



**SCIENTIFIC COMMITTEE
EIGHTH REGULAR SESSION**

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

WCPFC-SC8-AR/CCM-27

VANUATU



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**VANUATU
The Vanuatu Fisheries Department**

National Tuna Fishery Report



VANUATU

10/08/12

1. Abstract

Vanuatu is a member of the Regional Fisheries Management Organizations (RFMOs) such as IATTC, ICCAT, IOTC and the WCPFC. 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 is comprised of 22 purse seiners and 75 long-liner fishing vessels. Catch and Effort coverages for the Vanuatu fleet 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.

In the Vanuatu EEZ the only foreign fleet with high catch and effort data coverage is the Fiji fleet. In the period 2006 – 2010 the annual catch estimates of the Vanuatu longline fleet in the WCPO have generally increased as did the fishing effort (sets) and number of fish per 100 hooks. However, during the last years 2010-2011 catch estimates for the Longline fleets were reduced from 15,728mt to 11,580mt. The same trends were also seen in Effort estimates for the Longline fleets during the years 2006-2010 were fishing effort increased steadily but then dropped evidently from 2010-2011.

The major tuna species for the Vanuatu longline fleet catch was dominated by albacore 69.5% then bigeye (15.6%) and lastly yellowfin (11%). Unraised and provisional estimates for the longline fleet in 2011 were 8,059mt, 1,809mt, 1.269mt for albacore, bigeye and yellowfin respectively but if raised could be higher. For the Vanuatu Purse seine fleets in the WCPO, there were more sets seen on unassociated than associated schools. The purse seine fleet's that fished under Bilateral access arrangement also recorded a reduction in Catch estimates from the years 2009 through to 2011. Reduction levels were seen from a catch record of 144,893mt in 2009 to 129,528mt in 2010 and then to 86,686mt in 2011. The recent catch estimates of 2011 comprises 88.6% skipjack, 11% yellowfin and 0.23% bigeye.

Unraised and provisional 2011 data shows that catches of all major tuna species for both the Longline and Purse Seine fleets in the WCPO have reduced from 129,593mt of skipjack in 2009 to 76,830mt in 2011. Yellowfin catch also reduced from 15,640mt in 2009 to 10,918mt in 2011 as well as Bigeye from 2,623mt in 2010 to 2,016mt in 2011. Out of the 22 purse seine vessels that fished within the WCPO region, 6 vessels fished under Bilateral with PNG while 16 vessels fished under the FSM arrangement. The total catches reported here are from the 6 purse seine vessels fishing with home party criteria as Papua New Guinea, therefore catches were excluded from vessels fishing under the FSM arrangement.

Data for the Vanuatu EEZ were based on unraised logsheet data. Fishing in the Vanuatu EEZ was by foreign fleets from China, Chinese Taipei, and Fiji. These three fleets have increased their number of vessels from 2008- 2011. Since, 2009 Vanuatu accomplished 100% Observer coverage for the locally based foreign fishing vessels and 100% port sampling on all unloading of fresh fish including the 23 transshipments in port.

Fresh fish is exported to Japan, USA and New Zealand while frozen fish are shipped to the canneries in Fiji.

Introduction

The report covers the fishing operations of the Vanuatu flag vessels operating in the WCPFC area during the period 2007 to 2011, 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.

1.1 Information on Flag-state reporting

The Vanuatu fishing fleet is comprised of purse seiners and longline vessels that 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.

Table 1. Number of fishing vessels active in tuna fisheries in WCPFC Convention Area by gear and size class.

| | |
|-------|-----------------------------------|
| Gear | LOONGLINE |
| Fleet | <i>Distant-water and offshore</i> |

| Size class (GRT) | 2007 | 2008 | 2009 | 2010 | 2011 |
|------------------|------|------|------|------|------|
| 0–10 | | | | | 0 |
| 10–50 | | | | | |
| 50–200 | 12 | 12 | 12 | 18 | 29 |
| 200–500 | 27 | 26 | 23 | 23 | 24 |
| 500+ | 25 | 23 | 24 | 24 | 22 |

| | |
|-------|---|
| Gear | PURSE SEINE |
| Fleet | <i>Bilateral access – Vanuatu flagged</i> |

| Size class (GRT) | 2007 | 2008 | 2009 | 2010 | 2011 |
|------------------|------|------|------|------|------|
| 0–500 | 3 | 3 | 3 | 3 | 3 |
| 500–1,000 | | | | | 0 |
| 1,000–1,500 | 14 | 10 | 11 | 11 | 13 |
| 1,500+ | 6 | 5 | 5 | 5 | 6 |

1.2 Data coverage

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 transhipped 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.

