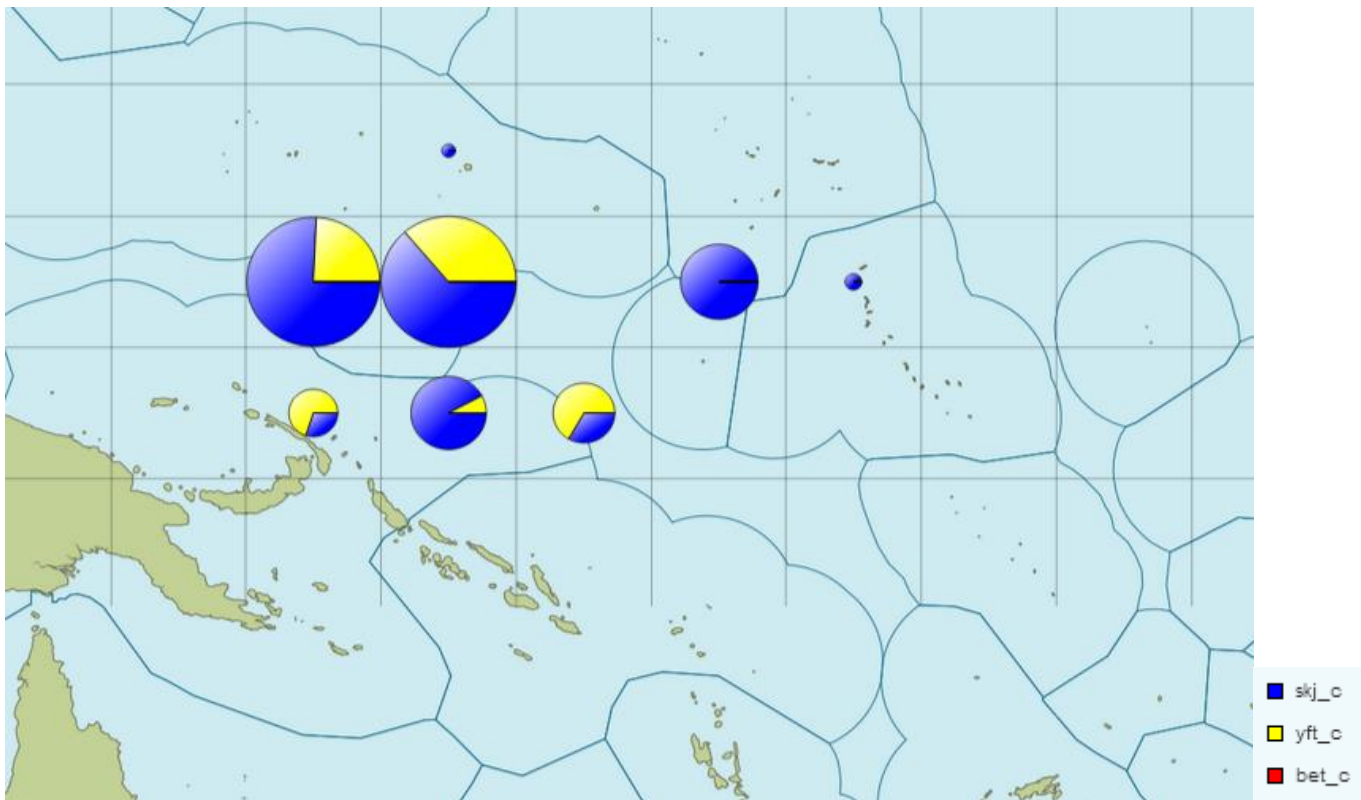


Figure 2.4d - Distribution of fishing effort (days) by the national PS fleet in 2012. (Source – Tuvalu TUFMAN)

