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

WCPFC-SC19-AR/CCM-28 (Rev.01)

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 2023	**YES**

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ABSTRACT

The major tuna species caught from the foreign fishing vessels in the Vanuatu EEZ in 2022 was dominated by 71% of albacore, 17 % of yellowfin, 3% of bigeye and lastly 13% for others species of the total catch. In 2022, there was a noticeable increase in the catch compared to 2021. The increase is a result of the normalization of operations following the cooling down of the COVID-19 situation. As restrictions eased and economic activities resumed, fishing effort also increased, leading to higher catch volumes.

Between 2016 and 2017, there was a notable increase in catch as fishing vessels moved back into the Exclusive Economic Zone (EEZ) to engage in fishing activities. This shift in location contributed to the fluctuation in catch volumes during those years. The catch levels were influenced by factors such as access to onshore facilities and markets, as well as favorable fishing patterns.

In 2021, a total of 3,696 metric tons (Mt) of fish was recorded. However, in 2022, there was a significant rebound in catch, with the amount increasing to 7,028 Mt. This increase in catch can be attributed to a combination of factors, including improved fishing conditions, favorable environmental factors, normalization of COVID-19 situation and potentially increased fishing effort.

In the period 2018 – 2022 the annual catch estimates of the Vanuatu longline fleets in the WCPO showed an increase from 2018 to 2019 but a decrease in 2020 to 8,809Mt and this reduction was the lowest in the last 5 years and was due to the reduction in vessel effort since the Covid-19 pandemic hit in early 2020. In 2021 however, vessel numbers and effort improved and an increase in catch was seen to 10,205MT and a decrease again in 2022 to 6,868 MT due to a decrease in number of vessels

Purse seiners on the other hand experienced an increase in catch estimates between the years 2018 to 2022 due to the increase in vessel number. In 2018, a total of 12,502Mt was recorded and then to 33,997Mt in 2019 and in 2020 increased to 47.292Mt and continued to increase in 2021 to 48,597 MT and in 2022 increased even more to 68,990 MT. This catch was dominated by skipjack making up 79% of the catch followed by Yellowfin at 19% and lastly bigeye at 1.4%. Raised 2021 data shows that catches of the main tuna species for Purse seines increased from 5,162Mt of skipjack in 2017 to 35,784Mt in 2021. Longline vessels however, experienced a decrease in catches of Albacore 12,211Mt in 2017 to 11,163Mt in 2021.
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 2022 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 however, in 2021 a few Kiribati vessels were seen fishing in the Vanuatu EEZ. Fishing by these 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 areas during the period 2017 to 2021. 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 and Tufman2 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. In 2020 and 2022 a few countries like Thailand, have begun sharing landing data as part of their PSMA obligations to Vanuatu and these data are useful in verification of catch data provided.

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 8 purse seiners and 46 long-liners with licenses to fish in the WCPFC area in 2022.

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 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 91 vessels on the Vanuatu registry and these comprise of 64 Longlines, 8 Purse seines, 4 Squid jiggers, 1 Carrier, 12 Refrigerated cargo ship, 1 oil tanker and 1 bunker. It is a requirement through the Vanuatu Fisheries Act that all Vanuatu fishing vessels acquire an International Authorization to Fish Certificate (IATF) in order 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 2017 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 2022 were 3,478 MT for albacore, 2,087 MT for bigeye and 546 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 2018-2022, the longline fleet recorded its highest total annual catch estimate as 12,630Mt in 2019 (Table 1(a)). The longline fishery recorded the highest catches for albacore in 2019 being 6,029 Mt and the lowest in 2018 as 4,741Mt. The highest catch for bigeye was in 2019 with 3,889Mt and lowest in 2022 with 3,478 Mt. Yellowfin catches also showed a reduction from 2018 to 2022 levels with the highest recorded in 2018 with 1,437Mt and the lowest in 2021 and 2022 with 739 Mt and 546 Mt respectively. Albacore continues to be the dominant species in the catch for 2022 followed by bigeye and then yellowfin. Effort for the longline fishery has experience a slight reduction from 2018 and 2020 in terms of vessel numbers active and an increase from 2020 to 2021 and a reduction again in 2022 (Table 5). This fluctuation in effort is evident through the measure of the number of vessels licensed and number of days fished and sets deployed.

The purse seine fleet that operated under bilateral arrangements recorded an increase in total catch from 2018 and 2019 levels which was 12,502Mt to 33,997 Mt and again increased in 2020 to 47,292Mt. This further increased slightly to 48,597Mt in 2021 and in 2022 a significantly higher increase to 68,990 Mt (Table 1(b)). The effort in the total number of sets had also increased from this period of 2018-2021 and increased even more in 2022. During this period, the main tuna species in the catch being Skipjack also showed an increase in catch from 10,115 Mt in 2018 to 31,054Mt in 2019 and to 39,859Mt in 2020 which was the highest in the 5 years. In 2021 however, the catch for Skipjack reduced to 39,450Mt and increased once again to 57,952 Mt in 2022. This is also the same for the other two species Yellowfin with the highest catch in 2021 being 8,323 Mt and increased more in 2022 to 10,150 Mt, and Bigeye had the highest catch in 2020 which was 1,260 Mt and reduced in 2021 to 823 Mt before increase slightly again in 2022 to 888Mt.

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 catch 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 increased from 2020 to 2021 as effort increased in terms of vessels numbers and days fished and decreased in 2022 and 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 2018-2022 has been sought from the DORADO and Tufman2 reporting 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. However, due to the Covid-19 pandemic observer placements for the period of 2022 has still not been possible and thus as a result there has not been any information provided under Table 3 for species of Special interests (SSIs).

