SCIENTIFIC COMMITTEE
FOURTEENTH REGULAR SESSION

Busan, Republic of Korea
8-16 August 2018

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

WCPFC-SC14-AR/CCM-28

VANUATU

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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 2018	**YES**

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ABSTRACT

The major tuna species caught from the Foreign fishing vessels in the Vanuatu EEZ in 2017 was dominated by 70% of albacore, 21% of yellowfin, 2% of bigeye and lastly 9% for others species of the total catch. The increase in catch in 2017 from 2016 was due to the increase in fishing effort where more vessels moved back to fish in the Vanuatu EEZ compared to 2015 where fishing shifted to Solomon Islands where fishing was good then. The catch increase for this was recorded as 8,087Mt in 2017 compared to 7,176Mt in 2016.

In the period 2015 – 2017 the annual catch estimates of the Vanuatu longline fleets in the WCPO showed a reduction from 15,963Mt in 2015 to 11,491Mt in 2016 and then slightly increased from then to 12,767Mt in 2017. The increase from 2016 to 2017 level was due to the increase in the fishing effort, which is an increase in the number of vessels licensed to fish as well as an increase in the number of sets deployed.

This is slightly similar to the Purse seiners whose catch estimates have declined significantly from 2013 and 2014 where vessels have moved out to reflag to the US and PNG under the FSM arrangement but then increased estimates slightly again as from 2017 where an additional number of vessels returned to flag.

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 from to 39,926Mt in 2013 to 18,863Mt in 2014 and then a further decline to 7,717 in 2015 and 4,372Mt in 2016. In 2017 however the number of licensed vessels increase from 3 to 4 as did the number of fishing sets and days fished thus, the total catch in 2017 increased from 4,372Mt in 2016 to 6,744Mt. This catch was dominated by skipjack making up 81% of the catch followed by Yellowfin at 16% and lastly bigeye at 3%.

Raised 2017 data shows that catches of the main tuna species for Purse seines increased from 4,117Mt of skipjack in 2016 to 5,445Mt in 2017. Longline vessels also experienced an increase in catches of Albacore from 5,663Mt in 2016 to 6,031Mt in 2017. All other Tuna catches including Yellowfin and Bigeye for both the Purse seine and Longline fishery also experienced an increase in catch levels from 2016 to 2017 levels.

Since 2014, there has not been any Locally based vessels in operation, thus port sampling and transshipment activities in port have ceased since. However, it is expected that with the commencement of the Fish processing plant in Port Vila, Chinese vessels who are licensed to fish in the VU EEZ will offload their catch in the Port Vila port and this should then see the recommencement of port activities in port.

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 has 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*.). 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 fishing 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 2013 to 2017. 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 DORADO database and which were originally collected and verified by the Vanuatu Fisheries Data Management Unit (VFDMU).

Vanuatu recognizes that there are critical data 'gaps' that need attention and focus on. Therefore, with the limitation of resources, the department has been working closely with SPC and FFA to collect as much information and data as possible to fill in these gaps. The delegation of designated ports for our Flagged Vessels have been established however are yet to be implemented and these will enable us to monitor landings of fish in foreign ports including those in Suva, Levuka and Pagopago which are currently the ports mainly being utilized.

FLAG-STATE REPORTING

2. Information on Flag-state Reporting

Vanuatu is currently a member of WCPFC, IATTC, SPRFMO, CCSBT, CCAMLR and has ratified the NPFC. 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 4 purse seiners that are under Bilateral Fishing Agreements and 88 long-line fishing vessels which are active in WCPFC in 2017 which is an increase in the number of longliners active from 49 in 2016.

The Vanuatu fleet consists of purse seine and longline vessels fishing between the Pacific and Indian Ocean. Fishing inside the Exclusive Economic Zones (EEZ) of coastal states had been possible by way of Bilateral Fishing Access (BFA) for both long liners and purse seiners. Vanuatu currently operates a vessel registry, the Vanuatu International Shipping Registry (VISR). The VISR has recorded over 100 vessel registrations since 2014, and currently there is a total of 98 vessels on the registry that are actively operating. 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 ocean.

3. Catch and Effort Trends

The annual catch and effort estimates have been estimated for the Vanuatu fleet operating under bilateral arrangements 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 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. Raised estimates for the longline fleet in 2017 were 6,031Mt for albacore, 3,938mt for bigeye and 1,436mt for yellowfin respectively and these catch estimates were determined from logsheet data raised using information on actual vessel Activity (VMS data). During the period 2013-2017, the longline fleet recorded its highest total annual catch

estimate as 15,963 MT in 2015 (Table 1(a)). The longline fishery recorded the highest catches for albacore in 2013 being 10,446Mt and the lowest in 2016 as 5,663mt. This however increased to 6,031Mt in 2017.The highest catch for bigeye was in 2015 which was 6,018mt an increase from the 3,419mt in 2014. Yellowfin catches however showed a reduction in catch from 2015 record of 2,006Mt to 1,580Mt in 2016 and further reduced to 1,436Mt in 2017 which records the lowest in the five year period. Albacore continues to be the dominant species in the catch for 2017 followed by bigeye and then yellowfin. Effort for the longline fishery has experience a slight reduction from 2013 to 2014 and then a slight increase from 2015 to 2017. This increase in evident through the increase in effort which is measured by the number of days fished and sets deployed.