Table 2: Estimated annual coverage of catch, effort and size data for VANUATU fishing fleets in the WCPFC Convention Area, 2005-2011.

| Gear | Fleet | Year | Catch/Effort data coverage | Size data coverage |
|-------------|--------------------------------------|-----------|----------------------------|--------------------|
| LONGLINE | VANUATU | 2005-2006 | HIGH | ?? |
| | | 2007-2008 | HIGH | ?? |
| | | 2009-2010 | HIGH | ?? |
| | | 2010-2011 | HIGH | ?? |
| PURSE SEINE | VANUATU – Bilateral | 2005-2006 | HIGH | ?? |
| | | 2007-2008 | HIGH | ?? |
| | | 2009-2010 | HIGH | ?? |
| | | 2010-2011 | HIGH | ?? |
| PURSE SEINE | VANUATU-flagged (FSM Arrangement) | 2005-2006 | HIGH | ?? |
| | | 2007-2008 | HIGH | ?? |
| | | 2009-2010 | HIGH | ?? |
| | | 2010-2011 | HIGH | ?? |

1.3 Annual Catch and Effort Estimates for the period 2007 – 2011

The annual catch and effort estimates have been 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 increased continuously for the purse seine and the longline fleets for the past few years, but reduced immensely between the years 2010 and 2011.

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 2,201 days in 2007 then on to 560 days in 2008 and dropped further down in 2011. The effort in the total number of sets had also decreased with the most seen in associated sets. The total annual estimated catches however for the years 2007 through to 2010 recorded a gradual increase in catches being from 67,010mt in 2007, 117,167mt in 2008, 144,893mt in 2009 and 129,528mt in 2010. This trend however changed from the year 2010 to 2011 where catch estimates reduced from 129,528mt in 2010 to 86,686mt in 2011 which is a 42,000mt reduction since the last previous year 2010 however is still an increase in catch from the 2007 levels. During this period from 2007 to 2011 all main tuna species have increased in catch with Skipjack with an increase from 59,589mt in 2007 to 76,830mt in 2011 and followed by Yellowfin with 7,030mt in 2007 to 9,649mt in 2011. Bigeye on the other hand witnessed a reduction in catch estimates from the 2007 levels being from 391mt to 207mt in 2011. 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 the period 2007-2011, the longline fleet recorded its highest total annual catch estimate as 15,728mt in 2010 from 2007 levels but was reduced to 11,580mt in 2011. The total number of effort (days fishing) also reduced immensely from 7,692days in 2007 to 2,640days in 2011. The highest effort seen during this period was recorded in 2009 with 7,957days. 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. However, this trend changed to a reduction in 2011 from 2010 levels from a catch reduction of 12,293mt in 2010 to 8,059mt in 2011. The highest catch for Bigeye was also in 2010 which was an increase from the 860mt in 2008 levels to 2,060mt in 2010. This trend also changed to a reduction in 2011 to 1,809mt. Yellowfin catches however, showed a gradual increase in catch estimates from the year 2008, 2009, 2010 through to 2011 with catches being 539mt, 514mt, 788mt and 1,269mt respectively. Albacore was the dominant species in the catch (69%) followed by Bigeye (15%) and Yellowfin (10%) and then on to blue fin marline and other marlin species.

1.4 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 1a, 1b show the catch 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 2008 and also in the Cook Islands EEZ in 2009, 2010 and 2011 with little effort in the EEZs of other coastal states particularly in 2010.

