SCIENTIFIC COMMITTEE
NINTH REGULAR SESSION

6-14 August 2013
Pohnpei, Federated States of Micronesia

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

WCPFC-SC9-AR/CCM-27 Rev 2

VANUATU

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WCPFC-SC9-AR/CCM-27 Rev 1
2 August, 2013

VANUATU

SCIENTIFIC COMMITTEE
SIXTH REGULAR SESSION

8 August 2013
Pohnpei, Federated States of Mircronesia

ANNUAL REPORT TO THE COMMISSION
PART 1: INFORMATION ON FISHERIES, RESEARCH, AND STATISTICS
WCPFC-SC7-AR/CCM-27

VANUATU
The Vanuatu Fisheries Department

National Tuna Fishery Report

VANUATU
24/07/13

1. Abstract

Vanuatu is now a member of all major tuna RFMOs (IATTC, IOTC, SPRFMO, CCSBT and ICCAT) has ratified the WCPFC and is intending to join CCAMLR in the near future.
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. Vanuatu fleet is comprised of 22 purse seiners and 74 long-liner fishing vessels. In the Vanuatu EEZ fishing has been through bilateral fishing agreements with foreign vessels, particularly Fiji, Taiwan and China whom are fully based in fiji.

Fishing activity in the Vanuatu EEZ has been dominated only by the foreign fleet, with high catch and effort data coverage comprising of Fijian, Taiwanese and mostly Chinese flag vessels whom are entirely based in Fiji. Data for the Vanuatu EEZ were based on unraised logsheet data. Taiwanese, Chinese and the Fiji flag vessels have increased in 2008- 2012. Since 2010 Vanuatu accomplished 100% Observer coverage for the locally based foreign fishing vessels and 100% port sampling on all unloading of fresh fish and this 100% coverage also includes transshipment in port.
Fresh fish caught and unloaded in Vanuatu is exported to Japan via airfreight while frozen fish are shipped to the canneries in Fiji on fish carriers that come into port frequently for transshipment.
The major tuna species from the Foreign and Locally based catch, was dominated by albacore 85% then yellowfin (14%) and lastly bigeye (12%). Unraised and provisional estimates for the licensed fleet in 2012 were 17,614, 144,422,92 for albacore, yellowfin and bigeye respectively and these catch estimates were determined from logsheet data raised using information on actual vessel activity (VMS data).

Catch and Effort coverage for the Vanuatu fleet operating in the WCPFC Convention area have been high but the size data coverage is uncertain due to lack of observers on board the vessels, particularly the distant long-liners, and also due to lack of unloading data sought from the distant landing ports.
Vanuatu Flag Long liners that are based locally in Vanuatu, there is a 100% observer coverage together with 100% port sampling for all unloading and transshipment activity that takes place in port.
In the period 2008 – 2012 the annual catch estimates of the Vanuatu longline fleet in the WCPO have generally decreased as did the fishing effort (sets) and number of fish per 100 hooks, which also applies for the purse seiners where catch estimates where reduced due to the reduction in effort. For Purse seine, there were more sets on unassociated than associated schools. The purse seine fleet's that fished under the bilateral total catches were reduced from 76,830mt to 15,667mt. This recent catch comprises 63% skipjack, 37% Yellowfin and 0% bigeye. Unraised and provisional 2012 data shows that catches of all major tuna species have reduced from 129,593mt of skipjack in 2009 to 15,667 in 2012. Yellowfin catch also reduced from 23,423mt in 2008 to 9,167mt in 2012 as well as Bigeye from 563mt in 2011 to 207mt in 2012
The major tuna species from the Vanuatu longline fleet catch was dominated by albacore 62% then yellowfin (17%) and lastly bigeye (16%). Unraised and provisional estimates for the longline fleet in 2012 were 8,300.1mt, 2,229.9mt, 1,150.7mt for albacore, yellowfin and bigeye respectively and these catch estimates were determined from logsheet data raised using information on actual vessel activity. (VMS data).

Hence, Vanuatu recognizes that there are critical data 'gaps' that need more attention and focus on. Therefore, even with the limited staffs and limited funds available at the moment we will work more closely with SPC, FFA and Fiji to collect as much information and data as possible to enable us to fill in the Gaps.

The report covers the fishing operations of the Vanuatu flag vessels operating in the WCPFC area during the period 2008 to 2012, as well as report on the fishing operations of foreign fishing vessels operating within the Vanuatu Exclusive Economic Zone (EEZ).
The report mainly focuses on the ***fleet structures, annual catch estimates, and catch/effort distributions***. The report also raises areas where new and further effort is required on the part of Vanuatu to enhance its role in contributing to the overall conservation and management of highly migratory stocks in the WCPFC area
Most of the current presented data were obtained from the OFP/SPC database, and were originally collected and verified by Vanuatu and Fiji. It should be noted that data provided for Vanuatu in this report and also from the past reports to the commission are from unraised log sheet data

2. Tabular Annual Fisheries information

Table 1. Annual catch (mt) in the WCPFC Convention Area by species for the VANUATU Offshore Long Line and Purse Seine fishery. (a)

Gear	LONGLINE
Fleet	*Distant-water and Offshore*

Species	2008	2009	2010	2011	2012
YELLOWFIN	539	514	788	1269	2,229.9
BIGEYE	860	1,300	2,060	1809	2,150.7

BLUE MARLIN	68	102	173	195	436.6
BLACK MARLIN	21	28	56	11	18.3
SKIPJACK	0	0	0	0	0.6
ALBACORE	5,582	7,992	12,293	8059	8,300.1
PACIFIC BLUEFIN	0	0	0	0.623	0
STRIPED MARLIN	75	57	77	67	71.1
SWORDFISH	125	130	281	170	176.7

Notes

1. 2008-2012 catch estimates were taken from TUFMAN database system – coverage of logsheets for 2012 is expected to be ~50%.
2. Catch estimates were determined from logsheet data raised using information on actual vessel activity (e.g. VMS data).