The purse seine fleet that operated under bilateral arrangements recorded a decrease in total catch from 2013 and 2014 levels which was 39,926Mt to 18,863Mt with further reduction in 2015 of 7,717Mt and then in 2016 being 4,372Mt. In 2017 however, there was a slight increase of 6,744Mt from 2016 levels. (Table 1(b)). The effort in the total number of sets had also decreased from this period with a slight increase in 2017. The reduction in effort was caused by the reflagging of vessels to PNG and US to fish under the FSM arrangement. During this period, the main tuna species in the catch being Skipjack also showed a decrease also with a reduction of 36,685mt from 2013 levels to the lowest record of 4,117Mt in 2016, but then increased to 5,445Mt in 2017. This is also the same for the other two species Bigeye and Yellowfin.

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 2)b) 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 and this effort has increase since 2017 from 2016 which had recorded tremendous reduction since 2015. This can be seen Figure 2)a) where catch has increased for both the north and south pacific region targeting Albacore.

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.

Estimated Annual total catches of non-target, associated and dependent species by the Vanuatu purse seine fleets and long-line fleets in 2013-2017 has been sought from the DORADO reporting web database as shown in Table 3 and 4 and as well as in Annex 1 where there is a summary table for all CMM's concerned.

Appendix 1 summary table also provide information on the observed species of interest collected through observer reports for the year 2017 by ROP observers on Purse seiners and by Vanuatu observers for the Vanuatu longliners. 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). 2017 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)	Sword fish Catch (MT)	Total
2013	10446	1626	1989	166	0	19	545	105	345	15,241
2014	6581	1695	3419	134	0	27	493	77	368	12,794
2015	6,400	2,006	6,018	112	0.175	35.1	758.5	78.5	555.3	15,963
2016	5,663	1,580	3,292	172	21.4	27.7	373	53	309	11,491
2017 – Retained	6,031	1,436	3,938	237	2.3	5.013	366	86	666	12,767
2017 - Discarded	10.7	0.661	1.065	0	0	0	0	0	0	12.42

Notes:

- *Catch data for 2013-2017 have been Raised using VMS data*
- *2017 logsheet coverage was raised from 62% of logsheet coverage data*
- *Data was derived from the Dorado web tool*

Table 1(b). 2017 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)
2013	36,685	3,004	237	39,926
2014	17,746	1,115	2	18,863
2015	7,395	262	60	7,717
2016	4,117	230	25	4,372
2017 - Retained	5,445	1,084	215	6,744
2017 - Discarded	79.8	1.8	19.0	100.6

Notes:

- *2013-2017 catch estimates are based on Raised estimates using VMS data; 2013 logsheet coverage was raised from 73%, as well as 2014 at 90%. From the yeas 2015 to 2017, logsheet coverage was at 100%*
- *Data was derived from the Dorado web tool*

Table 1(c). 2017 Annual catch estimates for the National (Offshore) Fleet in the WCPFC-CA for Shark species – Longline.

Species	2017 (MT)
BLUE SHARK	955.387
SILKY SHARK	0.073
MAKO SHARK	117.473

Note:

- *Catch were Raised from 62% logsheet coverage. Source of Data: Dorado*

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

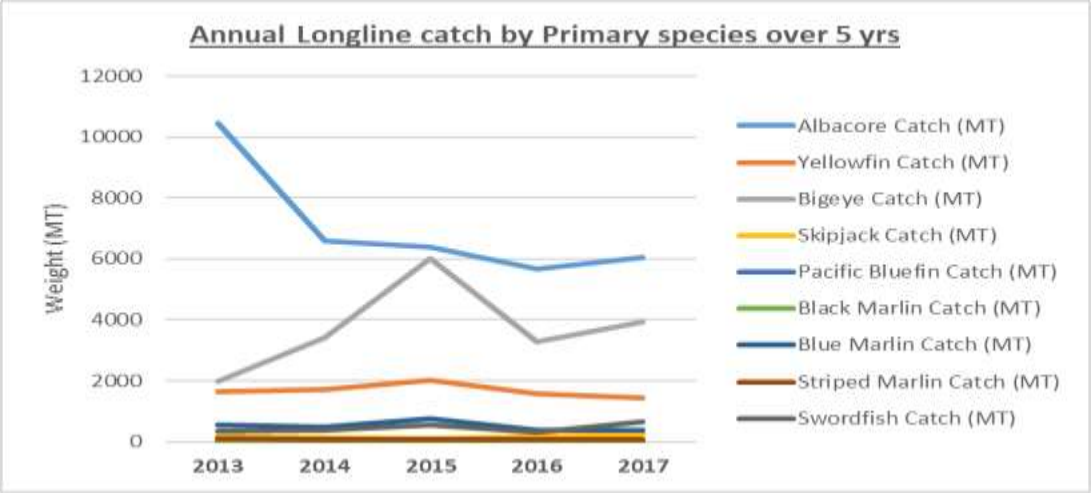


Figure 1(b) Historical Annual Catch and Effort estimates for the National Purse seine Fleet within the WCPFC-CA