Table 3. Annual catch (mt) in the WCPFC Convention Area by species for the VANUATU Offshore LONGLINE fishery.

| | |
|-------|-----------------------------------|
| Gear | LONGLINE |
| Fleet | <i>Distant-water and Offshore</i> |

| Species | 2007 | 2008 | 2009 | 2010 | 2011 |
|-----------------|-------|-------|-------|--------|-------|
| YELLOWFIN | 967 | 539 | 514 | 788 | 1269 |
| BIGEYE | 2,122 | 860 | 1,300 | 2,060 | 1809 |
| BLUE MARLIN | 122 | 68 | 102 | 173 | 195 |
| BLACK MARLIN | 31 | 21 | 28 | 56 | 11 |
| SKIPJACK | 0 | 0 | 0 | 0 | 0 |
| ALBACORE | 8,388 | 5,582 | 7,992 | 12,293 | 8059 |
| PACIFIC BLUEFIN | 0 | 0 | 0 | 0 | 0.623 |
| STRIPED MARLIN | 111 | 75 | 57 | 77 | 67 |
| SWORDFISH | 222 | 125 | 130 | 281 | 170 |

Notes

- I. 2007–2011 catch estimates were taken from TUFMAN database system – coverage of logsheets is not known but expected to be high.
- II. Billfish estimates for 2006-2011 come from logsheets .

Table 4. Annual catch (mt) in the WCPFC Convention Area by species for the VANUATU PURSE SEINE fishery.

| | |
|-------|---|
| Gear | PURSE SEINE |
| Fleet | <i>Bilateral access – Vanuatu flagged</i> |

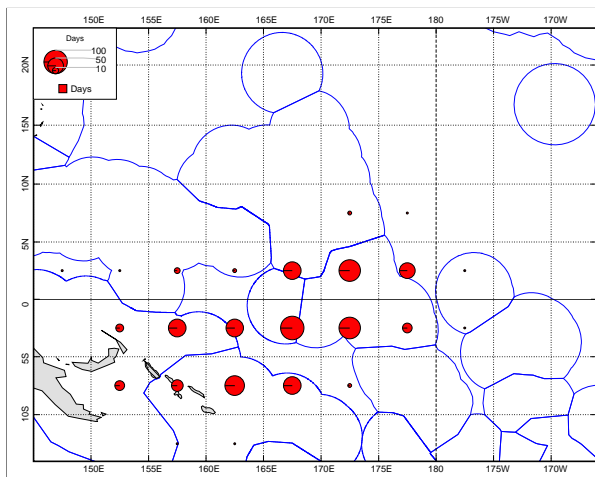
| Species | 2007 | 2008 | 2009 | 2010 | 2011 |
|-----------|-------|--------|---------|---------|--------|
| SKIPJACK | 59589 | 93,374 | 129,593 | 105,706 | 76,830 |
| YELLOWFIN | 7030 | 23,423 | 15,126 | 23,259 | 9649 |
| BIGEYE | 391 | 370 | 174 | 563 | 207 |

Notes

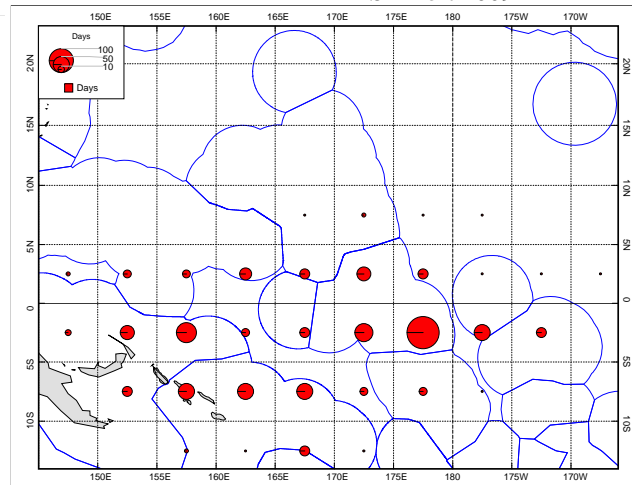
- I. These catch estimates also apply to the WCPO Area (the Pacific Ocean west of 150°W)
- II. Catches do not include Vanuatu-flagged vessels that fish the FSM Arrangement vessels with HOME PARTY = PNG
- III. Catch estimates were determined from logsheet data raised using information on actual vessel activity (e.g. VMS data).
- IV. Vessels included are FONG SEONG 666, FONG SEONG 696, FONG SEONG 668, YUH FA 2, YUH FA 3, YUH FA 6.