(b)

Gear	PURSE SEINE
Fleet	*Bilateral access – Vanuatu flagged*

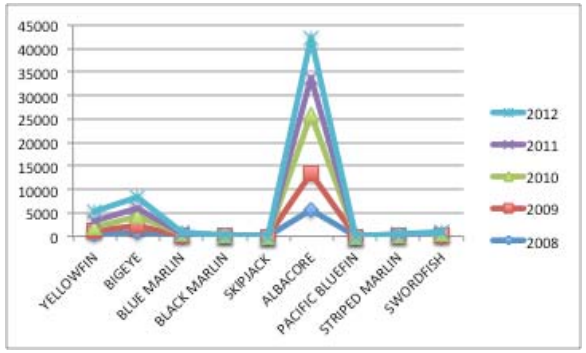
Species	2008	2009	2010	2011	2012
SKIPJACK	93,374	129,593	105,706	76,830	15,667
YELLOWFIN	23,423	15,126	23,259	9649	9,167
BIGEYE	370	174	563	207	0

[***Notes***

1. *These catch estimates also apply to the WCPO Area (the Pacific Ocean west of 150°W)*
2. *Catches do not include Vanuatu-flagged vessels that fish the FSM Arrangement vessels with HOME PARTY = PNG*
3. *Catch estimates were determined from logsheet data raised using information on actual vessel activity (e.g. VMS data)*
4. *2012 estimates were based on low coverage of logsheet data which is ~12%.]*

Figure 1. Historical annual catch for the Vanuatu Fleet

(a) Longline (b) Purseseine



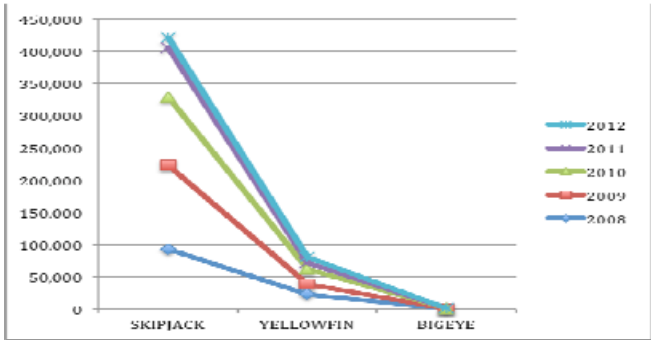


Table 2. Number of fishing vessels active in tuna fisheries in WCPFC Convention Area by gear and size class.
(a)

Gear	**LONGLINE**
Fleet	*Distant-water and offshore*

Size class (GRT)	2008	2009	2010	2011	2012
0–10	0	0	0	0	0
10–50	0	0	0	0	0
50–200	12	12	18	29	38
200–500	26	23	23	24	24
500+	23	24	24	22	12

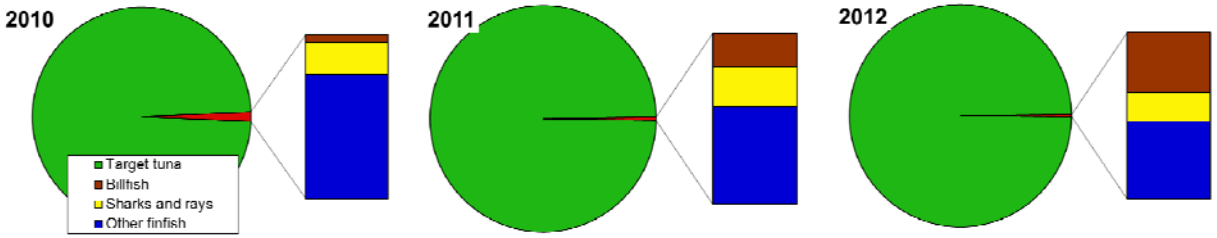
(b)

Gear	**PURSE SEINE**
Fleet	*Bilateral access – Vanuatu flagged*

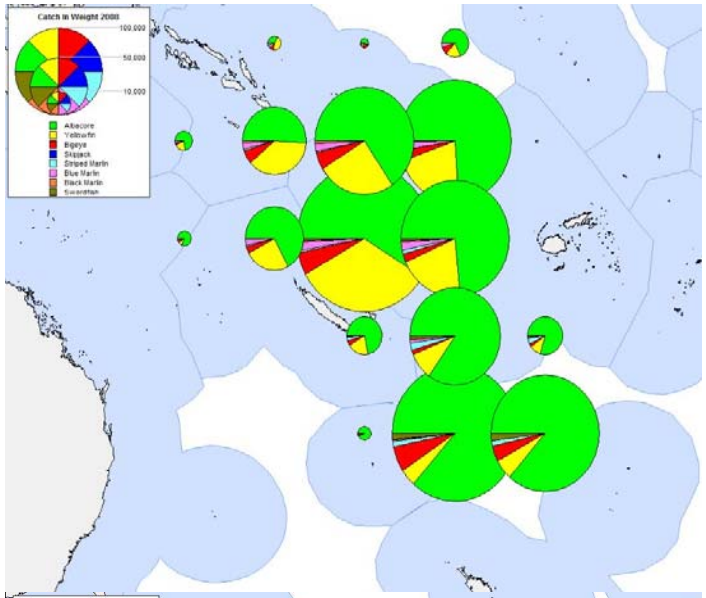
Size class (GRT)	2008	2009	2010	2011	2012
0–500	3	3	3	3	3
500–1,000				0	0
1,000–1,500	10	11	11	13	13
1,500+	5	5	5	6	6

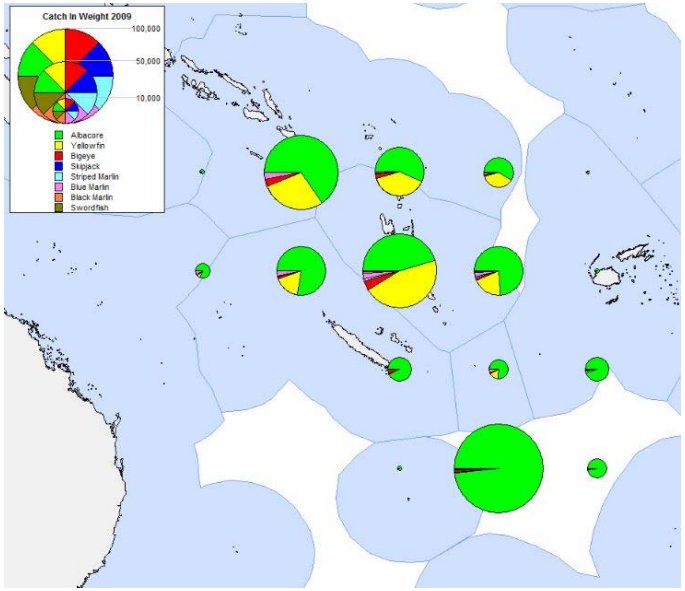
Figure 3.

