SCIENTIFIC COMMITTEE
SEVENTEENTH REGULAR SESSION

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11-19 August 2021

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

WCPFC-SC17-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 2021	**YES**

CONTENTS

ABSTRACT

The major tuna species caught from the Foreign fishing vessels in the Vanuatu EEZ in 2020 was dominated by 60% of albacore, 23 % of yellowfin, 4.6% of bigeye and lastly 11.6% for others species of the total catch. In 2020 there was a reduction in catch compared to 2019 and this was due to the impact of the Covid-19 pandemic on fishing operations where the number of vessels and trips reduced from 2019 levels. a reduction in fishing effort (number of vessels and trips). Fishing however from the years 2016 to 2017 had seen an increase in catch as vessels moved back into the EEZ to fish. The fluctuation in catch varies between the years depending on access to onshore facilities and good fishing patterns. In 2019 a total of 8981.382Mt of fish was recorded compared to 2020 where 8058.2Mt of fish was reported.

In the period 2016 – 2020 the annual catch estimates of the Vanuatu longline fleets in the WCPO showed a reduction from 23,563Mt in 2016 to 12,211Mt in 2017 and again reduced to 11,396Mt in 2018. In 2019 however, the catch increased slightly to 12,630Mt but again reduced to 10,211Mt in 2020 and this reduction was due to the reduction in vessel effort since the Covid-19 pandemic hit in early 2020.
Purse seiners on the other hand experienced an increase in catch estimates between the years 2016 to 2020 due to the increase in vessel number. In 2016, a total of 4,394Mt of fish was recorded and this figure increased to 6,845Mt in 2017 and then to 12,502Mt in 2018 and then to 33,997Mt in 2019 and finally 46,242Mt in 2020, the highest in the 5 years. This catch was dominated by skipjack making up 85% of the catch followed by Yellowfin at 12% and lastly bigeye at 2.7%.
Raised 2020 data shows that catches of the main tuna species for Purse seines increased from 4,394Mt of skipjack in 2016 to 46,242Mt in 2020. Longline vessels however, experienced a decrease in catches of Albacore 23,563Mt in 2016 to 10,211.9Mt in 2020.
Since 2014, locally based vessel operation had ceased as vessels were based entirely in Fiji and the Solomon islands, however in 2019, locally based vessels moved back to fish in the Vanuatu EEZ where unloading of fish was experienced from 6 locally based foreign fishing vessels offloading fish into the Fish processing facility in Port Vila. These operations were planned to be more frequent in the year 2021 and beyond.

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 a few Artisanal fishers are found fishing within the 12 miles around FAD's catching mainly Skipjack and Yellowfin. Individual fleets presented herein cover vessels with high catch and effort data coverage and these are mostly Chinese fleets with a few Fiji fleets. Other fleets such as Taiwainese fleets have cease operations over the last few years in the Vanuatu EEZ. Fishing by these 2 fleets is based through bilateral agreements and the issuance of 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 2016 to 2020. 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 recognized as PSMA countries 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 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 6 purse seiners and 78 long-liners of which 65 are active with licenses to fish in the WCPFC area in 2020.

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 longlines and purse seiners. Vanuatu currently operates a vessel registry, the Vanuatu International Shipping Registry (VISR). The VISR has recorded over 90 vessel registrations since 2014, and currently there is a total of 94 vessels on the Vanuatu registry of which 3 are inactive while 91 are active and these comprise of 78 Longlines, 6 Purse seines, 4 Squid jiggers, 2 Carriers and 1 bunker. 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 2020 were 5,210Mt for albacore, 2,760Mt for bigeye and 1,293Mt for yellowfin respectively and these catch estimates were determined from logsheet data raised using information on actual vessel Activity (VMS data). During the period 2016-2020, the longline fleet recorded its highest total annual catch estimate as 23,563MT in 2016 (Table 1(a)). The longline fishery recorded the highest catches for albacore in 2016 being 11,773Mt and the lowest in 2018 as 4,741Mt. The highest catch for bigeye was in 2016 with 7,396Mt and lowest in 2020 with 2,760Mt. Yellowfin catches also showed a reduction from 2016 to 2020 levels with the hightest recorded in 2016 with 2,097Mt and the lowest in 2019 and 2020 with 1269Mt and 1293Mt respectively. Albacore continues to

be the dominant species in the catch for 2020 followed by bigeye and then yellowfin. Effort for the longline fishery has experience a slight reduction from 2016 and 2017 to 2018 in terms of vessel numbers active and a decrease from 2018 to 2019 but a slight increase to 2020. This fluctuation in effort is evident through the measure of the number of vessels license and number of days fished and sets deployed.

The purse seine fleet that operated under bilateral arrangements recorded an increase in total catch from 2016 and 2017 levels which was 4,394Mt to 6,845Mt and again improved in 2018 to 12,502Mt. This further increased to 33,997Mt in 2019 and then recorded the highest in 2020 being 46,242Mt (Table 1(b)). The effort in the total number of sets had also increased from this period of 2016 to 2017 and again in 2018 to 2020. During this period, the main tuna species in the catch being Skipjack also showed an increase in catch from 3,806 in 2016 to 5,162Mt in 2017 to 10,115Mt in 2018 and to 31,054Mt in 2019 and finally the highest with 39,434Mt in 2020. This is also the same for the other two species Yellowfin and Bigeye.

The purse seine fleets were mainly operating within the 5 degrees North and 5 degrees South and between 150 degrees East and 175 degrees West. 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 South and 40 degrees South and this effort has reduced 2019 from 2020 as a result of the Covid-19 pandemic and this can be seen Figure 2)a) where catch has slightly reduced 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 2016-2020 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 providse information on the observed species of interest (SSI) collected through observer reports for the year 2020 by ROP observers on Purse seiners and by Vanuatu observers on the Vanuatu flag longliners. SPC has confirmed that this information has 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). 2020 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
2016	11,773.85	2,097	7,396.36	202.58	0	67	736	201.3	1,116.29	23,563.38
2017	6,067.35	1,454	3,182.42	173.73	0	32.7	361	90.3	580.25	12,211.75
2018	4,741.54	1,437	3,751.39	170	0	6	308.15	143.65	839	11,396.73
2019	6,029.74	1,269	3,889.50	116.45	0	8.67	311.47	119.74	885.79	12,630.36
2020 – Retained	5210.775	1293.320	2760.968	163.256	0.134	1.631	240.645	57.117	484.088	10,211.934
2020 - Discarded	73.668	67.720	76.531	25.207	0	0	6.857	8.007	140.871	401.861

Notes:

- *Catch data for 2015-2020 have been Raised using VMS data*
- *2020 logsheet coverage was raised from 96.91% of logsheet coverage data*
- *Data was derived from the Dorado web tool*

Table 1(b). 2020 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)
2016	3,806	262	326	4,394
2017	5,162	1,051	632	6,845
2018	10,115	2,154	233	12,502
2019	31,054.6	2419.2	523.5	33,997.3
2020 – Retained	39434.4	5553.5	1254.8	46,242.7
2020 - Discarded	93.1	29.2	7.4	129.7

Notes:

- *Catch data for 2015-2020 have been Raised using VMS data*
- *2020 logsheet coverage was raised from 96.91% of logsheet coverage data*
- *Data was derived from the Dorado web tool*

Table 1(c). 2020 Annual catch estimates for the National (Offshore) Fleet in the WCPFC-CA for Shark species – Longline.