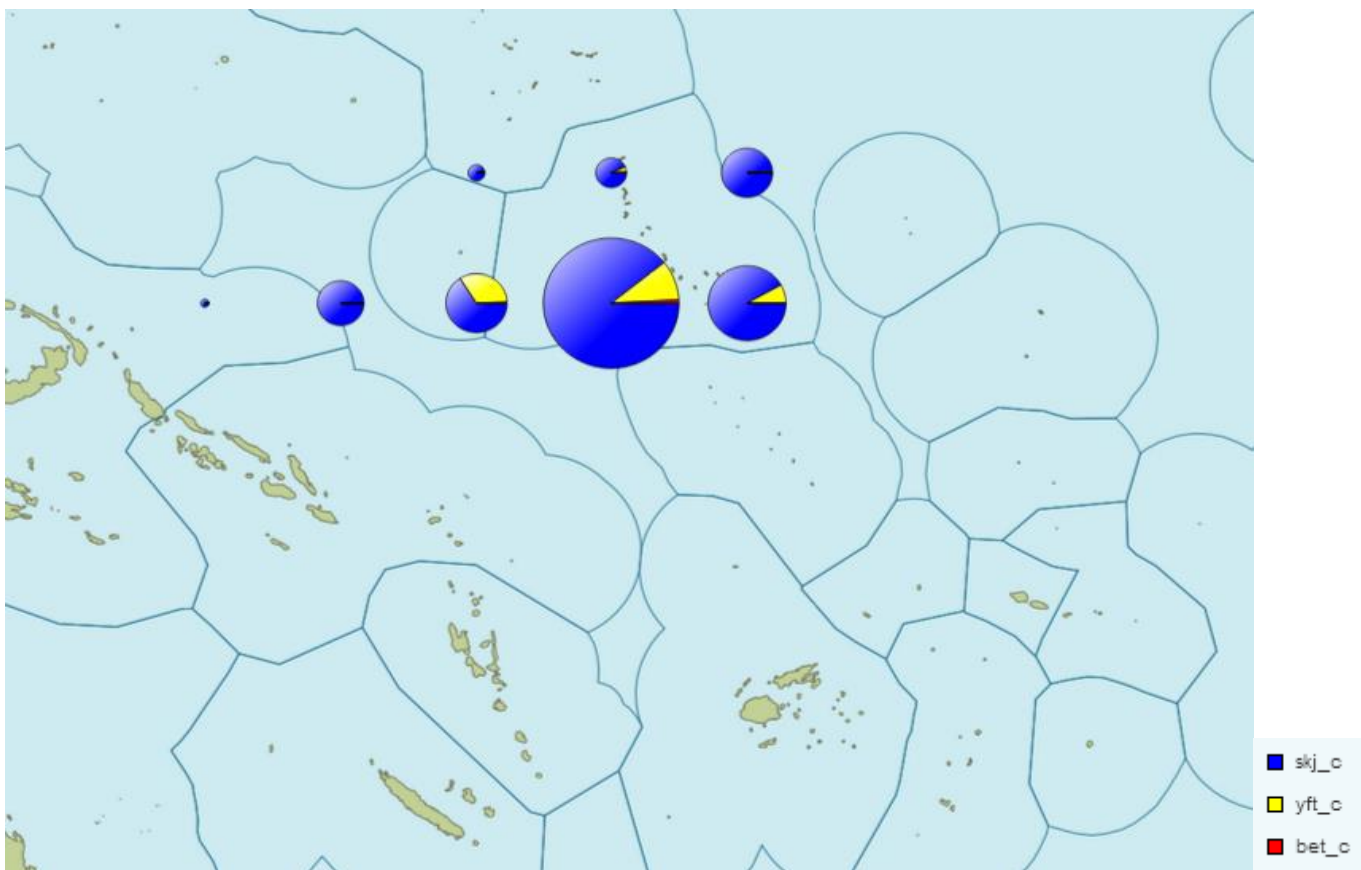


Figure 2.4e - Distribution of fishing effort (days) by the national PS fleet in 2013. (Source – Tuvalu TUFMAN)



2.5 Number of Tuvaluan fleets active in the WCPFC

Table 2.5.1 - Number of Tuvaluan LONGLINE Fleet vessels, by size category, active in the WCPFC Convention Area.

Year	00-50 GRT	51-200 GRT	201-500 GRT	500+ GRT	Total Vessels
2009	0	0	0	0	0
2010	0	0	0	0	0
2011	0	2	0	4	6
2012	0	2	0	4	6
2013	0	2	0	4	6

Table 2.5.2 - Number of Tuvaluan PURSE SEINE Fleet vessels, by size category, active in the WCPFC Convention Area.

Year	00-500 GRT	501-1000 GRT	1001-1500 GRT	1500+ GRT	Total Vessels
2009	0	0	0	1	1
2010	0	0	0	1	1
2011	0	0	0	1	1
2012	0	0	0	1	1
2013	0	0	0	1	1

2.5 Artisanal fishery and annual catches

The artisanal fishery comprises of the small scale operators who feed the local fish markets on a daily basis over the 8 atolls of Tuvalu. These operators target a wide range of different fishes with tuna as their main target species basically by hand trolling. The skipjack tuna usually makes up the majority of the trolling catch (by weight) followed by the yellowfin tuna, as also observed this year. However, for the first time in the past five years, the catch for both other species came second, followed by bigeye. The total catch shows a record for the past five years with more than two times the catch of 2013.

Table 2.5 - Provisional Annual catches (tons) landed by artisanal fishermen for the period 2009 to 20132. These are actual catch figures obtained through record held by the various local fish markets. (Sources: 2008 to 2012 - Tuvalu Fisheries Department database, 2013 - TUFART Tuvalu version).

Year	BET	YFT	SKJ	Others	Total
2009		11.6	15.6	3.8	31
2010		21.1	15.2	2.7	39
2011		20.5	17.8	3.2	41.5
2012		19	15	2	36
2013	5.429	5.016	67.405	19.378	97.228

The provisional figures in Table 2.5 represent only the 2009-2012 catch landed to the fishing centers (on outer islands) and do not account for fish sold outside fish markets. Fish landed by artisanal fishers based out of Funafuti have not been added because of some concerns with the quality of the collected data. 2013 is a historical year for not only the BET, SKJ and Others but also for the total catch. This great improvement in catch data is mainly creation of new posts, known as 'Artisanal Tuna Data Collector' in each of the 8 islands in Tuvalu.