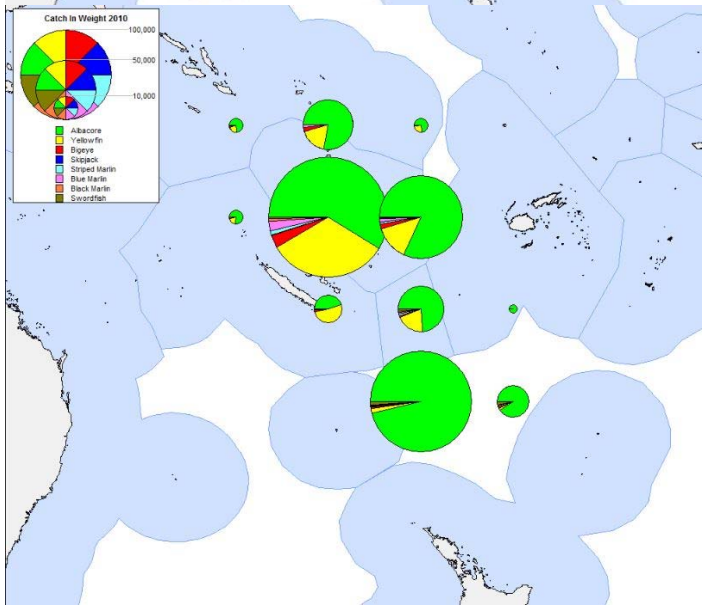
(a) Annual distribution of target species catch for Vanuatu Purse seine vessels active in the WCPFC convention area.

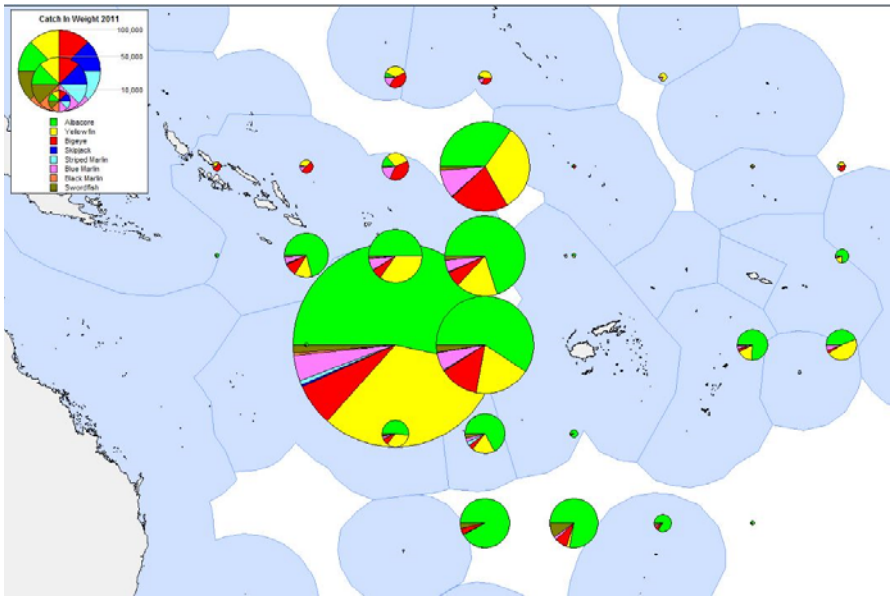


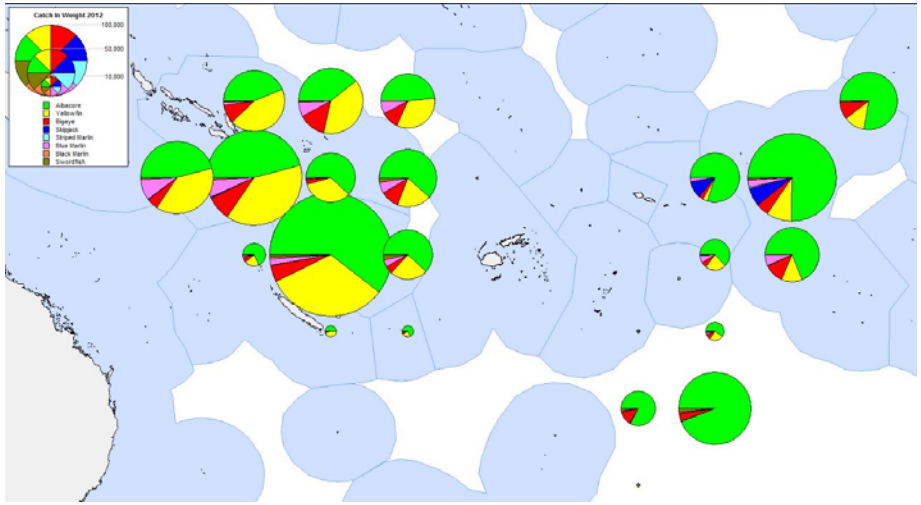
(b) Annual distribution of target species catch for Vanuatu longline vessels active in the WCPFC convention area.


Catch in Weight 2008
100,000
50,000
10,000
Albacore
Yellowfin
Bigeye
Skipjack
Striped Marlin
Blue Marlin
Black Marlin
Swordfish

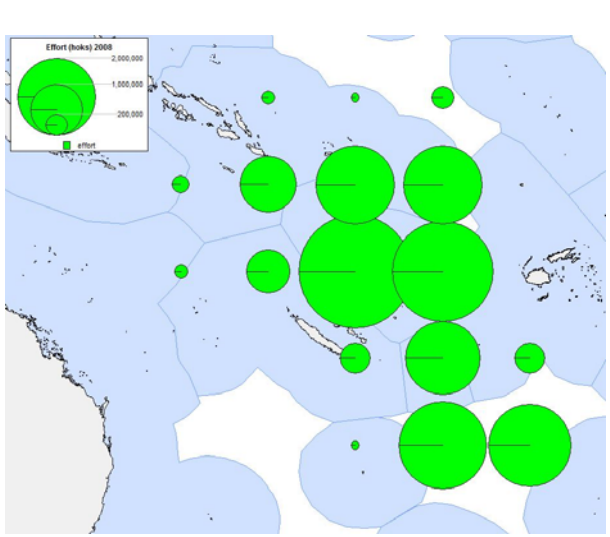

Catch in Weight 2009
100,000
50,000
10,000
Albacore
Yellowfin
Bigeye
Skipjack
Striped Marlin
Blue Marlin
Black Marlin
Swordfish