Appendix 1 summary table also provides information on the observed species of interest (SSI) collected through observer reports for the year 2021 by ROP observers on Purse seiners and by Vanuatu observers on the Vanuatu flag longliners, however, again due to the Covid-19 pandemic observer data is not available for reporting on these SSIs. SPC has confirmed that the information 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). 2022 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
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	4,970	811	2,182	113	0	3	186	89	455	8,809
2021	5,729.63	793.69	2,650.49	180.30	0	1.87	148.60	170.68	529.87	10,205.13
2022 – Retained	3,478.72	546.14	2,087.76	75.14	0.4	2.7	161.10	73.56	442.54	6,868.06
2022 - Discarded	76.63	31.74	28.94	8.30	0	0	2.25	2.63	46.41	196.9

Notes:

- *Catch data for 2018-2022 have been Raised using VMS data*
- *2022 logsheet coverage was raised from 97.28% of logsheet coverage data*
- *Data was derived from the Dorado webtool and Tufman2 reporting*

Table 1(b). 2022 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)
2018	10,115	2,154	233	12,502
2019	31,054.6	2419.2	523.5	33,997.3
2020	39,859.7	6,172.6	1,260	47,292.3
2021	39,450.63	8,323.57	823.17	48,597.37
2022 – Retained	57,952	10,150	888	68,990
2022 - Discarded	134.3	34.9	9.9	179.1

Notes:

- *Catch data for 2018-2022 have been Raised using VMS data*
- *2020 logsheet coverage was raised from 100% of logsheet coverage data*
- *Data was derived from the Dorado web tool*

Table 1(c). 2021 Annual catch estimates for the National (Offshore) Fleet in the WCPFC-CA for Shark species – Longline.

Species	2022 (MT)
BLUE SHARK	460.08
SILKY SHARK	0
MAKO SHARK	41.75
OCEANIC WHTETIP SHARK	0
THRESHER SHARK	9.76
PORBEAGLE SHARK	0
HAMMERHEAD SHARK	0

Note:

- *Catch reports retained catches of the Sharks*
- *Catch were Raised from 97.28 % logsheet coverage. Source of Data: Tufman2*

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

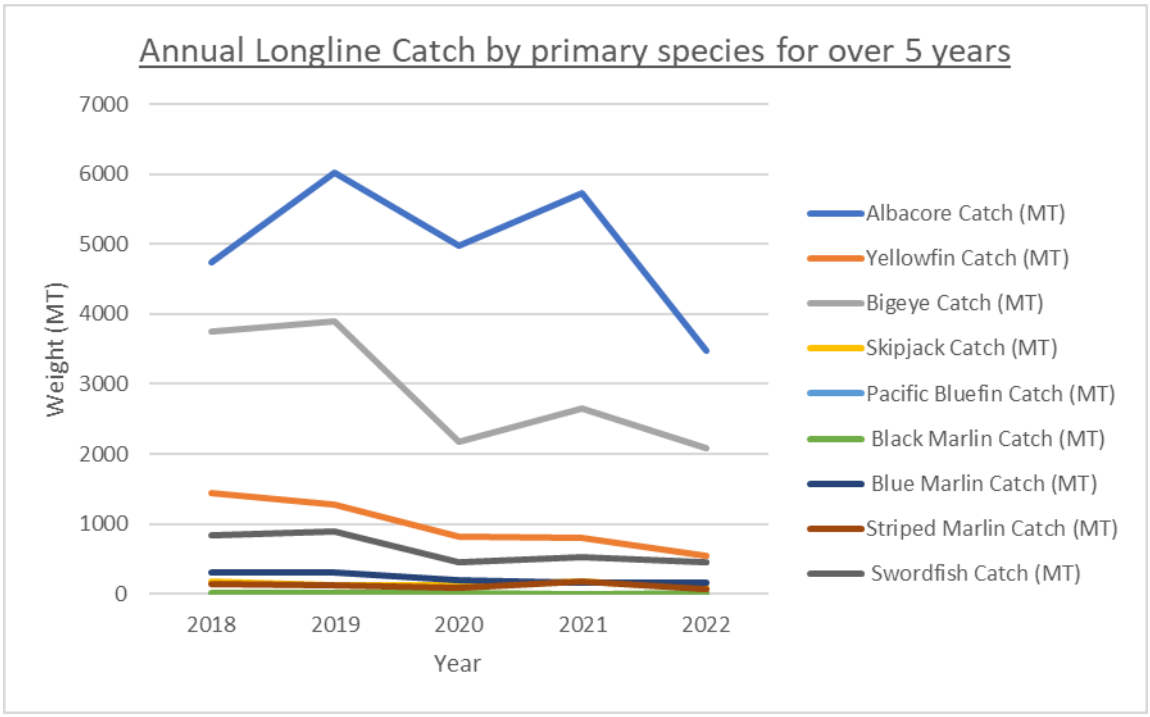


Figure 1(b) Historical Annual Catch and Effort estimates for the National Purse seine Fleet within the WCPFC-CA