Species	2020 (MT)
BLUE SHARK	662.425
SILKY SHARK	0
MAKO SHARK	65.572
OCEANIC WHTETIP SHARK	0
THRESHER SHARK	0.99
PORBEAGLE SHARK	0
HAMMERHEAD SHARK	0

Note:

- *Catch reports retained catches of the Sharks*
- *Catch were Raised from 96.91 % logsheet coverage. Source of Data: Dorado*

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

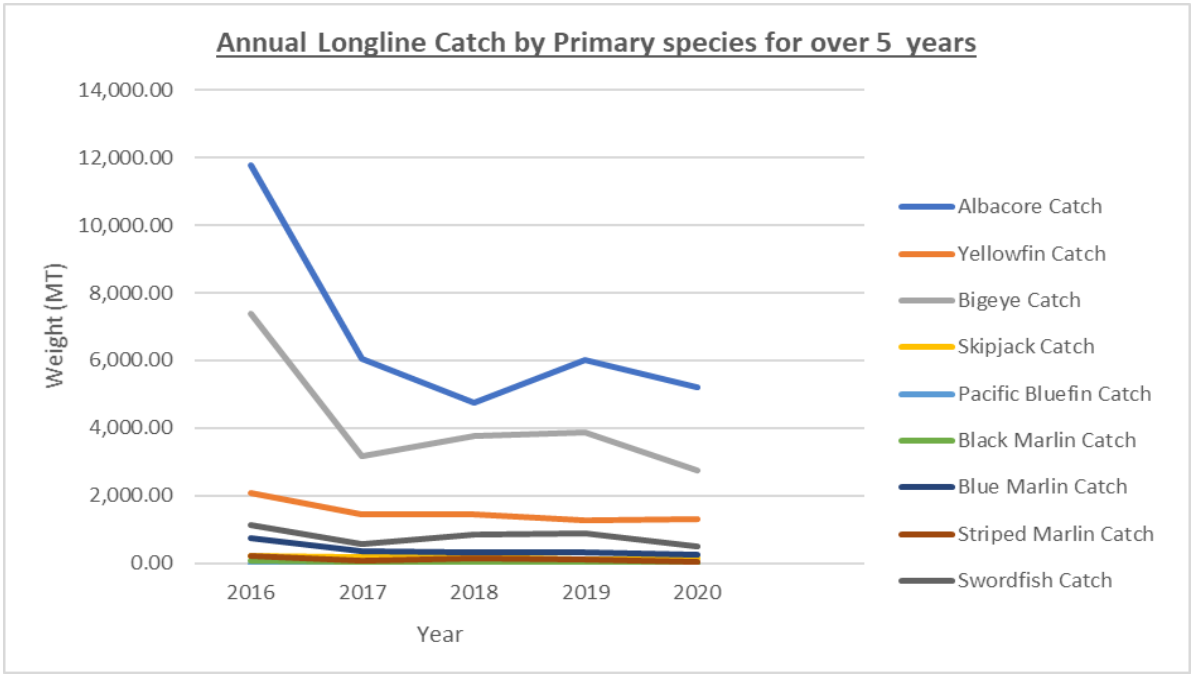


Figure 1(b) Historical Annual Catch and Effort estimates for the National Purse seine Fleet within the WCPFC-CA