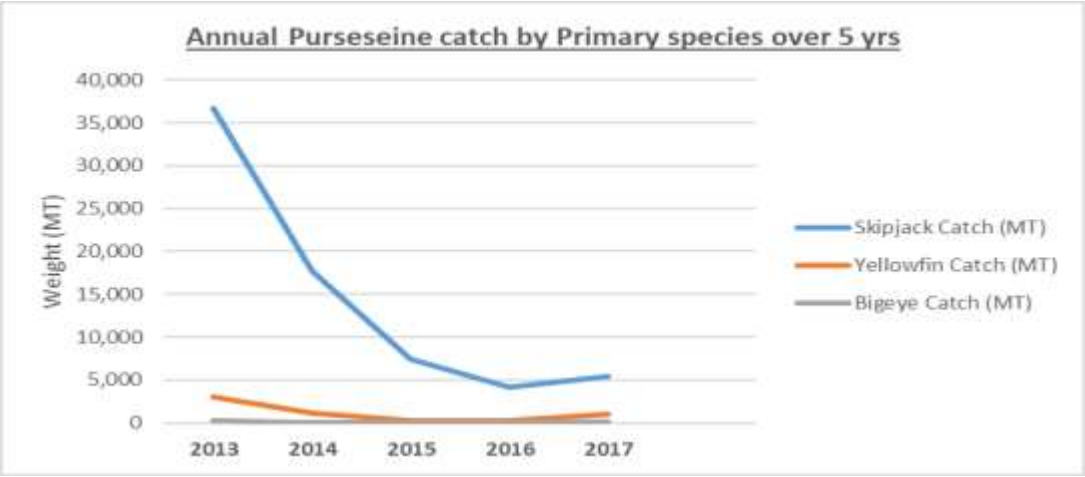
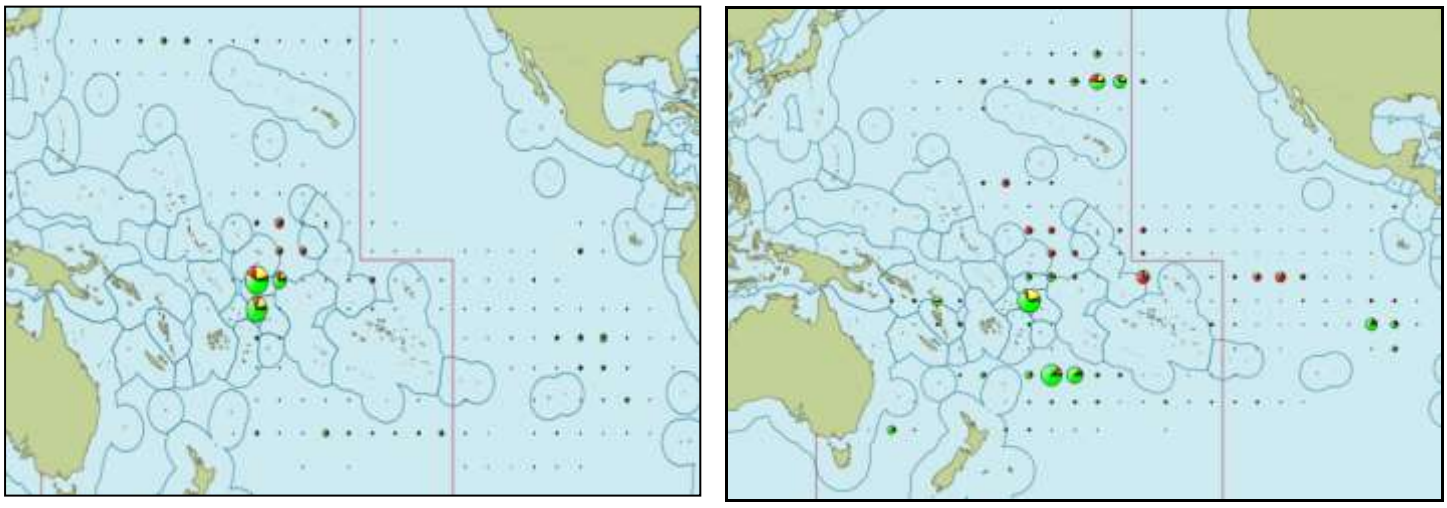


Table 2) Annual raised catch estimates for the Vanuatu longline vessels, for tuna and billfish by Broad Ocean areas

Area	Year	ALB	BET	YFT	SKJ	PBF	BUM	BLM	MLS	SWO
WCPFC	2017	6,032.00	N/A	N/A	N/A	2	N/A	N/A	87	667
	2016	4,817.20	2,845.10	1,454.40	169.1	0	361.4	28.1	40.1	252
WCPFC Convention Area (N of Equator)	2017	1,517.28	N/A	N/A	N/A	1.07	N/A	N/A	42.6	255.9
	2016	697.26	NA	N/A	N/A	0.109	N/A	N/A	11.46	74.63
WCPFC Convention Area (S of Equator)	2017	4,514.70	N/A	N/A	N/A	0.92	N/A	N/A	44.35	411.1
	2016	1,485.13	N/A	N/A	N/A	0	N/A	N/A	12.66	79.11
WCPO	2017	N/A	3,586.57	N/A	250.88	N/A	N/A	N/A	N/A	N/A
	2016	1,860.40	1,448.20	585.72	N/A	N/A	N/A	NA	20.2	120.2
EPO	2017	16,925.00	N/A	548.8	29.87	N/A	N/A	N/A	N/A	N/A
North Pacific Ocean	2017	1,532.60	N/A	N/A	N/A	0.99	N/A	N/A	92.44	329.9
	2016	726.1	N/A	N/A	N/A	0.109	N/A	N/A	14.69	92.05
South Pacific Ocean	2017	6,688.95	N/A	N/A	N/A	1.11	N/A	N/A	104.4	854.16
	2016	2,335.90	N/A	N/A	N/A	0	N/A	N/A	39.76	308.4

