



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

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**WCPFC-SC9-AR/CCM-25**

**TUVALU**

**Annual Report to the Western and Central Pacific Tuna Commission**  
**Part 1: Information on Fisheries, Research and Statistics**  
**Tuvalu**  
2012

**Summary:**

Key trends of tuna fisheries in Tuvalu for 2012:

**Flag state reporting**

- (i) Increasing in purse seine catch landed with more than 20% and second to the record of 2010 catch.
- (ii) The domestic long line vessels managed to land a total 2029 metric tonnes of catch for 2012. A record for the past two years with a tremendous increase of more than two and a half folds from that of 2011.
- (iii) Slight decrease in the artisanal landing catch with yellowfin dominating the catch for the third time in a row;

**Coastal State Reporting – foreign fleet**

- (iv) Fishing licenses increased from 2011 and was second to 2010 record, with Korea leading with the most number of licenses issued.
- (v) Tremendous increase in LL catch (three folds compared to 2011)
- (vi) Purse seine catch was slightly lower compared to 2011
- (vii) Submission of catch and effort data remains a challenge as was in previous years

## 1. Background:

There has been a slight progress made in domestic operations in 2011 mainly as a result of small increase in domestic fleet and associated catches in purse seine fishing. At the same time fishing licenses issued for 2012 showed a very slight increase compared to that of 2011. Despite this increase, the catches of key species show moderate increase only.

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 2012 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 neighboring countries from Marshall Islands, PNG, Nauru, Kiribati and Fiji.

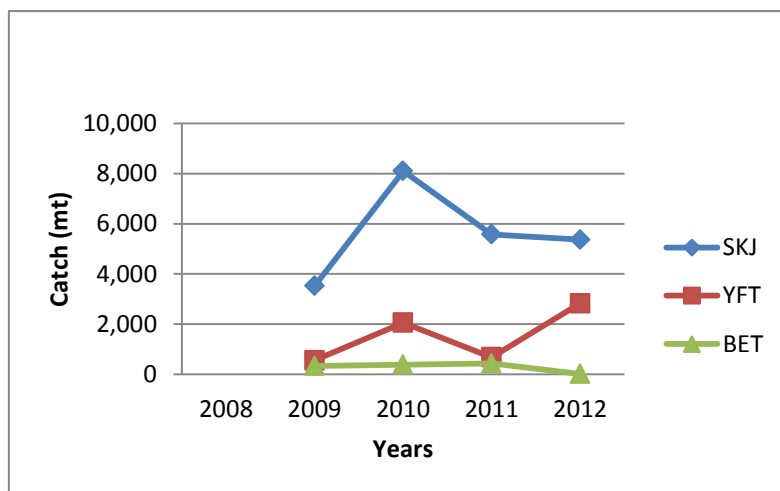
### 2.1 Catch and effort data

**2.1.1 Purse seine fleet** – 2014 is the fourth 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 companies' late and failure in submissions of logsheets, the catch for 2012 is only provisional.

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

YEAR	SKJ	YFT	BET	TOTAL
2008				
2009	3,527	564	337	4,428
2010	8,100	2,061	393	10,554
2011	5,579	684	433	6,696
2012	5365.8	2831.4	19.8	8217

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 2029 metric tonnes of catch for 2012. A record for the past two years with a tremendous increase of more than two and a half folds from that of 2011.

Table 2.3 a – Long line catch of tuna species in the Convention area by the Tuvaluan domestic fleets. (Source – regional database, CES)

Yr	ALB (mt)	BET (mt)	SKJ (mt)	YFT (mt)	TOTAL (mt)
2008	0	0	0	0	0
2009	0	0	0	0	0
2010	0	0	0	0	0
2011	168	105	0	286	559
2012	168	1,408	0	453	2,029