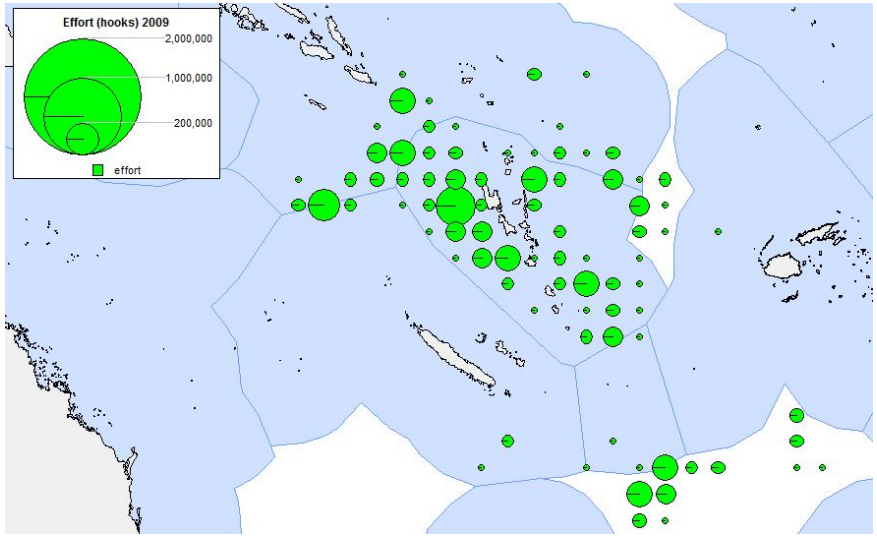

Catch in Weight 2010
100,000
50,000
10,000
Albacore
Yellowfin
Bigeye
Skipjack
Striped Marlin
Blue Marlin
Black Marlin
Swordfish

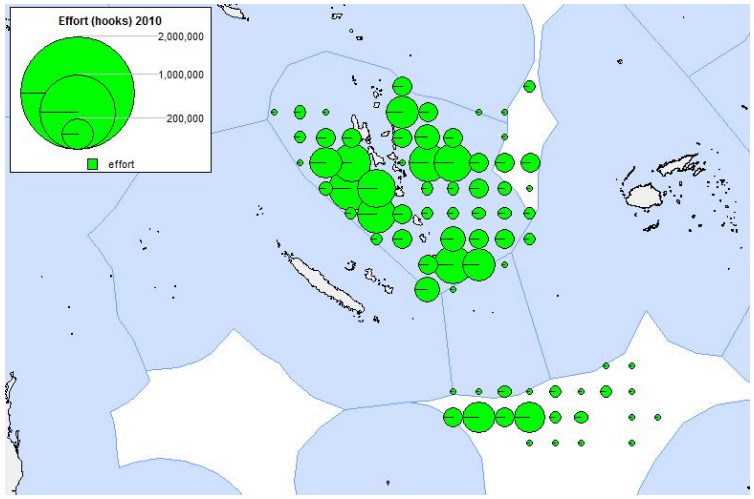

Catch in Weight 2011
100,000
50,000
10,000
Albacore
Yellowfin
Bigeye
Skipjack
Striped Marlin
Blue Marlin
Black Marlin
Swordfish

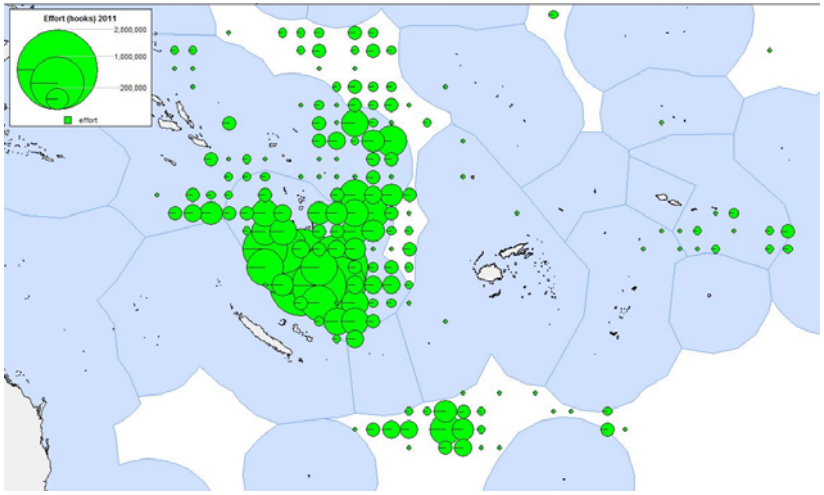


(c) Annual distribution of Effort for Vanuatu longline vessels active in the WCPFC convention area.






Effort (hooks) 2010
2,000,000
1,000,000
200,000
effort


Effort (hooks) 2011
2,000,000
1,000,000
200,000
effort

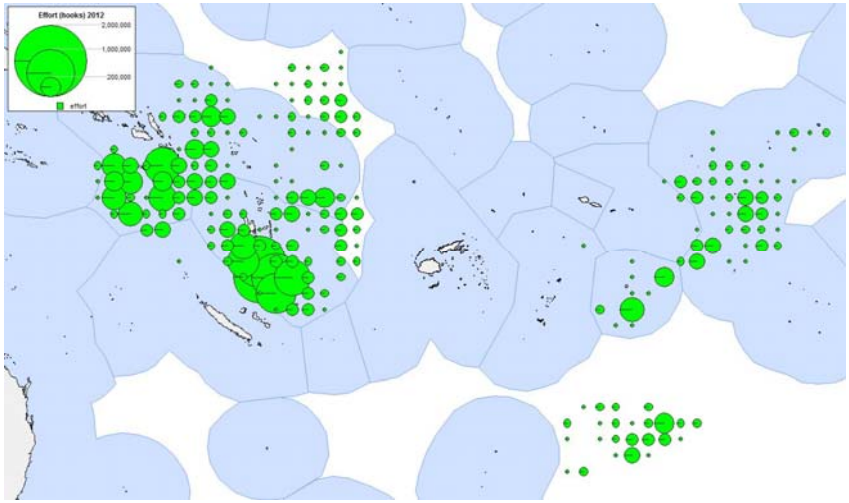

Effort (hooks) 2012
2,000,000
1,000,000
200,000
effort

Table 3. ***Observed annual estimated Purse seine catches of species of special interest (seabird, turtle, and marine mammals) in the WCPFC Convention area.***

