SCIENTIFIC COMMITTEE
ELEVENTH REGULAR SESSION

Pohnpei, Federated States of Micronesia
5-13 August 2015

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

WCPFC-SC11-AR/CCM-28
Rev 1 (8 August 2015)

VANUATU

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ANNUAL REPORT TO THE COMMISSION
PART 1: INFORMATION ON FISHERIES, RESEARCH, AND STATISTICS
WCPFC-SC11-AR/CCM-01

THE REPUBLIC OF VANUATU
FISHERIES DEPARTMENT

VANUATU

Scientific data was provided to the commission in accordance with the decision relating to the provision of scientific data to the commission by 30 April 2015	**YES**

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ABSTRACT

The major tuna species from the Foreign and locally based foreign catch in the Vanuatu EEZ in 2014 was dominated by 51% of albacore, 13% of yellowfin, 27% of bigeye and lastly 9% for others species of the total catch. The decrease of catch in 2014 was due to the shift of effort to the Solomon Islands compared to 2013 which was much higher.

In the period 2010 – 2014 the annual catch estimates of the Vanuatu longline fleets in the WCPO have generally decreased as did the fishing effort (sets) and number of fish per 100 hooks; this also applies to the purse seiners whose catch estimates were also reduced due to the reduction in effort in 2014.

For Purse seiners, there were more sets on unassociated than associated schools. The total catches for the purse seine fleets that fished in the WCPFC-CA decreased to 20,514MT in 2014 compared to 2010-2012 where catch was higher. Purse seine catches in 2014 were dominated by skipjack (94%), then Yellowfin (4%) and lastly bigeye (2%).

Unraised and provisional 2014 data shows that catches of the main tuna species for Purse seines increased from 16,482MT of skipjack in 2013 to 19,285MT in 2014, Longline however decreased from 10,446MTAlbacore in 2013 to 6,581MT in 2014.Yellowfin and Bigeye catches for the Purse seine fleets also reduced from 2013 to 2014 while Longline Yellowfin catch increased from 1626MT in 2013 to 1695MT in 2014. Bigeye catches for Longline also increased from 1989MT in 2013 to 3419MT in 2014. .Bill fish catches for Longline on the other hand decreased from a total of 1014MT for 2013 to 965MT in 2014.

Since 2010, Vanuatu accomplished 100% Observer coverage for the locally based foreign fishing vessels and 100% port sampling on all unloading of fresh fish and this 100% coverage also includes transshipment in port. For Vanuatu flag Long liners that were based in Vanuatu in 2013, there was 100% observer coverage together with 100% port sampling for all unloading and transshipment activity that took place in port. In 2014, the number of vessels offloading had reduced tremendously as most of the vessels moved operations to Fiji. Fresh fish caught and unloaded in Vanuatu in 2014 was exported to Japan, Australia, USA and New Zealand via airfreight while frozen fish are shipped to the canneries in Fiji via fish carriers.

ANNUAL FISHERIES INFORMATION

1. Background

The main commercial tuna and billfish species caught in the Vanuatu EEZ and by the Vanuatu fleet in the WCPFC consists of albacore (*Thunnus alalunga*), bigeye (*Thunnus obesus*), skipjack (*Katsuwonus pelamis*), yellowfin (*Thunnus albacares*), black marlin (*Makaira indica*), blue marlin (*Makaira nigricans*), striped marlin (*Tetrapturus audax*) and swordfish (*Xiphias gladius*).

As part of Vanuatu's obligation to report the WCPFC CMMS's for key shark species, data have also been compiled, some of which are now covered in the longline fleet tables, these are blue shark (*Prionace glauca*), silky shark (*Carcharhinus falciformis*), oceanic whitetip shark (*Carcharhinus longimanus*) and mako shark (*Isurus spp.*). Catches of other shark species are not covered explicitly, and discards are not considered however they have been reported by Observers. The main industrial fishing methods employed in the Vanuatu EEZ has been dominated by the longline gear outside 24 miles however few Artisanal fishers fishing within the 12 miles around FAD's catch Skipjack and Yellowfin. Individual fleets presented herein cover vessels with high catch and effort data coverage and these are a few of Fiji and Taiwan

vessels with the dominant flag being the Chinese flag vessels who are entirely based in Fiji and are fishing in Vanuatu under Foreign or Locally Based Foreign Licenses.

The report covers the fishing activities in the Vanuatu EEZ and operations of the Vanuatu flag vessels that were active in the WCPFC and other broad ocean area during the period 2010 to 2014. The report mainly focuses on the fleet structures, annual catch estimates and catch/effort distributions. The report also raises areas where new and further effort is required on the part of Vanuatu to enhance its role in contributing to the overall conservation and management of highly migratory stocks in the WCPFC area.
Most of the current presented data were obtained from the OFP/SPC database and were originally collected and verified by the Vanuatu Fisheries Data Management Unit (VFDMU). It should be noted that data provided for Vanuatu in this report and also from the past reports to the commission are from unraised log sheet data.

Vanuatu recognizes that there are critical data 'gaps' that need more attention and focus on. Therefore, with limited staffs and limited funds available, the department has been working very closely with SPC, FFA to collect as much information and data as possible to enable us to fill in these gaps. We are yet to establish designated ports for our Flagged Vessels and this would enable us to monitor landings of fish in foreign ports, however the ports mainly utilized in this region are Suva, Levuka and Pagopago.

FLAG-STATE REPORTING

2. Information on Flag-state Reporting

Vanuatu is currently a member of IATTC, IOTC, SPRFMO, CCSBT and ICCAT and has ratified the WCPFC and SPRFMO and is intending to join CCAMLR in the near future. Due to EU-IUU issues Vanuatu will be moving out of ICCAT and IOTC in 2016. The membership of Vanuatu in these RFMOs has enabled Vanuatu's fishing fleet to fish these RFMO's waters for tuna and other highly migratory fish species. The Vanuatu fleet consists of 3 purse seiners that are under Bilateral Fishing Agreements and 82 long-liner fishing vessels which were active in WCPFC in 2014 which is a drop in number of Purse seiners from 2013 levels and an increase for Longliners from the 62 vessels in 2013.

The Vanuatu fleet which consists of purse seine and longline vessels fishing between the Pacific, Indian and Atlantic Oceans. Fishing inside the Exclusive Economic Zones (EEZ) of coastal states had been possible by way of Bilateral Fishing Access (BFA) agreements particularly for long liners and sub-regional arrangements (FSM Arrangement) for purse seiners. Vanuatu currently operates a vessel registry, the Vanuatu International Shipping Registry (VISR). The VISR has recorded over 500+ registrations since 2003, and in 2014 there are 140 fishing vessels. It is a requirement by law that all Vanuatu fishing vessels acquire an International Authorization to Fish Certificate (IATF) to operate in the high seas within the Pacific, Atlantic and Antarctic Ocean.

3. Catch and Effort Trends

The annual catch and effort estimates have been estimated for the Vanuatu fleet operating under bilateral arrangements with PNG and the FSM Arrangement, and the large scale longline vessels (LSLV) operating in the wider WCPFC Area. The general observation since 2013 was that there has been a variation in the 2014 annual catch and effort estimates for both the purse seine and the longline fleet.

The major tuna species for the Vanuatu longline fleet catch was dominated by albacore then bigeye and lastly yellowfin. Unraised and provisional estimates for the longline fleet in 2014 were 6581 mt for albacore, 3,419 mt for bigeye and 1,695 mt for yellowfin respectively and

these catch estimates were determined from logsheet data raised using information on actual vessel Activity (VMS data). During the period 2010-2014, the longline fleet recorded its highest total annual catch estimate as 15,732 in 2010 (Table 1(a)). The longline fishery recorded the highest catches for albacore in 2010 being 12,293mt which is an increase from the 5,582mt in 2008 and 7,992mt in 2009.The highest catch for bigeye was in 2014 which is 3,419mt an increase from the 1,989mt in 2013. Yellowfin catches also showed an increase in catch from 2009 (514mt) and 2012 (2,229.9mt) but was reduced in 2013 (1,626.2mt) and again a slight increase in 2014 to 1,626mt. Albacore was the dominant species in the catch for 2014 followed by bigeye and yellowfin. Effort for the longline fishery has not really changed from 2013 levels however a small reduction was seen in the areas between 0 and South of 20 South. Effort was measured as the number of hooks fished in each year as can be seen in Figure 3)a)ii).

The purse seine fleet that operated under bilateral arrangements recorded an increase in total catch from 2013 levels which was 20,099mt to 20,514mt in 2014 (Table 1(b)). The effort in the total number of sets had also increased with the most seen in associated sets. During this period, the main tuna species in the catch had increased also with an additional 2,803mt of skipjack increase from 2013 levels. Yellowfin on the other hand decreased from 2,983mt in 2013 to 896mt in 2014 and Bigeye was also reduced from 634mt in 2013 to 333mt in 2014.
The purse seine fleets were mainly operating within the 5 degrees N and 5 degrees S and between 150 degrees E and 175 degrees W. The effort in the purse seine fishery is measured as days fishing and searching, Figures 3)b)ii) shows the effort distributions of purse seine vessels that operated under the bilateral agreements.

The longline effort is given as 100s of hooks. The longline efforts are distributed between 40 degrees North and 40 degrees south. This implies that both the southern and northern albacore stocks were targeted. However, there was more effort experienced in the south i.e between 10 degrees S and 40 degrees S with a strong concentration in the Vanuatu EEZ in 2013 but this effort evidently reduced in 2014 as seen in the Figure 3)a)ii) where less effort is seen only in the Solomon and Vanuatu EEZ and the Cook Islands EEZ.

The catch and effort data coverage for the Vanuatu fleet are high, but the size data coverages are uncertain as most of these vessels are landing their catch elsewhere and this would mostly be corroborated by the observers and port samplers in whose jurisdictions catch may have been landed or transshipped. The inferences for high, medium, and low scores for the catch/effort, and size data coverage, are provided in Appendix II. A high score for catch or effort implies that more than 80% of the data had been covered and question marks indicate that there was no data coverage.

Estimated Annual total catches of non-target, associated and dependent species by the Vanuatu purse seine fleets and long-line fleets in 2010-2014 has been sought from the TUBS reporting web database as shown in Table 3, 4 and Table 5 as well as in Annex 1 where there is a summary table for all CMM's concerned.

Appendix 1 summary tables also provide information on the observed species of interest collected through observer reports for the year 2010-2014 as most of the Observer records were collected by the PNG and FSM observers therefore Vanuatu in collaboration with PNG has been successful in meeting 100% observer coverage on its purse seine vessels that are fishing under the FSM Arrangement and Bilateral arrangements with PNG. SPC has confirmed that this information have been collected by observers in other jurisdictions on vessels that were operating in their waters and has been submitted to the WCPFC, SPC or FFA.

Table 1(a). 2014 Annual catch estimates for the Vanuatu Offshore Longline Fleet in the WCPFC Convention Area for Tuna and Billfish species.