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

### Longline catch of target tuna species in the Convention Area by the domestic fleet:

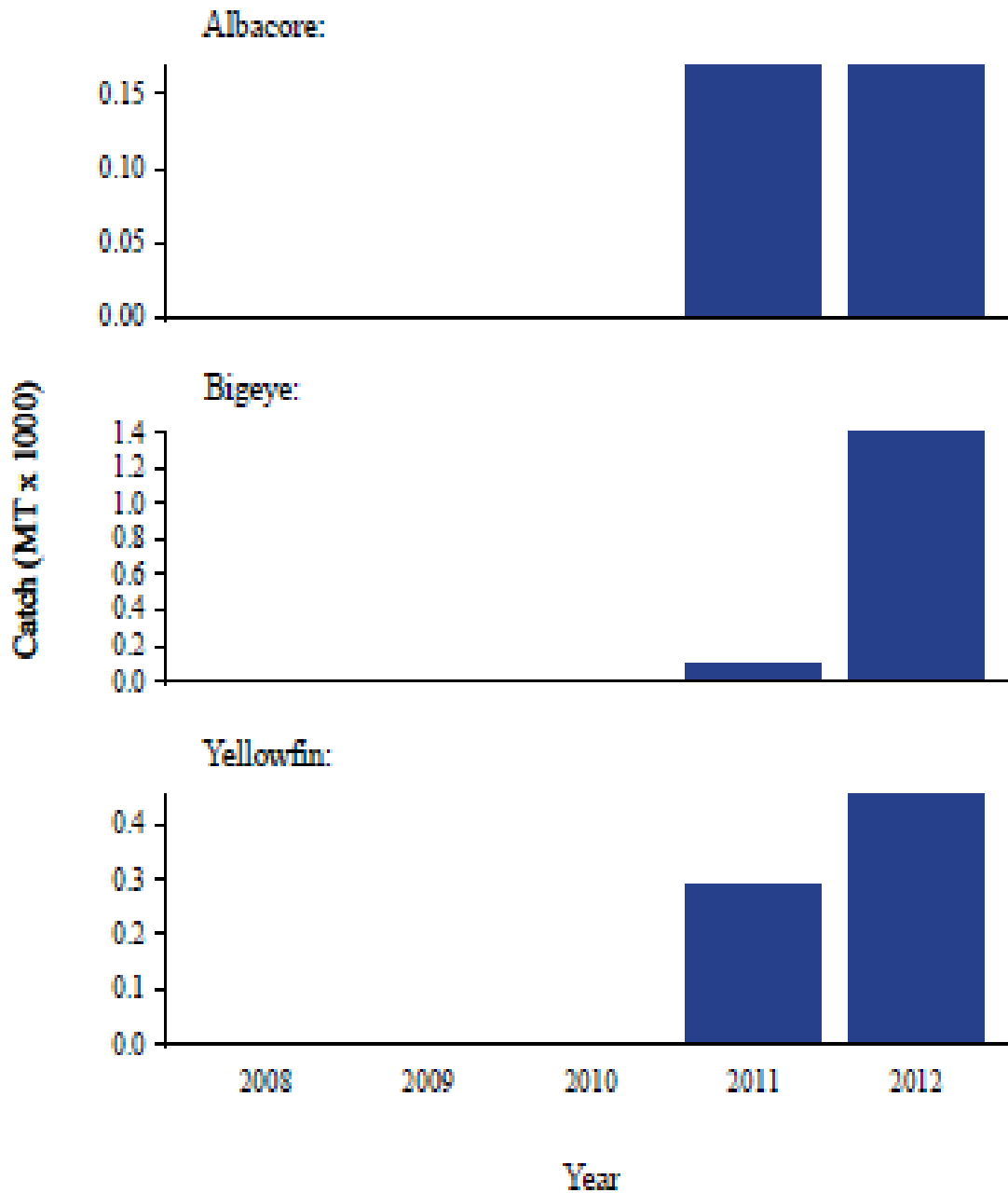
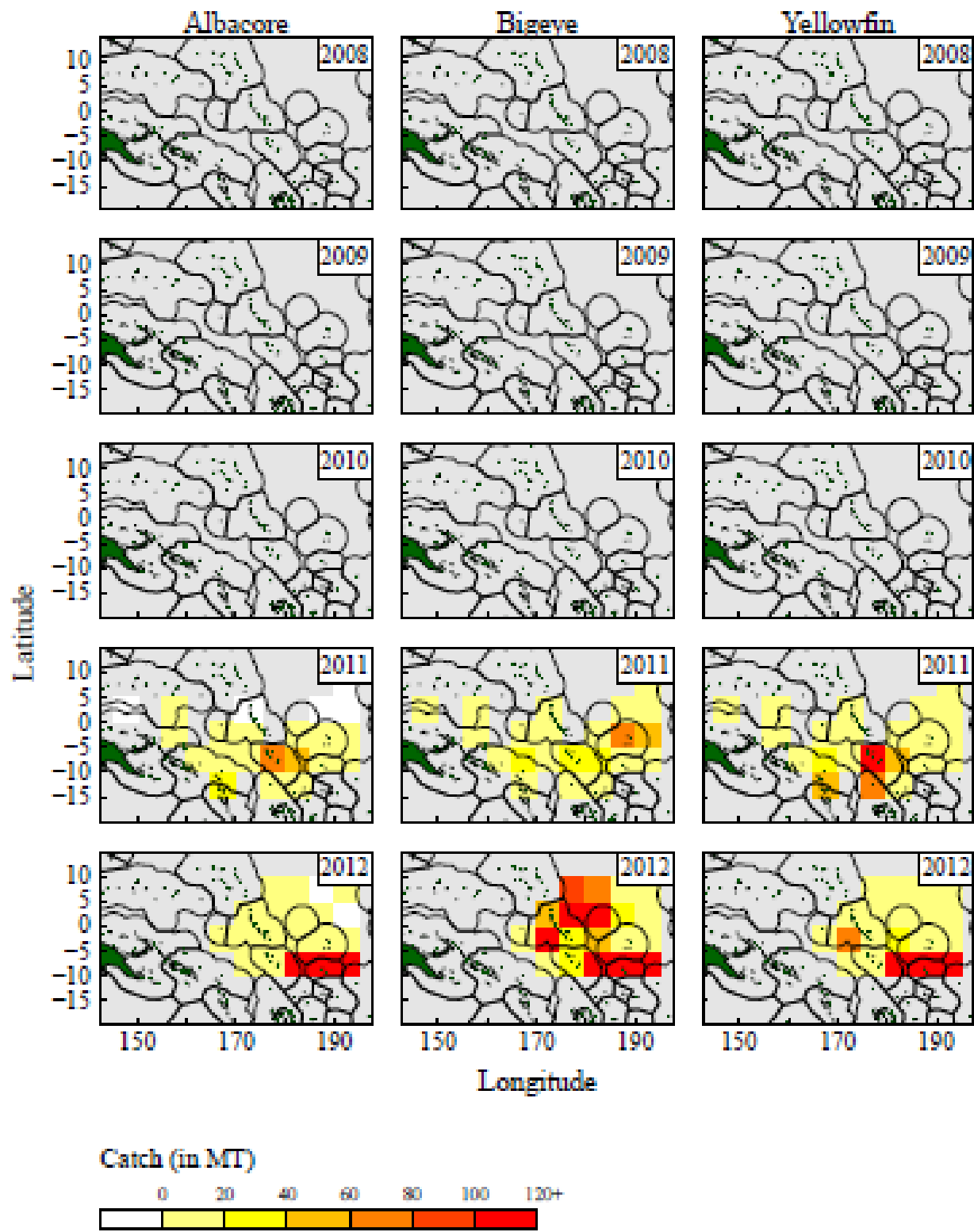


Figure 2.3 b – Aggregated longline catch by the domestic fleet in the convention are. (Source – regional database, CES)