Category	Species	No.	Dead	No.	Dead	No.	Dead
Marine Turtles	Green Turtle	0	0	1	0	0	0
	Loggerhead Turtle	2	0	3	0	0	0
	Hawksbill turtle	0	0	6	0	0	0
	Leatherback turtle	0	0	0	0	0	0
	Olive Ridley Turtle	0	0	0	0	0	0
	Turtles (unidentifed)	0	0	0	0	0	0
Marine Mammals	Dolphins and Porpoises	0	0	0	0	0	0
	Toothed Whales	8	0	1	1	0	0
	Non-toothed Whales	0	0	0	0	0	0
	Marine Mammals (unident.)	0	0	0	0	0	0
Whale Shark	Whale Shark	16	0	2	0	3	1
Birds	Birds	0	0	0	0	0	0
	Total Turtles	2	0	10	0	0	0
	Total Marine Mammals	8	0	1	1	0	0

Table 4. ***Annual estimated Purse Seine catch of non-target, associated and dependent species, including sharks, in the WCPFC convention area***

Flag	Year	Observer Data		Target tuna catch estimate	Shark species catch estimate (t.)							See Note
		Available ?	Coverage		BSH	FAL	MAK	OCS	POR	SPN	THR	
flag_id	yy	obs_est	cov	tun_c	bsh	fal	mak	ocs	por	spn	thr	note_no
VU	1994	N	0.00000%	820.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	2.
VU	1995	Y	3.28127%	7,100.0	0.0	7.8	0.0	0.0	0.0	0.0	0.0	3.
VU	1996	N	0.00000%	10,962.0	0.0	12.0	0.0	0.0	0.0	0.0	0.0	2.
VU	1997	N	0.00000%	25,701.0	0.0	28.2	0.0	0.0	0.0	0.0	0.0	2.
VU	1998	Y	1.97309%	39,335.0	0.0	43.1	0.0	0.0	0.0	0.0	0.0	3.
VU	1999	Y	5.97990%	10,070.0	0.0	11.0	0.0	0.0	0.0	0.0	0.0	3.
VU	2000	N	0.00000%	37,545.0	0.0	41.1	0.0	0.0	0.0	0.0	0.0	2.
VU	2001	N	0.00000%	11,196.0	0.0	12.3	0.0	0.0	0.0	0.0	0.0	2.
VU	2002	N	0.00000%	20,099.0	0.0	22.0	0.0	0.0	0.0	0.0	0.0	2.
VU	2003	Y	2.08720%	9,836.0	0.0	10.8	0.0	0.0	0.0	0.0	0.0	1.

VU	2004	Y	5.14707%	52,304.0	0.0	16.3	0.0	1.8	0.0	0.0	0.0	1.
VU	2005	Y	5.33102%	74,731.0	0.0	11.3	0.0	0.0	0.0	0.0	0.0	1.
VU	2006	Y	6.77939%	61,903.0	0.0	33.9	0.0	0.0	0.0	0.0	0.0	1.
VU	2007	Y	11.63402%	71,281.0	0.0	27.1	0.0	3.0	0.0	0.0	0.0	1.
VU	2008	Y	13.72984%	38,719.0	0.0	1.3	0.0	0.3	0.0	0.0	0.0	1.
VU	2009	Y	18.00083%	37,906.0	0.0	7.1	0.0	0.0	0.0	0.0	0.0	1.
VU	2010	Y	52.51572%	23,720.0	0.1	5.9	0.0	0.0	0.0	1.4	0.2	1.
VU	2011	Y	15.44349%	23,381.0	0.0	6.2	0.0	0.0	0.0	0.0	0.0	1.
VU	2012	N	0.00000%	24,834.0	0.0	6.6	0.0	0.0	0.0	0.0	0.0	2.

NOTES

1. *Shark species catch estimates have been determined by raising the nominal observed catch by the coverage rate (observed target tuna catch to annual catch estimates of target tuna). Observer data with coverage rates > 0.8% have only be considered.*

2. *There are currently no observer data are available (for this year) to estimate shark species catches. As an interim measure, shark species composition data obtained from observers for this fleet in adjacent years have been used to produce very provisional estimates of shark species catch. For recent years, processed observer data may become available and will therefore contribute to a more reliable estimate in the future.*
3. *3. The observer data coverage rate is considered too low (< 0.8%) to produce estimates of shark species catches for this year. As an interim measure, shark species composition data obtained from observers for this fleet in adjacent years have been used to produce very provisional estimates of shark species catch. For recent years, processed observer data may become available and will therefore contribute to a more reliable estimate in the future.*

Flag	Year	Observer Data		Target tuna catch estimate	Shark species catch estimate (t.)							See Note
		Available ?	Coverage		BSH	FAL	MAK	OCS	POR	SPN	THR	
VU	1995	N	0.00000%	176.0	18.7	8.6	12.0	6.3	0.0	0.0	1.5	2.
VU	1996	N	0.00000%	535.0	56.7	26.1	36.5	19.1	0.0	0.0	4.5	2.
VU	1997	N	0.00000%	463.0	49.1	22.6	31.6	16.6	0.0	0.0	3.9	2.
VU	1998	N	0.00000%	88.0	9.3	4.3	6.0	3.1	0.0	0.0	0.7	2.
VU	1999	N	0.00000%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.
VU	2000	N	0.00000%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.
VU	2001	N	0.00000%	721.0	76.5	35.1	49.2	25.8	0.0	0.0	6.0	2.
VU	2002	N	0.00000%	7,930.0	841.1	386.5	541.0	283.6	0.0	0.0	66.0	2.
VU	2003	N	0.00000%	7,059.0	748.7	344.0	481.6	252.5	0.0	0.0	58.8	2.
VU	2004	N	0.00000%	14,489.0	1,536.8	706.1	988.4	518.2	0.0	0.0	120.6	2.
VU	2005	N	0.00000%	13,660.0	1,448.8	665.7	931.9	488.5	0.0	0.0	113.7	2.
VU	2006	N	0.00000%	14,245.0	1,510.9	694.2	971.8	509.5	0.0	0.0	118.6	2.
VU	2007	N	0.00000%	11,477.0	1,217.3	559.3	782.9	410.5	0.0	0.0	95.6	2.
VU	2008	N	0.00000%	9,174.0	973.0	447.1	625.8	328.1	0.0	0.0	76.4	2.
VU	2009	Y	0.09625%	16,505.9	1,750.7	804.4	1,126.0	590.3	0.0	0.0	137.4	3.