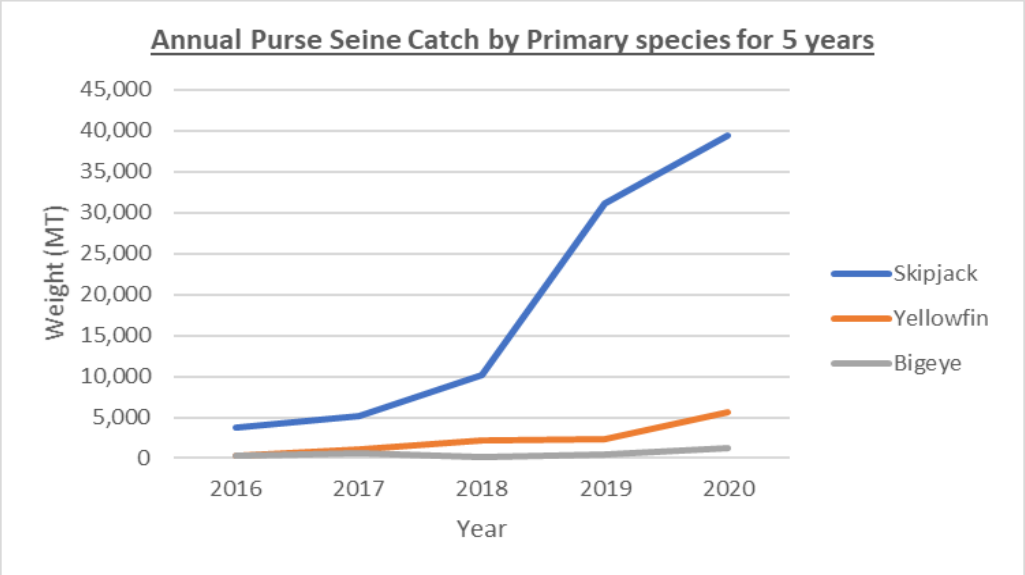


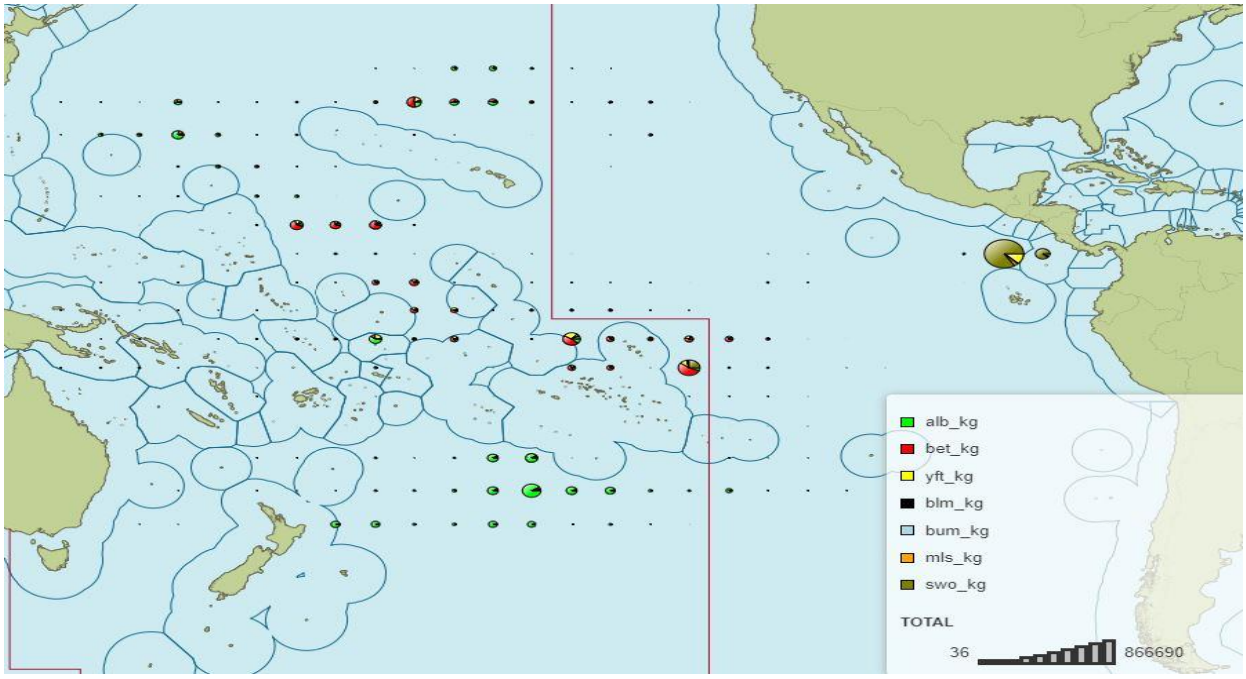
Table 2) Annual raised catch estimates for the Vanuatu longline vessels, for tuna and billfish by Broad Ocean areas

Area	Year	ALB	BET	YFT	SKJ	PBF	BUM	BLM	MLS	SWO
WCPFC	2020	5,210.77	2,760.96	1,293.32	163.25	0	240.64	1.63	57.11	484.08
	2019	6,939	3,200	1,550	213	0	2,135	6	54	438
WCPFC Convention Area (N of Equator)	2020	902.46	N/A	N/A	N/A	1.34	N/A	N/A	22.20	94.59
	2019	1,615.55	N/A	N/A	N/A	6.78	N/A	N/A	33.59	158.38
WCPFC Convention Area (S of Equator)	2020	1,652.28	N/A	N/A	N/A	0	N/A	N/A	19.03	101.81
	2019	3,568.03	N/A	N/A	N/A	0.11	N/A	N/A	40.53	332.58
WCPO	2020	2,096.29	948.70	477.12	N/A	N/A	N/A	N/A	33.18	136.39
	2019	1,089.04	1,015.49	424.63	N/A	N/A	N/A	N/A	13.68	97.42
EPO	2020	1,038.17	797.72	242.37	4.64	0	59.46	0.69	65.5	822.31
North Pacific Ocean	2020	1,100.27	N/A	N/A	N/A	0	N/A	N/A	62.19	651.41
	2019	1,752.23	N/A	N/A	N/A	0	N/A	N/A	82.40	1,246.51
South Pacific Ocean	2020	2,035.59	N/A	N/A	N/A	0	N/A	N/A	36.48	307.5
	2019	3,842.13	N/A	N/A	N/A	0	N/A	N/A	54.93	442.54

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 are*

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

2019



2020

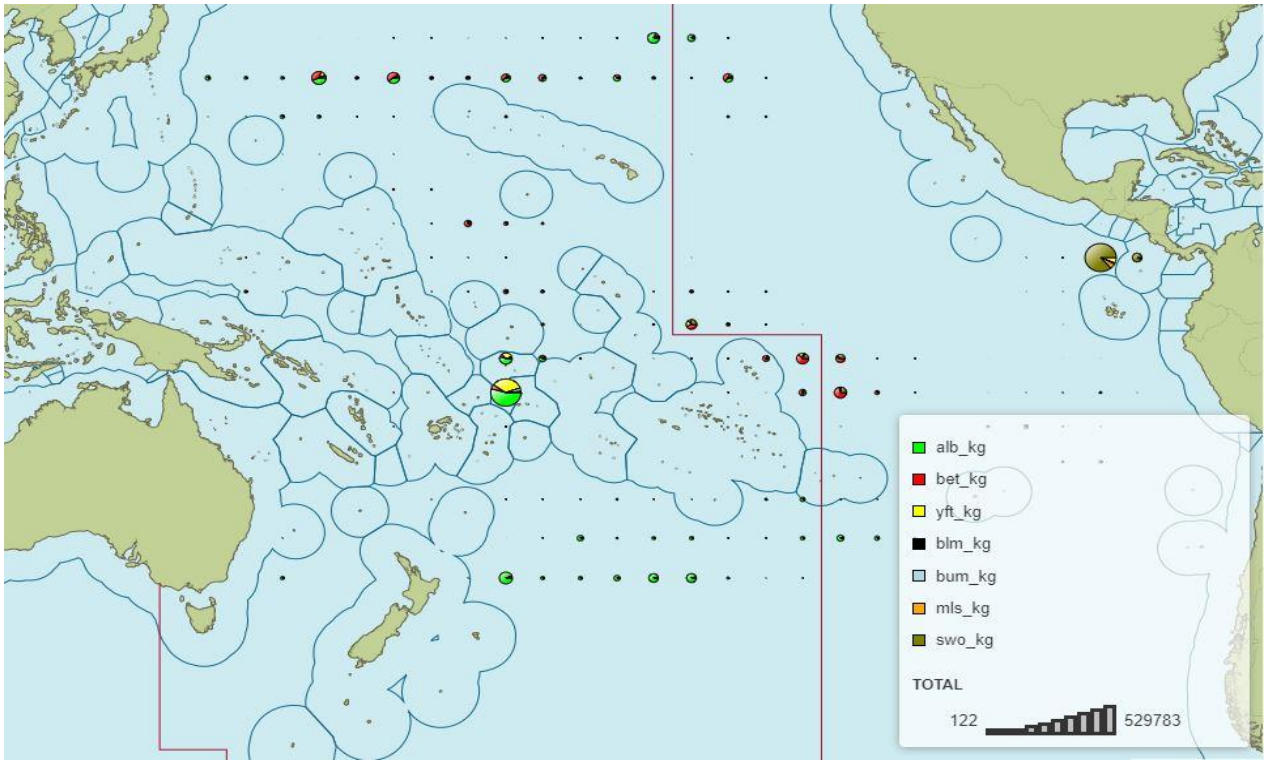
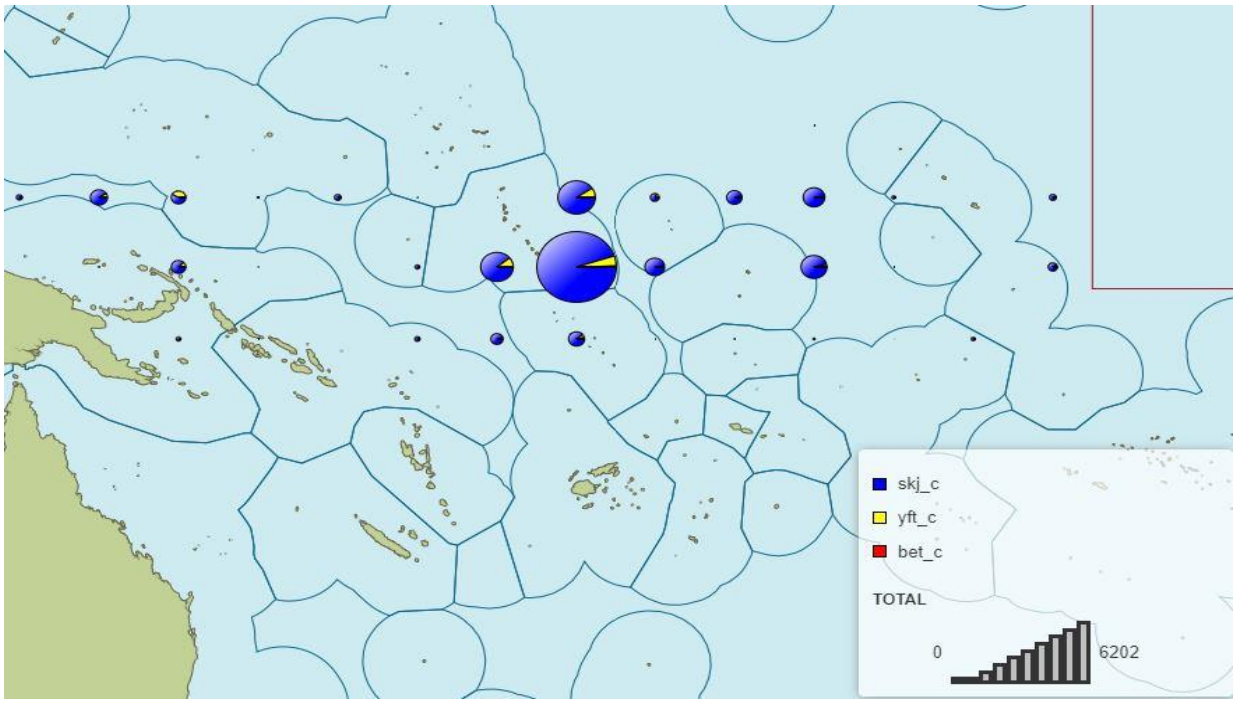