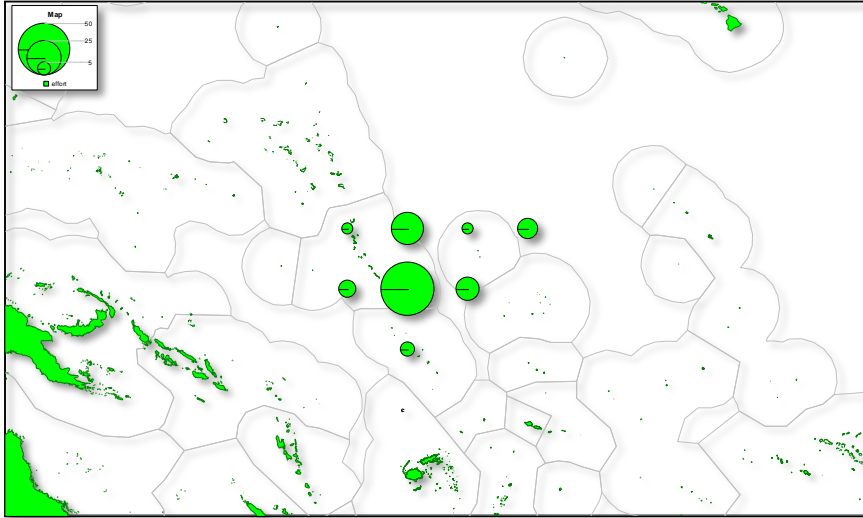
### Aggregated longline catch by the domestic fleet in the Convention Area:



## 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, 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.

**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)**

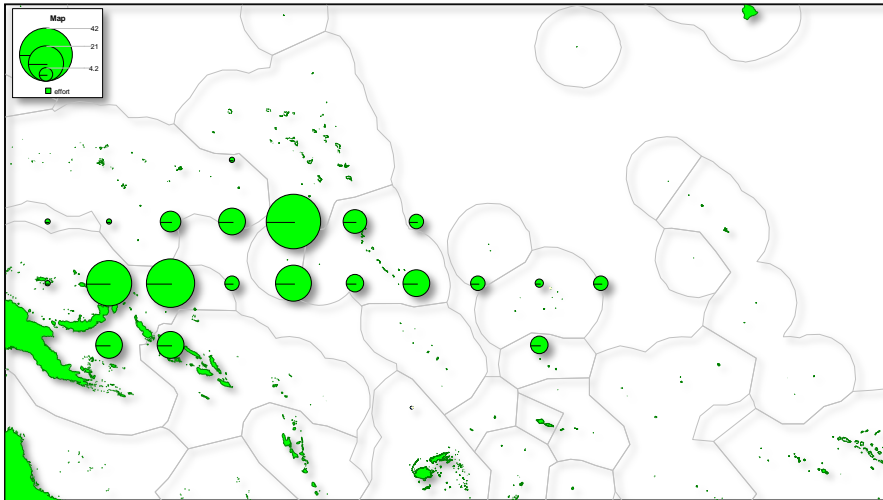


Figure 2.4c - Distribution of fishing effort (days) by the national PS fleet in 2011. (Source – Tuvalu TUFMAN)