VU	2010	Y	0.28811%	12,943.7	1,372.9	630.8	883.0	462.9	0.0	0.0	107.8	3.
VU	2011	N	0.00000%	11,388.0	1,207.9	555.0	776.9	407.3	0.0	0.0	94.8	2.
VU	2012	N	0.00000%	12,681.0	1,345.0	618.0	865.1	453.5	0.0	0.0	105.6	2.

NOTES

1. *Shark species catch estimates have been determined by raising the nominal observed catch by the coverage rate (observed target tuna catch to annual catch estimates of target tuna). Observer data with coverage rates > 0.8% have only be considered.*

2. *There are currently no observer data are available (for this year) to estimate shark species catches. As an interim measure, shark species composition data obtained from observers for this fleet in adjacent years have been used to produce very provisional estimates of shark species catch. For recent years, processed observer data may become available and will therefore contribute to a more reliable estimate in the future.*

3. *The observer data coverage rate is considered too low (< 0.8%) to produce estimates of shark species catches for this year. As an interim measure, shark species composition data obtained from observers for this fleet in adjacent years have been used to produce very provisional estimates of shark species catch. For recent years, processed observer data may become available and will therefore contribute to a more reliable estimate in the future.*

Table 5. Estimated annual coverage of operational catch/effort, port sampling and observer data for Vanuatu Purse seiners in the WCPFC convention area

3. Background

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.

SPFC signed a bilateral agreement with The Taiwanese Kaohsiung Fishing Association (KFA) in 1989, and this agreement remains in force today however most of the powers given under the agreement are slowly being removed in favor of the Government. There are plans to re-negotiate this agreement to bring it in line with national and international requirements and standards, and to increase licensing fees. As at August 2012, 164 foreign vessels were licensed, 38 of which are licenced under the KFA agreement - plus eleven (11) locally-based foreign vessels. These locally based vessels tranship in Port Vila. Apart from the KFA vessels, the majority of the other longliners are Fiji-flagged Chinese longliners, operating through eight companies based in Fiji. The Korean vessels that were licensed in 2003 (29 vessels) appear not to have returned in 2004. The longline fleet operates from foreign ports, principally Suva and Pago Pago.

4. Information on Flag-state reporting

The Vanuatu fishing fleet is comprised of purse seiners, longliners vessels which fish between the Pacific, Indian and Atlantic Oceans. Fishing inside the Exclusive Economic Zones (EEZ) of coastal states had been possible by way of bilateral fishing access agreements particularly for long liners and sub-regional arrangements (FSM Arrangement) for purse seiners. Vanuatu operates a vessel registry, the Vanuatu International Ship Registry (VISR). The VISR recorded over 500 registrations since 2003, of which 164 were fishing vessels. Vanuatu has been working to exercise improved flag state responsibility over these vessels, through a project since 2002. International Authorisation to Fish Certificate (IATF) in 2012, as authorisations to fish, linked to vessel owners, have been issued to all Vanuatu fishing vessels in the Pacific Ocean, Atlantic and Antarctic Ocean.

The annual catch and effort estimates have been estimated for the Vanuatu fleet operating under bilateral arrangements, the FSM Arrangement, and the longline vessels operating in the wider WCPFC Area. The general observation was that annual catch and effort estimates have slowly increased continuously for the purse seine and the longline fleets.

The purse seine fleet that operated under bilateral arrangements recorded a decrease in effort in the number of days vessels spent fishing and searching from 868 days to 724 days in 2012. The effort in the total number of sets had also decreased with the most seen in associated sets. The total annual estimated catches decreased from 86,686mt in 2011 to 24,823mt in 2012, which is about 61,163mt reduction. During this period, all main tuna species in the catch of decreased. Skipjack catches decreased by 33,390mt and also yellowfin (3,107mt) and bigeye (359mt) catches have dropped by 2010 from 2006 levels. Noticeably, the “other” fish category caught by this fleet was 14mt in 2005 and decreased in 2006 to more than 9 mt. For this fishery, skipjack is the dominant species (88%) followed by yellowfin (11%) and then bigeye (0.3%).
During this period 2008-2012, the longline fleet recorded its highest total annual catch estimate as 12,293mt in 2010 with a total effort of 224,579 hooks (Table 4). This effort was the highest effort recorded for this period, and since 2002 declined to 91,223 hooks in 2005. The longline fishery recorded the highest catches for albacore in 2010 being 12,293mt which is an increase from the 5,582mt in 2008 and 7,992mt in 2009.The highest catch for bigeye was in 2010 also which was an increase from the 1,651mt in 2006 to 2,060mt in 2010. Yellowfin catches also showed an increase in catch from 2008 (539mt) and 2009 (514mt) and then on to 788mt in 2010. Albacore was the dominant species in the catch followed by bigeye and yellowfin and then on to blue fin and other marlin species.

4.1 Catch distribution

The purse seine fleets were mainly operating within the 10 degrees N and 10 degrees S and between 130 degrees E and 150 degrees W. The effort in the purse seine fishery is measured as days fishing and searching. Figures 3 (a) show the effort distributions of purse seine vessels that operated under the FSM Arrangement and under bilateral agreements.

The longline effort is given as 100s of hooks. The 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 in south i.e between 10 degrees S and 40 degrees S with a strong concentration in the Vanuatu EEZ in 2006 and also in the Cook Islands EEZ in 2009 and 2010 with little effort in the EEZs of other coastal states particularly in 2006.

4.2 Estimated Annual total catches of non-target, associated and dependent species by VANUATU purse seine fleets and long-line fleets, 2008-2012.

It is not known what the estimated annual total catches of non-target, associated and dependent species by the Vanuatu purse seine fleets for the period 2008-2012, as most of the Observer records have been collected by PNG and FSM observers however Vanuatu in collaboration with PNG have been successful in meeting a required observer coverage on its purse seine vessels that are fishing under the FSM Arrangement.. It is not known whether or not this information collected by observers in the other jurisdictions on vessels that were operating in their waters has been submitted to the WCPFC, SPC or FFA.