Year	Albacore Catch (MT)	Yellowfin Catch (MT)	Bigeye Catch (MT)	Skipjack Catch (MT)	Pacific Bluefin Catch (MT)	Black Marlin Catch (MT)	Blue Marlin Catch (MT)	Striped Marlin Catch (MT)	Swordfish Catch (MT)	Total
2010	12293	788	2060	4	0	56	173	77	281	15,732
2011	8059	1269	2060	22	1	11	195	67	170	11,854
2012	8300	2230	2151	309	0	18	437	71	177	13,693
2013	10446	1626	1989	166	0	19	545	105	345	15,241
2014	6581	1695	3419	134	0	27	493	77	368	12,794

Notes:

- *2010-2012 catch estimates were taken from TUFMAN database system – coverage of logsheets for 2012 is expected to be ~50%. Catch estimates were determined from logsheet data raised using information on actual vessel activity (e.g. VMS data).*
- *2013-2014 catch estimates were derived from the eRecap and the Tufman reporting web tool; where logsheet coverage for 2014 is 74%.*

Table 1(b). 2014 Annual catch estimates for the National Purse seine Fleet in the WCPFC-CA for Tuna and Billfish species.

Year	Skipjack Catch (MT)	Yellowfin Catch (MT)	Bigeye Catch (MT)	Total (MT)
2010	19,253	3,743	723	23,719
2011	18,105	4,133	1,144	23,382
2012	17,876	6,152	806	24,834
2013	16,482	2,983	634	20,099
2014	19,285	896	333	20,514

Notes:

- *2013-2014 catch estimates are based on estimates derived from the eRecap and the Tufman reporting web tool with logsheet coverage for 2014 ~100%*
- *Estimates also apply to the WCPO Area (the Pacific Ocean west of 150°W)*
- *Catches do not include Vanuatu-flagged vessels that fish the FSM Arrangement vessels with HOME PARTY = PNG*

Table 1 (c) i). 2014 Annual catch estimates for the National Longline (Offshore) Fleet in the WCPFC-CA for Non-Target and by catch species (including sharks).

Species	2014 (MT)
BLUE SHARK	659.3
SILKY SHARK	49.03
OCEANIC WHITETIP SHARK	0.06
MAKO SHARK	121.9

Note:

- *Catch estimates were derived from the eRecap and the Tufman reporting web tool; where logsheet coverage for 2014 is 74%.*

Table 1 (c) ii). 2014 Annual catch estimates for the National Purse seine (Offshore) Fleet in the WCPFC-CA for Non-Target and by catch species (including sharks).

Species	2014 (MT)
WHALE SHARK	32.6
SILKY SHARK	79.4

Note:

- *Catch estimates were based on estimates derived from the eRecap and the Tufman reporting web tool with logsheet coverage for 2014 ~100%*
- *Catches do not include Vanuatu-flagged vessels that fish the FSM Arrangement vessels with HOME PARTY = PNG*

Figure 1(a) Historical Annual Catch and Effort estimates for the National Longline Fleet within the WCPFC-CA

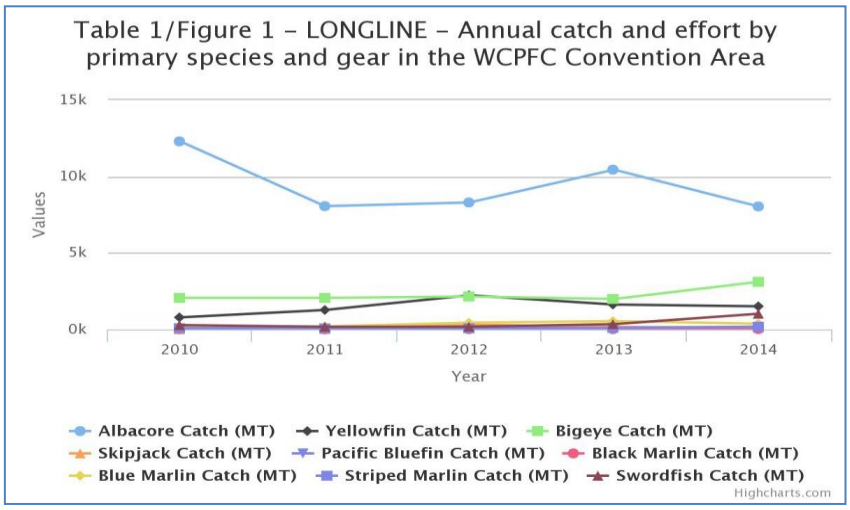


Figure 1(b) Historical Annual Catch and Effort estimates for the National Purse seine Fleet within the WCPFC-CA

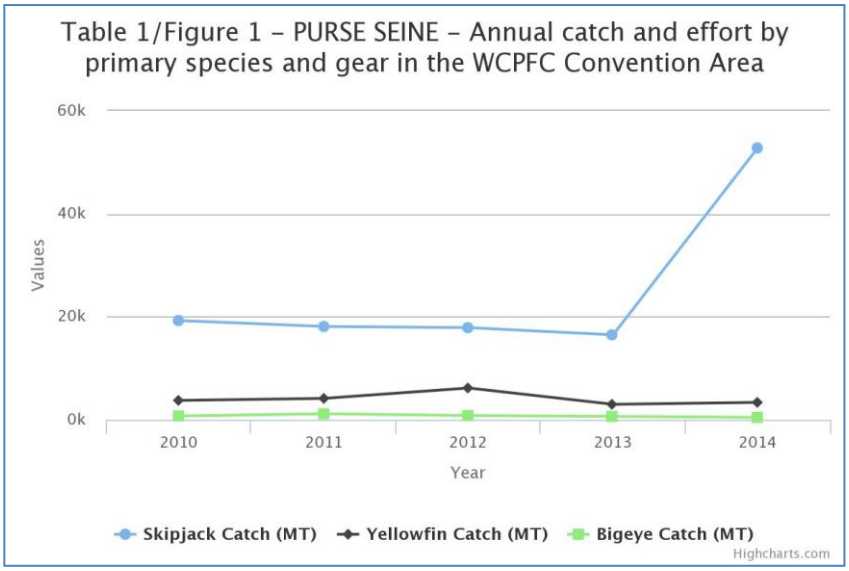
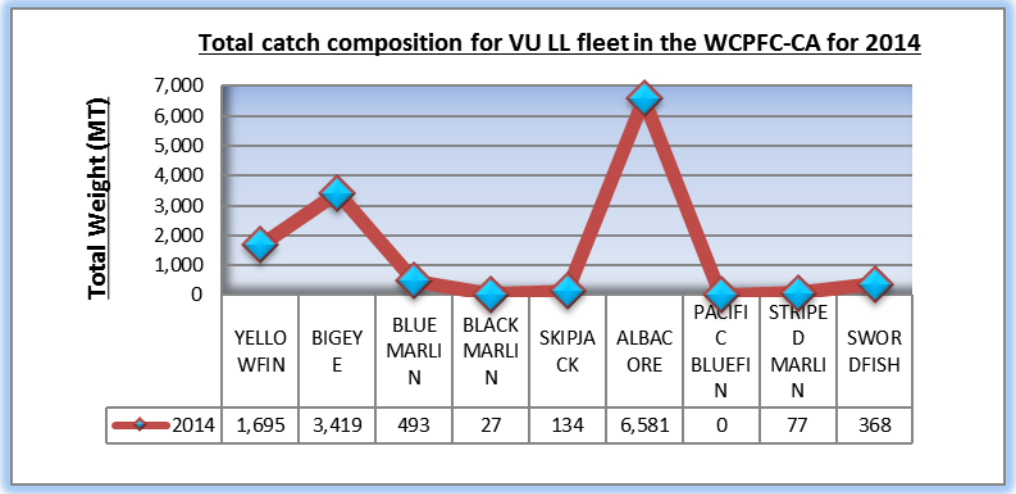


Figure 2(a) i). Total Catch composition of the National Fleet fishing within the WCPFC-CA 2014

a) Longline



b) Purse seine

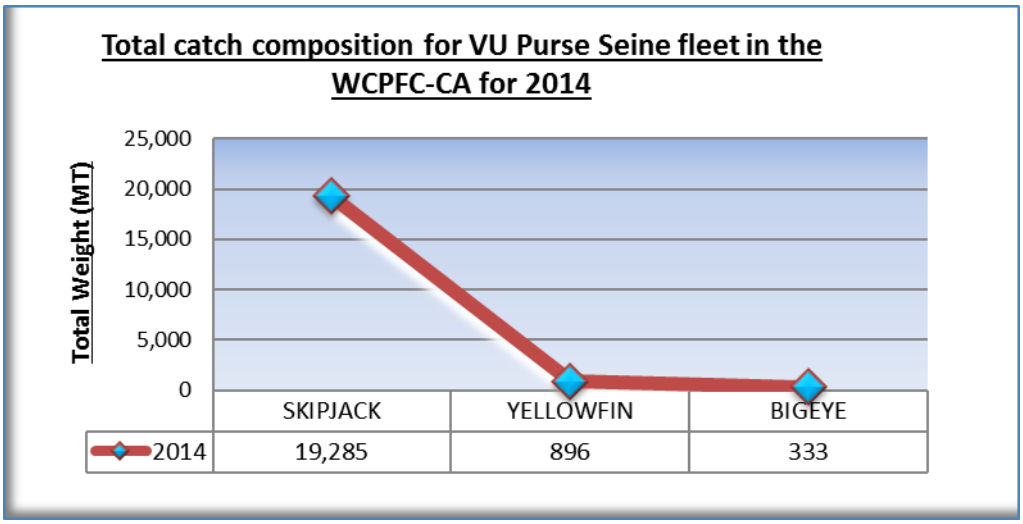


Table 3) Annual un-raised catch estimates for all Vanuatu longline vessels, for tuna and billfish by broad ocean areas

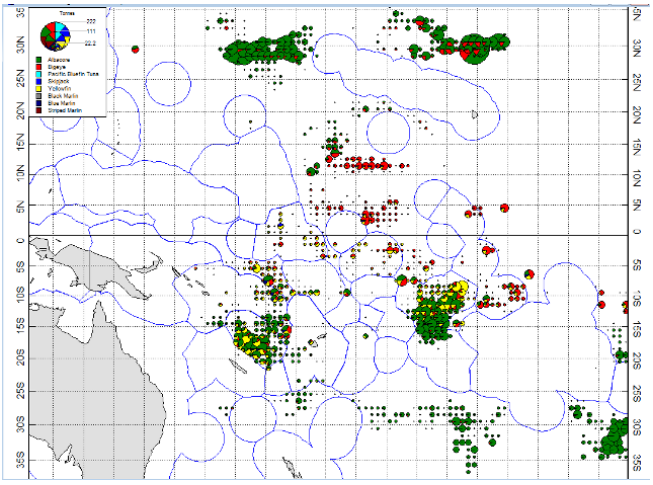
Area	Year	ALB	BET	YFT	SKJ	PBF	BUM	BLM	MLS	SWO
1. WCPFC Convention Area	2014	6,581	3,419	1,695	134	0	493	27	77	368
	2013	10,446.2	1,989.2	1,626.2	166.2	0	544.6	18.5	104.6	344.6
	2012	8,300.1	2,150.7	2,229.9	0.6	0	436.6	18.3	71.1	176.7
	2011	8,059	1,809	1,269	0	0.623	195	11	67	170
	2010	12,293	2,060	788	0	0	173	56	77	281
2.WCPFC Convention area (S of Equator)	2014	4,157	N/A	N/A	N/A	0	N/A	N/A	54	286
	2013	6,486.2	N/A	N/A	N/A	0	N/A	N/A	33.8	135.4
	2012	5,615.3	N/A	N/A	N/A	0	N/A	N/A	36.6	130
	2011	3,210	N/A	N/A	N/A	0.623	N/A	N/A	20	83
	2010	9,604	N/A	N/A	N/A	0	N/A	N/A	65	238
	2014	2,426	N/A	N/A	N/A	0	N/A	N/A	24	81