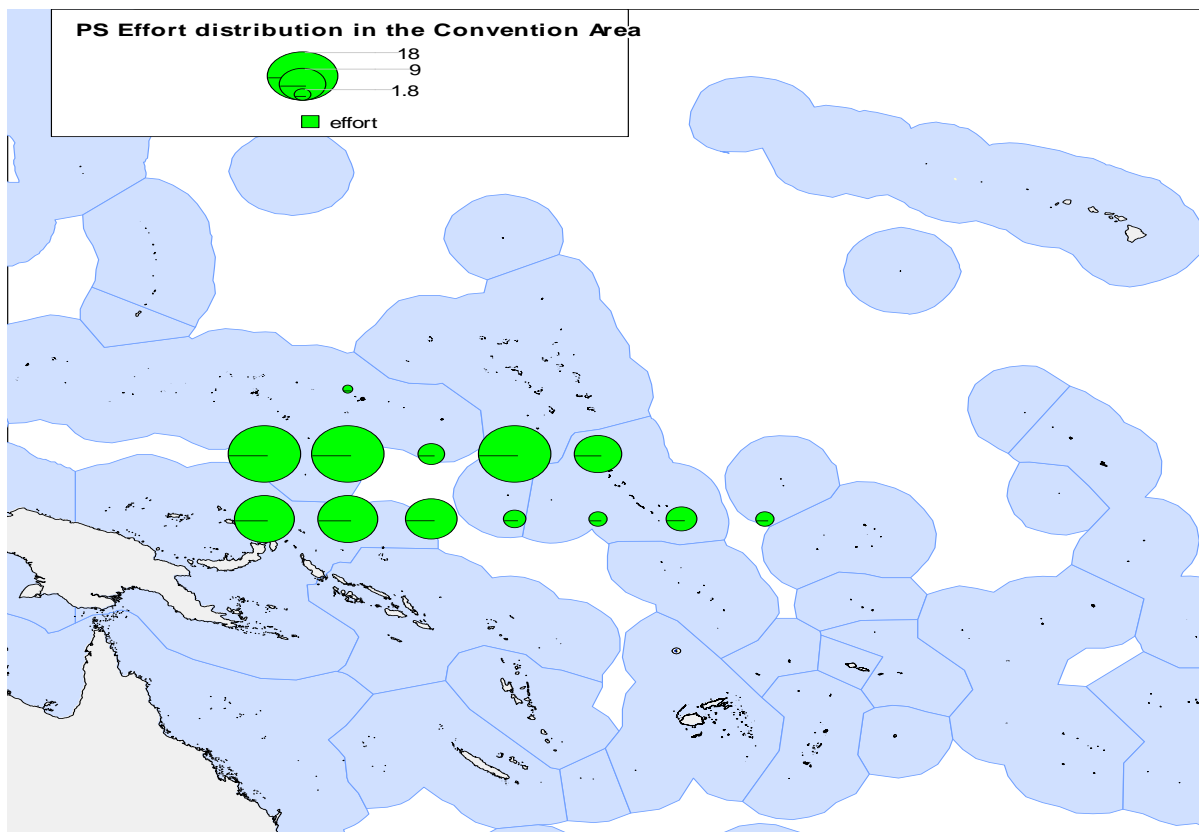
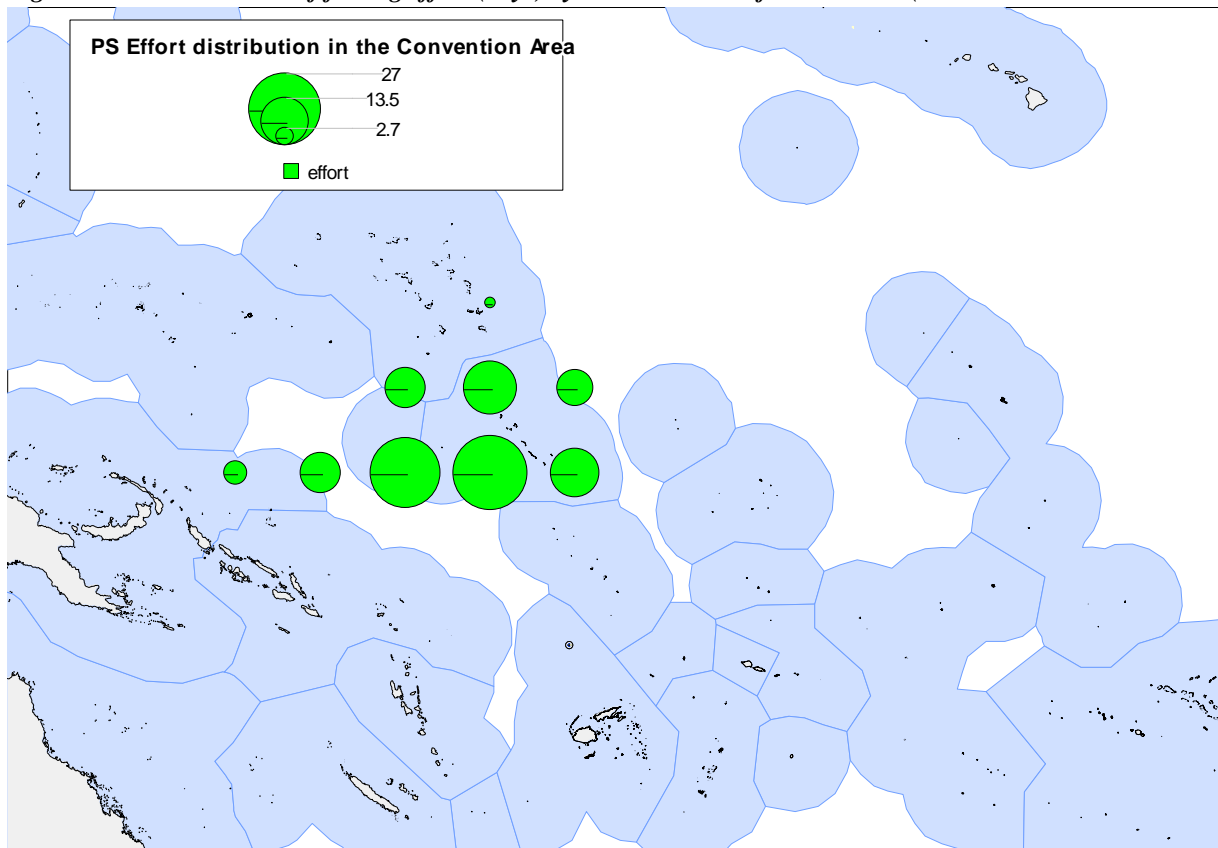


Figure 2.4d - Distribution of fishing effort (days) by the national PS fleet in 2012. (Source – Tuvalu TUFMAN)





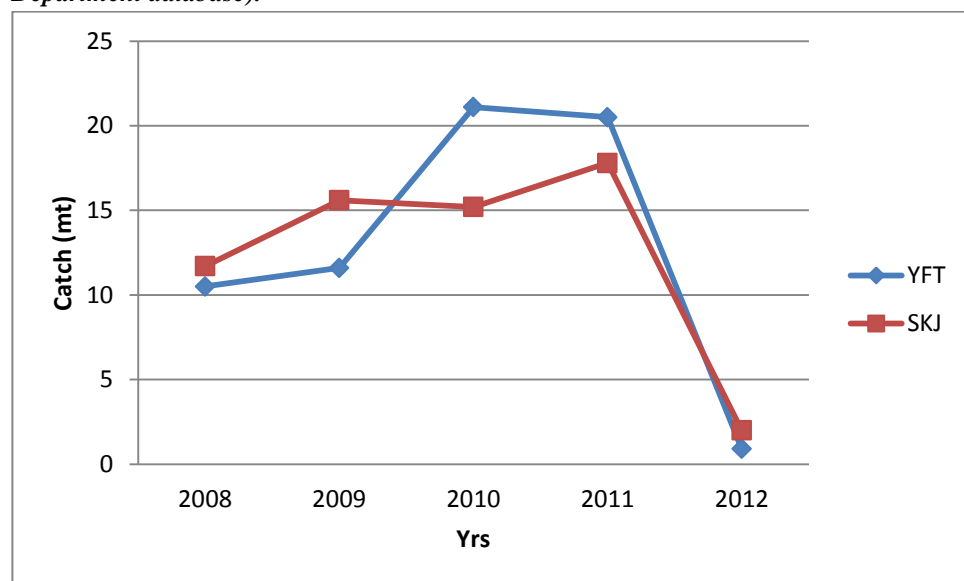
## 2.5 Artisanal fishery and annual catches

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 yellowfin skipjack tuna is lowest. Data provision remains a challenge.

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

Year	YFT	SKJ	Others	Total
2008	10.5	11.7	3.4	25.7
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

**Figure 2.5 – Provisional Annual catches (tons) landed by artisanal fishermen for the period 2008 to 2012. These are actual catch figures obtained through record held by the various local fish markets. (Source: Tuvalu Fisheries Department database).**



The provisional figures in Table 2.5 represent only the catch that is 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. The decrease in the number of catch was primarily due to the slack in fishing centers' data provision to the fisheries department.