2.6 CMM reports

Table 2.6.1 CMM 05-03 – North Pacific Albacore catches by National fleet

Year	Catch (Number)	Catch (MT)
2011	8	0.176
2012	118	2.419
2013	36	0.565

Table 2.6.2 CMM 06-04 – South-west Striped Marlin catches by National fleet

Year	Vessels	Catch (Numbers)	Catch (MT)
2011	1	0	0
2012	0	0	0
2013	0	0	0

Table 2.6.3 CMM 09-03 – South Pacific Swordfish catch by National fleet

Year	Vessels	Catch (Numbers)	Catch (MT)
2011	0	0	0
2012	0	0	0
2013	0	0	0

Table 2.6.4 CMM 09-03 – South Pacific Swordfish catch by National fleet

Year	Vessels	Catch (Numbers)	Catch (MT)
2011	0	0	0
2012	0	0	0
2013	0	0	0

3 COASTAL STATE REPORTING

Fishing licenses issued by the Tuvalu fisheries between 2009 and 2013

Tuvalu continues to provide fishing opportunities to interested foreign fleets. The number of fishing licenses shows a big drop for longline, a half-fold increase for purse seine, and a very huge increase in the pole and line licenses. In 2013, a total of 205 fishing licenses had been issued; lowest in the record for the past five years. Purse seine has the highest number of fishing licenses with about 50% increase from that of 2011.

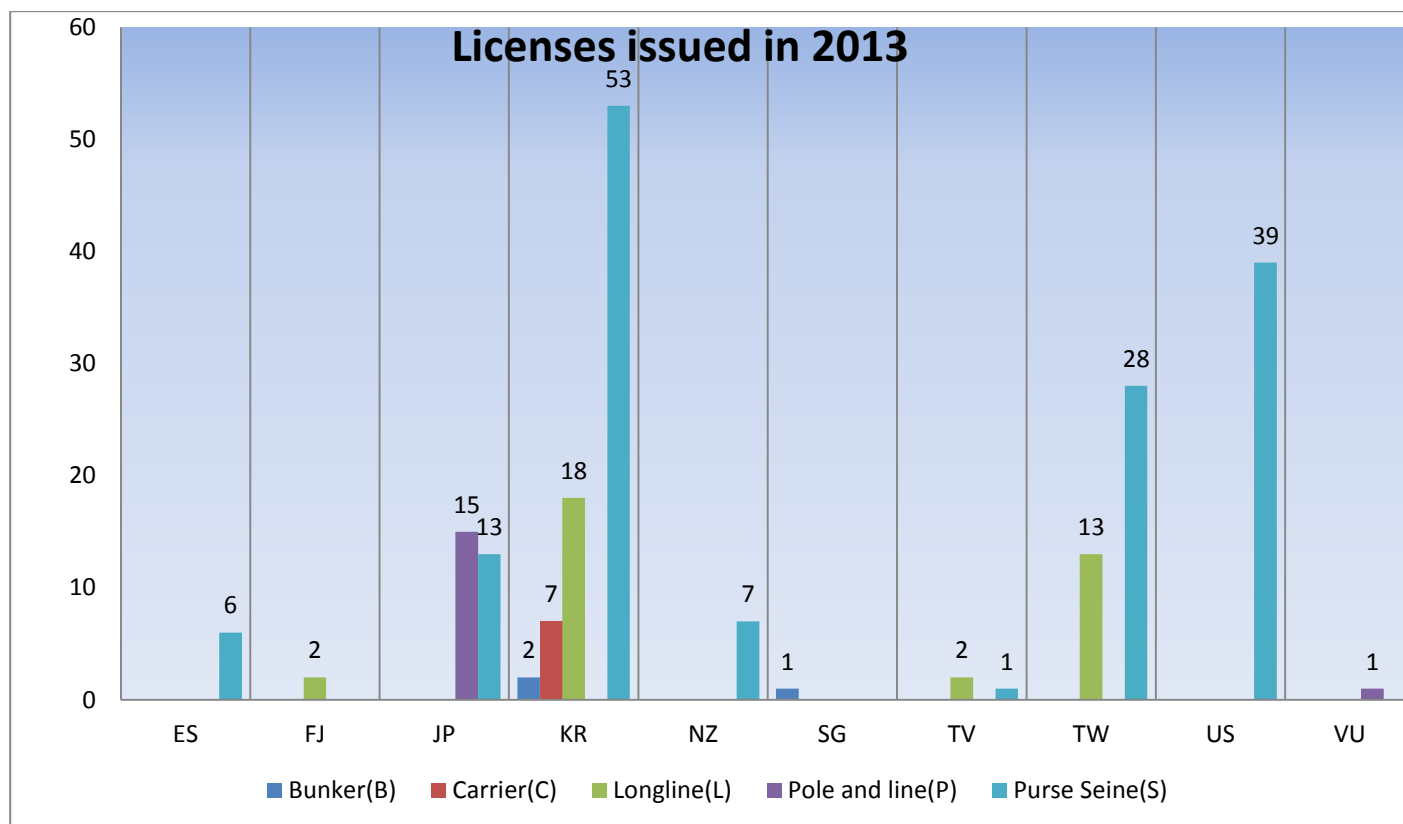
The margin of increase is greatest for the pole and line fleet which rose by 150% from that in the previous year. Overall it is the purse seine fleet that has the highest number of fishing licenses with 146 (50%) followed by the long line fleet with 149 licenses (-36%). The pole and line registered only 16 licenses.