Figure 2(b). Annual Catch distribution (1°x1°) of tuna species for Purse Seine Fleet within the WCPFC-CA

2019



2020

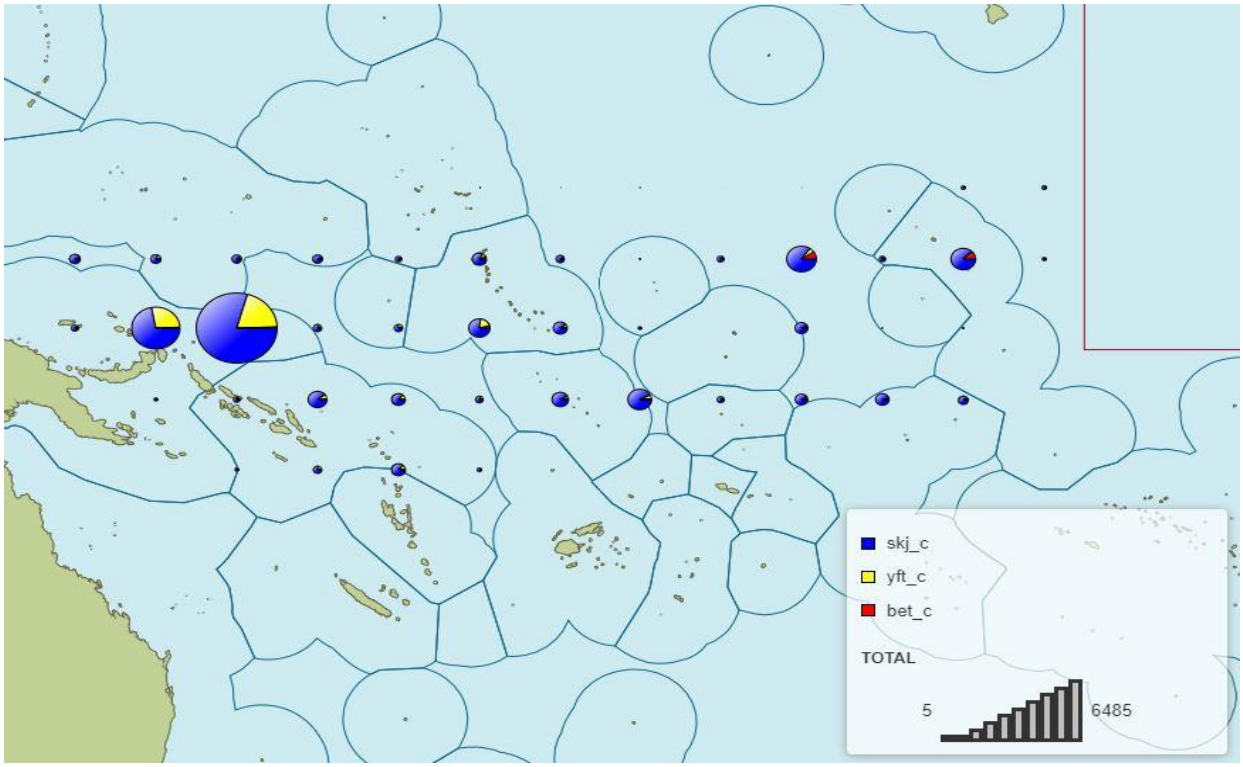


Table 3. Observed annual estimated catches of Species of Special interest (seabird, turtle and marine mammals) by gear for the National fleet in the WCPFC area.

Year	Gear	Category	Species	Number	No. Alive	No. Dead
2020	PS	MARINE MAMMALS	LONG-BEAKED COMMON DOLPHIN	1	0	0
	PS	MARINE MAMMALS	SHORT-FINNED PILOT WHALE	4	0	0
	PS	WHALE SHARK	WHALE SHARK	6	5	0

NOTES:

- *Observer coverage for LL is ~1.1% and PS at ~51.0%*
- *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	2016	2017	2018	2019	2020
BLUE MARLIN	736	361	367	383.79	144.94
BLACK MARLIN	74	25	5	4.013	2.057
PACIFIC BLUEFIN	0	0	2	0.334	0
STRIPED MARLIN	179	40	87	95.576	99.266
SWORDFISH	939	252	667	461.719	973.546
BLUE SHARK	810.97	525.64	845.62	641.01	679.05
SILKY SHARK	23.67	8.45	3.25	0	0
OCEANIC WHITETIP SHARK	0.06	0	0.15	0	0
MAKO SHARK	115.68	71.42	79.27	59.024	66.61

NOTES:

- *Estimates are raised based on 96.91% logsheet coverage*

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
2016	2	31	3	13	0	49
2017	2	31	3	13	0	49

2018	0	28	16	25	0	69
2019	0	14	11	15	0	40
2020	0	4	17	26	0	47

Note:

- *Fleet cover is based on Licensing information of vessels who are active*
- *Vessel number for 2020 is sought from Vanuatu License listing for 2020*
- *Fleet cover also excludes vessels who are chartered to other countries*
- *In 2020, 12 vessels were chartered to other countries and therefore are not included in this table*

(b) Purse Seine -Bilateral Access

Year	00-500 GRT	501-1000 GRT	1001-1500 GRT	1500+ GRT	Unknown GRT	Total Vessels
2016	0	0	0	3	0	3
2017	0	0	0	3	0	3
2018	0	0	2	3	0	5
2019	0	0	3	3	0	6
2020	0	0	3	3	0	6

Note: *Vessel number is sought from the Vanuatu License listing for 2020*

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

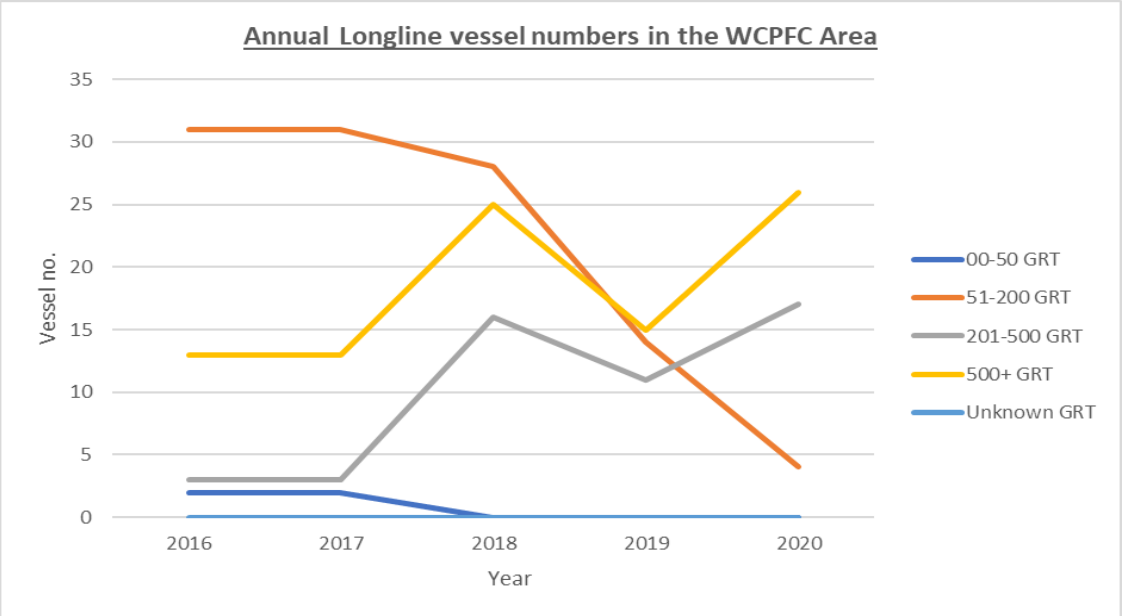
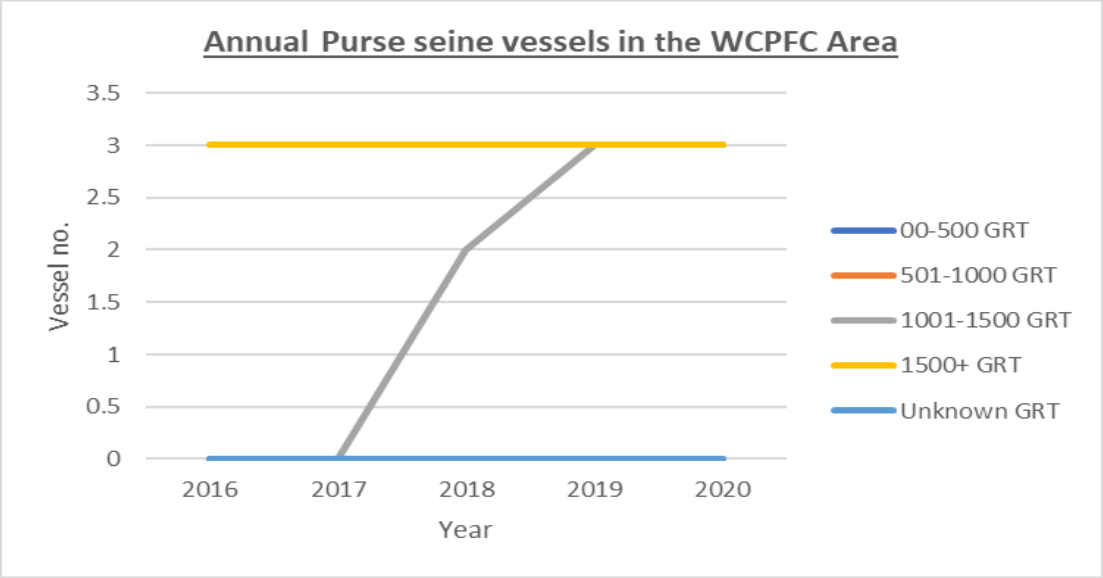


Figure 3) b) Annual vessel numbers for the National Purse seine fleet in the WCPFC-CA



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 where it then decreased in 2018. It is noted that high catches were usually obtained with high effort.

6. Catch and Effort Trends

During the period 2015 to 2019, the total annual catch for all the foreign fleets in Vanuatu EEZ had fluctuated. From 2013 there is a reduction in catch, however, there is an increase from 6,780.17MT in 2013 to 7,167Mt in 2016 and decreased to 7,096Mt in 2018 and increase again from 8981.382Mt in 2019 and slight decrease from 8058.28Mt in 2020. The 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 85% of the total catch for the 2015-2019 and which

dominated the entire catch in 2019. Fishing effort continued to decrease from 2014 to 2015 from 65 vessels to 49 vessels but increase to 74 vessels in 2016 and then reduced from 72 vessels in 2018 to 75 in 2019 and 71 vessels in 2020. 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 2020 were 4,848Mt, 1,902Mt and 370Mt for albacore, yellowfin and bigeye respectively and these catch estimates were determined from logsheet data. The annual estimated tuna catch composition by weight for 2020, was again dominated by albacore (68%), yellowfin (27%) and minor bigeye (5%).

In 2020, Catch rates however, decreased compared to 2019 levels due to the decrease in effort which is recorded as the number of fishing vessels fishing as well as the number of hooks used and trips taken. Logsheet coverage for 2020 is averaged at 96.58%. Thus, catch figures as seen in Table 6 are sure to improve slightly when logsheet coverage increases to 100% .