### 3 COASTAL STATE REPORTING

#### Fishing licenses issued by the Tuvalu fisheries between 2008 and 2012

Tuvalu continues to provide fishing opportunities to interested foreign fleets. The number of fishing licenses shows a slight increase for longline, a huge drop for purse seine, while the pole and line remains constant. In 2012, a total of 233 fishing licenses had been issued; second to the record of those issued in 2010. Longline has the highest number of fishing licenses with a slight increase of 12.5% from the number of licenses issued in 2011. Number of licenses for purse seine fishing has been decreasing for the past two years, with about 21% decrease in 2011 and 20% for 2012. Number of pole and line licenses has been the same for 2011 and 2012.

Overall, the number of licenses issued for purse seine and pole and line fishing are the least for the past five years. As for long lines, it is second to the record of number of licenses issued in 2010. These variations are mainly due to the implementation of the VDS.

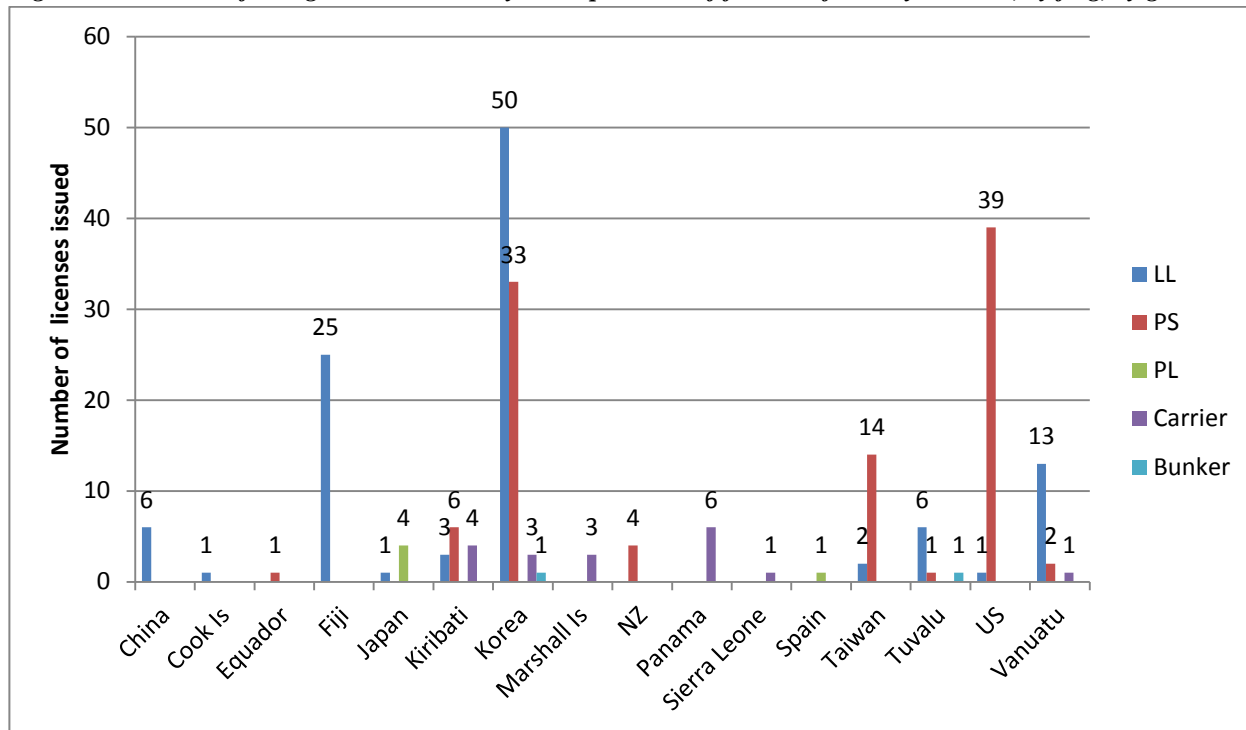
The margin of increase is greatest for the purse seine fleet which rose by 73% from that in the previous year. Overall it is the purse seine fleet that has the highest number of fishing licenses with 274 (62%) followed by the long line fleet with 149 licenses (33%). The pole and line registered only 10(2%) 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 6.28)*

Year	Long Line	Purse Seine	Pole and Line	Carriers	Bunker	Total
2008	43	130	6	2	0	181
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

Sixteen countries including Tuvalu were offered licenses to operate fishing activities in Tuvalu waters for 2012, from which Korea was leading with 92 licenses.

Figure 3.1 - Annual fishing licenses issued by the department of fisheries for the year 2012, by flag, by gear.

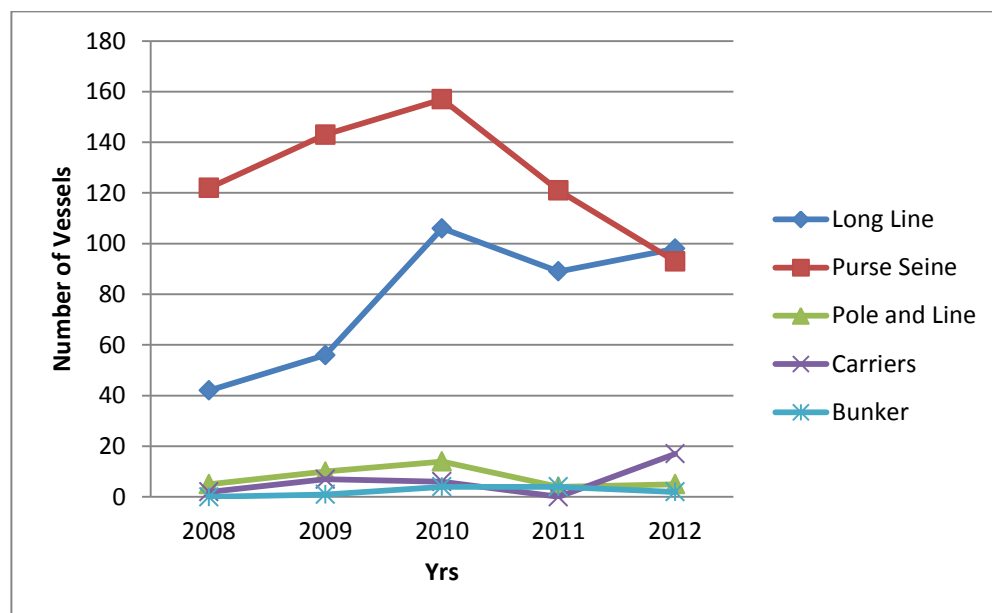


On the other hand, the table below shows the number of vessels licensed to fish in Tuvalu’s EEZ for the past five years. Last year has the least number of foreign fishing vessels, particularly the purse seine and long line, operating in our EEZ, for the past five years. It was peaked in 2010, then it declined from then on, up to last year. This decline is of course attributed to the implementation on the PNA VDS.