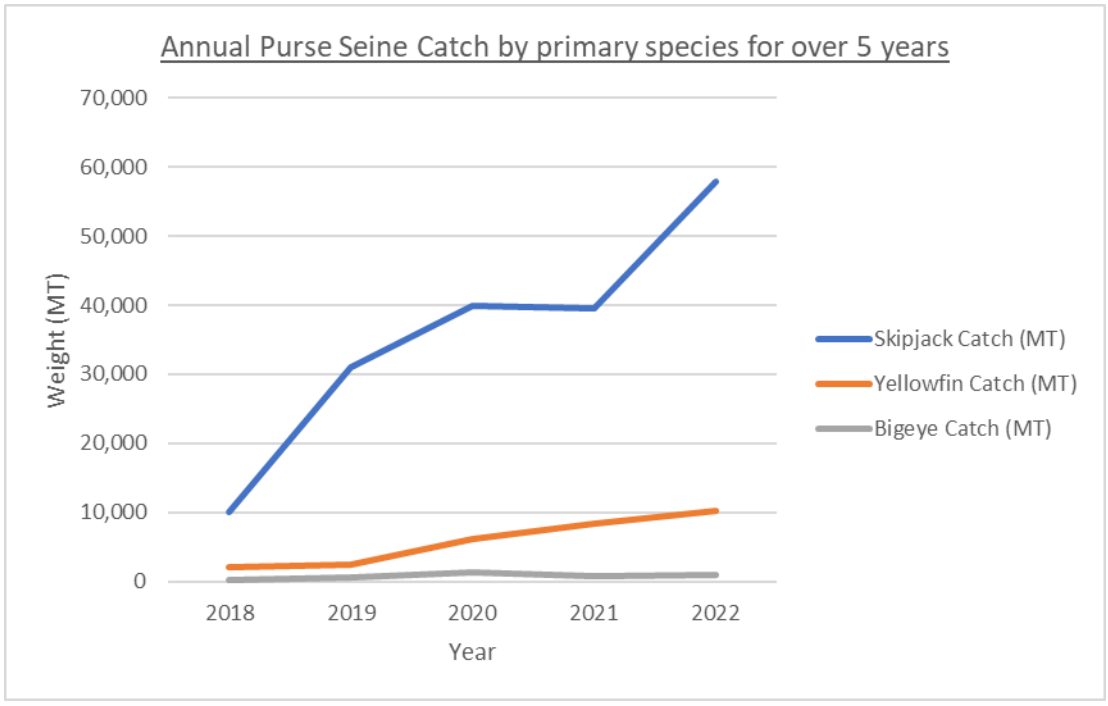
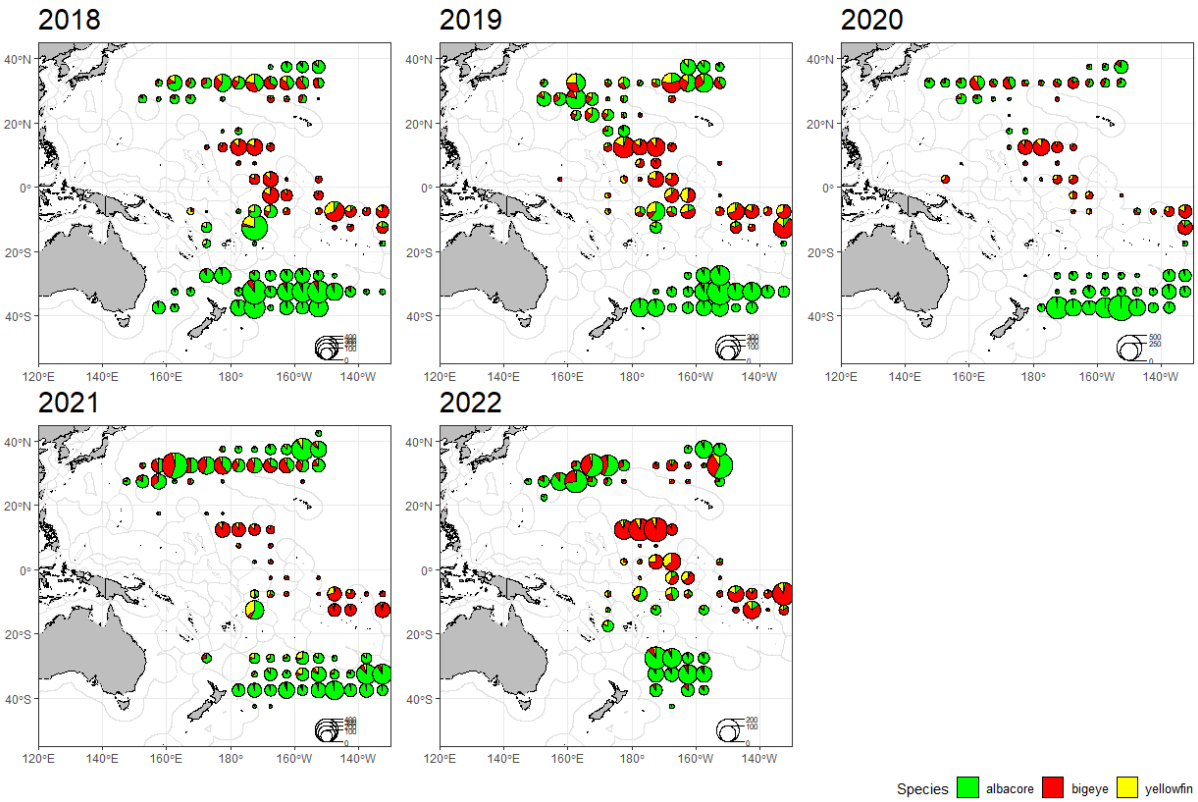


Table 2) Annual raised catch estimates for the Vanuatu longline vessels, for tuna and billfish by Broad Ocean areas

Area	Year	ALB	BET	YFT	SKJ	PBF	BUM	BLM	MLS	SWO
WCPFC	2021	5,729.63	2,643.37	793.69	180.30	0	148.60	1.87	170.68	529.87
	2022	3,478.72	2,087.76	546.14	75.14	0	161.10	2.7	73.56	442.54
WCPFC Convention Area (N of Equator)	2021	1,338.78	N/A	N/A	N/A	0	N/A	N/A	31.81	97.42
	2022	652.53	N/A	N/A	N/A	0.45	N/A	N/A	15.33	93.44
WCPFC Convention Area (S of Equator)	2021	2,825.55	N/A	N/A	N/A	0	N/A	N/A	99.22	267.22
	2022	383.88	N/A	N/A	N/A	0	N/A	N/A	4.68	51.84
WCPO	2021	3,023.25	1,322	512.78	114.27	N/A	101.59	0.61	86.12	181.60
	2022	1,175.03	744.68	171.10	26.75	0.4	66.35	1.12	22.34	104.73
EPO	2022	495.18	256.08	79.57	11.34	0	17.31	1.48	25.45	422.61
North Pacific Ocean	2021	1,686.06	1,155.29	229.95	76.23	N/A	64.02	0.63	71.74	533.31
	2022	984.04	734.23	139.03	17.02	0.4	66.66	0.47	28.80	252.41
South Pacific Ocean	2021	3,432.96	1,181.31	N/A	N/A	0	93.18	2.14	152.56	627.08
	2022	695.55	267.10	112.27	21.07	N/A	16.99	2.13	19.07	275.38