Figure 1 (a) Annual distribution of EFFORT (days fishing and searching) for the VANUATU (Bilateral) PURSE SEINE fleet throughout the WCPFC Convention Area for 2008-2011

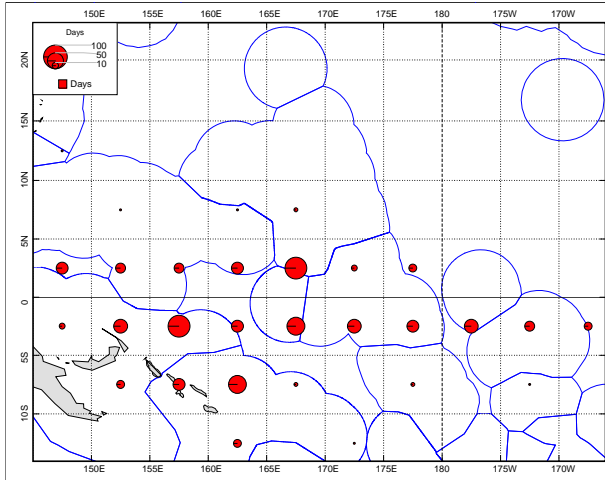
PS Effort 2008



PS Effort 2009



PS Effort 2010



PS Effort 2011

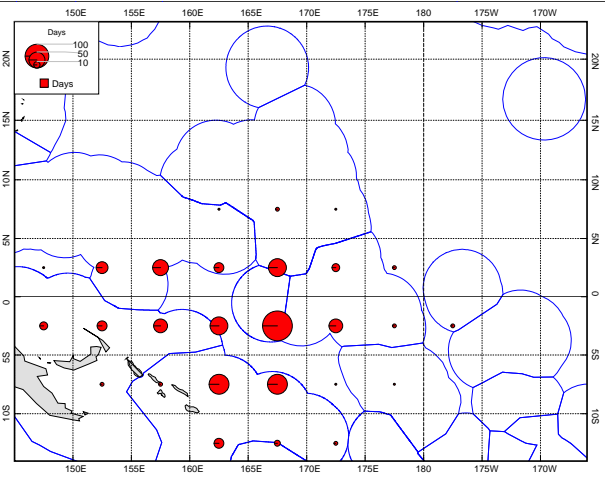
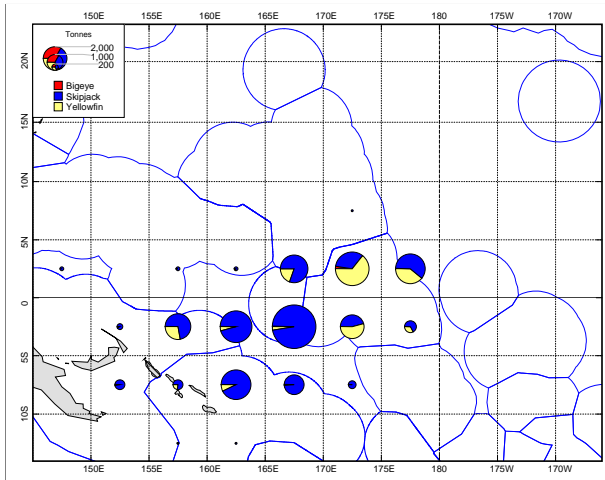
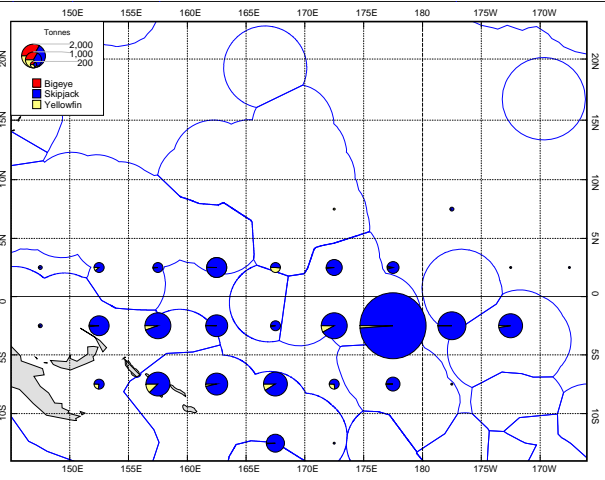


Figure 1 (b) Annual distribution of CATCH for the VANUATU (Bilateral) PURSE SEINE fleet throughout the WCPFC Convention Area for 2008-2011