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 6.28)

Year	Long Line	Purse Seine	Pole and Line	Carriers	Bunker	Total
2008	42	122	5	2	0	171
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

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 6.28)



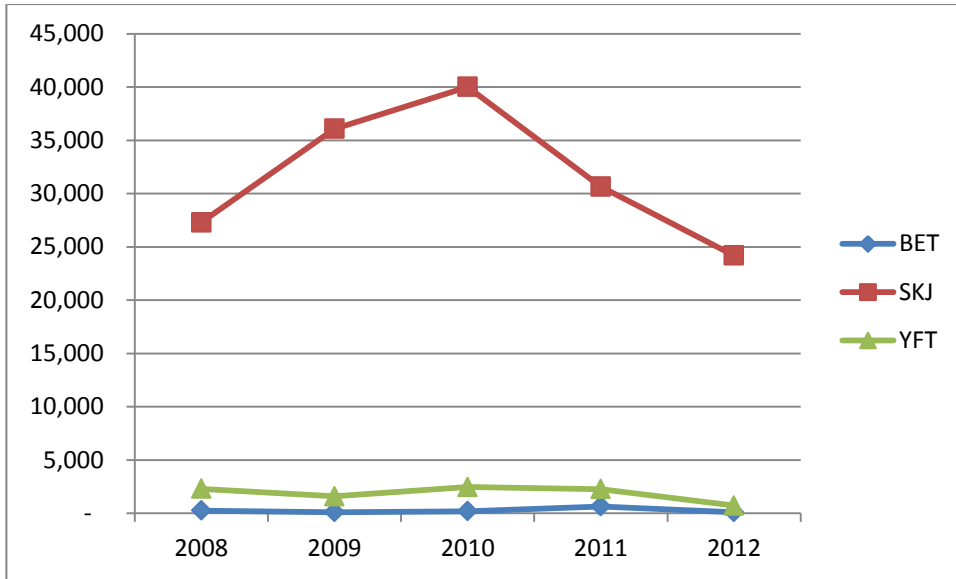
### 3.3 Purse seine – catch & effort

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 2011 dropped by approximately 35% from the 2012. The skipjack accounted for 91% of the total catch in 2012 and 7% consisted of yellowfin tuna. The other 2% was bigeye tuna.

Table 4: Combined fishing effort (days) and the total annual catch (mt) made in Tuvalu EEZ by the PS fleet between 2006 and 2010. (Source TuFMAN)

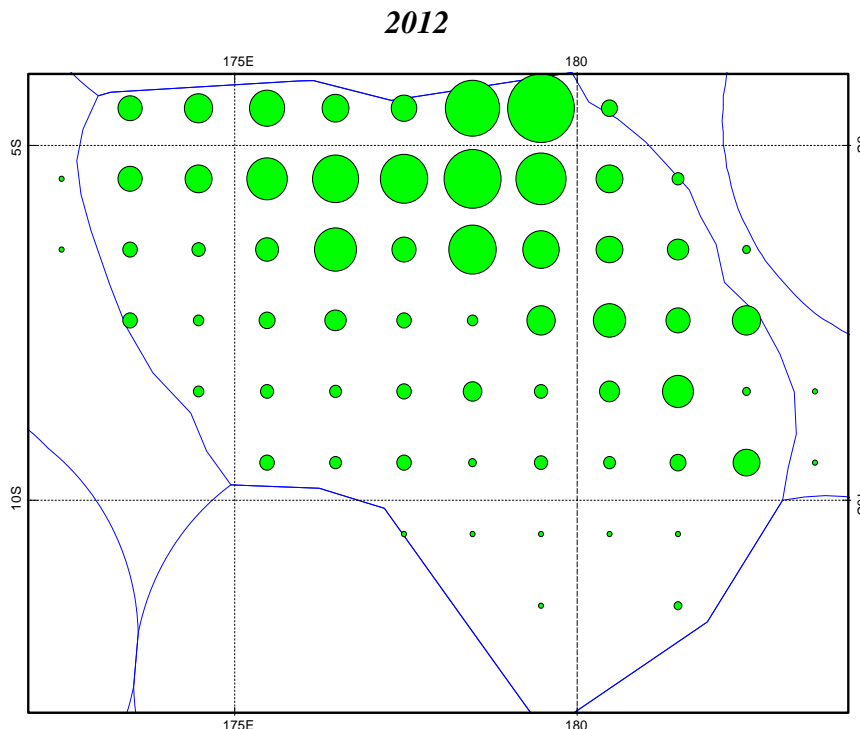
Year	Days	Skipjack (mt)	Yellowfin (mt)	Bigeye (mt)	Total (mt)
2008	1,403	31,229	5,936	1,760	38,926
2009	1,735	55,865	5,301	2,261	63,427
2010	1,800	53,665	5,066	1,887	60,618
2011	1,800	42,874	5,801	3,125	51,800
2012	1,800	30,636	2,260	643	33,540