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

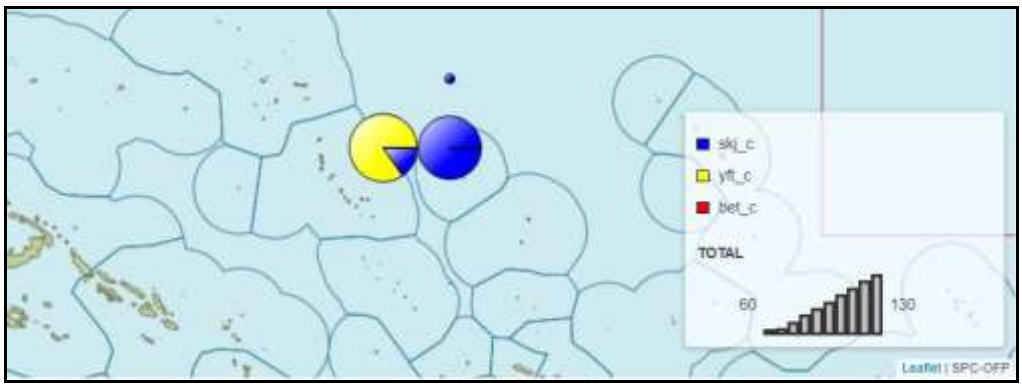
Figure 2(a). Annual Catch distribution (1°x1°) of tuna species for National Longline Fleet within the WCPFC-CA



2016 **2017**

Figure 2(b). Annual Catch distribution (1°x1°) of tuna species for Purse Seine Fleet within the WCPFC-CA

2016



2017

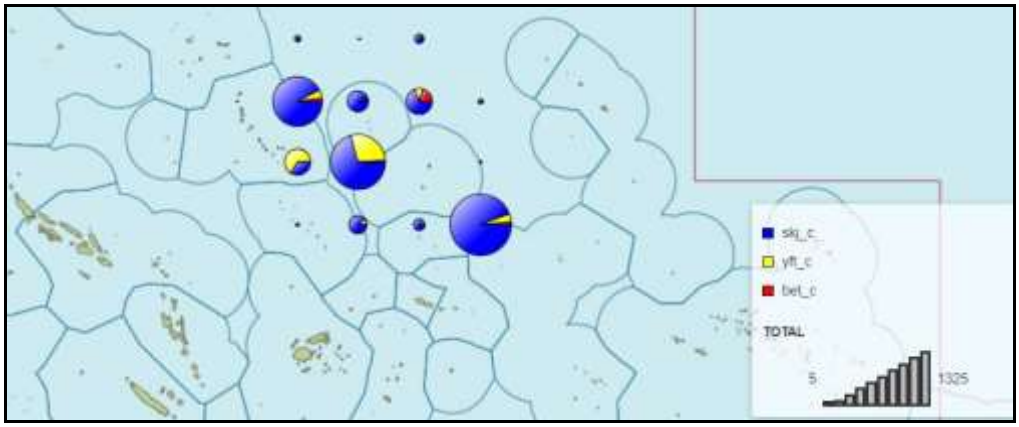


Table 3. Observed annual estimated catches of Species of Special interest (seabird, turtle and marine mammals) by gear for the National fleet in the WCPFC area.

Year	gear	Category	species	Number	Alive	Dead
2017						
2016	L	MARINE MAMMALS	FALSE KILLER WHALE	1	1	0
	L	MARINE REPTILES	GREEN TURTLE	1	0	1
	L	MARINE REPTILES	HAWKSBILL TURTLE	1	0	1
	L	MARINE REPTILES	OLIVE RIDLEY TURTLE	1	0	1

NOTES:

- *There were No catches of SSI observed in 2017 by Observers by both LL and PS vessels*
- *Observer coverage for LL is ~2% and PS at ~28%*
- *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.*

Table 4. Annual Estimated catches of Non-target, Associated and Dependent species including Sharks caught by Vanuatu Longline Vessels

Species	2013	2014	2015	2016	2017
BLUE MARLIN	544.6	493	758.5	361.4	366.6
BLACK MARLIN	18.5	27	35.1	28.1	5.01
PACIFIC BLUEFIN	0	0	0.175	0.109	2.36
STRIPED MARLIN	104.6	77	78.5	40.1	86.73
SWORDFISH	344.6	368	555.3	252	666.96
BLUE SHARK	73.5	659.3	776.654	326.6	955.38
SILKY SHARK	34.3	49.03	23.178	4.13	0.07
OCEANIC WHITETIP SHARK	0.5	0.06	0	0	0.36
MAKO SHARK	18.9	121.9	102.49	50.3	117.47

4. Licensing and Fleet Structure

Table 5. Annual Vessel Numbers for the National Fleet active in the WCPFC Convention Area by Gear and Size Category

(a) Longline Distant Water and Offshore

Year	00-50 GRT	51-200 GRT	201-500 GRT	500+ GRT	Unknown GRT	Total Vessels
2013	0	35	17	9	0	61
2014	0	55	15	12	0	82
2015	2	32	18	23	0	75
2016	2	31	3	13	0	49
2017	0	39	10	19	20	88

Note: *Fleet cover is based on DORADO reporting of vessels who are active (ie, submitted logsheets and have VMS data in Dorado for reconciliation)*

(b) Purse Seine -Bilateral Access

Year	00-500 GRT	501-1000 GRT	1001-1500 GRT	1500+ GRT	Unknown GRT	Total Vessels
2013	0	0	0	6	0	6
2014	0	0	0	3	0	3
2015	0	0	0	3	0	3
2016	0	0	0	3	0	3
2017	0	0	2	2	0	4

Note: *Vessel number is sought from the Vanuatu License listing for 2017*

Figure 3) a) Annual vessel numbers for the National Longline fleet in the WCPFC-CA