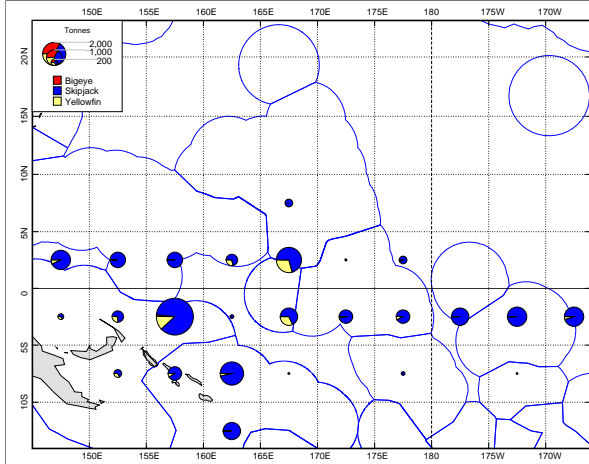
PS Catch 2008



PS Catch 2009



PS Catch 2010



PS Catch 2011

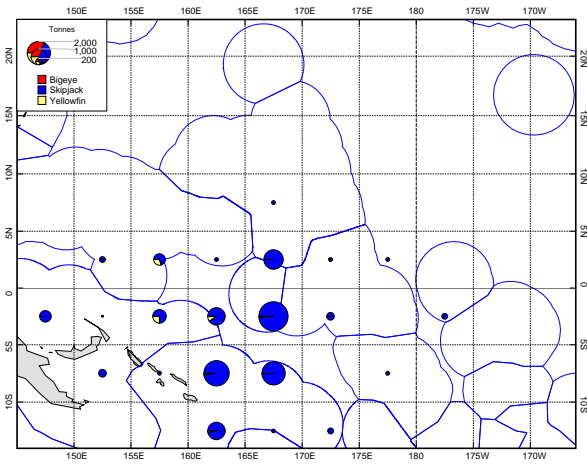
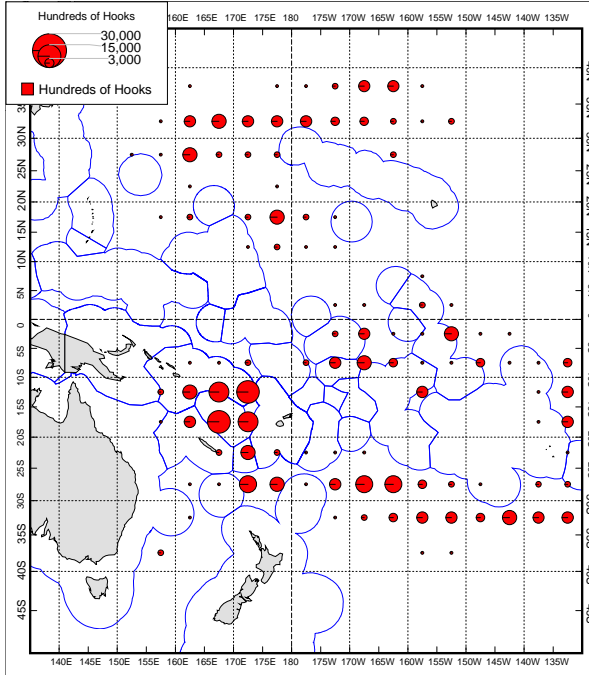
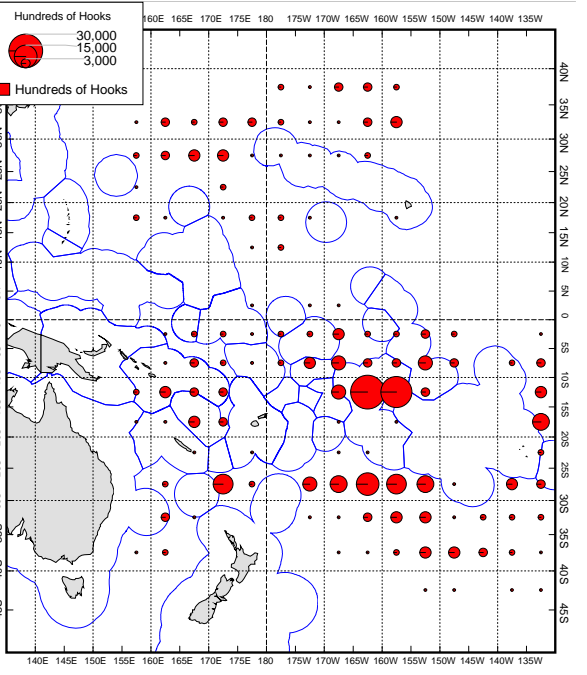