Table 3.1 - : Annual fishing licenses issued by the department of fisheries for the reporting period (2008-2012). Fishing licenses issued for the domestic fleet are excluded. (Source; TUFMAN Tuvalu version 6.38)

Year	Long Line	Purse Seine	Pole and Line	Carriers	Bunker	Total
2009	61	144	12	7	1	225
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

Ten countries including Tuvalu were offered licenses to operate fishing activities in Tuvalu waters for 2013, from which Korea was leading with 90 licenses.

Figure 3.1 - Annual fishing licenses issued by the department of fisheries for the year 2013, by flag, by gear.

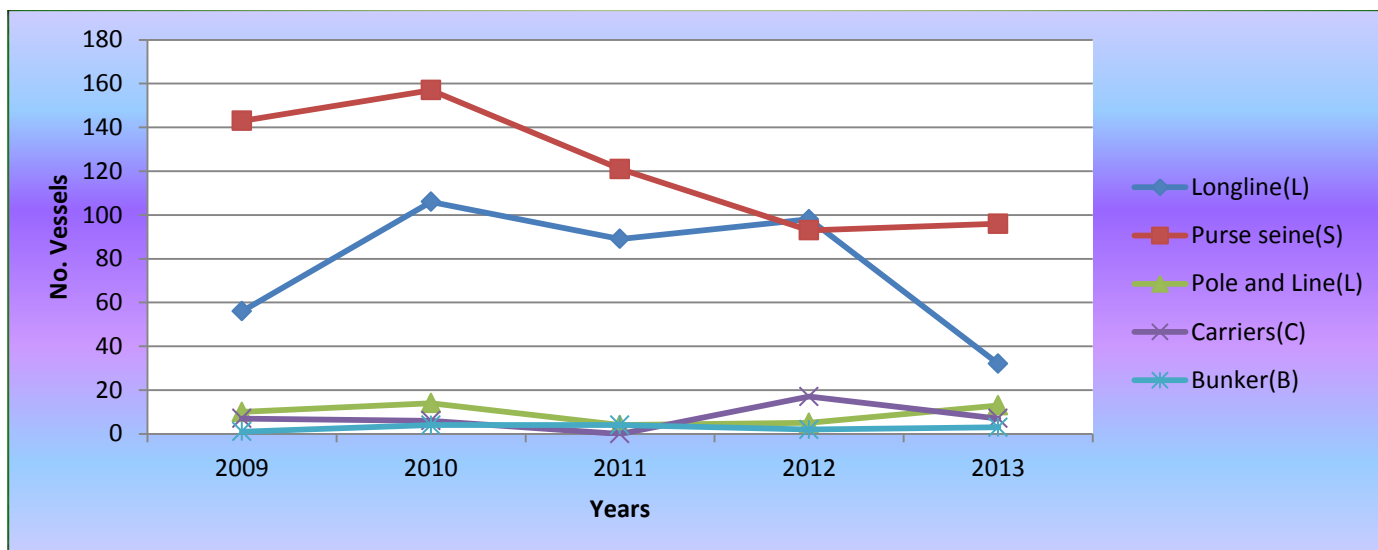


On the other hand, the table below shows the number of vessels licensed to fish in Tuvalu's EEZ for the past five years. Last year has the least number of foreign fishing vessels, particularly the long line, operating in our EEZ, for the past five years. It was peaked in 2010, and then it declined from then on, up to last year.

Table 3.2 - Annual number of fishing vessels licensed by the department of fisheries for the reporting period (2008-2012). Fishing licenses issued for the domestic fleet are excluded. (Source; TUFMAN Tuvalu version 6.38)

Year	Long Line	Purse Seine	Pole and Line	Carriers	Bunker	Total
2009	56	143	10	7	1	217
2010	106	157	14	6	4	287
2011	89	121	4	0	4	218
2012	98	93	5	17	2	215
2013	32	96	13	7	3	151

Figure 3.2 - Annual number of fishing vessels licensed by the department of fisheries for the reporting period (2008-2012). Fishing licenses issued for the domestic fleet are excluded. (Source; TUFMAN Tuvalu version 6.38)