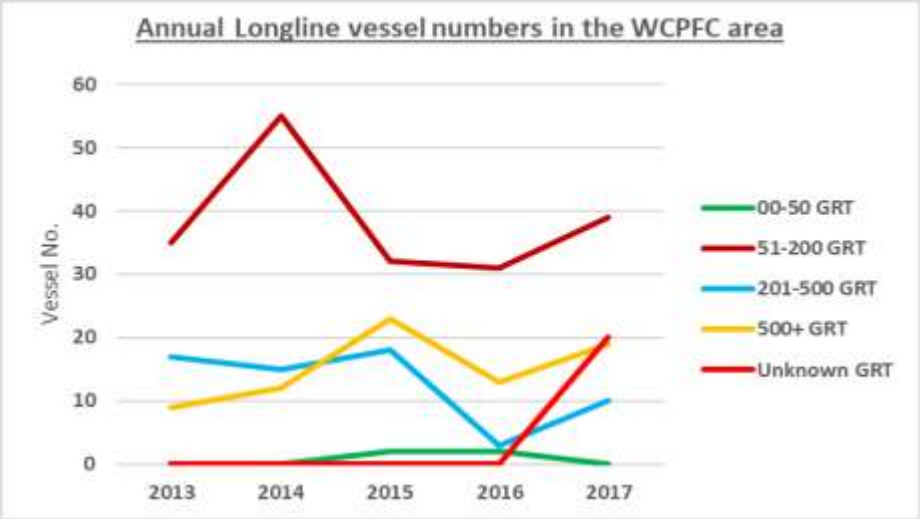
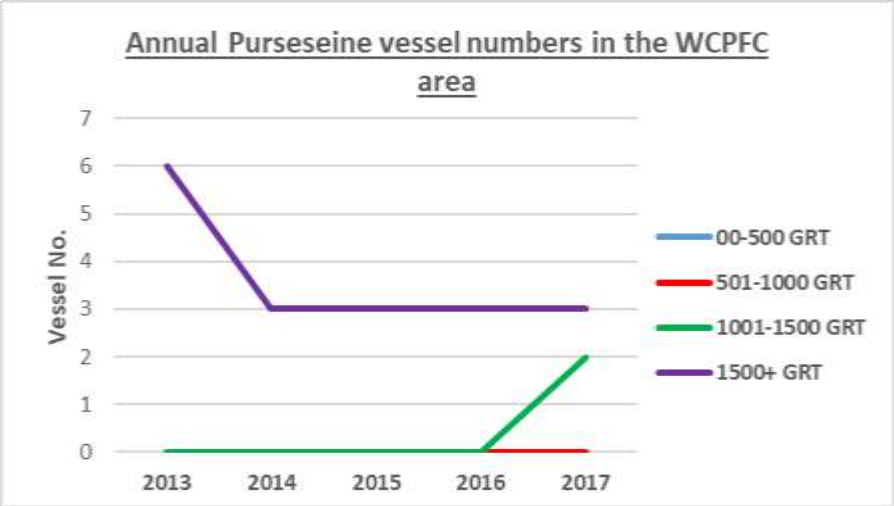


Figure 3) b) Annual vessel numbers for the National Purse seine fleet in the WCPFC-CA



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 decreased from 2013 and then rose again from 2016 to 2017. It is noted that high catches were usually obtained with high effort.

6. Catch and Effort Trends

During the period 2013 to 2017, the total annual catch for all the foreign fleets in Vanuatu EEZ had reduced from 2013 to 2015 but increased from 6,780.17MT in 2013 to 7,167Mt in 2016 and a further increase to 8,087Mt in 2017. There reduction in catch from 2013-2015 was a result of the effort decline that took place also for this period as the vessels shifted their operations to Solomon Islands. The catch was largely attributed to the Chinese fleet which recorded over 80% of the total catch for the 2013-2017 and which dominated the entire catch in 2017. Fishing effort continued to decrease from 2014 to 2015 from 65 vessels to 49 vessels but increase to 74 vessels in 2016 and then to 78 in 2017. The reduction in the last few years was due to the shift towards the eastern pacific where fishing was believed to be very good and after 2015 vessels started coming back to fish in the VU EEZ. Unraised and provisional estimates for this licensed fleet in 2017 were 5,674.24Mt, 1,702Mt and 201.54Mt for albacore, yellowfin and bigeye respectively and these catch estimates were determined from logsheet data. The annual estimated tuna catch composition by weight for 2017, was again dominated by albacore (70%), yellowfin (27%) and minor bigeye (3%).

In the period 2013 to 2015, the total annual catch for the foreign longline fleets in Vanuatu EEZ had decreased and 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 fleet which recorded over 80% of the total catch for the 2012-2015 periods followed by the Fijian and Taiwanese fleet contributing only 11%. In 2016, Catch rates however improved compared to 2015 levels due to the increase in effort which is recorded as the number of fishing vessels fishing as well as the number of hooks used. Logsheet coverage for 2016 is averaged at ~58% therefore figure is sure to increase once logsheet coverage for the vessels is improved from its current level as can be seen in Table 6.