The annual longline estimated tuna catch composition by weight for 2020, was again dominated by albacore (68%), yellowfin (27%) and minor bigeye (5%). These catch proportions were similar to the historical tuna catch compositions. The recent tuna fishery in Vanuatu has seen a general increase in both fishing effort and catch estimates respectively. It is estimated that the recent effort exceeded 333 thousand hooks in 2020 based on unraised data but it is likely that the actual estimate may exceed 333 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

2019

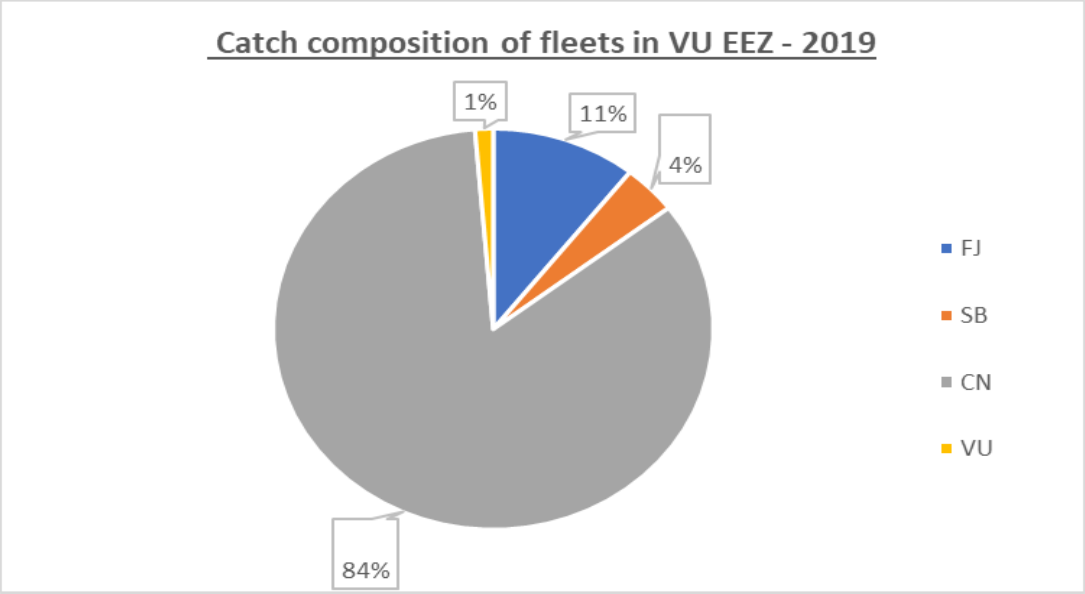
FLAG	Vessels	Trips	ALB Catch (MT)	BET Catch (MT)	YFT Catch (MT)	OTHER Catch (MT)	TOTAL Catch (MT)
FJ	8	21	481.39	25.626	136.031	50.322	693.369
SB	3	3	9.38	0.08	0.702	0.589	10.751
CN	63	275	5819.751	264.758	1361.101	826.381	8271.991
VU	1	1	4.665	0.089	0.19	0.327	5.271
Total	75	300	6315.186	290.553	1498.024	877.619	8981.382

2020

FLAG	Vessels	Trips	ALB Catch (MT)	BET Catch (MT)	YFT Catch (MT)	OTHER Catch (MT)	TOTAL Catch (MT)
FJ	10	31	438.013	34.988	182.742	71.214	726.957
FM	2	2	22.714	3.883	22.245	5.828	54.67
CN	71	290	4387.67	331.817	1697.556	859.61	7276.653
Total	73	282	4848.397	370.688	1902.543	936.652	8058.28

Note: Data is sought from Dorado with 2019 logsheet coverage summary at 96.58%

2019



2020

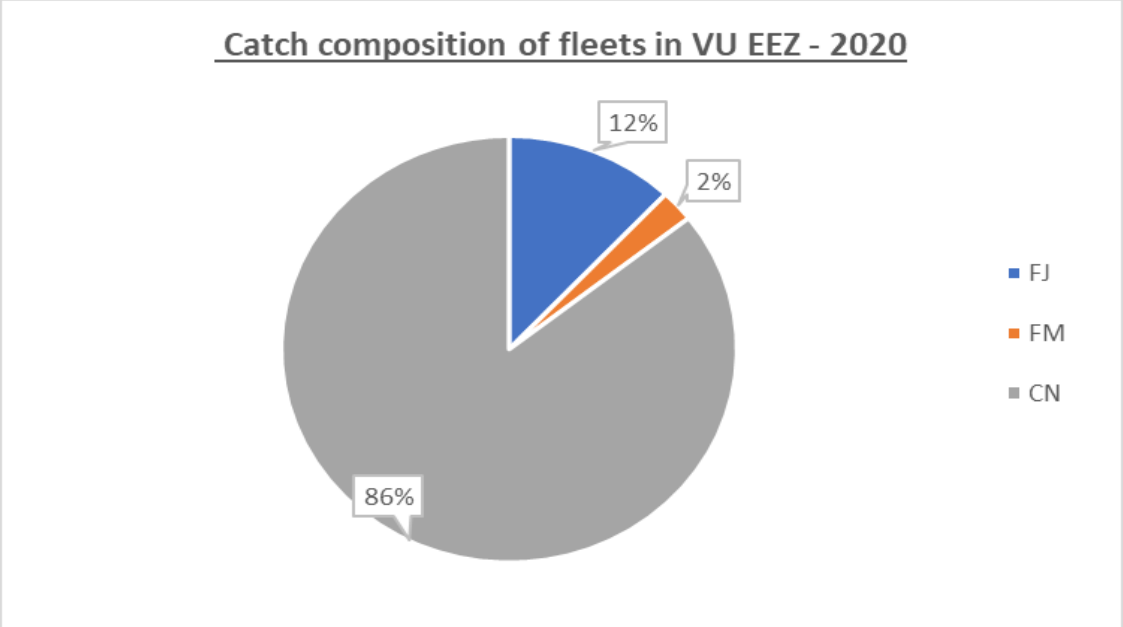
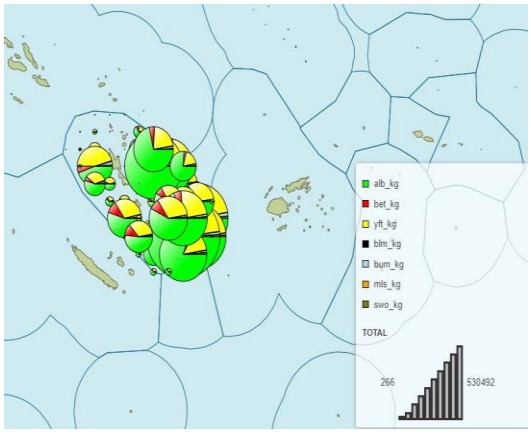
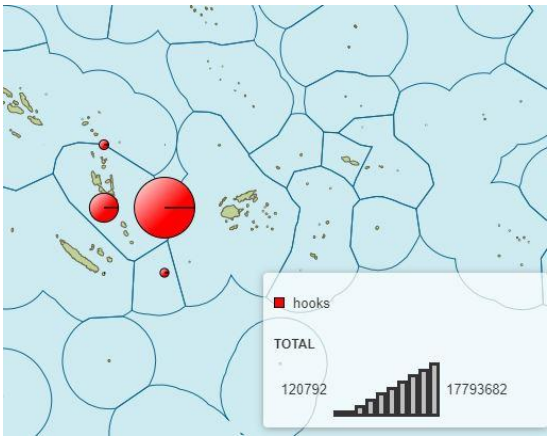


Figure 4). Annual Catch distribution of target tuna species by Major foreign Longline fleets in Vanuatu EEZ.