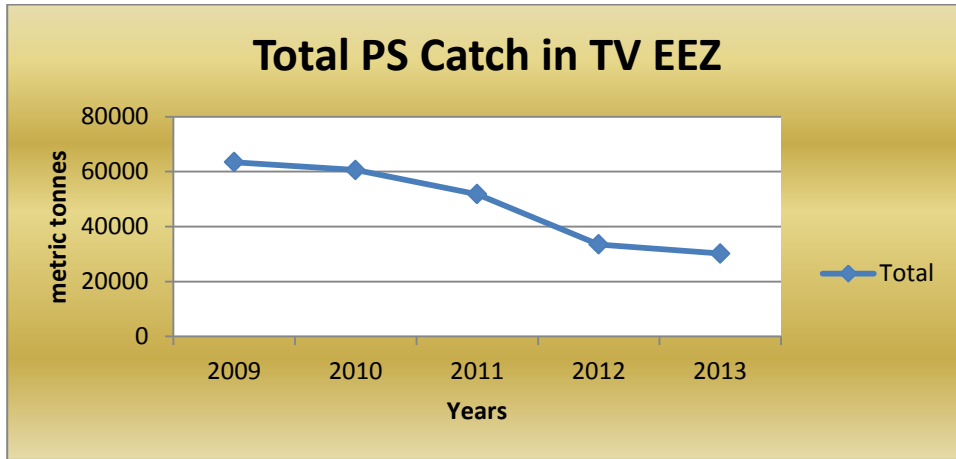
3.3 Purse seine – catch & effort

Similar to the past several years the purse seine fleet is dominated by the two fleets - the US and the Korean. The total catches in 2013 dropped by about 10% from that in 2012. The skipjack accounted for 92% of the total catch in 2013 and 1% consisted of yellowfin tuna. The other 7% was of the bigeye tuna. Data for 2013 is provisional due to some logsheets that are yet to receive from some of the foreign fleets.

Table 4: Combined fishing effort (days) and the total annual catch (mt) made in Tuvalu EEZ by the PS fleet between 2009 and 2013. (Source TuFMAN)

Year	Days	Skipjack (mt)	Yellowfin (mt)	Bigeye (mt)	Total (mt)
2009	1664.217	55,865	5,301	2,261	63,427
2010	1763.688	53,665	5,066	1,887	60,618
2011	1784.655	42,874	5,801	3,125	51,800
2012	2045.825	30,636	2,260	643	33,539
2013		28,085	168	1,928	30,339

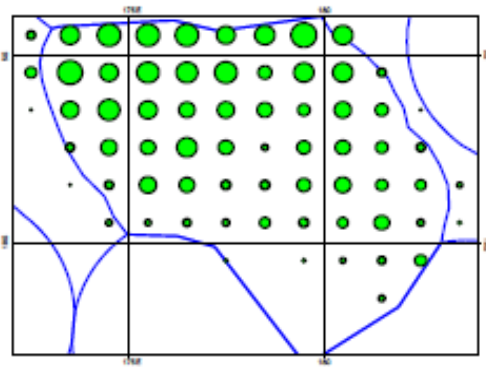
Figure 4 – total annual catch (mt) made in Tuvalu EEZ by the foreign PS fleets between 2009 and 2013



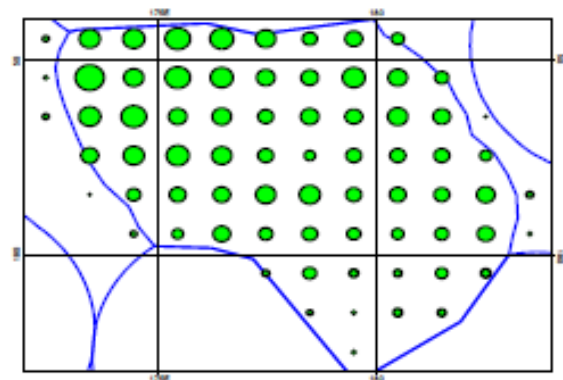
Fishing effort distribution – similar to any other year 2013 fishing effort by the foreign purse seine fleet scattered all over Tuvalu’s EEZ. However there are certain parts of the EEZ observed to be “hot spots” to the PS fleet. These hot spots change from time to time as illustrated by the maps below - most certainly due to fish movement. Fishing was more concentrated to the North-west compared to 2012 which was scattered around at to the North.

Figure 5- Effort (days) distribution of the foreign PS fleet, 2009-2012. (Source; CES)