The annual longline estimated tuna catch composition by weight for 2017, was again dominated by albacore (70%), yellowfin (27%) and minor bigeye (3%).
These catch proportions were similar to the historical tuna catch compositions.
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. 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 6. Annual Catch and Effort estimates for Each Foreign Fleet by Gear and Primary species in the National EEZ

2017

FLAG	Vessels	Trips	ALB Catch (MT)	BET Catch (MT)	YFT Catch (MT)	OTHER Catch (MT)	TOTAL Catch (MT)
TW	1	1	1.55	0.10	0.78	0.00	2.44
FJ	20	39	1,081.69	50.44	348.19	155.34	1,580.01
SB	1	7	81.14	3.73	20.19	8.11	111.14
KI	1	1	38.39	0.85	4.02	8.21	48.35
CN	53	262	4,316.27	135.20	1,226.56	584.15	6,062.12
VU	2	7	155.19	11.23	102.98	13.86	283.25
Total	78	317	5,674.24	201.54	1,702.71	769.67	8,087.30

2016

FLAG	Vessels	Trips	ALB Catch (MT)	BET Catch (MT)	YFT Catch (MT)	OTHER Catch (MT)	TOTAL Catch (MT)
FJ	2	2	19.42	0.61	1.95	1.74	23.35
SB	20	20	208.74	10.30	67.49	42.84	314.71
CN	52	268		197.59	962.93	738.63	6,829.64
Total	74	290	5,392.152	208.495	1,032.358	783.201	7,167.699

Note: Data is sought from Dorado with 2017 logsheet coverage summary at 45% (should we use raised?)

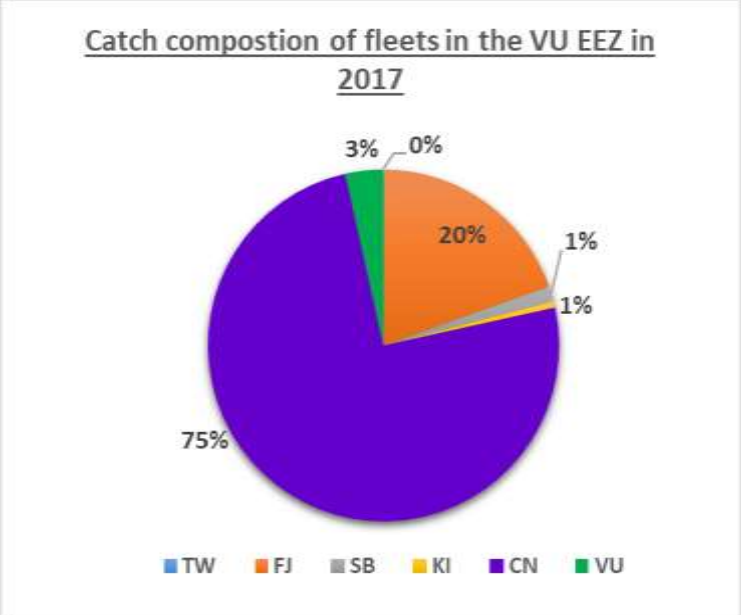
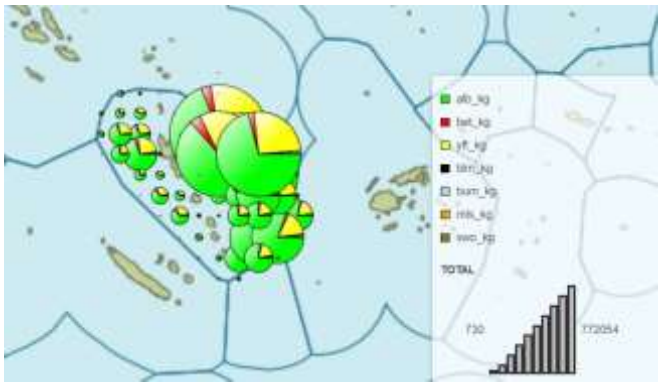
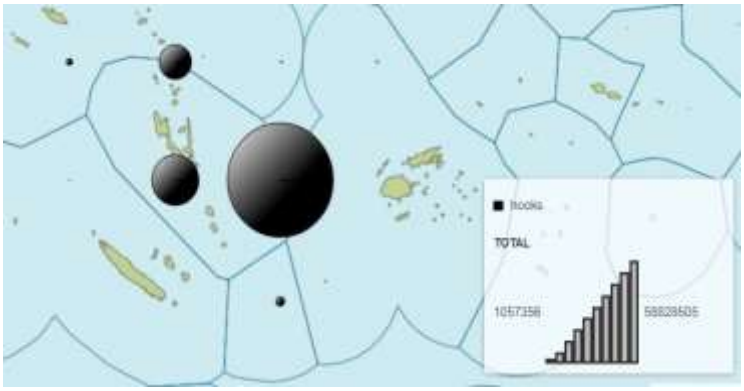


Figure 4). Annual Catch distribution of target tuna species by Major foreign Longline fleets in Vanuatu EEZ.



2017-Catch



2017-Effort

7. Socio-economic Factors

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

For local artisanal fisherman, fishing in FADs have recently become a priority with the sudden reduction in fuel costs as more Artisanal fisherman target FAD's only to catch skipjack for Baitfish.
The TUFMAN2 database has been fully utilized since July 2016 after the shift from TUFMAN 1 which is now only used for licensing. The TAILS system has also been trailed out in Vanuatu and has been successfully set up to 16 communities who are actively sending in coastal data via Tablets into the TUFMAN2 online system. The RIMF FFA database has been utilized to cater for all Artisanal vessel registration activities as well as the recording of Landing and Unloading data from operators. Fishers including small skiffs and motorized canoes are also registered within the TAILS system with the objective of enhancing the capacity to collect data for coastal, deep bottom and pelagic fisheries.

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 currently under renovation and is part of the Governments 100 day plan to develop fishery operation. This will allow the licensed Chinese vessels currently fishing the VU EEZ to offload their catch in the Vila port and facilitate for the export of the catch to the Export countries including US and China. The process of development of a new wharf is also part of the plan to allow for the vessels to harbor in Port Vila to carry out their activities and this process has began as of early this year.