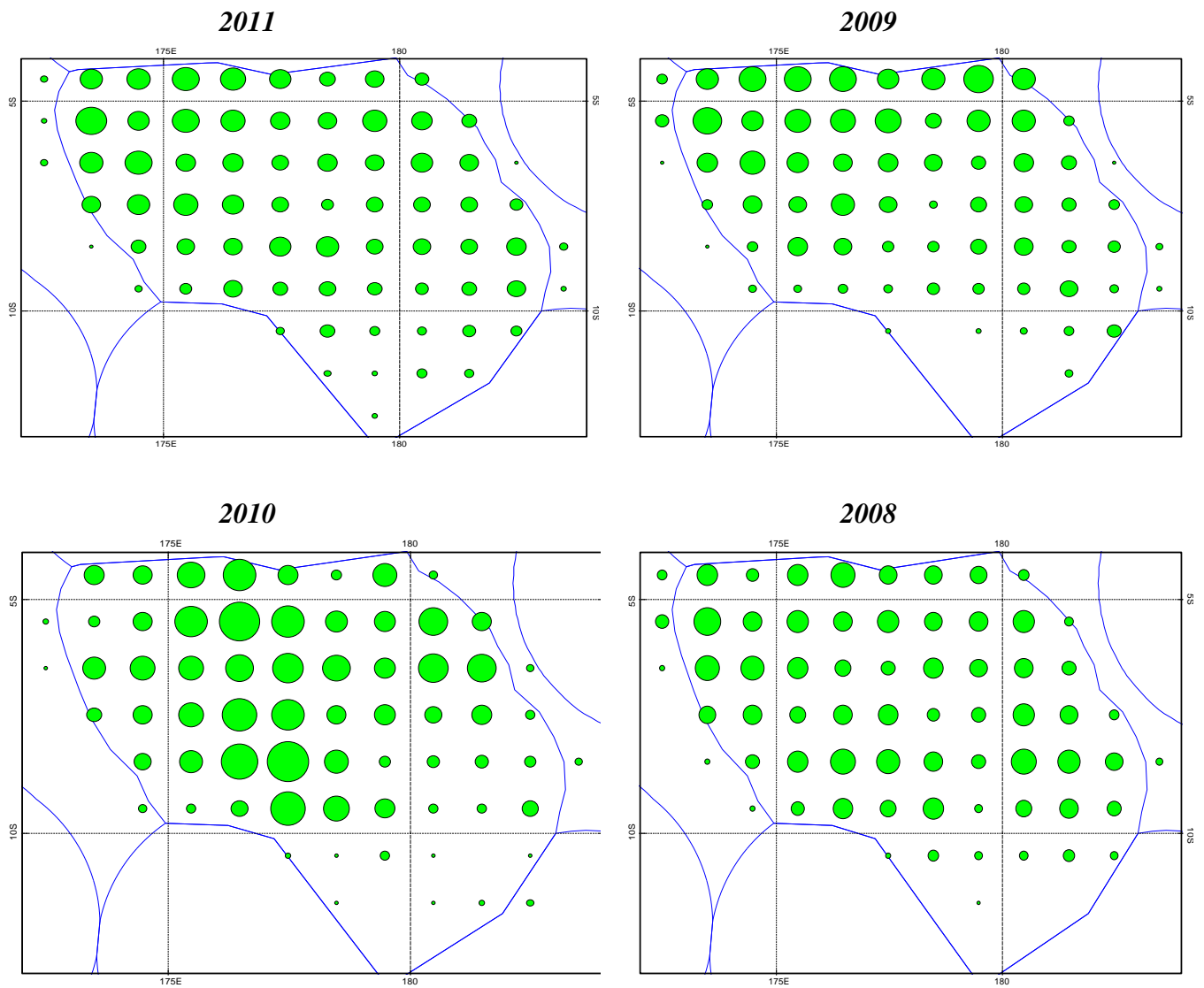
Figure 4 – total annual catch (mt) made in Tuvalu EEZ by the foreign PS fleets between 2008 and 2012



**Fishing effort distribution** – similar to any other year 2012 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 compared to 2011 which was more to West.

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





**Longline Fleet annual catches** – Annual catches for 2012 shows a record of 1858 mt, more than 40% increase from 2011's catch, with big eye tuna accounting to 75% of the total catch. Of that amount landed, big eye tuna showed a tremendous increase, more than 3 folds of the amount caught in 2011, and is also a record for the past five years. Yellowfin catch dropped by about 30% from 2011's record, and is second to that record. With albacore and skipjack catches remain missing, this catch is therefore still provisional.

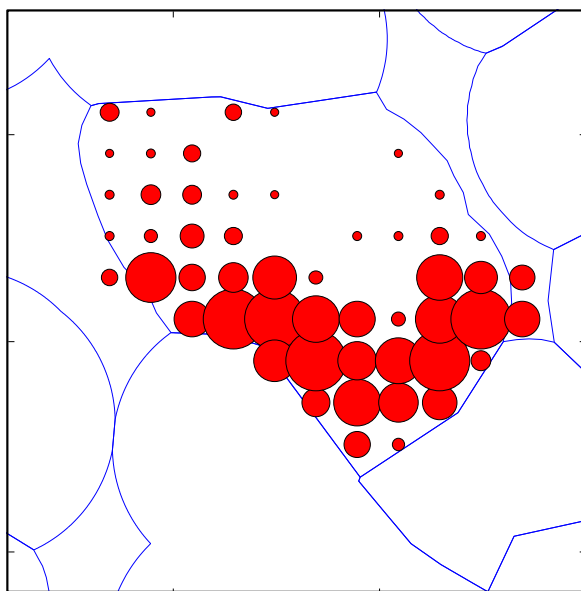
*Table 5 - Combined annual catches reported by the foreign long line fleet for the reporting period. (Source; TUFMAN Tuvalu)*

Year	Albacore	Big eye	Skipjack	Yellowfin	Total
2008	156	200	2	328	686
2009	247	283	1	428	959
2010	151	218	0	364	735
2011	371	300	4	659	1,333
2012		1405.5		452.8	1858.3