3.WCPFC Convention Area (N of Equator)	**2013**	**1,361.5**	**N/A**	**N/A**	**N/A**	**0**	**N/A**	**N/A**	**9.2**	**18.5**
	2012	**2,684.8**	**N/A**	**N/A**	**N/A**	**0**	**N/A**	**N/A**	**34.5**	**44.7**
	2011	**4,850**	**N/A**	**N/A**	**N/A**	**0**	**N/A**	**N/A**	**30**	**27**
	2010	**2,717**	**N/A**	**N/A**	**N/A**	**0**	**N/A**	**N/A**	**13**	**43**
4. WCPO	**2014**	**5,559**	**3,028**	**1,601**	**N/A**	**N/A**	**N/A**	**N/A**	**57**	**328**
	2013	**7,409.2**	**1,380**	**1,507.7**	**N/A**	**N/A**	**N/A**	**N/A**	**32.3**	**109.2**
	2012	**7,191.3**	**1,943.5**	**2,191.3**	**N/A**	**N/A**	**N/A**	**N/A**	**58.9**	**158.4**
	2011	**7,376**	**1,706**	**1,252**	**N/A**	**N/A**	**N/A**	**N/A**	**53**	**155**
	2010	**9,380**	**1,132**	**606**	**N/A**	**N/A**	**N/A**	**N/A**	**55**	**138**
7. North Pacific Ocean	**2014**	**2,426**	**N/A**	**N/A**	**N/A**	**0**	**N/A**	**N/A**	**24**	**81**
	2013	**1,801.5**	**N/A**	**N/A**	**N/A**	**0**	**N/A**	**N/A**	**15.4**	**40**
	2012	**2,843.2**	**N/A**	**N/A**	**N/A**	**0**	**N/A**	**N/A**	**38.6**	**60.9**
	2011	**8,102**	**N/A**	**N/A**	**N/A**	**0**	**N/A**	**N/A**	**95**	**95**
	2010	**2,811**	**N/A**	**N/A**	**N/A**	**0**	**N/A**	**N/A**	**13**	**44**
8. South Pacific Ocean	**2014**	**3,134**	**N/A**	**N/A**	**N/A**	**0**	**N/A**	**N/A**	**32**	**247**
	2013	**8,636.9**	**N/A**	**N/A**	**N/A**	**0**	**N/A**	**N/A**	**87.7**	**303.1**
	2012	**9,096.2**	**N/A**	**N/A**	**N/A**	**0**	**N/A**	**N/A**	**87.3**	**211.2**
	2011	**5,779**	**N/A**	**N/A**	**N/A**	**0.62**	**N/A**	**N/A**	**71**	**136**
	2010	**12,058**	**N/A**	**N/A**	**N/A**	**0**	**N/A**	**N/A**	**90**	**302**

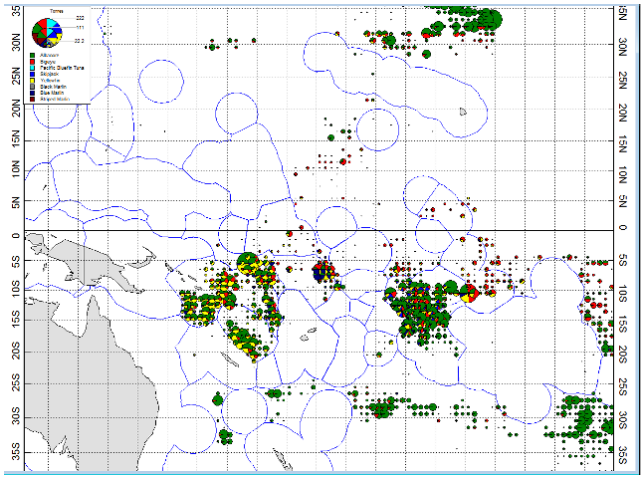
Note: *N/A in the table refers to data that is <u>not a WCPFC requirement</u> to record. Only the species in the areas reflected in the accepted stock boundaries stated are reported for each broad ocean area.*

Figure 3(a)i). Annual Catch distribution (1°x1°) of tuna species for National Longline Fleet within the WCPFC-CA

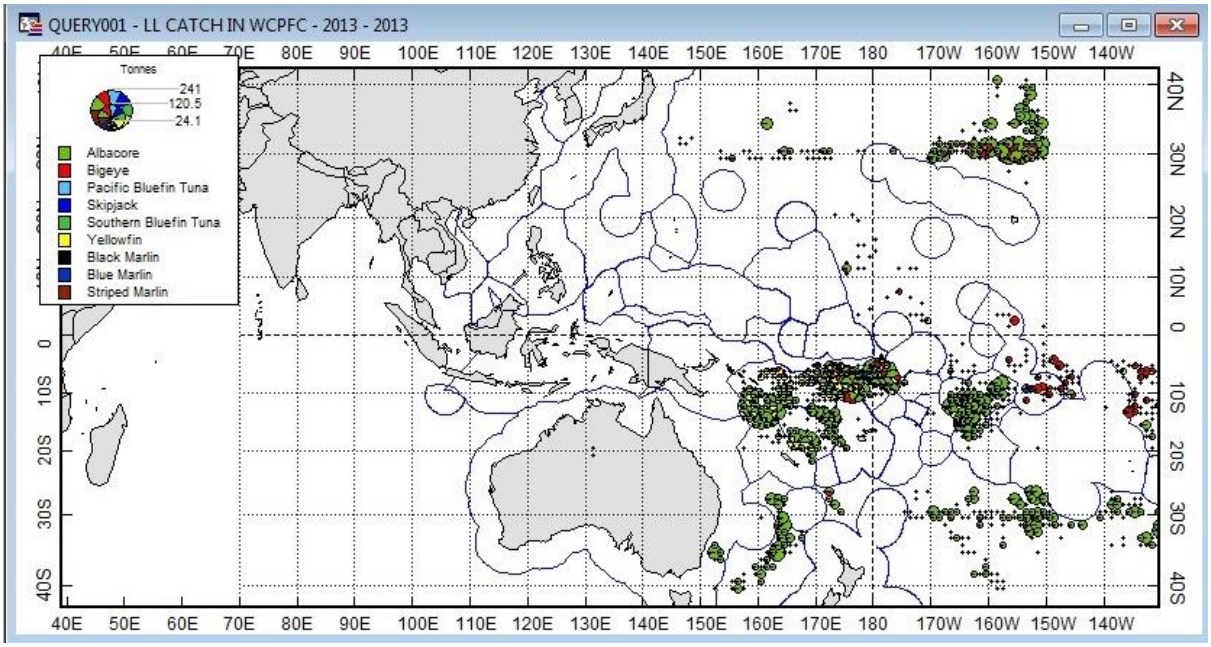
2011



2012



2013


QUERY001 - LL CATCH IN WCPFC - 2013 - 2013
Tonnes
241
120.5
24.1
Albacore
Bigeye
Pacific Bluefin Tuna
Skipjack
Southern Bluefin Tuna
Yellowfin
Black Marlin
Blue Marlin
Striped Marlin
40E 50E 60E 70E 80E 90E 100E 110E 120E 130E 140E 150E 160E 170E 180 170W 160W 150W 140W
40N 30N 20N 10N 0 10S 20S 30S 40S

2014

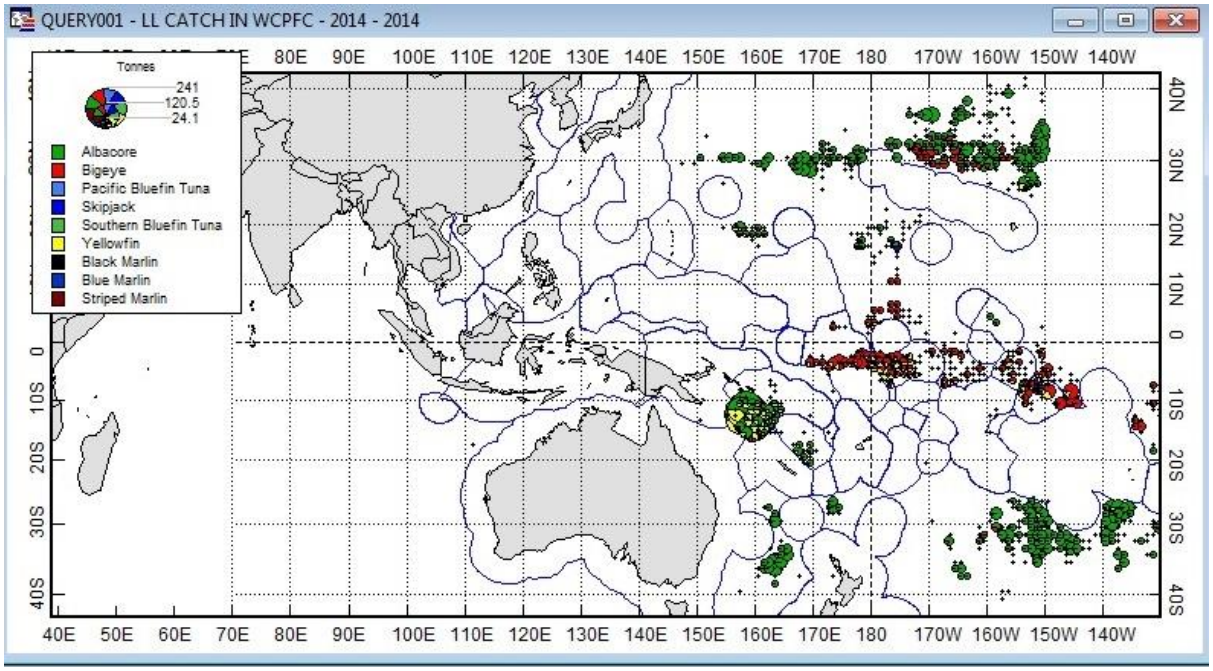
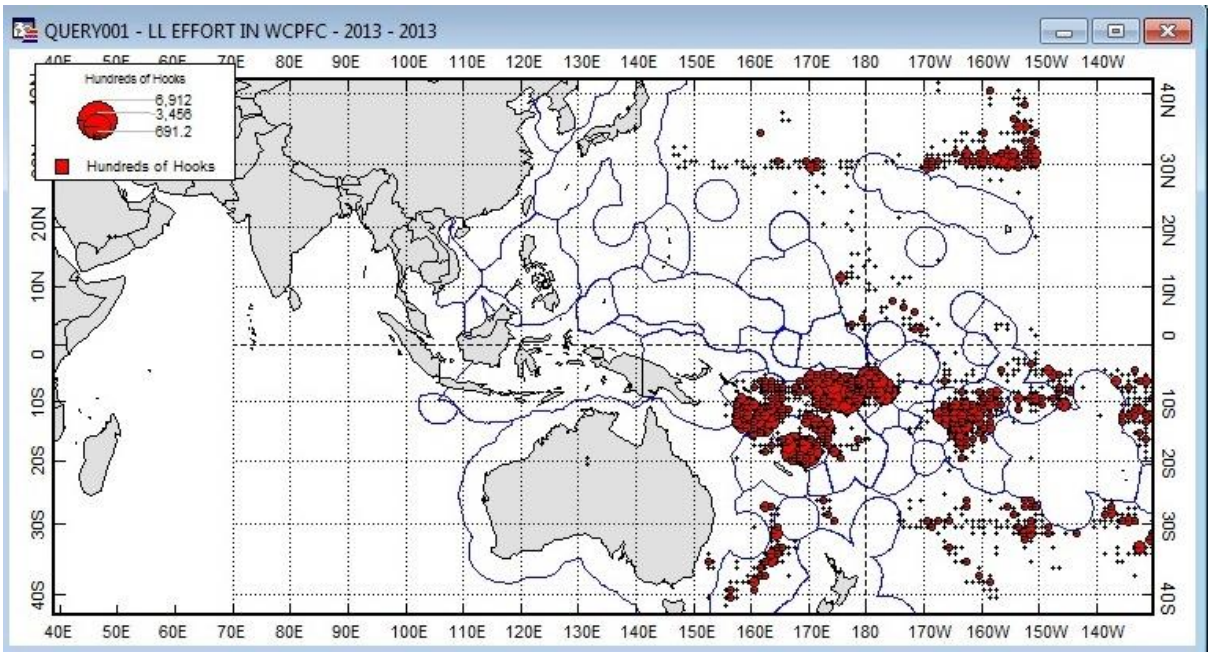