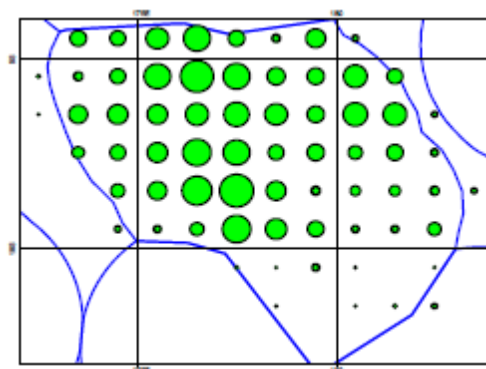
2009



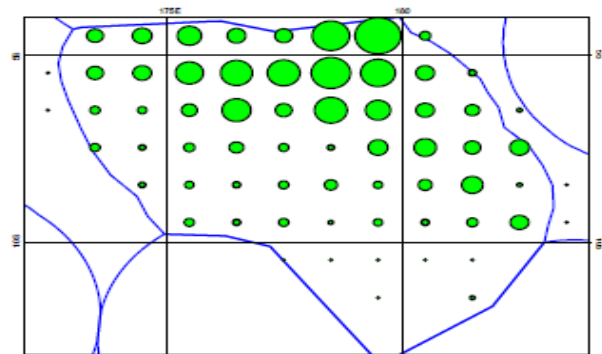
2011



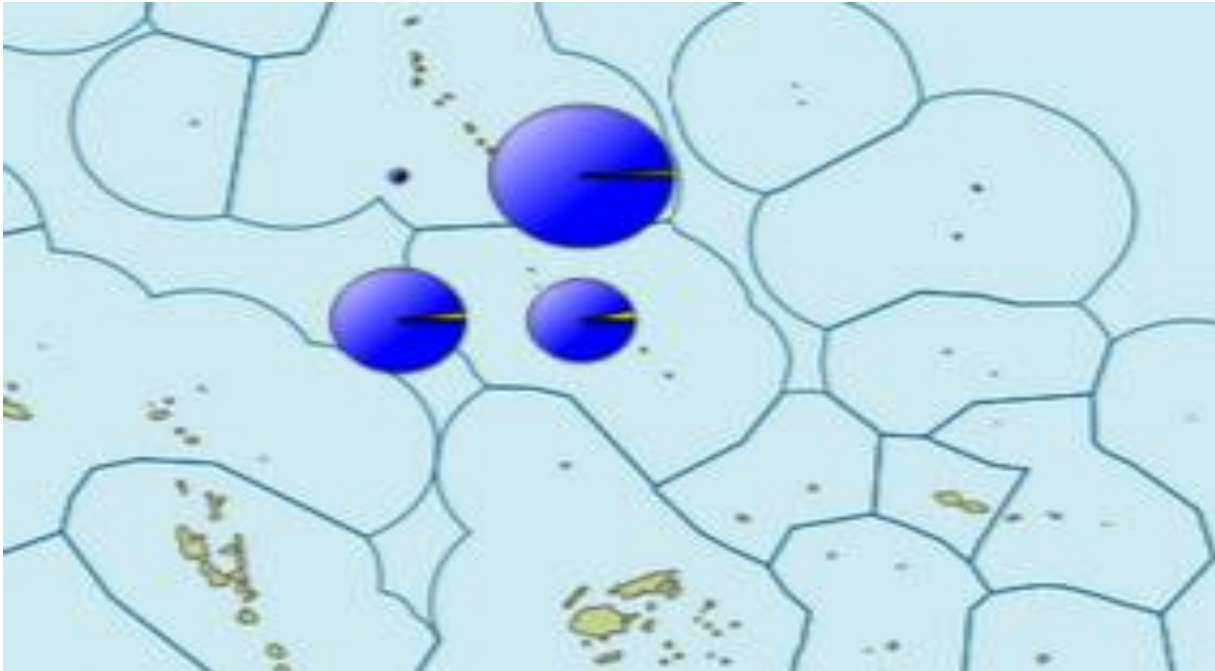
2010



2012



2013



Longline Fleet annual catches –

Annual catches for 2013 shows a record of 1954.3 mt, a 5% increase from 2012's catch, with yellow fin tuna accounting to 73% of the total catch. Of that amount landed, yellow fin tuna showed a tremendous increase, more than 3 folds of the amount caught in 2012, and is also a record for the past five years. Bigeye catch dropped by about 70% from 2012's record, and is second to that record. With Skipjack catches remain missing, this catch is therefore still provisional.

Table 5 - Combined annual catches reported by the foreign long line fleet for the reporting period. (Source; TUFMAN Tuvalu)

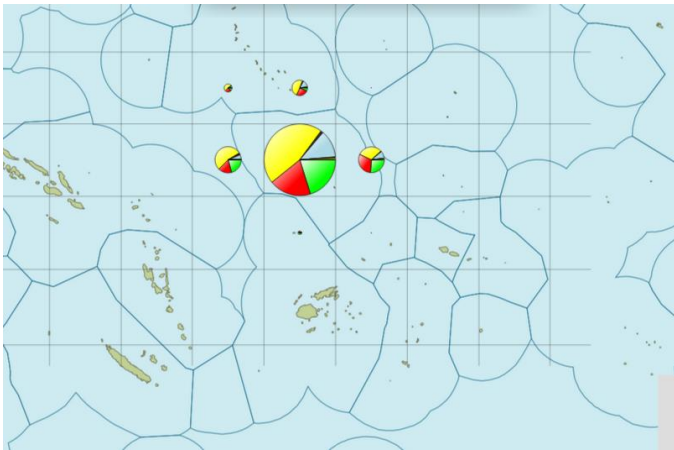
Year	Albacore	Bigeye	Skipjack	Yellowfin	Total
2009	156	200	2	328	959
2010	151	218		364	735
2011	371	300	4	659	1,333
2012		1405.5		452.8	1,858.3
2013	68.1	443.9		1422.3	1954.3