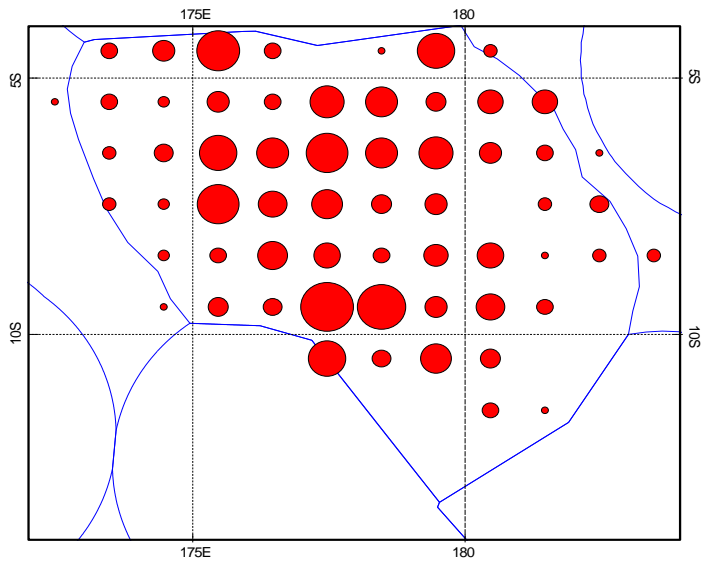
**Long line - Fishing Effort and distribution** – no distribution of fishing effort by the LL fleet in 2012 was available at the time the report was written. Using data available it can be concluded that effort distribution for the LL fleet similar to PS fleet is also scattered across the entire Tuvalu’s EEZ. However effort tends to aggregate more in some areas than others. Such effort aggregation changed from one year to the next. The highest number of effort recorded in Tuvalu EEZ was reported in 2007.

*Figure 6 - Effort distribution by the LL fleet in 2011. (Source; regional database, CES)*

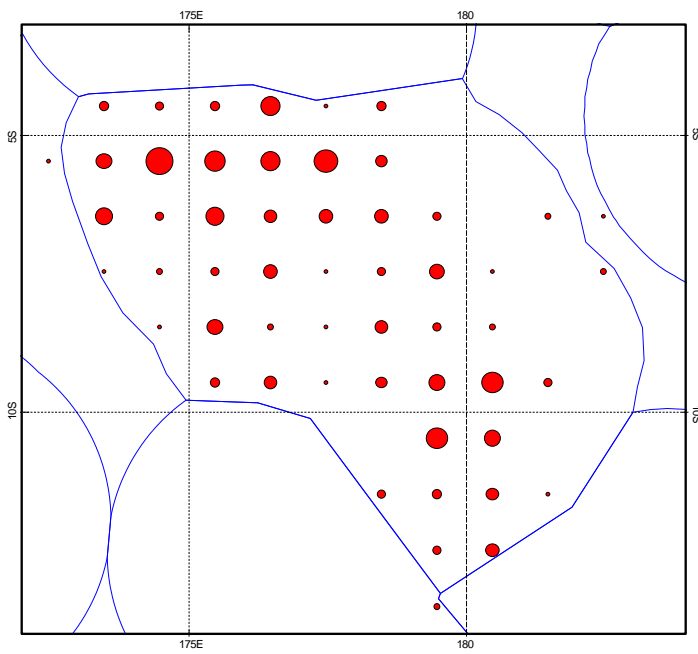
2011



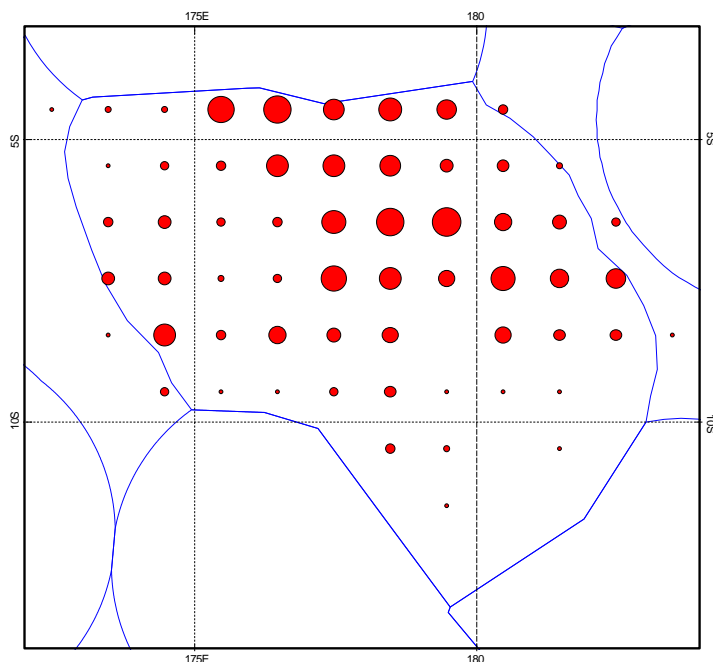
2010



2009







**Pole and Line annual catches** – Japan and Spain have the only P&L fleets operating in Tuvalu EEZ, No 2011 and 2012 catches have been received or reported at the time the report was written. The annual catches have been increasing and was peaked in 2010 with 996 mt. It is understood that many reports are yet to be received and the department is now in the process of locating and collecting all the outstanding reports not only for the Japanese pole and lines, but also for other fleets that fish and operate in Tuvalu EEZ.

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

Year	SKJ	BET	YFT	Total
<b>2008</b>	188	0	0	188
<b>2009</b>	440	2	3.6	445.6
<b>2010</b>	994	0	2	996
<b>2011</b>	0	0	0	0
<b>2012</b>				

## **Disposal of catch**

Tuvalu flag vessels offload their catches at ports outside Tuvalu. There was an increasing in the number of transshipment occurred in domestic ports in 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 2012. 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 plan with the assistance of the SPC, funded by the Japanese Trust fund, towards the midst of last year, with the hope to fully engage this year. Negotiations have been arranged regarding donors to 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 will implement rights-based management regime to control and manage its domestic fisheries.

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

## **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 month after the completion

of fishing trip. There's still quite a number of vessel operators who continue to defy such reporting requirement. Some tuna data targeting artisanal sector are also collected annually by the local fisheries department under its own initiative. However due to funding and manpower shortages, coverage is very limited and only confined to the Funafuti atoll.

**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.