QUERY001 - LL CATCH IN WCPFC - 2014 - 2014
Tonnes
241
120.5
24.1
Albacore
Bigeye
Pacific Bluefin Tuna
Skipjack
Southern Bluefin Tuna
Yellowfin
Black Marlin
Blue Marlin
Striped Marlin
80E 90E 100E 110E 120E 130E 140E 150E 160E 170E 180 170W 160W 150W 140W
40N 30N 20N 10N 0 10S 20S 30S 40S
40E 50E 60E 70E 80E 90E 100E 110E 120E 130E 140E 150E 160E 170E 180 170W 160W 150W 140W

Figure 3(a)ii). Annual Effort distribution (1°x1°) of tuna species for National Longline Fleet within the WCPFC-CA

2013



2014

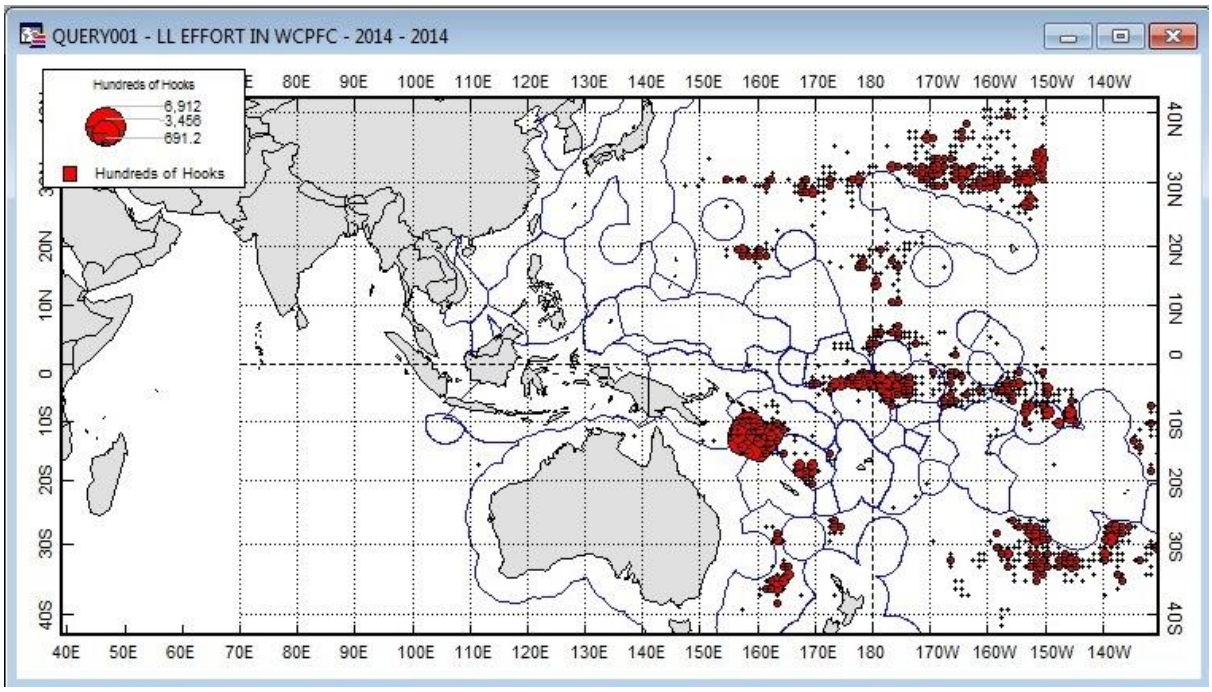
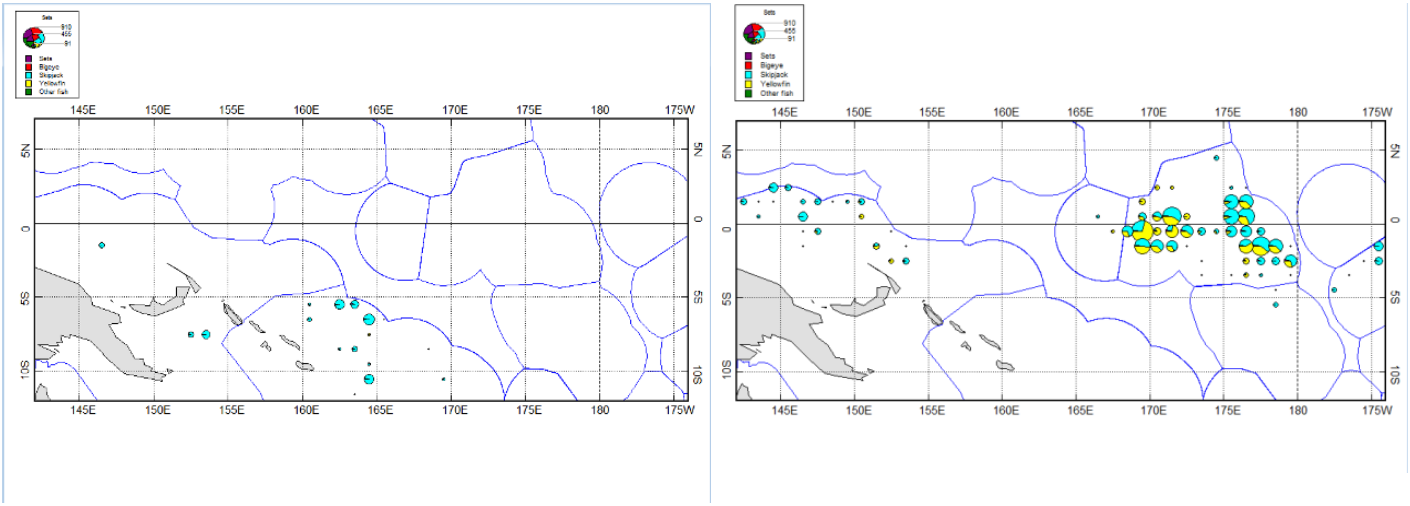
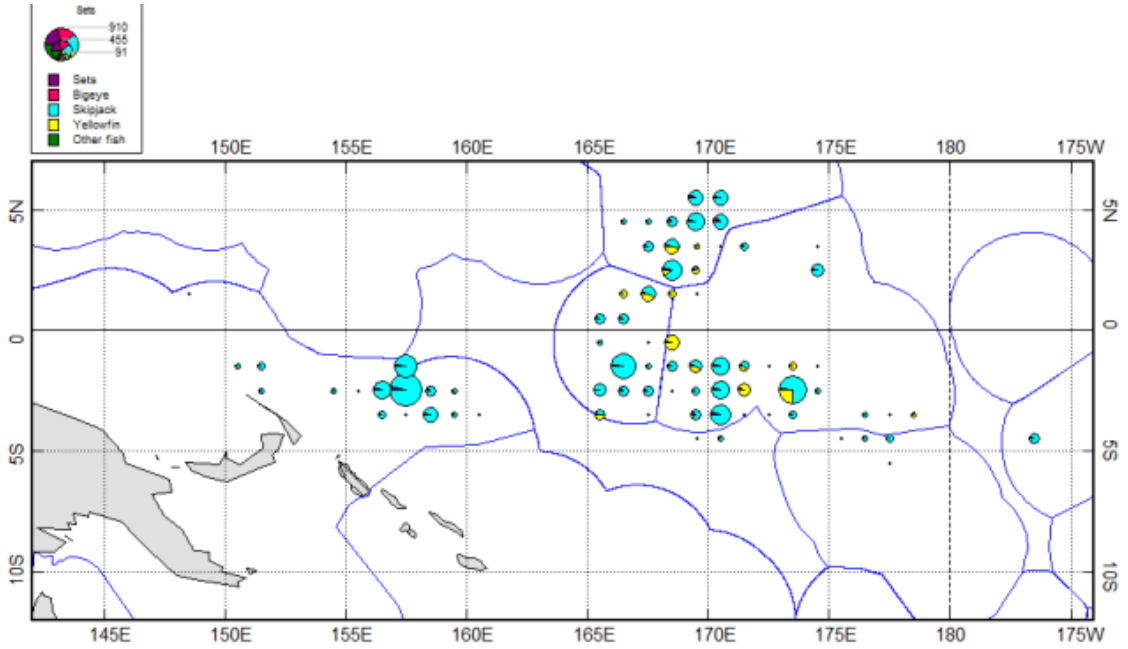


Figure 3(b)i). Annual Catch distribution (1°x1°) of tuna species for Purse Seine Fleet within the WCPFC-CA