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



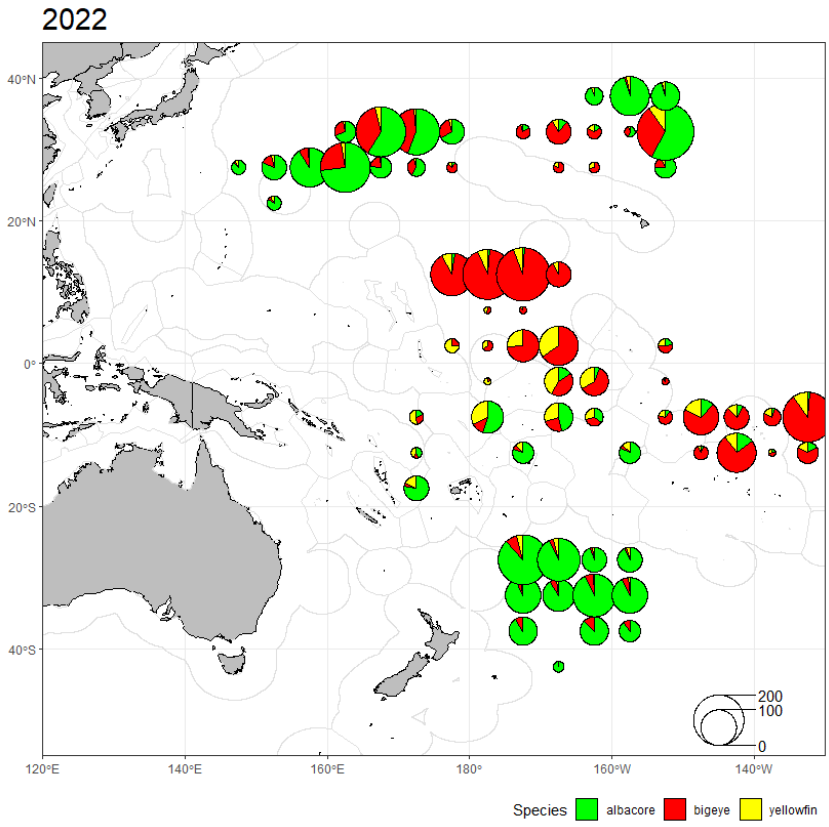
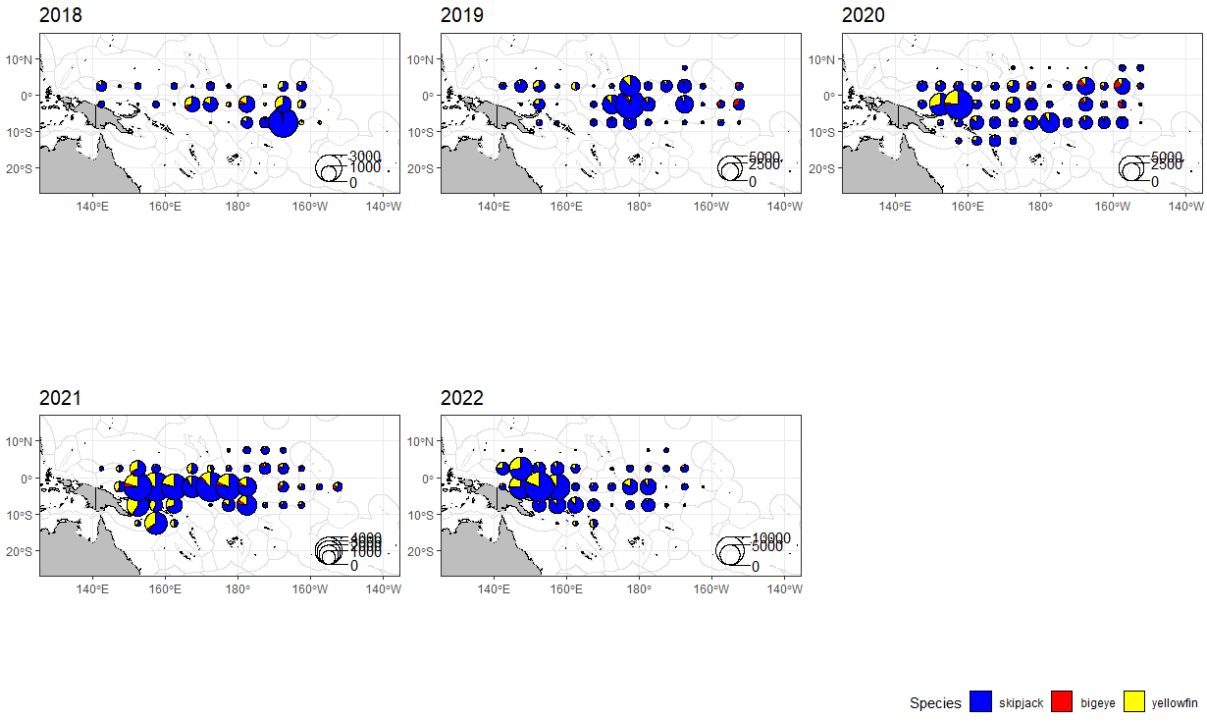


Figure 2(b). Annual Catch distribution (1°x1°) of tuna species for Purse Seine Fleet within the WCPFC-CA



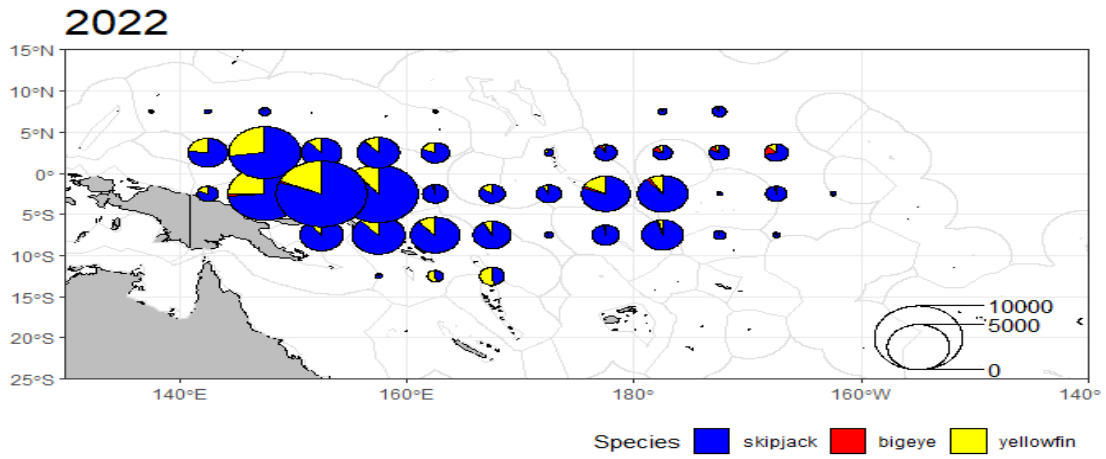


Table 3. Observed annual estimated catches of Species of Special interest (seabird, turtle and marine mammals) by gear for the National fleet in the WCPFC area.

There was no Observer deployed in 2022 due to the COVID19 pandemic, therefore no observer data for SSIs.