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 has 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 2016 was to move to the TUFMAN 2 database which allows for the sharing of logsheet data between countries to which licensed vessels operated. This sharing has allowed access to view Logsheets from vessels who are license to operate in our waters with other members sharing the same interests. And this is currently being fulfilled in 2017 as logsheet data is being shared by countries which has significantly reduced the amount of work load on entering data and giving more time to fixing and validating the data.

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

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 low for 2017 at ~45% but likely to improve before the end of the year as outstanding data is being entered. Whereas for the Vanuatu flag vessels the coverage for Longline for 2017 is ~62% which is obtained through reconciliation with VMS data sought from the Vanuatu VMS system, this is expected to rise once all missing logsheets are identified and entered. For Purse seine vessels, logsheet coverage from both 2016 and 2017 has been at 100. Vanuatu is currently rolling out E reporting on 3 of its vessels and hopes to fulfill a 100% coverage of all fleets by 2020.

Assistance from trainings held by SPC on data verification has assisted in allowing data verification to be done nationally by officers as a means of improving data quality and compliance.

(b) Observer and Port Sampling Programme

The Vanuatu Observer program established in 2008 and now has 35 regional certified PIRFO observers who observe on Purse Seiners, Long Liners and Fish Carriers that are operating in the WCPFC area.
Since its establishment in 2008, Fisheries Observers have been heavily involved in Long liners and Purse seiner vessel operations and later covering fish carrier vessels in the effort to collect more information on carrier vessels at sea.

Sharing of observing on a vessel in another country's EEZ remain a challenge as Sharing of coverage between observers program. MOU's are needed with other national observer programs for sharing and placing observers on Flag and License vessels and which are yet to be signed. Vanuatu's observer coverage still stands as a issue in reaching the 5% coverage and Vanuatu is looking at means of stricter measures to achieve this.

In 2017, Vanuatu National Observer Programme has managed to put in place its first Emergency Action Plan (EAP) and Standard operational Procedures. This is a great improvement to the programe. Further to that, observers are now also being insured during trips.

The programme has also purchased safety gears such as 2-way In Reach Communicating Device, Personal Locator Device (PLB) and Life vest and have provided these to observers to use when going on trips.

(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 until 2014 when there were only 4 transshipments in the Vanuatu port. As of then, transshipment activities has since ceased as vessels have move out until a trail unloading took place in mid 2016 and another 2 in 2017 as a way of showcasing and promoting Vanuatu's capacity of having its vessels resume unloading activities in Vanuatu.

(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 2017.

APPENDIX I-CMM Report

Table 1 Summary Table

<table>
<tr><th>CMM References</th><th>Description</th><th>Response</th></tr>
<tr><td>CMM 05-03</td><td>North Pacific Albacore</td><td>This is one of the Target Species of the Vanuatu flag Long liners and is reported every 6 months to the WCPFC commission. In 2017, a total of 69 Vanuatu LL vessels fished for 2,601 days and caught 63,481 Albacores weighing 911.371Mt in the area North of the Equator. The 6 monthly reporting for this species is provided as follows:
<table>
<tr><th>Period</th><th>Vessel Number</th><th>Vessel Days</th><th>Catch (Number)</th><th>Catch (MT)</th></tr>
<tr><td>Jan-Jun</td><td>25</td><td>1167</td><td>20044</td><td>257.252</td></tr>
<tr><td>Jul-Dec</td><td>44</td><td>1434</td><td>43437</td><td>654.119</td></tr>
</table>
There were no albacore North of the equator for purse seine activities.</td></tr>
<tr><td>CMM 06-04</td><td>SW Striped Marlin</td><td>Striped marlin is caught as a by-catch. In 2017, 30 Vanuatu flag longliners caught 526 striped marlin, weighing 28.533 MT in the area South of 15 degrees South.</td></tr>
<tr><td>CMM 08-03</td><td>Marine Turtles</td><td>Based on observer data, there were no interactions with Marine turtles in 2017 by Vanuatu vessels.</td></tr>
<tr><td>CMM 09-03</td><td>SP Swordfish</td><td>Swordfish is caught as a bycatch. In 2017, 21 Vanuatu flag vessels caught 359 swordfish, weighing 21.245 MT in the area South of 20 South.</td></tr>
<tr><td>CMM 09-06</td><td>Transhipment</td><td>See Below for details.</td></tr>
</table>

CMM 10-07 Sharks

Shark catch estimates are based on log sheet for 2017 were approximately 1700 sharks were caught in total weighing 750.11 MT. The catch composed of Blue Sharks, Mako Sharks, Silky Sharks, Hammerhead and Small eye hammerhead Sharks, Porbeagle Sharks, Oceanic whitetip shark, and Ocellated Angel Shark and Thresher shark.

Details of catch are:

Species	Fate	Catch (n)	Catch (MT)
HAMMERHEAD SHARKS	Discarded/Released	24	
MAKO SHARKS	Discarded/Released	23	
BLUE SHARK	Discarded/Released	1584	7.065
BLUE SHARK	Retained		495.065
MAKO SHARKS	Retained		51.698
SILKY SHARK	Retained		1.31
SILKY SHARK	Discarded/Released	21	
OCEAN WHITETIP SHARK	Retained		0.153
OCEAN WHITETIP SHARK	Discarded/Released	24	
THERESHER SHARK	Discarded/Released	5	
SMALLEYE HAMMEREDHEAD SHARK	Discarded/Released	5	
OCELLATED ANGEK SHARK	Retained		0.03
PORBEAGLE SHARK	Discarded/Released	1	

This data was collected from both Purse seine and Longline vessels.