Figure 2 (a) Annual distribution of EFFORT for the VANUATU-flagged LONGLINE fleet throughout the WCPFC Convention Area for 2008-2011

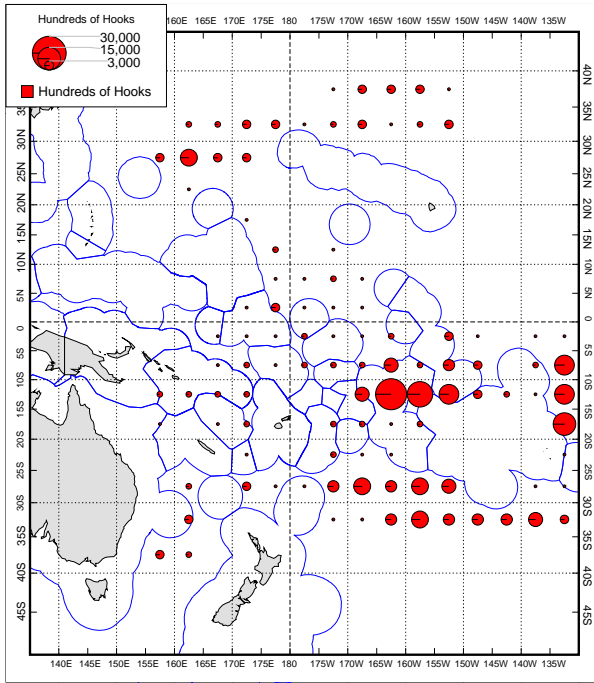
LL Effort 2008



LL Effort 2009



LL Effort 2010



LL Effort 2011

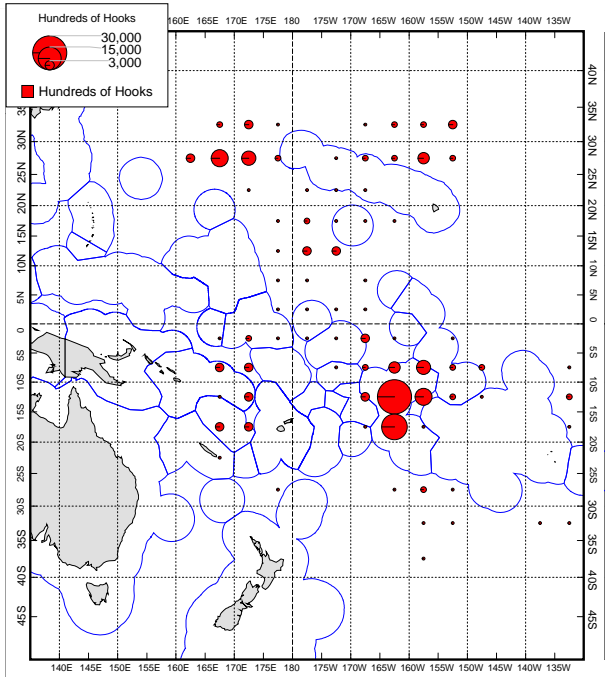
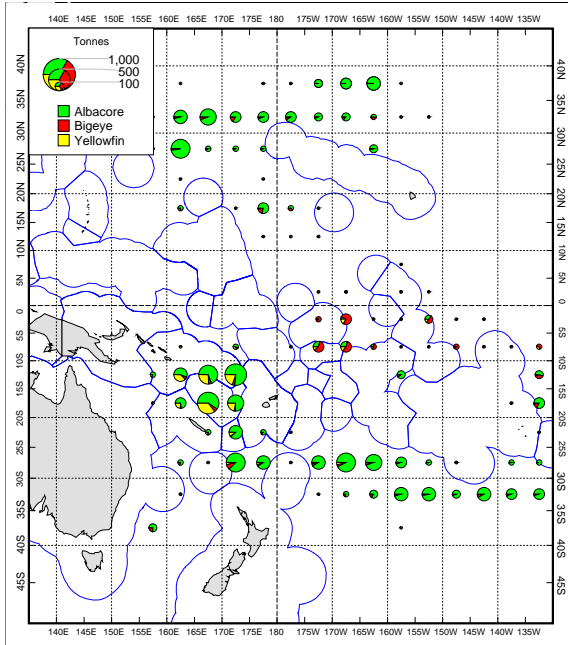
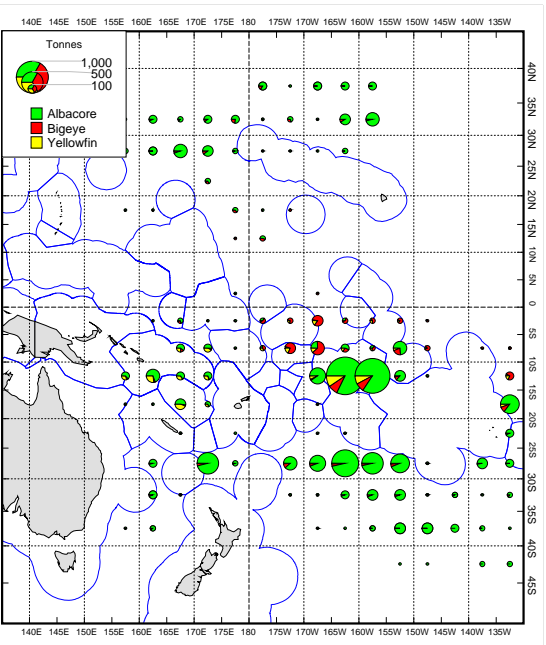