2020-Catch 2020-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 in all provinces in Vanuatu who are actively sending in coastal data via Tablets into the TUFMAN2 online system. The RIMF FFA database has been utilized to cater for as the recording of Landing and Unloading data, transshipment data as well as MCS boarding and inspection information. Fishers including small skiffs and motorized canoes are being 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 known as the Sino-Van company is a joint venture to the Vanuatu government owned 6 locally based Chinese fishing vessels that were licensed in late 2019 and currently fishing the Vanuatu EEZ and offload their catch in Port Vila and export their catch to China, USA, Vietnam, Australia and New Zealand. Vanuatu currently rolled out E reporting on 95% of its Vanuatu flag vessels from 2020 to 2021 and hope to fulfil a 100% coverage by the end of 2021.

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 licenses to 70 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 54 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 involved in Longliners and Purse seiner vessel operations and later covering fish carrier vessels in the effort to collect more information on carrier vessels at sea.

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 received few more from the Forum Fisheries Agency (FFA) and has provided these to observers to use when going on trips.
The programme looks at achieving a Cost Recovery Plan for the Observer program by the end of 2021 and this is a priority task for the program in 2021.

(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 harbor 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. Unloading activities slowly occurred in 2017 and 2018 where 2 unloading took place as a way of showcasing and promoting Vanuatu's capacity of having its vessels resume unloading activities in Vanuatu. In 2019, vessels resumed landing activities under the joint agreement between the Vanuatu government and the SinoVan fishing company which experienced a total of 9 unloading that took place by 6 locally based foreign vessels. Landed catch were exported to China, USA, New Zealand and Japan with the sales of frozen catch also provided to the local markets. It is expected that more of the company vessels will engage in offloading their catch in the Port Vila port in the following year developing the local market of Port Vila and Santo.

(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 and New Zealand, while other frozen fish including Albacore are

exported to China and the remaining catch sold in the local markets in Port Vila. The Foreign fleets that have been licensed to fish in Vanuatu EEZ unload 100% of their catch (both their fresh and frozen) either, in Pago Pago or Fiji in 2019, while only 6 vessels engaged in 100% offloading of catch in the Vanuatu port.

12. Research Activities

There were no major research activities carried out in 2019.

APPENDIX I-CMM Report

Table 1 Summary Table

<table>
<tr><th>CMM References</th><th>Description</th><th>Response</th></tr>
<tr><td>CMM 19-03</td><td>North Pacific Albacore</td><td>This is one of the Target Species by Vanuatu Longliners where a total number of 184,631 Albacore was caught weighing 1882.074 MT was reported in 2020 by 32 vessels for 1,953 fishing days.
<table>
<tr><th rowspan="2">CCM</th><th rowspan="2">Area</th><th rowspan="2">Fishery</th><th colspan="2">2002-04 Average</th><th colspan="2">2020</th><th colspan="2">2019</th><th colspan="2">2018</th><th colspan="2">2017</th><th colspan="2">2016</th><th colspan="2">2015</th></tr>
<tr><th>No. of vessels</th><th>Vessel Days</th><th>No. of vessels</th><th>Vessel Days</th><th>No. of vessels</th><th>Vessel Days</th><th>No. of vessels</th><th>Vessel Days</th><th>No. of vessels</th><th>Vessel Days</th><th>No. of vessels</th><th>Vessel Days</th><th>No. of vessels</th><th>Vessel Days</th></tr>
<tr><td>Vanuatu</td><td>NPAC</td><td>LL</td><td>29</td><td>2894</td><td>63</td><td>1953</td><td>26</td><td>2,087</td><td>27</td><td>2,035</td><td>62</td><td>4487</td><td>51</td><td>3556</td><td>59</td><td>3744</td></tr>
</table>
<table>
<tr><th rowspan="2">CCM</th><th rowspan="2">Area</th><th rowspan="2">Fishery</th><th colspan="2">2002-04 Average</th><th colspan="2">2020</th><th colspan="2">2019</th><th colspan="2">2018</th><th colspan="2">2017</th><th colspan="2">2016</th><th colspan="2">2015</th></tr>
<tr><th>Catch (Number)</th><th>Catch (MT)</th><th>Catch (Number)</th><th>Catch (MT)</th><th>Catch (Number)</th><th>Catch (MT)</th><th>Catch (Number)</th><th>Catch (MT)</th><th>Catch (Number)</th><th>Catch (MT)</th><th>Catch (Number)</th><th>Catch (MT)</th><th>Catch (Number)</th><th>Catch (MT)</th></tr>
<tr><td>Vanuatu</td><td>NPAC</td><td>LL</td><td>211,016.66</td><td>2,501.78</td><td>186923</td><td>1943.824</td><td>124573</td><td>1756.737</td><td>115,532</td><td>1583.294</td><td>109471</td><td>1548.254</td><td>115314</td><td>1407.586</td><td>216975</td><td>2846.403</td></tr>
</table>
Note that the 2004 effort based on logbooks data has been used as the baseline for the 3 years.

There was No North Pacific Albacore caught by Purse seiners in this area in 2020.</td></tr>
<tr><td>CMM 06-04</td><td>SW</td><td>Striped marlin is caught as a by-catch by Vanuatu vessels. In 2020, 31 Vanuatu flag vessels caught 309 striped marlins, weighing 19.38MT in the area South of 15 degrees South.</td></tr>
</table>

	Striped Marlin	
CMM 08-03	Marine Turtles	There was a total number of 2 Marine Turtles which were caught by Vanuatu Purse seiners in 2020 as reported by Observers. One was a Leatherback turtle which was Discarded with fate Unknown, and the other was an Olive Ridley turtle which was Discarded Alive.
CMM 09-03	SP Swordfish	Swordfish is caught as a bycatch. In 2020, 22 Vanuatu flag vessels caught 775 swordfish, weighing 51.33 MT in the area South of 20 South.
CMM 09-06	Transhipments	**Total Quantities, by weight, of highly migratory fish stocks that were transhipped by fishing vessels the CMM is responsible for reporting against ,with those quantities broken down as below:**

a) offloaded and received;	**b) transhipped in port, transhipped at sea in areas of national jurisdiction, and transhipped beyond areas of national jurisdiction**		**c) transhipped inside the Convention Area and transshipped outside the Convention Area;**	**d) caught inside the Convention Area and caught outside the Convention Area;**		**e) Species**	**f) Product Form**	**g) Fishing gear**
offloaded	Port-4132.594	Inside CA-11738.716	Inside - 10370.506	Species	Weight	Product Form	Wight(mt)	Longline
				SKIPJACK TUNA	50	Whole	8215.5.4	
				YELLOWFIN TUNA	1752 mt	Gilled, Gutted and Tailed	994.1	
				BIGEYE TUNA	420	Gilled and Gutted	1258.2.8	
received	High Seas-7754.548	Outside CA-148.426	Outside - 1516.636	ALBACORE TUNA	416	Dressed	412.95	
				SWORDFISH	416.	Gutted, Headed and Tailed	478.57	
				SHARK	199.	Gilled, Headed and Tailed	3065	
				OTHER FISH	200.	Other	1379	
				BLUE SHARK	273.	Gilled,Gutted and Headed	27.89	
				BLUE MARLIN	90.6	Loined Weight(LW)	7.32	
				OILFISH	23.3	Gutted and Headed	507	
				STRIPED MARLIN	32.7			
				SHORT FIN MAKO SHARK	49.5			
				WAHOO	2.4			