2011 **2012**



2013



2014

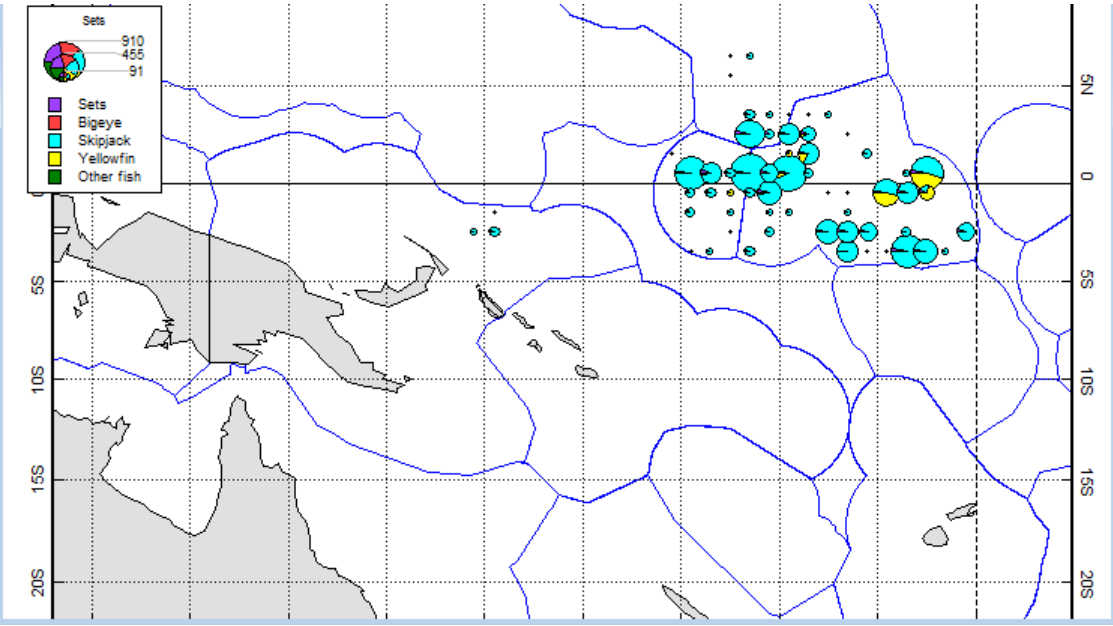
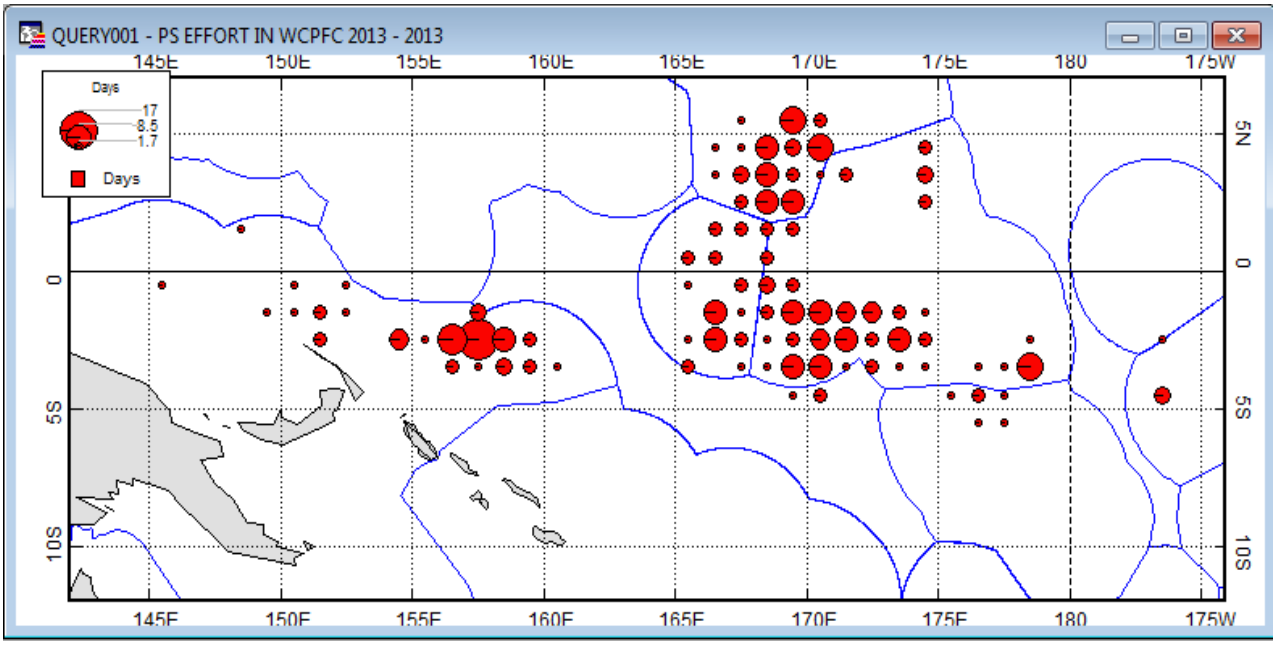


Figure 3(b)ii). Annual Effort distribution (1°x1°) of tuna species for National Purse seine Fleet within the WCPFC-CA

2013



2014

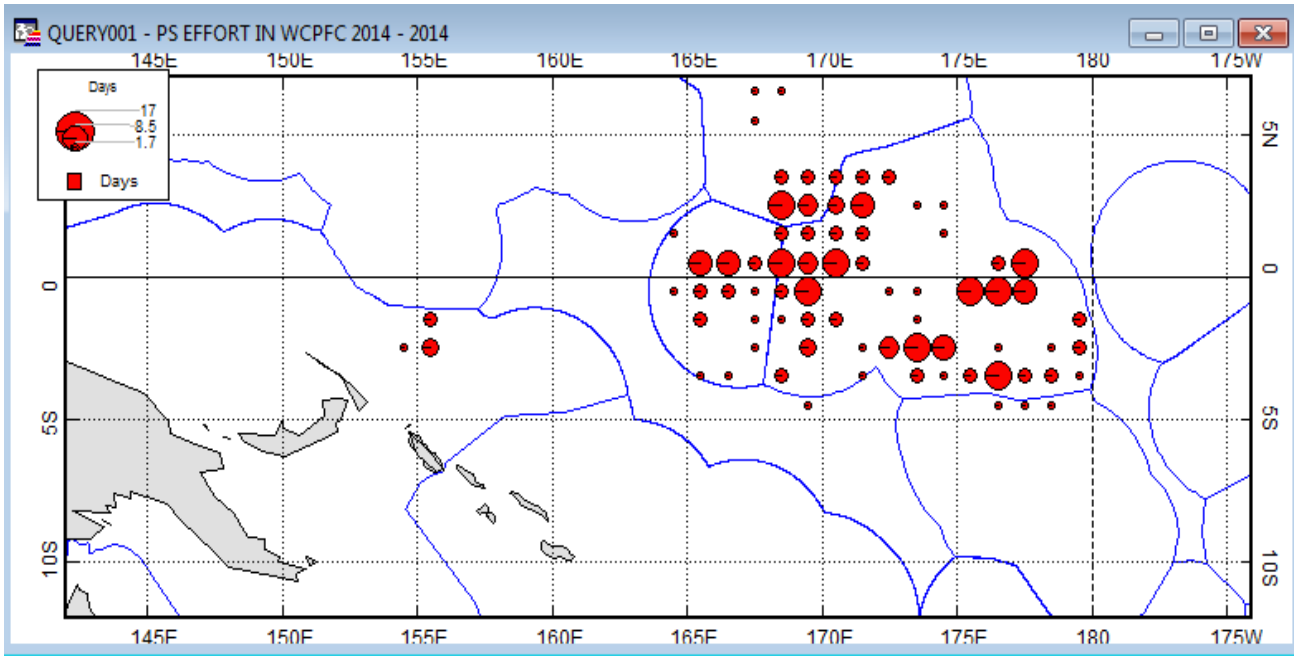


Table 4. Observed annual estimated catches of Special interest (seabird, turtle and marine mammals) by gear for the National fleet in the WCPFC area.

Year	Fear	Category	Species	Number	No. Alive	No. Dead
2011	L	MARINE MAMMALS	FALSE KILLER WHALE	1	1	0
	L	MARINE REPTILES	LEATHERBACK TURTLE (NEW FAO)	1	1	0
	S	MARINE MAMMALS	FALSE KILLER WHALE	1	0	0
	S	MARINE REPTILES	GREEN TURTLE	1	0	0
	S	MARINE REPTILES	HAWKSBILL TURTLE	6	0	0
	S	MARINE REPTILES	LOGGERHEAD TURTLE	3	0	0
	S	WHALE SHARK	WHALE SHARK	2	0	0
2012	S	MARINE MAMMALS	FALSE KILLER WHALE	5	0	0
	S	MARINE REPTILES	OLIVE RIDLEY TURTLE (NEW FAO)	2	0	0
	S	WHALE SHARK	WHALE SHARK	7	0	0
2013	L	BIRDS	ALBATROSS	1	0	1
	L	MARINE MAMMALS	FALSE KILLER WHALE	1	1	0
	L	MARINE MAMMALS	RISSO'S DOLPHIN	1	1	0
	S	MARINE MAMMALS	COMMON DOLPHIN	2	0	0
	S	MARINE MAMMALS	FALSE KILLER WHALE	1	0	0
	S	MARINE MAMMALS	RISSO'S DOLPHIN	2	0	0
	S	MARINE MAMMALS	Rough-toothed dolphin	1	0	0
	S	MARINE MAMMALS	SPINNER DOLPHIN	3	0	0
	S	MARINE REPTILES	HAWKSBILL TURTLE	3	0	0
	S	WHALE SHARK	WHALE SHARK	3	0	0
2014	S	MARINE MAMMALS	BOTTLENOSE DOLPHIN	3	0	0

	S	MARINE REPTILES	LOGGERHEAD TURTLE	1	0	0

NOTES:
1. Observed annual estimated catches of species of special interests have been determined by Observer data
2. As an interim measure, species composition data obtained from observers for this fleet in adjacent years have therefore been used to produce estimates of these species of special interests. For recent years, processed observer data may become available and will therefore contribute to a more reliable estimates in the future.
3. The observer data coverage rate is considered low (< 0.8%) to produce estimates of species of special interests for the previous years.

Table 5. Annual Estimated catches of Non-target, Associated and Dependent species including Sharks caught by Vanuatu Longline Vessels

Species	2010	2011	2012	2013	2014
BLUE MARLIN	173	195	436.6	544.6	493
BLACK MARLIN	56	11	18.3	18.5	27
PACIFIC BLUEFIN	0	0.623	0	0	0
STRIPED MARLIN	77	67	71.1	104.6	77
SWORDFISH	281	170	176.7	344.6	368
BLUE SHARK	0	1.5	9.7	73.5	659.3
SILKY SHARK	0	0.8	2.3	34.3	49.03
OCEANIC WHITETIP SHARK	0	0	0.1	0.5	0.06
MAKO SHARK	8	13.2	8.2	18.9	121.9

4. Licensing and Fleet Structure

Table 6). Annual Vessel Numbers for the National Fleet active in the WCPFC Convention Area by Gear and Size Category

(a) Longline Distant Water and Offshore

Size class (GRT)	2010	2011	2012	2013	2014
0–10	**0**	**0**	**0**	**0**	**0**
10–50	**0**	**0**	**0**	**0**	**0**
50–200	**18**	**29**	**38**	**35**	**55**
200–500	**23**	**24**	**24**	**17**	**15**
500+	**24**	**22**	**12**	**9**	**12**
Total Vessels	**65**	**75**	**84**	**61**	**82**

Note: *Fleet cover is based on Tufman Reporting of only vessels who are active (ie, submitted logsheets in Tufman therefore number should have been higher)*

(b) Purse Seine -Bilateral Access

Size class (GRT)	2010	2011	2012	2013	2014
0–500	3	3	3	0	0
500–1,000	0	0	0	0	0
1,000–1,500	11	13	13	11	0
1,500+	5	6	6	5	3
Total Vessels	18	22	22	16	3

Note: *Fleet cover is based on Tufman Reporting of only vessels who were active (ie, submitted logsheets in Tufman)*

Figure 4) a) Annual vessel numbers for the National Longline fleet in the WCPFC-CA