Figure 2 (b) Annual distribution of CATCH for the VANUATU-flagged LONGLINE fleet throughout the WCPFC Convention Area for 2008-2011

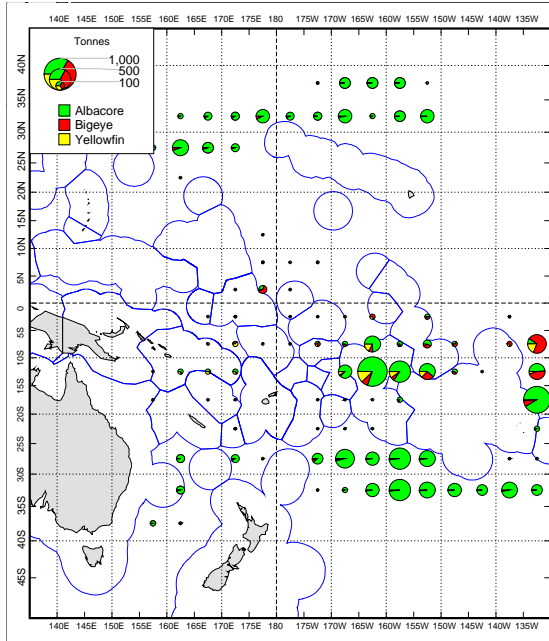
LL Catch 2008



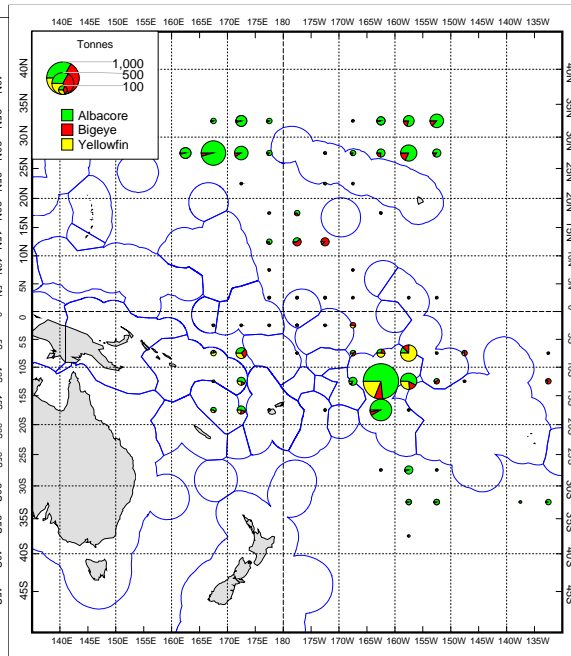
LL Catch 2009



LL Catch 2010



LL Catch 2011



1.5 Estimated Annual total catches of non-target, associated and dependent species by VANUATU purse seine fleets and long-line fleets, 2007-2011.