Year	Gear	Category	Species	Number	No. Alive	No. Dead
2022	PS	MARINE MAMMALS	LONG-BEAKED COMMON DOLPHIN	-	-	-
	PS	MARINE MAMMALS	SHORT-FINNED PILOT WHALE	-	-	-
	PS	WHALE SHARK	WHALE SHARK	-	-	-

NOTES:

- *Observer coverage for LL is ~0% and PS at ~0%*

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

Species	2018	2019	2020	2021	2022

BLUE MARLIN	367	383.79	144.94	148.6	161.10
BLACK MARLIN	5	4.013	2.057	1.87	2.78
PACIFIC BLUEFIN	2	0.334	0	0	0.45
STRIPED MARLIN	87	95.576	99.266	170.68	73.56
SWORDFISH	667	461.719	973.546	529.87	442.54
BLUE SHARK	845.62	641.01	679.05	1346.87	1021.44
SILKY SHARK	3.25	0	0	0	0
OCEANIC WHITETIP SHARK	0.15	0	0	0.01	0.08
MAKO SHARK	79.27	59.024	66.61	217.13	88.44

NOTES:

- *Estimates are raised based on 97.28% 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
2018	0	28	16	25	0	69
2019	0	14	11	15	0	40
2020	0	4	17	26	0	47
2021	0	8	20	28	0	56
2022	0	7	16	23	0	46

Note:

- *Fleet cover is based on Licensing information of vessels who are active*
- *Vessel number for 2022 is sought from Vanuatu License listing for 2022*
- *Fleet cover also excludes vessels who are chartered to other countries*
- *In 2022, 10 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
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

2021	0	0	2	4	0	6
2022	0	0	2	6	0	8

Note: *Vessel number is sought from the Vanuatu License listing for 2022*

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

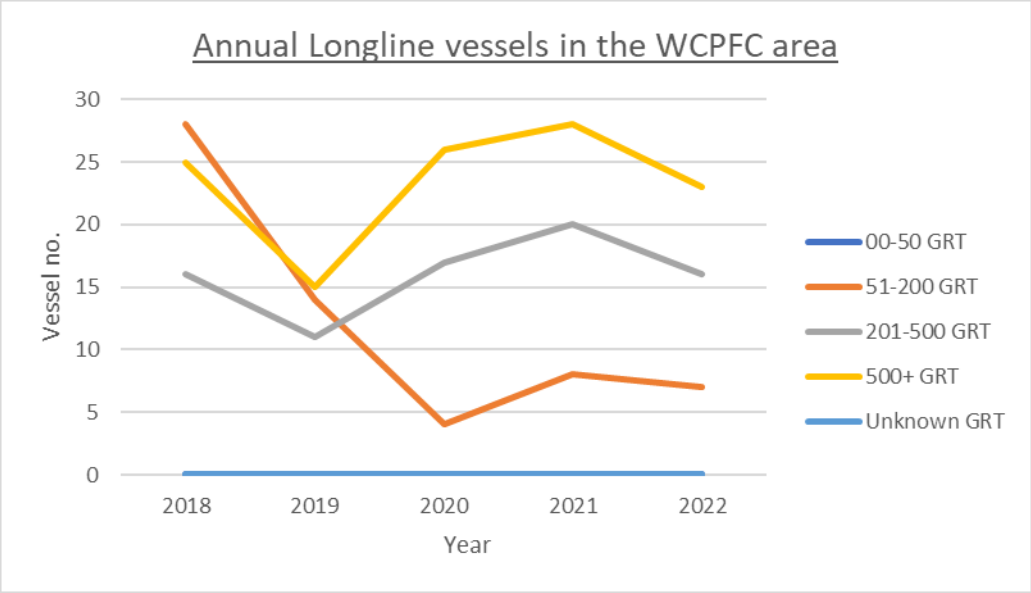
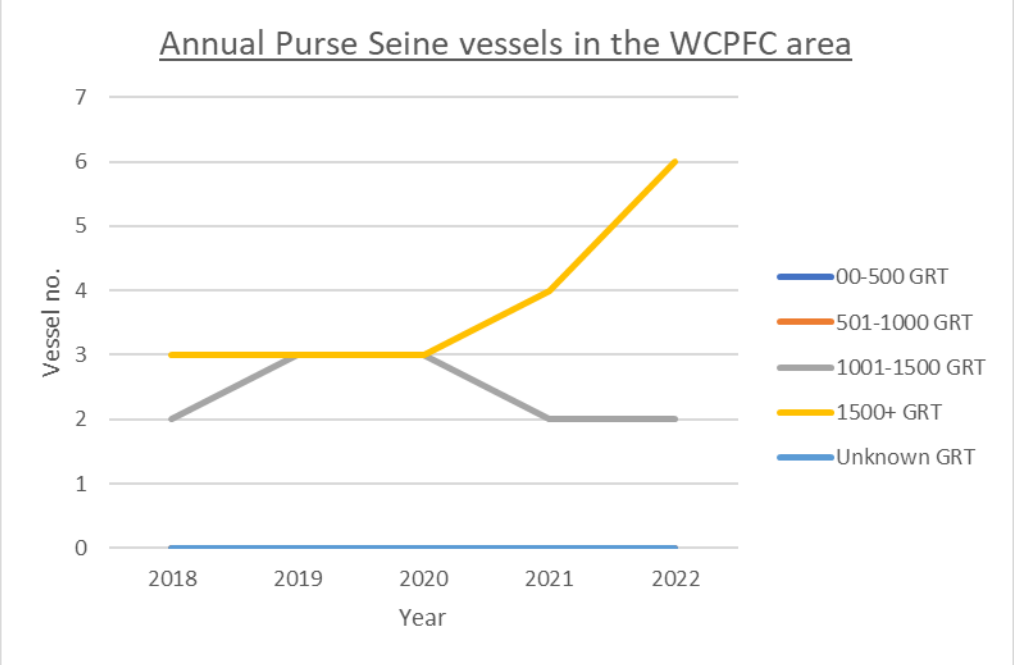


Figure 3) b) Annual vessel numbers for the National Purse seine fleet in the WCPFC-CA



COASTAL STATE REPORTING

5. Information on Coastal State Reporting

The Vanuatu Exclusive Economic Zone (EEZ) is approximately 690,000 square kilometres 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 and again in 2020 with one vessel undergoing one trip.

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, increased in 2019 and decreases again from 2020 to 2022.