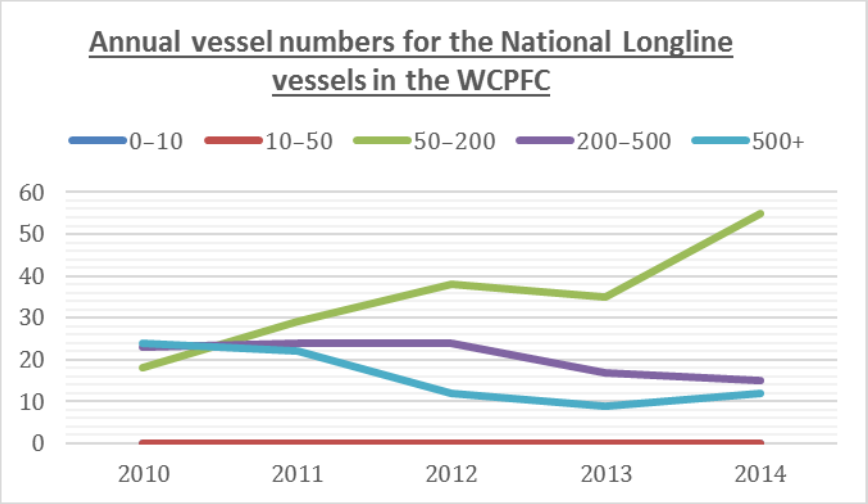
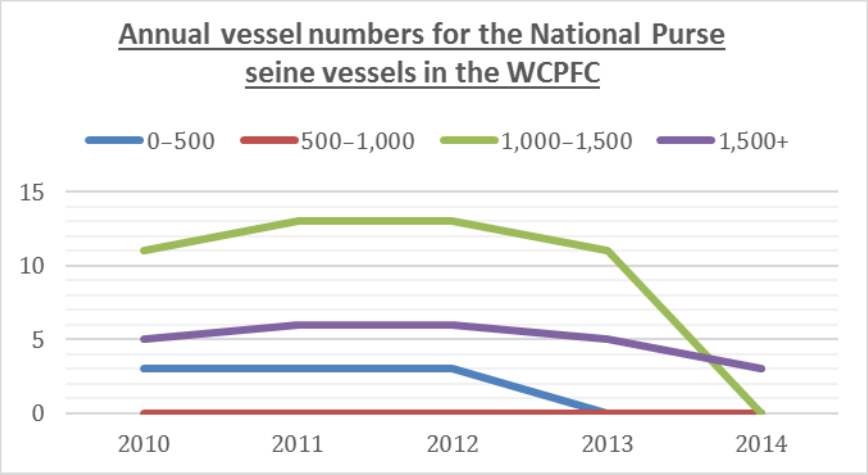


Figure 4) b) Annual vessel numbers for the National Purse seine fleet in the WCPFC-CA



COASTAL STATE REPORTING

5. Information on Coastal State Reporting

The Vanuatu Exclusive Economic Zone (EEZ) is approximately 690,000 square kilometers and includes over 80 islands and an area of archipelagic waters. Commercial tuna fishing commenced in Vanuatu in 1957 with the establishment of the Japanese South Pacific Fishing Company Limited (SPFC) longline transhipment base at Palekula, Espiritu Santo Island. The base, consisting of a wharf and cold storage facilities, was substantially upgraded in 1974. After handling annual landings of between 4-15,000 tonnes since 1969, SPFC closed its operations in the late 1980s and the facility was turned over to the Government of the Republic of Vanuatu. US purse-seiners, licensed under the US Treaty fished on four occasions in Vanuatu waters in1999 with very small catches.

In the Vanuatu EEZ fishing has been through Bilateral Fishing Agreements (BFA) particularly with Fiji and Solomon Island based companies. These catch proportions were similar to the historical tuna catch compositions. The recent tuna fishery in Vanuatu has generally seen a rapid expansion of fishing effort since 2006 but slowing decreasing until 2013. It is estimated that recent effort exceeded 25 million hooks per year based on unraised data but it is likely that the actual estimate may have exceeded 40 million hooks per year if the data were raised. It is noted that high catches were usually obtained with high effort.

6. Catch and Effort Trends

During the period 2010 to 2014, the total annual catch for all the foreign fleets in Vanuatu EEZ had decreased from 7,161.83MT in 2013 to 6,639.32MT in 2014. There has been a variation in the catch for these years and this was a result of the effort decline that took place also for this period for these Longline vessels in the Vanuatu EEZ. The catch was largely attributed to the Chinese fleet which recorded over 80% of the total catch for the 2010-2014 periods, and again Fiji and Vanuatu fleet contributing only 11%. Fishing effort continued to decrease in 2014 to 64 vessels in 2014 with a total of 364 trips. Unraised and provisional estimates for this licensed fleet in 2014 were 4,740.57MT, 1,017.86MT and 159.65MT for albacore, yellowfin and bigeye respectively and these catch estimates were determined from logsheet data raised using information on actual vessel activity (VMS data) by using the eRECAP logsheet/VMS reconciliation web tool. The annual estimated tuna catch composition by weight for 2014, was again dominated by albacore (85%), yellowfin (14%) and minor bigeye (12%).

In the period 2010 to 2014, the total annual catch for the foreign longline fleets in Vanuatu EEZ decreased from 7,161.83MT to 6,639.32MT (2013). This catch reduction was a result of the effort decline that resulted in a shift to the Solomon Island EEZ. Catch from these fleets were largely attributed to the Chinese and Taiwanese fleet which recorded over 80% of the total catch for the 2010-2014 periods followed by the Fiji fleet contributing only 11%. Catches for the Taiwanese fleet have been declining evidently since 2010 and 2011 and on again from 2012 and 2013 as a result of their large decline in effort as can be seen in Table 5.

The annual longline estimated tuna catch composition by weight for 2014, was again dominated by albacore (71%), yellowfin (15%), and minor bigeye (2%). These catch proportions were similar to the historical tuna catch compositions (Table 5). It has been estimated that the total catch of albacore in 2009 exceeded 6,000mt based on unraised data but it is likely that the best estimate may have approached 10,000mt if the data were raised. The total catch of swordfish in Vanuatu EEZ was estimated at 34.02MT in 2014.

The recent tuna fishery in Vanuatu has seen a general decline in both fishing effort and catch estimates respectively. It is estimated that the recent effort exceeded 91thousand hooks per year based on unraised data but it is likely that the actual estimate may exceed 180 thousand hooks per year if the data were raised. It is noted that low catches were usually obtained with low effort. Annual catch in Vanuatu EEZ, were sought from Chinese flag vessels as well as Vanuatu and Taiwanese flag vessels, fishing under the Kaoshiung Bilateral Agreement whom are obliged to report their catches annually. SPC also provided estimates based on raised logsheet data that have been submitted by Fiji and Pagopago for the Fiji based fleet.

Data regarding the fishing operations of the Vanuatu fleet have been provided by the various members in whose jurisdictions the vessels may have operated, and also by various established fishing agents in Vanuatu.

Table 5. Annual Catch and Effort estimates for Each Foreign Fleet by Gear and Primary species in the National EEZ

Year	FLAG	Vessels	Trips	ALB Catch (MT)	BET Catch (MT)	YFT Catch (MT)	OTHER Catch (MT)	TOTAL Catch (MT)
2010	TW	12	37	350.85	29.05	143.84	45.02	568.75
	FJ	13	17	190.72	5.92	45.13	16.44	258.20
	ID	1	5	2.68	0.54	8.84	1.71	13.76
	VU	10	37	277.63	12.82	118.90	39.27	448.63
	CK	1	1	1.42	0.15	0.49	0.58	2.64
	CN	45	67	722.48	17.09	122.39	79.92	941.88
		82	164	1,545.78	65.56	439.59	182.93	2,233.86
	Total	**164**	**328**	**3,091.56**	**131.13**	**879.17**	**365.86**	**4,467.72**

Year	FLAG	Vessels	Trips	ALB Catch (MT)	BET Catch (MT)	YFT Catch (MT)	OTHER Catch (MT)	TOTAL Catch (MT)
2011	TW	18	103	756.81	94.67	421.30	150.77	1,423.54
	FJ	16	49	323.79	22.86	119.18	41.07	506.90
	VU	21	110	483.81	53.56	289.32	121.82	948.50
	Total	49	230	1,806.12	43.13	370.33	299.70	2,519.28
	Total	**104**	**492**	**3,370.53**	**214.22**	**1,200.13**	**613.36**	**5,398.22**

Year	FLAG	Vessels	Trips	ALB Catch (MT)	BET Catch (MT)	YFT Catch (MT)	OTHER Catch (MT)	TOTAL Catch (MT)
2012	TW	11	60	305.32	46.36	183.85	67.24	602.77
	FJ	8	36	190.99	28.24	80.41	29.28	328.92
	VU	16	80	312.46	25.74	165.91	48.40	552.50
	CN	56	282	2,787.67	68.85	671.21	336.17	3,863.89
	Total	**91**	**458**	**3,596.44**	**169.20**	**1,101.37**	**481.08**	**5,348.09**

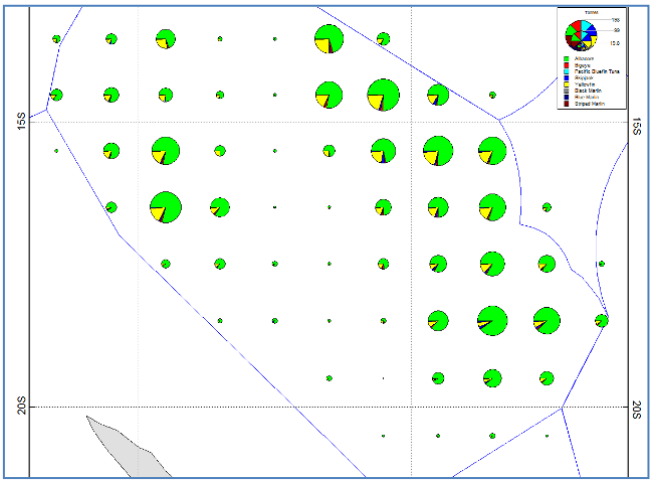
Year	FLAG	Vessels	Trips	ALB Catch (MT)	BET Catch (MT)	YFT Catch (MT)	OTHER Catch (MT)	TOTAL Catch (MT)
2013	TW	12	76	498.35	42.00	143.75	79.35	763.46

	FJ	7	23	266.11	10.56	43.50	35.87	356.05
	VU	14	77	343.52	22.78	104.95	44.91	516.17
	CN	66	352	4,094.20	95.90	736.31	599.76	5,526.16
	Total	**99**	**528**	**5,202.18**	**171.25**	**1,028.51**	**759.90**	**7,161.83**

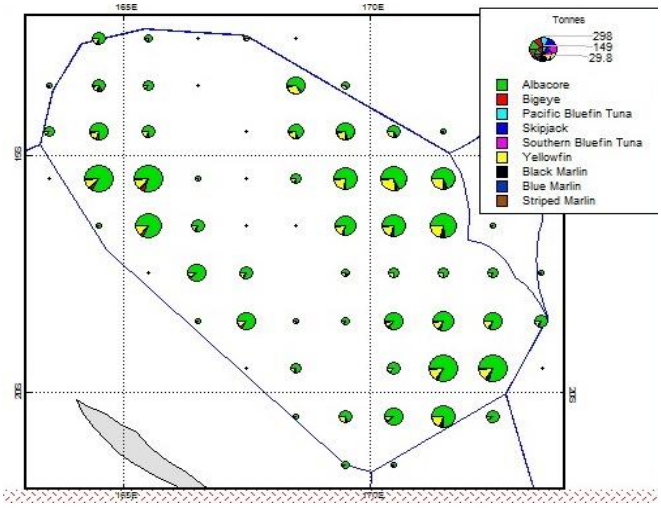
Year	FLAG	Vessels	Trips	ALB Catch (MT)	BET Catch (MT)	YFT Catch (MT)	OTHER Catch (MT)	TOTAL Catch (MT)
2014	TW	5	11	79.04	3.47	24.57	12.46	119.54
	FJ	3	7	47.39	1.88	8.12	10.25	67.64
	VU	7	13	59.47	3.02	14.97	7.93	85.38
	CN	49	333	4,554.67	151.28	970.19	690.61	6,366.76
	Total	**64**	**364**	**4,740.57**	**159.65**	**1,017.86**	**721.25**	**6,639.32**

Figure 4 i) . Annual Catch distribution (1°x1°) of target tuna species for by Major foreign Longline fleets in Vanuatu EEZ.