CMM 11-03 Cetaceans

According to observer data, there were no interactions with cetaceans in both the Purse seine and Longline fishery.

CMM 11-04 Oceanic White-Tip Shark

From observer data, there were no interactions with Oceanic White Tip Shark in both the Purse seine and Longline fishery.
Logsheet data recorded 5 OCS of which 1 was caught by Purse seine and 4 by LL. Of this total, 4 were Retained and 1 was Discarded. The total weight for the OCS for 2017 was 203kg.

CMM 12-04 Whale Sharks

From observer data, there were no interactions with Whale Shark in both the Purse seine and Longline fishery.
No Whale sharks were also recorded from Logsheet data in 2017.

CMM 12-07	Seabirds	From observer data, there were no interactions with Sea Birds in both the Purse seine and Longline fishery.
CMM 13-01	Discard reporting– by National Fleet	In 2017, Observer data recorded a total of 28.605 MT of discards by Vanuatu purse seiners. From this figure, 22.694 MT were Skipjack, 0.5MT were Yellowfin and 0.035Mt were Bigeye. The entire discards where done for reasons of Gear Damage.
CMM 13-08	Silky Sharks	A total of 1,163.374MT of sharks were reported by Longline vessels in 2017 from raised logsheet data. From this total, 1,073Mt were retained while 90.081Mt were discarded. From this retained catch, Blue shark constituted the highest with 89% of the total, followed by Mako with 10% and then then a very small amount of Silky and Oceanic whitetip making up the remaining. Purse seine logsheet raised data however reported no retentiontion of sharks but only a 1.3Mt of Silky sharks that were discarded. From Observer data, a total of 73 Silky sharks were caught from Purse seine vessels. From this total 67 were Discarded Dead while 6 were Discarded Alive.
CMM 15-02	South Pacific Albacore	Addressed through the regular provision of operational catch/effort log sheet data to SPC, who automatically include these data to the WCPFC databases, as per our authorisation.
WCPFC 11 decision-para 484 (b	Observer Coverage	In 2017, the Observer coverage for LL vessels was measured using the number of days fished that was observed by the Observers. There was only 1 observer trip in 2017 with a total observed days of 207. The total number of sea days for Vanuatu long line vessels is 9,412 days therefore, from this figure Vanuatu's observer coverage based on days observed on its LL vessels in 2017 was 2%. For Purse seine vessels, the Observer coverage is only 28.4% for 2017.

CMM 09-06 – Transshipments

Annex II (1)

(1)Total quantities, by weight, of highly migratory fish stocks that were transhipped by fishing vessels the CCM is responsible for reporting against, with those quantities broken down as below:	
a. Offloaded and Received	
Year	2017

Offloaded	5,822.6 MT
Received	34,614.9 MT
***- Figures in metric tonnes**	
b. Transhipped in Port, At Sea, and ABNJ	
Year	2017
Port	26,394.4 MT
Within EEZ	0.0 MT
High Seas	17,657.0 MT
***- Figures in metric tonnes**	
c. Transhipped Inside and Outside CA	
Year	2017
Inside CA	44,051.4 MT
Outside CA	0.0 MT
***- Figures in metric tonnes**	
d. Caught Inside and Outside CA	
Year	2017
Caught Inside CA	44,051.4 MT
***- Figures in metric tonnes**	
e. Species	
Year	2017
SAIL FISH	0.0 MT
SKIPJACK TUNA	20,994.4 MT
YELLOWFIN TUNA	8,923.4MT
BIGEYE TUNA	6,399.4MT
ALBACORE TUNA	6,012.2 MT
SWORDFISH	1,322.0 MT

OTHER FISH	760.0 MT
SHARK	486.5 MT
BLUE MARLIN	224.1 MT
STRIPED MARLIN	116.0 MT
BLACK MARLIN	80.7MT
BLUE SHARK	25.0 MT
ESCOLAR (LEC)	3.2 MT
WAHOO	3.1 MT
OPAH / MOONFISH (LAG)	3.0MT
MARLIN UNSPECIFIED	0.8 MT
***- Figures in metric tonnes**	
f. Product Form	
Year	2017
Whole	34,137.4 MT
Gilled, Gutted and Tailed	5,066.9 MT
Gilled, Headed and Tailed	895.5 MT
Other	664.7 MT
Dressed	571.9 MT
Gutted, Headed and Tailed	334.4 MT
Round (RD)	130.2 MT
Head Off	120.4 MT
Gutted and Headed	57.8 MT
Gutted Only	15.6 MT
Filleted	14.7 MT
Gilled, Gutted and Headed	12.3 MT
Gilled and Headed	10.8 MT

Shark Fins	0.5 MT

Annex II (2)

***- Figures in metric tonnes**	
2 Number of transhipment by fishing vessels:	
a. Number of Transhipment Offloaded and Received	
Year	2017
Offloaded	105
Received	199
***- Figures in metric tonnes**	
b. Number of Transhipment in Port, At Sea, and ABNJ	
Year	2017
Port	51
Within EEZ	0
High Seas	270
***- Figures in metric tonnes**	
c. Number of Transhipment Inside and Outside CA	
Year	2017
Inside CA	321
Outside CA	0
***- Figures in metric tonnes**	
d. Number of Transhipment Caught Inside and Outside CA	
Year	2017
Caught Inside CA	288
Caught Outside CA	128

APPENDIX II

Table 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.