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. Starting in 2013, there was a decline in catch levels, but there is an upturn from 6,78Mt in 2013 to 7,167Mt in 2016. However, there was subsequent decrease to 7,096Mt in 2018. In 2019, there was another increase to 8,981Mt, followed by a slight decline to 8,058Mt in 2021. This was followed by a significant decrease to 3,696Mt in 2021, but catch levels rebounded to 7,028Mt in 2022. The reduction in catch from 2013-2015 was a result of the effort decline that took place for that period as the vessels shifted their operations to Solomon Islands. The catch was largely attributed to the Chinese fleet which recorded over 70% of the total catch of the total catch in the previous years. Fishing effort continued to decrease from 2014 to 2015 from 65 vessels to 49 vessels but increased to 74 vessels in 2016 and again to 75 in 2019 but reduced from 71 vessels in 2020 to 66 in 2021 and 57 in 2022. The reduction in the last few years before Covid 19 hit 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. However, in the year 2019 to 2021, the reduction was witnessed as a result of the Covid19 pandemic that hit late 2019 and affected vessel operations from 2020 to 2021. In 2022 there was a further rise in catch level as fishing effort increased and fishing activity returned to pre-pandemic levels after the COVID-19 outbreak. Unraised and provisional estimates for these licensed fleets in 2021 were 2,635t, 632Mt and 301Mt for albacore, yellowfin and bigeye respectively and these catch estimates were determined from logsheet data. The annual estimated tuna catch composition by weight for 2021, was again dominated by albacore (71%), yellowfin (17%) and minor bigeye (3%).

In 2022, catch rates however, increased compared to 2021 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 and trips taken. Logsheet coverage for 2021 is averaged at 95.07%. 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 2022, was again dominated by albacore (72%), yellowfin (16%) 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 decrease in both fishing effort and catch estimates respectively from 2021 levels. It is estimated that the recent effort increased from 149 trips in 2021 to 161 trips in 2022.
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

2022

FLAG	Vessels	Trips	ALB Catch (MT)	BET Catch (MT)	YFT Catch (MT)	OTHER Catch (MT)	TOTAL Catch (MT)
CN	47	131	4258.749	179.617	948.396	580.087	5966.849
FJ	7	21	741.104	22.876	156.396	69.095	989.471
KI	1	1	0.903	0	0.109	0.1	1.112
SB	1	1	0.96	0.09	0.7	0.065	1.815
VU	1	7	51.064	2.65	11.335	3.792	68.841
Total	57	161	5052.78	205.233	1116.936	653.139	7028.088

Note: Data is sought from Dorado with 2022 logsheet coverage summary at 93.4%

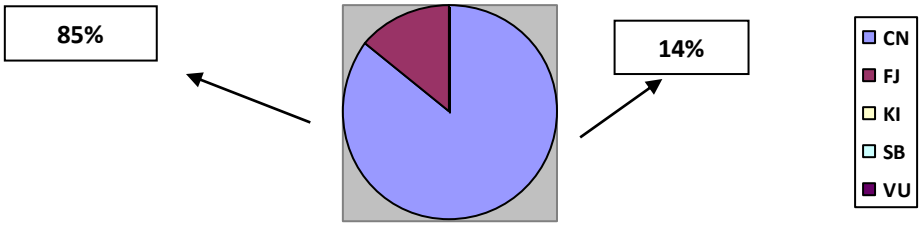
2021

Flag	Vessels	Trips	ALB Catch (MT)	BET Catch (MT)	YFT Catch (MT)	OTHER Catch (MT)	TOTAL Catch (MT)
CN	42	127	1909.079	81.691	438.605	223.341	2652.716
FJ	10	17	490.461	31.18	142.072	50.027	713.74
KI	4	4	240.549	7.967	49.568	30.799	328.883
SB	1	1	0.705	0.02	0.26	0.05	1.032
Total	57	149	2640.794	120.858	630.505	304.217	3696.374

Note: Data is sought from Dorado with 2021 logsheet coverage summary at 96.28%

2022

Tittle: Catch composition of fleets in VU EEZ - 2022



2021

Tittle: Catch composition of fleets in VU EEZ - 2022

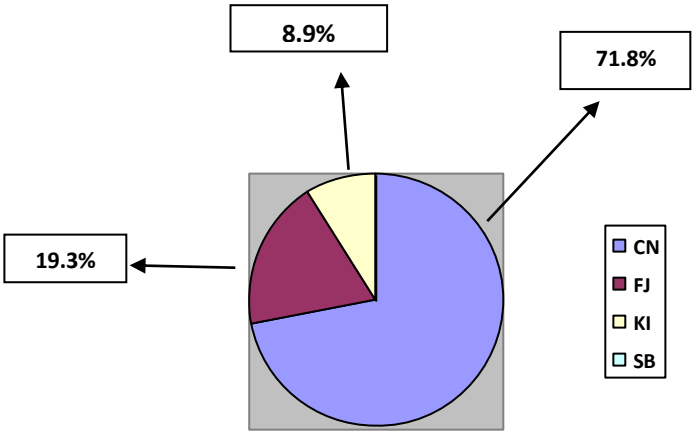
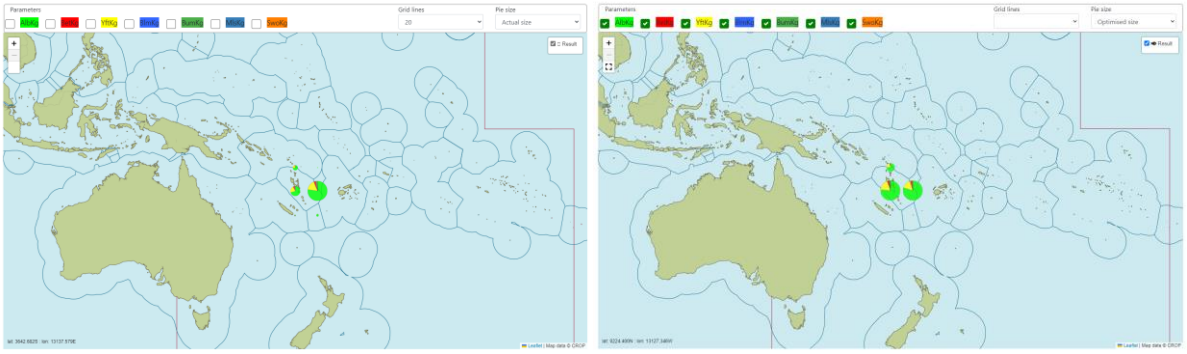


Figure 4). Annual Catch distribution of target tuna species by Major foreign Longline fleets in Vanuatu EEZ.