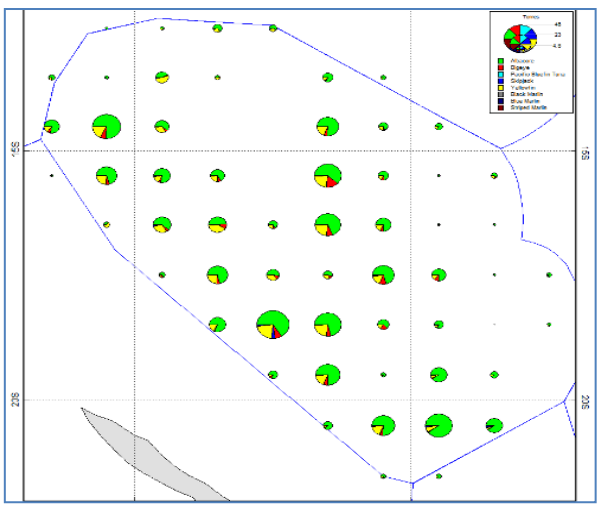
a) China Catch -2013



China Catch- 2014



b) Taiwan Catch -2013



Taiwan Catch-2014

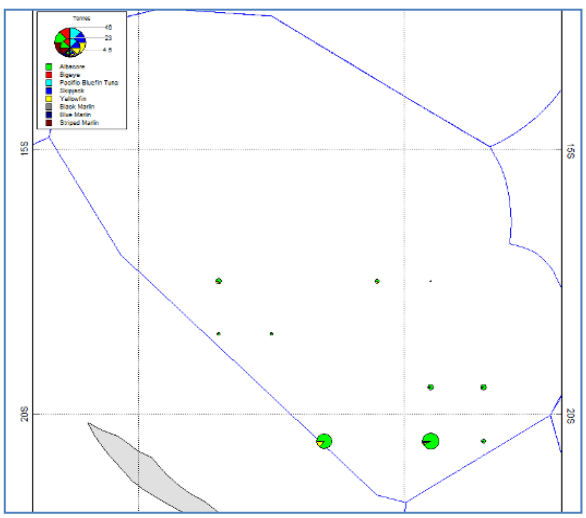
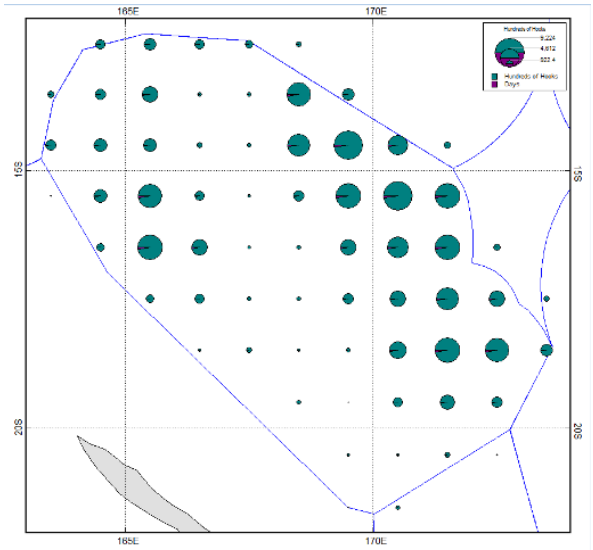
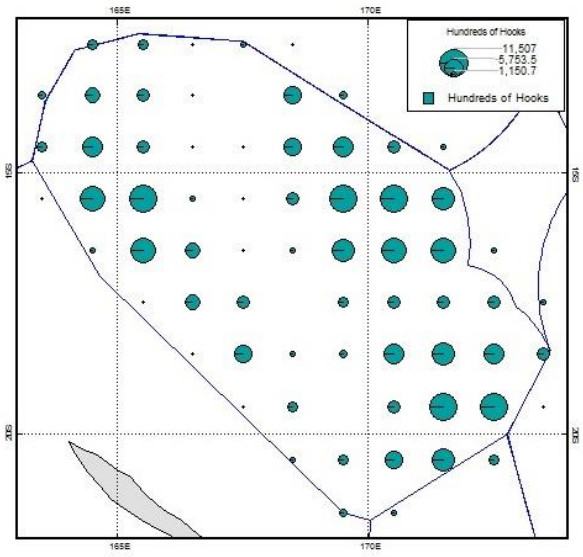


Figure 4 ii). Annual Effort distribution (1°x1°) of target tuna species for by Major foreign Longline fleets in Vanuatu EEZ.

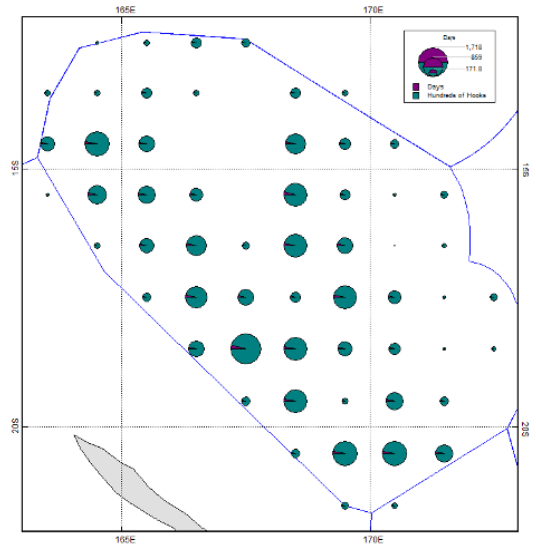
a) China Effort -2013



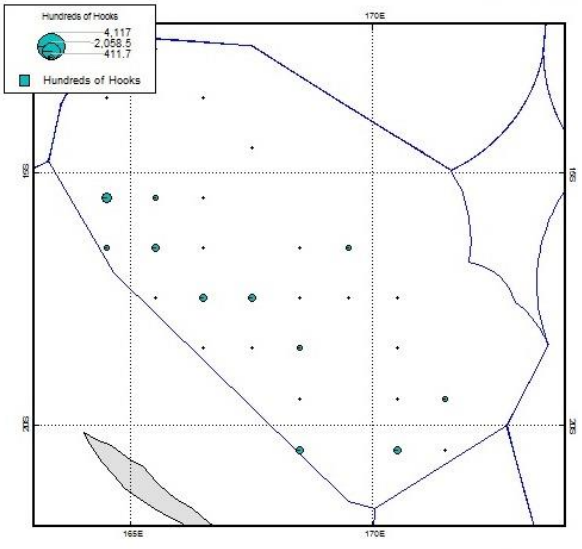
China Effort-2014



b) Taiwan Effort-2013



Taiwan Effort-2014



7. Socio-economic Factors

Since 2013 the number of Foreign and locally based Foreign license slightly dropped as most vessels were moving to the Solomon Islands EEZ where fishing was reported to be very good. Vessels that were offloading their catch in the Vanuatu EEZ through transshipment were also reporting very low catches towards the end of 2013 to early 2014 thus Transshipment in port was not as regular and towards the end of 2014 Transshipment in port ceased.

For local artisanal fisherman due to the very high cost of fuel, fishing in FAD's were not a high priority as most Artisanal fisher man target FAD's only to catch skipjack for Baitfish.
The TUFART database is currently under development for Vanuatu and by 2016 Vanuatu Fisheries is planning to license all Artisanal Fishers including small skiffs and motorized canoes to enhance its capacity to collect data for coastal, deep bottom and pelagic fisheries.

One of the major factors that is affecting our Locally Based Foreign Vessels is the very high cost associated while based in Vanuatu.

8. Onshore Developments

The processing plant (Tuna Fishing Vanuatu Limited) in Port Vila harbor seized operations in February 2014 due to movement of the fleet to the Solomon Islands. The Chinese fishing Base is still pending operations due to Governmental negotiations to acquire land to land the fish as most wharfs are currently either occupied or under renovation.

9. Future Prospects of Fishery

Vanuatu has maintained its position to limit the number of license to 75 Foreign License and 40 Locally Based Foreign license however the license fee have also been increased by 50% of the current fee.

RESEARCH AND STATISTICS

10. Estimated data coverage

Coverage of logsheets from foreign fleets fishing in the Vanuatu EEZ extends back as far as the 1970s and has been low and variable among years. The only recent high coverage catch and effort rates are those from the Vanuatu and Fiji fleet. There has also been significant missing data throughout the years thus the difficulty in estimating coverage rates for some years. Because of the uncertainty of the estimated catch, effort, and size data coverage amongst the fleets that operate in Vanuatu, the catch and effort levels for Vanuatu have been difficult to estimate. It is understood however, that most of these fleets have been unloading their catch in the ports of Pagopago in American Samoa and Levuka and Suva in Fiji.

Vanuatu is looking into strict measures in terms of estimating catch and effort data, since most of our licensed vessels are currently offloading all or part of their catches overseas, either to the factory or on the carrier vessel in port. One of the major steps for Vanuatu in 2014 was to establish designated ports for landing catches.

The newly built processing plant in Port Vila harbor had been receiving fresh Tuna for Sashimi exports mainly to Japan and also to USA, Australia and New Zealand. In 2014 there were 4 Transshipment permits issued in Port Vila Harbor with 100% Port Sampling coverage.

Most of the current presented data were obtained from the OFP/SPC database, and were originally collected and supplied by Vanuatu and Fiji.

Apart from biological samples that Vanuatu observers are collecting for the Deep Bottom snapper fishery in 2014, there has never been any research on tuna fishery data collection system in Vanuatu.

11. Status of Tuna Fisheries Data Collection Systems

(a) Logsheet Data collection and Verification

There has been vast improvements with the collection of logsheet data, since it has become one of the special licensing conditions, which has forced vessel owners to keep up with the submission of logsheet data. For the licensed vessels the logheet coverage based on VMS Data was ~100%. Whereas for the Vanuatu flag vessels the coverage was less than 60%, this was because most of these vessels are based entirely in the high seas therefore it may take a while before their logsheets reach the agents in Taiwan for checks before they sent them to Vanuatu for processing and entering. Vanuatu is planning to apply E-log forms to be used on board all Vanuatu long liners and Vanuatu will make sure all purse seiners flying Vanuatu flag will be required to use the E-Forms that were developed by SPC early this year.

(b) Observer and Port Sampling Programme

Vanuatu established the National Observer and Port Sampling Program in 2008. From then until now the Vanuatu National observer and Port Sampling programme (VNOPP) managed to have established 100% coverage on all Locally Based Foreign Vessels and also 100% coverage port sampling on all transshipment and unloading activities in port. However, there is still very limited observer coverage for the Fiji and Solomon Island based fleets operating in the Vanuatu EEZ.
Port Sampling/Transshipment activities have continuously been carried out in port and alongside port to assess the size, weight and type of specified species either targets or non-target caught within the Vanuatu EEZ.

The most valuable species for sashimi caught within the VU EEZ is Big Eye Tuna, but supply volumes are very low and are declining. After Big Eye tuna, Yellow Fin is the next most valuable species and is the most highly target species followed by albacore and then, to a lesser extent, mahi mahi, wahoo and Opah.