5. Coastal-state reporting

In the period 2008 to 2012, the total annual catch for all the foreign fleets that were undertaking fishing operations in Vanuatu had decreased from 7863.952mt to 3997.783mt. There has been a variation in the catch for these years and, this was a result of the effort decline that took place also for this period of years for these Longline vessels in the Vanuatu EEZ. The catch was largely attributed to the Chinese and Fiji fleet which recorded over 80% of the total catch for the 2008-2012 periods, and with the Taiwanese fleet contributing only 11%. In fact, catches for the Taiwanese fleet have declined in comparison to other fleets since 2008 and slowly picking up pace in 20010. On the other hand, catches for the Chinese fleet have steadily increased during this period.

The annual estimated tuna catch composition by weight for 2012, was again dominated by albacore (85%), significant yellowfin (14%), and minor bigeye (12%). These catch proportions were similar to the historical tuna catch compositions.
It has been estimated that the total catch of albacore in 2008 exceeded 6,000 mt based on unraised data but it is likely that the best estimate may have approached 10,000 mt if the data were raised.
This also applies to the 2012 albacore catch which is estimated to exceed 4,000mt based on unraised data but is likely to have approached 8,000mt if it were raised.

The recent tuna fishery in Vanuatu has generally seen a rapid expansion of fishing effort. It is estimated that this recent effort exceeded 25 million hooks per year based on unraised data but it is likely that the actual estimate may exceed 40 million hooks per year if the data were raised. It is noted that high catches were usually obtained with high effort.

Annual catch in Vanuatu EEZ, were sought from Vanuatu and Taiwanese flag vessels, fishing under the Kaoshiung Bilateral Agreement whom are obliged to report their catches annually. SPC also provided estimates based on raised logsheet data that have been submitted by Fiji and Pagpago for the Fiji based fleet.

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5.1 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 have also been significant missing data thus it hasn't been possible to estimate 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.

However the newly build processing plant in Port Vila harbor has already been receiving fresh Tuna for Sashimi export to Japan, USA and New Zealand. So far Vanuatu had just completed its 27th Transshipment operation in Port Vila Harbor with 100% Port Sampling coverage.

Most of the current presented data were obtained from the OFP/SPC database, and were originally collected and supplied by Vanuatu and Fiji. It should be noted that data provided for Vanuatu in this report and also from the past reports to the commission are from unraised log sheet data.

5.2 Annual catches in the Vanuatu EEZ

In the period 2008 to 2012, the total annual catch for the longline fleets that were undertaking fishing operations in Vanuatu EEZ decreased from 10,495.26mt (2008) to 4,947mt (2009). This catch reduction was a result of the effort decline that took place for this period of years (Figure 4 & Figure 5). For the long line fleet in the Vanuatu EEZ the annual catch estimates for this period also showed a substantial reduction from the 2008 levels of 71,281mt to 23,382mt in 2012. This reduction is also a result of the reduction in fishing effort for these years however effort for this fleet slightly increased between the years 2011 and 2012 from 726 days to 1,141 days. Catch from these fleets were largely attributed to the Chinese and Fiji fleet which recorded over 80% of the total catch for the 2008-2012 periods followed by the Taiwanese fleet contributing only 11%. Catches for the Taiwanese fleet have been declining evidently since 2008 as a result of their large decline in effort as can be seen in 2009

The annual longline estimated tuna catch composition by weight for 2012, was again dominated by albacore (84%), significant yellowfin (13%), and minor bigeye (1.5%). These catch proportions were similar to the historical tuna catch compositions (Figure 4).

It has been estimated that the total catch of albacore in 2008 exceeded 6,000mt based on unraised data but it is likely that the best estimate may have approached 10,000mt if the data were raised.

This also applies to the 2012 albacore catch which is estimated to exceed 3,500mt based on unraised data but is likely to have approached 7,000mt if it were raised.

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

Data regarding the fishing operations of the Vanuatu fleet have been provided by the various members in whose jurisdictions the vessels may have operated, and also by Vanuatu Flag Management Authority. 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 in table 2. The inferences for high, medium, and low scores for the catch/effort, and size data coverage, are provided in annex 1. A high score for catch or effort implies that more than 80% of the data had been covered and question marks indicate that there was no data coverage.

6. Socio-economic Factors

The recent increase in the Vanuatu Fishing License Fee may affect the trend in the number of vessels in the future however due to the fact that Vanuatu is much closer to Fiji, the Fiji based fleet will definitely acquire license from Vanuatu

7. Disposal of Catch

Fresh Tuna landed in Vanuatu by Locally Based Foreign vessels are exported by air to Japan, while fresh Opah is exported to Hawaii however the Frozen is transferred to a carrier and exported to canneries in Fiji.

The Foreign fleets unload both their fresh and frozen catch in Fiji which are either taken to canneries or exported to Japan.

8. Onshore Developments

However the newly build processing plant in Port Vila harbor has already been receiving fresh Tuna since 2009 for Sashimi export to Taiwan, Hawaii and New Zealand. The Chinese fishing Base is still pending operations due to Governmental issues with regards to Envirnmental Impact Assessment and land.

9. Future Prospects of Fishery

Currently Vanuatu has 2 Fish Processing Plants, one is fully operating while the other is on the process of

10. Status of Tuna Fisheries Data Collection Systems

(a) Logsheet Data collection and Verification

There has been a slight improvement in the collection of logsheet data, as 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 76%? Wherehas for the Vanuatu flag vessels the coverage was 50%???? Due to the fact that most of these vessels are based entirely in the high seas therefore it may take a while before the logsheet reach the agent in Taiwan and after checks in Taiwan agents they are sent directly to Vanuatu for processing and entering. Vanuatu is planning to develop its own E-Forms to be used on board all Vanuatu long liners, and Vanuatu will make sure all purse seiners flying Vanuatu flag will be required to use E-Forms that were developed by SPC early this year.

(b) Observer and Port Sampling Programme

Vanuatu established the National Observer and Port Sampling Program in 2008. During the late 2008 until now the Vanuatu National observer and Port Sampling programme (VNOPP) managed to have established 100% coverage on all Locally Based Foreign Vessels and also 100% coverage port sampling on transshipment and unloading in port however, there is still very limited observer coverage for the Fiji and Solomon Island based fleet operating in the Vanuatu EEZ. Vanuatu has already implemented its 5% coverage on the long distant longliners across the convention area. Port Sampling/Transshipment activities have continuously been carried out in port and alongside port to assess the size, weight and type of specified species either targets or non-target caught within the Vanuatu EEZ.