2022-Catch 2022- 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. Locally based operations however ceased after 2014 and was only ignited back in 2019 under the Sino-Van company which licensed 6 vessels to fish and offload their catches in Port Vila both for local sales and export to international markets.

For local artisanal fisherman, fishing in FADs have recently become a priority with the reduction increase in fuel prices due to the Covid pandemic as well as the war between Ukraine and Russia which affected the global distribution of fuel and in turn affected fuel prices locally. This has made it an important asset for more Artisanal fisherman who target FAD's both to catch skipjack for Baitfish and to catch yellowfin to sell in the local markets.

The TUFMAN2 database has been fully utilized since July 2016 after the shift from TUFMAN 1 which it was only used for licensing up until 2019 when the licensing component of the Tufman system was pushed into the FFA-RIMF system. The TAILS system has also been trailed out in Vanuatu in 2016 and from 2021 there has been a successful rollout to all 6 provinces in Vanuatu and present in 26 islands covering 50 landing sites and 32 Area councils. The extension to all other remaining 39 Area councils it was met last year in 2022. Fishers including small gleaning activities, 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. The RIMF FFA database has been utilized to cater for the recording of Landing and Unloading data, transshipment data as well as MCS boarding and inspection information. There is plan to include the entry of catch and effort data from the non-Tuna RFMOs in the coming year in the RIMF system.

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 in 2022 the coverage increases up to 100%. Vanuatu hopes to also roll out the ER system on its licensed vessels in the Vanuatu EEZ in the coming year.

Vanuatu has plans to develop its onshore activities to further enhance and utilize the current fish landing activities taking place. There are also plans to move the department of Fisheries into its own Ministry in the coming year to provide support to the development of the fisheries industry in Vanuatu.

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.

Vanuatu has plans to move to vessel day scheme (VDS). The Vanuatu Fisheries Department has scheduled a soft launch for the longline vessel day scheme (VDS) On July 26th 2023 along with stake holder consultations regarding the transition to the new system. The final launch of the VDS is planned for December, and starting in 2024, the system will be fully implemented and operational.

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. There has also been significant missing data throughout the years thus the difficulty in estimating coverage rates for some years. Howevever, with the inclusion of VMS data into the Tufman system that is being used to report catches, there has been tremendous improvement in estimating logsheet coverage and estimating catch production respectively.

Logsheet data for Vanuatu flag vessels is currently being submitted through Electronic reporting from a trial that has been in place since 2019 and which has extended to almost 90% of the Vanuatu flag vessels with he intention to moved to 100% in the coming year. ER has proven effective by reducing the amount of effort on data entry to data checking and quality control. Data coverage is however, still low on the collection of size frequency data as most of Vanuatu's flagged vessels as well as the licensed vessels that fish in the Vanuatu EEZ have been unloading their catch in foreign ports in the region such as Fiji, Western Samoa and Solomon Islands and internationally such as Taiwan and Panama.

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 TUFMAN2 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 the Vanuatu waters with other members sharing the same interests. And this is currently being fulfilled since 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 have 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 which 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 2022.

APPENDIX I-CMM Report

Table 1 Summary Table

<table>
<tr><th>CMM References</th><th>Description</th><th>Responses</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 233,511 Albacore was caught weighing 2,501.78 MT was reported in 2021 by 29 vessels for 2,894 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">2022</th><th colspan="2">2021</th><th colspan="2">2020</th><th colspan="2">2019</th><th colspan="2">2018</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>Vessel Days</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>N PAC</td><td>LL</td><td>29</td><td>2894</td><td>26</td><td>1889</td><td>31</td><td>2028</td><td>26</td><td>2,087</td><td>29</td><td>2574</td><td>31</td><td>2028</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">2022</th><th colspan="2">2021</th><th colspan="2">2020</th><th colspan="2">2019</th><th colspan="2">2018</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></tr>
<tr><td>Vanuatu</td><td>NPAC</td><td>LL</td><td>211,016.66</td><td>2,501.78</td><td>201,962</td><td>2385.85</td><td>200471</td><td>1952.35</td><td>233511</td><td>2749.933</td><td>200471</td><td>1952.35</td><td>124573</td><td>1756.737</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 2022.</td></tr>
<tr><td>CMM 06-04</td><td>SW Striped Marlin</td><td>Striped marlin is caught as a by-catch by Vanuatu vessels. In 2022, 14 Vanuatu flag vessels caught 253 striped marlins, weighing 11.449 MT in the area South of 15 degrees South.</td></tr>
</table>

CMM 08-03 — Marine Turtles

There was no Observer Data for 2022 therefore no data recorded for marine turtle interactions.

CMM 09-03 — SP Swordfish

Swordfish is caught as a bycatch. In 2022, 6 Vanuatu flag vessels caught 71 swordfish, weighing 3.99 MT in the area South of 20 South.

Year	CCM-flagged vessels south of 20s		Chartered vessels		Other vessels fishing within the CCM's waters south of 20s		
	Catch (tonnes)	Vessel numbers	Catch (tonnes)	Vessel numbers	Flag	Catch (tonnes)	Vessel numbers
2022	3.99	6					
2021	80.60	29					
2020	51.46	20					

CMM 09-06 — Transhipment

Total Quantities, by weight, of highly migratory fish stocks that were transshipped 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- 5306.0	Inside CA- 11093.9	Inside – 11093.9	Species Weight SKIPJACK TUNA 5912.0mt YELLOWFIN TUNA 12565.2mt BIGEYE TUNA 1962.7 mt ALBACORE TUNA 918.8mt SWORDFISH 486.9 mt OTHER FISH 209.9mt BLUE SHARK 186.9mt BLUE MARLIN 69.1mt OPAH FISH 4.5 mt STRIPED MARLIN 45.5 mt SHORT FIN MAKO SHARK 25.6 mt WAHOO 6.8 mt	Product Form Weight(mt) Whole 7726.4mt Gilled, Gutted and Tailed 188.2mt Gilled and Gutted 2099.6 mt Dressed 484.3 mt Gutted, Headed and Tailed 259.6 mt Gilled, Headed and Tailed 4.2 mt Gilled, Gutted and Headed Other 266.2 mt Filleted 2.6 mt Loined Weight 0	Longline	
		received	High Seas- 5787.9	Outside CA- 37.5	Outside – 37.5				