Long line - Fishing Effort and distribution –

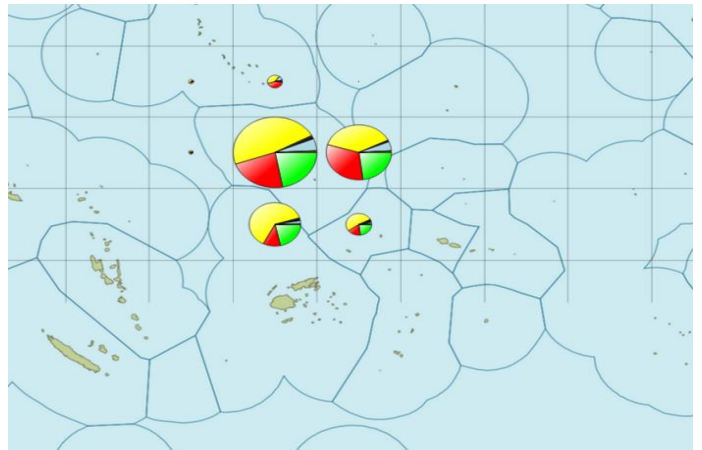
As in previous years, the 2013 longline fishing distribution concentrated in the central area spreading across from the West to the East. Using data available it can be concluded that effort distribution for the LL fleet similar to PS fleet is also scattered across the entire Tuvalu's EEZ. However effort tends to aggregate more in some areas than others. Such effort aggregation changed from one year to the next.

Figures 6 - Effort distribution by the LL fleet in 2009 to 2013. (Source; regional database, CES)