					OPAH / MOONFISH (LAG)	22.3		
					POMFRET	1		
					SPEARFISH			
					BUTTERFLY KING FISH	49.4		
					BLACK MARLIN			
					ESCOLAR (LEC)	12.2		
					MAHI MAHI	2.2		
					SAIL FISH	0		

2) the **number of transhipments** involving highly migratory fish stocks covered by this measure by fishing vessels that is responsible for reporting against, broken down by:

a) offloaded and received	b) transhipped in port, transhipped at sea in areas of national jurisdiction, and transhipped beyond areas of national jurisdiction	c) transhipped inside the Convention Area and transhipped outside the Convention Area	d) caught inside the Convention Area and caught outside the Convention Area	e) fishing gear
offloaded	Port-8	Inside CA-76	Inside -75	Longline
	Within EEZ-16			
received	High Seas- 68	Outside CA-2	Outside- 40	

CMM 10-07

Sharks

In 2020 the total Shark catch estimates caught based on Logsheet data for the Vanuatu vessels was 24,823 Sharks weighing 796.014 MT. From this amount, the Longline vessels reported 24,823 which weighed a total of 766.213 MT and Purse seine vessels recorded a total of 30.01 MT of sharks. The species reported through logsheets for Longliners were Blue shark, Mako sharks, Porbeagle sharks, Silky sharks, Thresher sharks, Oceanic whitetip and Ocellated Angelsharks, Mackerel Sharks, Hammerhead Sharks and Shortfin Mako sharks.
The species recorded by the Purse seines were Bronzer Whale Shark, Oceanic Whitetip shark and Silky Shark.

Gear	Flag	Species	Fate	Catch (n)	Catch (mt)
PS	VU	BRONZE WHALER SHARK	Retained		6
PS	VU	SILKY SHARK	Discarded/Released		23.76
PS	VU	OCEANIC WHITETIP SHARK	Discarded/Released		0.1
PS	VU	WHALE SHARK	Discarded/Released		0.15
LL	VU	BLUE SHARK	Discarded/Released	167	0.209
LL	VU	BLUE SHARK	Retained	22620	678.843

LL	VU	MACKEREL SHARKS, PORBEAGLES NEI	Retained	1	0.065
LL	VU	SILKY SHARK	Discarded/Released	153	0
LL	VU	OCELLATED ANGELSHARK	Retained	11	0.048
LL	VU	SHORTFIN MAKO	Discarded/Released	1	0
LL	VU	SHORTFIN MAKO	Retained	297	19.445
LL	VU	HAMMERHEAD SHARKS NEI	Discarded/Released	26	
LL	VU	MAKO SHARKS	Retained	1482	66.56
LL	VU	OCEANIC WHITETIP SHARK	Discarded/Released	6	0
LL	VU	THRESHER SHARK (VULPINUS)	Retained	54	0.99
LL	VU	MAKO SHARKS	Discarded/Released	4	0.053
LL	VU	PORGEABLE SHARK	Discarded/Released	1	

From Observer data, a total of 3,412 Sharks were reported of which 2986 were from Longline vessels and 426 were from Purse seine vessels. From this amount Purse seines recorded a total of 424 sharks Discarded and 2 Retained while Longline recorded a total of 1933 Sharks Retained and 1050 discarded.

gear	species	Number	Retained	Discarded	Finned and trunk Retained	Finned but Trunk Discarded
S	GALAPAGOS SHARK	1	0	1	0	0
S	OCEANIC WHITETIP SHARK	1	0	1	0	0
S	SANDBAR SHARK	3	0	3	0	0
S	SILKY SHARK	815	0	815	0	0
S	WHALE SHARK	6	0	6	0	0

CMM 11-03	Cetaceans	In 2020 according to observer data, there were interactions with Cetaceans with the Purseseine fishery. There was a total of 2 interactions by the Purseseine vessels, the interactions were with 1 Long-beaked common dolphin and 4 Short-finned pilot whale.
CMM 11-04	Oceanic White-Tip Shark	From Observer data reported in 2020, there was a total of 4 Oceanic white-tip sharks caught and reported by Purse seiners. There were 4 caught by Purse Seine vessels from which 1 was discarded Dead, 1 was discarded Alive, and 2 were discarded with fate Unknown.
CMM 12-04	Whale Sharks	In 2020 according to observer data, there were 6 interactions with Whale Sharks in the Purse seine fishery. Based on Logsheet data, there were 2 records of Whale sharks reported by logsheets which were all released.

CMM 12-07	Seabirds	See tables below the Addendum for information on Seabird CMM.
CMM 13-01	Discard reporting – by National Fleet	According to observer data, in 2020 there was a total of 71.628 MT of discards by the National fleet vessels all of which are Purse seine vessels. From this number 55.272MT were Skipjack, 13.05MT were Yellowfin and 3.321MT were Bigeye. From this amount 2.968MT were discards for reasons of Gear damage while 0.343MT were discards for reasons of fish being too small and 0.01MT were discarded due to shark damage.
CMM 13-08	Silky Sharks	The total estimated catch of Silky Sharks in the Purse seine fleet was 991 with 104 released alive and 615 Release with fate unknown.
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 2019, the Observer coverage for LL vessels is measured using the number of trips observed as the matrix for calculation. In 2019, there was a total of 8 observer ROP trips undertaken by Vanuatu observers with a total of 130 ROP trips reported in total. Therefore, this brings the observer LL coverage for 2019 to 6.2%. For Purse seine vessels, the Observer coverage is based on trip coverage and this is 90.7% for 2019.

CMM 2018-03 Seabirds

Table 1. Seabird Interactions

Year	Fishing effort				Observed seabird captures	
	Number of vessels	Number of hooks	Observed hooks	% hooks observed	Number	Rate [2]
2016	**70**	61134286	858137	100	0	0
2017	**49**	35891056	381506	100	0	0
2018	**49**	34392549		100	0	0
2019	**69**	39418582	1375628	97.17	6	0.004361644
2020						

Table 2. Proportion of Mitigation types (No 2020 Data found**)**

year	fleet	Total sets	Combination mitigation	South of 30S	25S-30S	25S-23N	North of 23N

Table 3. Number of Observed Seabird captures in Vanuatu Longline fisheries, 2019, by species and area. (No Data found)

Year	Species	Birds >30S	Birds > 23N	Birds Between 23N and 25S	Birds Between 25S and 30S

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 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.