Small scale fresh tuna longliners that off load regularly are typically less than 100GRT fiberglass reinforced plastic (FRP) vessels and use refrigerated sea water for storing catch. Average number of vessel trip per month for sashimi is 15 trips.
Currently there are 27 active observers within the Vanuatu national observer program responsible for carrying out both observer and port sampling duties.
To meet National program responsibilities, objectives are established for scientific technicians working as observers aboard longline fishing vessels

(c) Unloading and Transshipment

Unloading and Transshipment in Vanuatu port has been by way of locally based foreign vessels fishing in Vanuatu EEZ. Since 2009 there has been 100% port sampling for all unloading and transshipment activity in Vanuatu EEZ. Transshipment has been constantly carried out within the harbour mostly targeting albacore for canning (e.g. Fiji and Solomon) or other species such as sharks (mainly fins), Marlins, wahoo, Sword fish and other relevant by-catch including low grade yellow fin and big eye. Transshipment is 100% sampled in measurement and estimated capacity weight of each fish well; all fish for transshipment are stored frozen in blast freezers. Transshipment often occurs once a month and in 2014 there were only 4 transshipments in the Vanuatu port. These 4 transhipments involved 1 carrier vessels and nine small-scale tuna longliners offloading around 15,224 measured albacore, bigeye, yellowfin and other tuna like species as frozen catch into the carriers.

(d) Disposal of Catch

Fresh Tuna previously landed in Vanuatu by Locally Based Foreign vessels were exported by air to Japan as well as USA, Australia and New Zealand, while fresh Opah was exported to Hawaii. The frozen catch however usually transferred to fish carriers and exported to canneries in Fiji.
The Foreign fleets that have been licensed to fish in Vanuatu EEZ unload 100% of their catch (both their fresh and frozen) either, in Pagopago or Fiji which are either moved to canneries or exported to Japan.

12. Research Activities

There were no major research activities carried out in 2014.

APPENDIX I-CMM Report

Table 1: Summary Table

CMM Reference	Description	Response
CMM 05-03	North Pacific Albacore	This is one of the Target Species by Vanuatu long liners and 217,676 albacore weighing 2,572.325MT was reported in 2014 by 58 vessels for 3,786 fishing days. There were no albacore recorded north of the equator for Purse seine activities.
CMM 06-04	SW Striped Marlin	Striped marlin is caught as a by-catch. In 2014, 46 VU flag vessels caught 1,269 striped marlin, weighing 61.314MT in the area South of 15 degrees South.
CMM 09-03	SP Swordfish	Swordfish is caught as a bycatch. In 2014, 23 VU flag vessels caught 579 swordfish, weighing 28.841MT in the area South of 20 South.
CMM 09-06	Transhipments	In 2014, there were a total of 391 transhipment activities that took place. From this total 154 took place within EEZ, 14 in port, 2 outside convention area and 221 in the high seas. The total quantity observed was; Albacore – 2,672.52Mt, Bigeye 7,008.75mt, Yellowfin – 3,601.73mt, Swordfish – 746.08mt and other species- 466.30mt.
CMM 10-05	South Pacific Albacore	SP Albacore is a target species for VU longline flag vessels. In 2014, 23 VU flag vessels caught 293,075 SP ALB, weighing 3,206.75MT in the area S 20 S.
CMM 10-07	Sharks	Shark species catch estimates based on catch data for 2014 approximately 31,565 in total weighing 923.9MT. From this 811.8MT were from Longline vessels and 112.1MT were from Purse seine vessels.
CMM 11-03	Cetaceans	Based on Observer data there were 2 interactions with 3 Bottle nose dolphins in 2014 by Purse seine vessels.
CMM 11-04	Oceanic White-Tip Shark	Observer data recorded in 2014 a total of 12 interactions with Oceanic white tip sharks of which 7 were from Longline vessels and 5 from Purse seine vessels. All 7 from the LL were discarded dead however only 1 was discarded alive. All 5 from the PS vessels were discarded dead.
CMM 12-04	Whale Sharks	In 2014 according to catch data, there was a total of 11 whale sharks caught weighing a total of 32.645MT. All this was caught by the Purse seine vessels fishing.
CMM 12-07	Seabirds	There were no interactions with seabirds in 2014 however observers recorded sighting a seabird (gulls and skuas) which landed on the

		vessel during trips but no harm was done to the birds.
CMM 13-01	Discard reporting–by National Fleet	According to observer data, in 2014 there was a total of 106.494mt of discards by the National fleet vessels all of which are Purse seine vessels. From this number 101.64mt were Skipjack, 4.114mt were Yellowfin and 0.736mt were Bigeye. All discards were done for the main reason as damage to gear.
CMM 13-08	Silky Sharks	From catch data in 2014, a total of 2,820 silky sharks we caught from both the longline and purse seine vessels all weighing 128.44MT. From this number 79.41MT was caught by purse seine vessels and 49.03MT were caught by longline vessels.
CMM 08-03	Marine Turtles	There were no turtle interactions in the Longline and Purse seine fisheries.
WCPFC 11 decision- para 484 (b)	Observer Coverage	In 2014, for Distant water Longline vessels recorded an Observer coverage of 0% which was estimated using the Number of days fished and the days observed. The Offshore Longline vessels recorded an observer coverage of ~1.5% which was measured using the Number of trips estimated and trips observed. For Purse seine vessels, the observer coverage was measured using the Number of fishing days, thus the observer coverage for purse seine was 19.3%.

CMM Detailed tables:

CMM 05-03 – North Pacific Albacore

Vanuatu longline vessels fishing north of 20° also target NP Albacore. Effort increased from 42 vessels in 2012 to 58 vessels in 2014 however catch remained to be declining.

Flag	Year	Vessels	Catch (Numbers)	Catch (MT)
VU	2014	58	217,676	2,572.325
VU	2013	44	200,343	2,394.026
VU	2012	42	253,428	2,839.47

CMM 06-04 – SW Striped Marlin

No Vessels specifically targeted striped marlin and all subsequent catches of MLS were taken as by-catch from the albacore fishery. 46 VU flag vessels caught 608 striped marlin, weighing 35.723MT in the area South of 15 degrees South.

Flag	Year	Vessels	Catch (Numbers)	Catch (MT)
VU	2014	46	608	35.723
VU	2013	53	696	40.532
VU	2012	64	1,216	69.216

CMM 09-03 – SW Pacific Swordfish

No vessels specifically targeted striped marlin and all subsequent catches of SWO were taken as by-catch from the albacore fishery. In 2014, 23 VU flag vessels caught 579 swordfish, weighing 28.841MT in the area South of 20 South.

Flag	Year	Vessels	Catch (Numbers)	Catch (MT)
VU	2014	23	579	28.241
VU	2013	26	513	25.723
VU	2012	39	1,005	44.38

CMM 09-06 – Transshipments

Annex II (1)

	Amount Observed Transshipped (MT)					Product	Fishing Gear
Location	ALB	BET	YFT	SWO	OTH		
High Seas	2,561.12	3,703.72	1,376.70	492.51	426.94	Frozen whole	Longline
Within EEZ	110.837	3,179.07	844.415	253.414	32.821		
Port	0	125.959	1380.612	0	7.08		
Outside Convention	0.562	0	0	0.164	0.463		
TOTAL	**2,672.52**	**7,008.75**	**3,601.73**	**746.08**	**466.30**		

Annex II (2)

Location	# of Transhipments	Fishing Gear
High Seas	221	Longline & Carrier
Within EEZ	154	
Port	14	
Outside Convention	2	
Total	**391**	

CMM 10-05 – South Pacific Albacore

SP Albacore is one of the target tuna species by longline vessels. In 2014, 23 VU flag vessels caught 293,075 SP ALB, weighing 3,206.75MT in the area S 20 S.

Flag	Year	Vessels	Catch (Number)	Catch (MT)
VU	2014	23	29,3075	3,206.75

VU	2012	39	37,8073	4,662.637
VU	2013	26	21,5218	2,592.146

CMM 10-07 – Sharks

The Vanuatu Shark Management Plan has been finalized and ready for endorsement by the Cabinet, however shark regulations in Vanuatu law strictly applies to all Vanuatu Fishing Vessels.

Gear	Flag	Species	Fate	Catch (n)	Catch (mt)
PS	VU	SILKY SHARK	Discarded/Released	224	7.894
PS	VU	SILKY SHARK	Retained		71.52
PS	VU	WHALE SHARK	Discarded/Released	11	32.645
			PS Total:	**235**	**112.1**
LL	VU	BLUE SHARK	Discarded/Released	88	2.959
LL	VU	BLUE SHARK	Retained	26,036	656.34
LL	VU	MAKO SHARKS	Retained	2,390	100.019
LL	VU	OCEANIC WHITE-TIP SHARK	Retained	1	0.042
LL	VU	SHARKS (UNIDENTIFIED)	Discarded/Released	0	0
LL	VU	SHARKS (UNIDENTIFIED)	Retained	219	3.402
LL	VU	SILKY SHARK	Retained	2,596	49.03
			LL Total:	**31,330**	**811.8**

CMM 11-03 – Cetaceans

Vanuatu Fishing vessels do not target cetaceans however they do encounter with cetaceans.

Gear	flag	species	date	EEZ	FATE	# of Individuals
S	VU	BOTTLENOSE DOLPHIN	29/01/2014	NR	DPD	2
S	VU	BOTTLENOSE DOLPHIN	29/01/2014	NR	DPU	1

CMM 11-04 – Oceanic White-Tip Shark

Gear	EEZ	# of Individuals	Fate & Status
LL	VU	7	6 Discarded Dead, 1 Discarded alive
PS	MH, KI & NR	5	5 Discarded Dead
	Total	**12**	

CMM-12-04 – Whale Shark

Gear	Shark Species	# of individuals	Weight (MT)
PS	Whale Shark	11	32.645
	Total	**11**	**362.645**

CMM-12-07 – Seabirds

There were no interactions with seabirds but only a few sightings experienced.

CMM 13-01- Discard reporting by National Fleet

Species	Discard reason	Set type	Discards (MT)
Bigeye	Gear damage	Drifting FAD	0.736
Yellowfin		Anchored FAD & DrifTing FAD	4.114
Skipjack		Anchored FAD & Unassociated Log	101.644
		TOTAL	**106.494**

CMM 13-08 – Silky Sharks

Gear	EEZ	No	Weight (MT)	Fate Retained	Fate Discarded
LL	VU	2,596	49.03	942	0
PS	VU	224	79.41	11	85

WCPFC 11 decision-para 484 (b)

The observer coverage matrix:

Year	CCM Fleet	Fishery	Days Fished			No. of Trips		
			Total Estimated	Observer	%	Total Estimated	Observer	%
2014	VANUATU	Distant Water Longline	11,341	0	0			
		Offshore Longline				270	4	1.5
2014	VANUATU	Purse seine	1,952	377	19.3			

APPENDIX II

Table 1 showing Categories of coverage for catch, effort and size data.

Category	Catch/Effort data Coverage	Size data coverage
HIGH	>80%	>80%
MEDIUM	50-80%	50-80%
LOW	0-50%	0-5%
-	No data	No data

LEGEND: *"Catch/Effort data coverage" is determined by the comparing the annual catch from operational (logsheet) data to the total annual catch, as determined by unloading or other types of data/information. "Size data coverage" is determined by comparing the number of trips covered by port sampling and observers (collecting size data) with the estimated number of actual trips undertaken by this fleet during that* year.