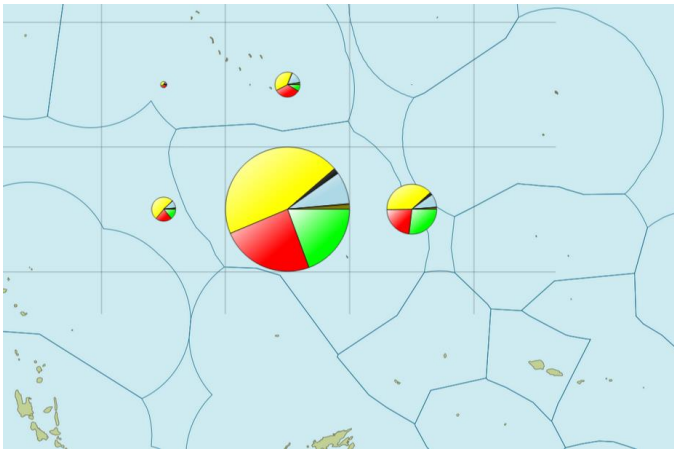
6a) 2009



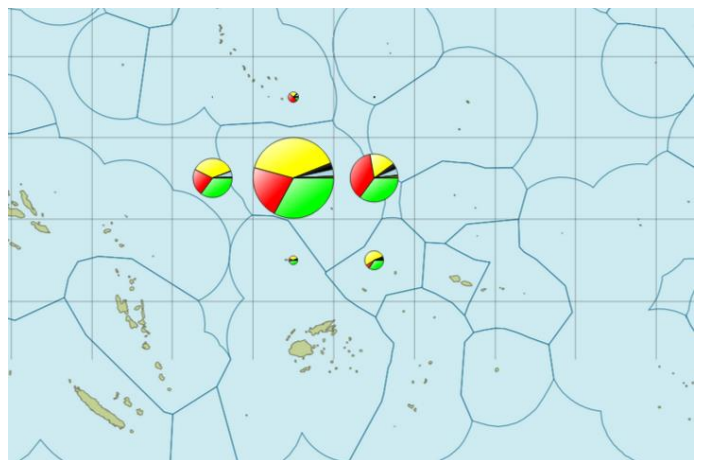
6c) 2011



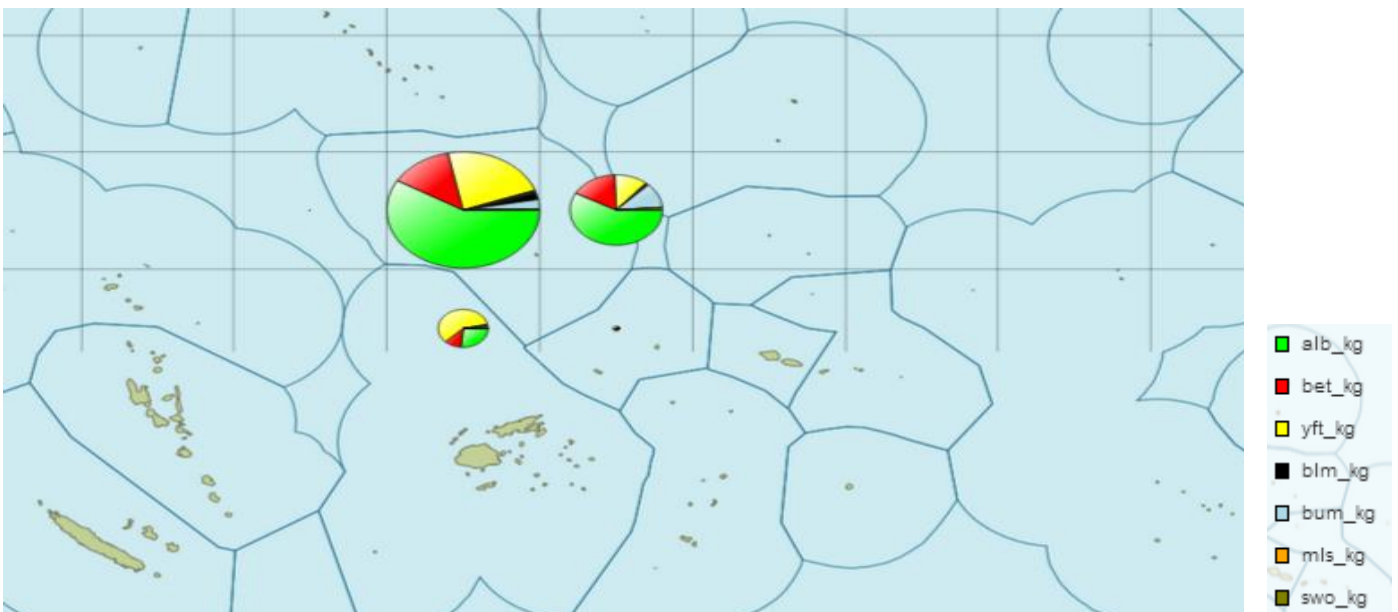
6b) 2010



6d) 2012



6e) 2013



Pole and Line annual catches – Japan and Spain have the only P&L fleets operating in Tuvalu EEZ. In 2013, a total of 1444 mt of catch was landed. A 7% drop from the record in 2012. The last two consecutive years remain the highest in records and is expecting to be increasing in the future with the ‘artisanal tuna data collection’ program maintained, but of course with the availability of funds from available donors.

Table 6: annual catches caught by the P&L fleet in Tuvalu EEZ. (Source; TUFMAN Tuvalu Version 3.38).

Year	SKJ	BET	YFT	Total
2009	440	2	3.6	445.6
2010	994	0	2	996
2011	1024	5	45	1074
2012	1450	26	84	1560
2013	1392	24	28	1444

Disposal of catch

Tuvalu flag vessels offload their catches at ports outside Tuvalu.

There weren't many transshipments occurred in domestic ports in 2013 compared to 2012, from which by-catch and discards remain a challenging issue. The foreign fishing boats continue to throw unmarketable fish (undersized and damaged fishes) overboard against domestic and regional policies and laws.

Tuvalu is currently preparing its national plan of action (NPOA) on sharks and turtles and bycatch are essential sections in the current tuna management and development plan.

Onshore developments

No onshore physical infrastructures were constructed in the country during 2013. Despite that, the small increase in number of flag vessels to Tuvalu present an opportunity to entice onshore development as a result of investment undertakings. It is expected to happen in the future with increase in domestic fleets.

Tuvalu is currently undertaking work with assistance of FFA to establish competent authority and progressing small scale offshore development project focusing on skipjack and other species in territorial waters including seamount fisheries.

Tuvalu is still implementing the PNA VDS with the intention to trade its allowable fishing day efforts under the scheme.

Endeavors to implement a National artisanal data collecting program came into action with the assistance of the SPC, funded by the Japanese Trust fund with the hope to fully maintain in the coming years. Negotiations have been arranged regarding donors to continuously fund this program, through SPC

Future prospects of the fishery

Tuvalu new management and development plan also require implementation of its hard limits with TAC for each longline, purse seine and pole and fishery and implement rights-based management regime to control and manage its domestic fisheries.

Department of fisheries is still looking into exploring more joint ventures with foreign fishing companies to maximize economic benefits for local people.

Fisheries new complex is expected to start constructing this year. This will house all fisheries staff scattering around in three separate buildings at the Fisheries compound.

Status of tuna fishery data collection program

Logsheet is required by law onboard every fishing boat (large commercial boats). This does not include the small scale operators or the artisanal fleet. Under our fisheries laws fishing logsheets shall be submitted or surrendered to the fisheries department no later than one 14 days after the completion of fishing trip. There's still quite a number of vessel operators who continue to defy such reporting requirement.

In the past, some tuna data targeting artisanal sector were also collected annually by the local fisheries department under its own initiative but due to funding and manpower shortages, coverage was very limited and only confined to the Funafuti atoll. However, as of 2013, this problem was solved when the 'Artisanal Tuna Data Collection program was in place.

Observer – the national observer program kicked off in 2010 as part of Tuvalu's commitment in fulfilling its obligation as a member of the PNA group. SPC has been very helpful and active in the establishment of the program and also in the training and certification of Tuvalu observers. The program is now supported and maintained through a small levy included as part of the license fee. More and more observer training courses are offered through SPC and PNA, and the demand for Tuvalu observers is observed to be increasing. We are also privileged to have some trained debriefers to help out with our observer program.