				OPAH / MOONFISH (LAG)	31.2 mt		
				POMFRET	0 mt		
				SPEARFISH	0.6 mt		
				BUTTERFLY KINGFISH	5.2 mt		
				BLACK MARLIN	0.5		
				ESCOLAR (LEC)	37.5 mt		
				MAHI MAHI	0.0 mt		
				SAIL FISH	0.1 mt		
				SPEAR SHORT BILL FISH	0.1 MT		

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-20	Inside CA-88	Inside -86	Longline	
			Within EEZ-0	0			
		received	High Seas- 76	Outside CA-1	Outside- 49		

CMM 10-07 — Sharks

In 2022 the total Shark catch estimates caught based on Logsheet data for the Vanuatu vessels was 14,579 Sharks weighing 560.20 MT. From this amount, the Longline vessels retained 14,365 weighing 511.61 MT and Purse seine vessels recorded a total of 48.59 MT of sharks that were Discarded.

The species reported through logsheets for Longliners were Blue shark, Mako sharks, Thresher sharks, Oceanic whitetip sharks, Hammerhead Sharks, Longfin Mako sharks and Shortfin Mako sharks.

The species recorded by the Purse seines were Oceanic Whitetip shark and Silky Shark.

Gear	Flag	Species	Fate	Num caught	Weight caught
PS	VU	OCEANIC WHITETIP SHARK	Discarded/Released		0.18
PS	VU	SILKY SHARK	Discarded/Released		48.415
LL	VU	BIGEYE THRESHER SHARK	Discarded/Released	8	0
LL	VU	BLUE SHARK	Discarded/Released	186	
LL	VU	GREAT HAMMERHEAD	Discarded/Released	1	0
LL	VU	MAKO SHARKS	Discarded/Released	5	
LL	VU	OCEANIC WHITETIP SHARK	Discarded/Released	5	
LL	VU	PELAGIC THRESHER SHARK	Discarded/Released	1	0
LL	VU	SILKY SHARK	Discarded/Released	7	
LL	VU	THRESHER SHARK (VULPINUS)	Discarded/Released	1	
LL	VU	BLUE SHARK	Retained	13407	460.084
LL	VU	LONGFIN MAKO	Retained	5	0.14
LL	VU	MAKO SHARKS	Retained	307	15.407
LL	VU	SHORTFIN MAKO	Retained	505	26.213
LL	VU	THRESHER SHARK (VULPINUS)	Retained	141	9.766

		There was no Observer Data for 2022 therefore no data recorded for sharks.
CMM 11-03	Cetaceans	Due to Covid-19, there was no Observer placement done in 2022, therefore, no data is recorded for Cetaceans.
CMM 11-04	Oceanic White-Tip Shar k	Due to Covid-19, there was no Observer placement done in 2022, therefore, no data is recorded for Oceanic whitetip sharks.
CMM 12-04	Whale Sharks	Due to Covid-19, there was no Observer placement done in 2022, therefore, no data is recorded for Whale sharks.

<table>
<tr><td>CMM 12-07</td><td>Seabirds</td><td>Due to Covid-19, there was no Observer placement done in 2022, therefore, no data is recorded for Seabirds.</td></tr>
<tr><td>CMM 13-01</td><td>Discard reporting– by National Fleet</td><td>In 2022 there was a record of 7 Silky Sharks Discarded by Longline vessels and 1,302 Silky Sharks Discarded by Purse Seine vessels.</td></tr>
<tr><td>CMM 13-08</td><td>Silky Sharks</td><td>In 2022 there was a record of 7 Silky Sharks Discarded by Longline vessels and 1,302 Silky Sharks Discarded by Purse Seine vessels.</td></tr>
<tr><td>CMM 15-02</td><td>South Pacific Albacore</td><td>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.</td></tr>
<tr><td>WCPFC 11 decision-para 484 (b</td><td>Observer Coverage</td><td>In 2022 No observers were deployed due to the COVID19 pandemic therefore the Longline observer coverage is at 0%. For Purse Seine there was 1 observer covered trip.
<table>
<tr><td rowspan="2">CCM Fleet</td><td rowspan="2">Fishery</td><td colspan="3">No. of Hooks</td><td colspan="3">Days Fished</td><td colspan="3">Days at Sea</td><td colspan="3">No. of Trips</td><td rowspan="2">See NOTE</td></tr>
<tr><td>Total estimated</td><td>Observer</td><td>%</td><td>Total estimated</td><td>Observer</td><td>%</td><td>Total estimated</td><td>Observer</td><td>%</td><td>Total estimated</td><td>Observer</td><td>%</td></tr>
<tr><td>VANUATU</td><td>Distant - water</td><td></td><td></td><td></td><td>1931.1</td><td>9</td><td>0.5</td><td></td><td></td><td></td><td>82</td><td>1</td><td>1.2</td><td>1 trip for Purse Seine vessel</td></tr>
</table></td></tr>
</table>

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]
2017	**49**	35891056	381506	100	0	0
2018	**49**	34392549		100	0	0
2019	**69**	39418582	1375628	97.17	6	0.004361644
2020						
2021						
2022						

There were no observer data collected in 2022 therefore, there were no reports from interactions with seabirds to report on.

Table 2. Proportion of Mitigation types

	Combination of Mitigation Measures	Proportion of observed effort using mitigation measures					
		South of 30°S	25°S-30°S	25°S to 23°N	North of 23°N		
	No mitigation measures						
Options required south of 25°S	TL + NS						
	TL + WB						
	NS + WB						
	TL + WB + NS						
	HS						
Other options 25°S-30°S	WB						
	TL						
Other options north of 23^0N	SS/BC/WB/DSLS						
	SS/BC/WB/(MOD or BDB)						
Provide any other combination of mitigation measures here							
	Totals (must equal 100%)						

There were no observer data collected in 2022 therefore, there were no reports from interactions with seabirds to report on.

Table 3. Number of Observed Seabird captures in Vanuatu Longline fisheries, 2022, by species and area.

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

There were no observer data collected in 2022 therefore, there were no reports from interactions with seabirds to report on.

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.