Currently about 6 mt of tuna within range length of 90-150 mt is supplied monthly to Japanese sashimi markets and 2 mt to non-Japanese sashimi markets (i.e. Australia, NZ and USA). The most valuable species for sashimi caught within the VU EEZ is Big Eye Tuna, but supply volumes are very low and are declining. After Big Eye tuna, Yellow Fin is the next most valuable species and is the most highly target species followed by albacore and then, to a lesser extent, mahi mahi, wahoo and Opah.

Small scale fresh tuna longliners that off load regularly are typically less than 100GRT fiberglass reinforced plastic (FRP) and use refrigerated sea water for storing catch. Average number of vessel trip per month for sashimi is 15 trips.

Currently there are 27 active observers within the Vanuatu national observer program responsible for carrying out both observer and port sampling duties. Observers play a large role in collecting data and are referred by scientist as ‘eyes and ears’ of the department or organization.

To meet National program responsibilities, objectives are established for scientific technicians working as observers aboard longline fishing vessels

(c) Unloading and Transshipment

Unloading and Transshipment in Vanuatu port has been by way of locally based foreign vessels fishing in Vanuatu EEZ. Since 2009 there has been 100% port sampling for all unloading and transshipment activity in Vanuatu EEZ. Transshipment has been constantly carried out within the harbour mostly targeting albacore for canning (e.g. Fiji and Solomon) or other species such as sharks (mainly fins), Marlins, wahoo, Sword fish and other relevant By-catch including low grade yellow fin and big eye. Transshipment is 100% sampled in measurement and estimated capacity weight of each fish well; all fish for transshipment are stored frozen in blast freezers. Transshipment often occurs once a month and in 2012 there was 27 transshipment in Vanuatu port. Eight to ten small-scale tuna longliners off load about 25 to 30 MT each frozen catch to a carrier.

11. Research on Tuna Fishery Data collection System

Apart from biological samples that Vanuatu observers are collecting, there has never been any research on tuna fishery data collection system

ANNEX 1

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

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

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

VANUATU LARGE-SCALE TUNA LONGLINE VESSEL

SWORDFISH MONTHLY CATCH REPORT

Date: 2008 to 2012

Fishing Zone: WCPFC Southern Committee (20 degree South)

Unit: Metric tons

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Total**
2008	**1.2**	**0**	**0**	**0.268**	**1.138**	**1.662**	**3.338**	**5.99**	**1.229**	**0.212**	**0.276**	**0.59**	15.903
2009	**0**	**0**	**0**	**0**	**0.159**	**0.94**	**0.881**	**0.673**	**0**	**0**	**0**	**0**	2.653
2010	**0**	**0.37**	**0**	**0.366**	**2.256**	**5.074**	**5.554**	**7.54**	**1.668**	**0.08**	**0.295**	**0.705**	23.908
2011	**0.1**	**0.22**	**0**	**0.145**	**0.702**	**3.913**	**5.888**	**4.183**	**0.167**	**0**	**0**	**0.559**	15.877
2012	**0.625**	**0.025**	**0.11**	**0**	**1.967**	**4.708**	**5.386**	**2.979**	**2.105**	**1.02**	**0**	**0**	18.925
Total	1.925	0.615	0.11	0.779	6.222	16.297	21.047	21.365	5.169	1.312	0.571	1.854	77.266

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VANUATU LARGE-SCALE TUNA LONGLINE VESSEL

STRIPMARLIN MONTHLY CATCH REPORT

Date: 2008 to 2012

Fishing Zone: WCPFC Southern Committee

Unit: Metric tons

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Total**
2008	**2.92**	**0**	**0**	**1.373**	**0.878**	**1.478**	**3.92**	**3.839**	**0.818**	**0.083**	**0.44**	**1.29**	17.039
2009	**0**	**0**	**0**	**0.198**	**0.188**	**0.976**	**1.327**	**0.252**	**0**	**0**	**0**	**0**	2.941
2010	**0**	**0**	**0**	**0.786**	**1.418**	**3.609**	**7.461**	**7.369**	**0.978**	**0**	**0.48**	**0.25**	22.351
2011	**0.13**	**0**	**0**	**0.552**	**1.223**	**2.617**	**4.653**	**1.507**	**0.138**	**0**	**0**	**0.542**	11.362
2012	**0**	**0.16**	**0.001**	**0**	**1.185**	**1.17**	**1.762**	**1.57**	**0.835**	**0**	**0**	**0**	6.683
Total	3.05	0.16	0.001	2.909	4.892	9.85	19.123	14.537	2.769	0.083	0.92	2.082	60.376

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VANUATU LARGE-SCALE TUNA LONGLINE VESSEL

SHARK MONTHLY CATCH REPORT

Date: 2008 to 2012

Fishing Zone: WCPFC Southern Committee

Unit: Metric tons

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Total**
2008	**0**	**0**	**0**	**2.535**	**0.568**	**1.777**	**2.395**	**5.702**	**2.638**	**0.248**	**0**	**0**	15.863
2009	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
2010	**0**	**0**	**0**	**0.1**	**1.975**	**3.044**	**0.961**	**2.005**	**0.136**	**0**	**0**	**0**	8.221
2011	**0**	**0**	**0**	**0.384**	**4.491**	**4.308**	**8.078**	**4.523**	**0.232**	**0**	**0**	**0.656**	22.672
2012	**0.315**	**0**	**0**	**0**	**6.445**	**9.506**	**14.189**	**10.478**	**2.925**	**2.08**	**0**	**0**	45.938
Total	0.315	0	0	3.019	13.479	18.635	25.623	22.708	5.931	2.328	0	0.656	92.694

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VANUATU LARGE-SCALE TUNA LONGLINE VESSEL

MOROSHARK MONTHLY CATCH REPORT

Date: 2008 to 2012

Fishing Zone: WCPFC Southern Committee

Unit: Metric tons

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Total**
2008	**0**	**0**	**0**	**1.633**	**2.236**	**1.674**	**1.19**	**0.736**	**0.683**	**0**	**0**	**0**	8.152
2009	**0**	**0**	**0**	**0**	**1.235**	**3.06**	**2.75**	**0.31**	**0**	**0**	**0**	**0**	7.355
2010	**0**	**0**	**0**	**0.11**	**1.797**	**1.576**	**3.823**	**2.178**	**0.45**	**0**	**0**	**0**	9.934
2011	**0**	**0**	**0**	**0**	**1.632**	**3.245**	**2.267**	**3.192**	**0**	**0**	**0**	**0**	10.336
2012	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
Total	0	0	0	1.743	6.9	9.555	10.03	6.416	1.133	0	0	0	35.777

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