It is not known what the estimated annual total catches of non-target, associated and dependant species by the Vanuatu purse seine fleets for the period 2007-2011, 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 is collected by observers in the other jurisdictions on vessels that were operating in their waters has been submitted to the WCPFC, SPC or FFA.

Figure 3(a): 2007-2011 Total Catch by Species/Number and Effort for Longline Fleets in the WCPFC Convention area

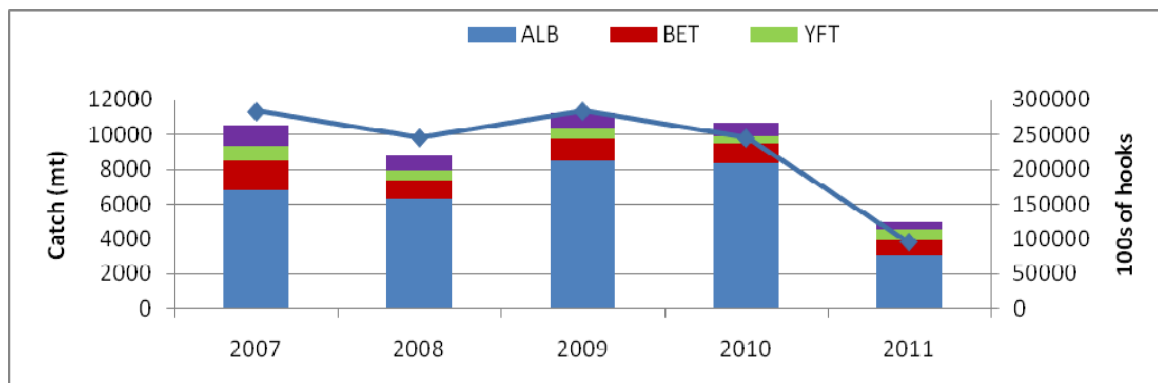
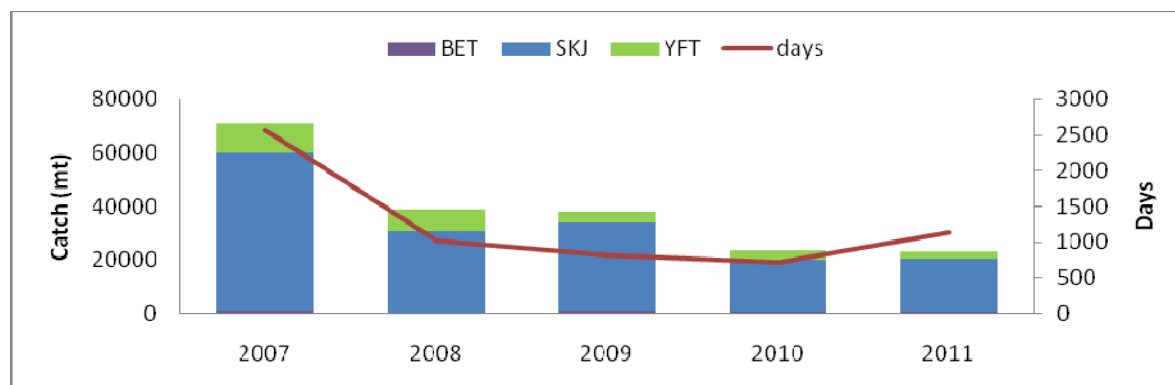


Figure 3(b): 2006-2010 Total Catch by Species/Number and Effort for Vanuatu flagged Purse Seiners in the WCPFC Convention area



2. Coastal-state reporting

Vanuatu has had a long history of longline fishing in the vicinity of its EEZ since the early 1950s and was dominated by fleets from the distant water fishing nations namely, the Chinese Taipei and Korea up to the mid-1990s. Commercial tuna fishing within the Vanuatu EEZ consists of longline fishing with minimal domestic activity in local waters. Since then there has been a rapid expansion of the domestic fleet. Foreign fleets from Fiji, China and Chinese Taipei currently fish in Vanuatu waters for tuna & tuna like species under bilateral access agreements. Most of these vessels operate out of American Samoa and Fiji and primarily target albacore tuna for the canneries in American Samoa and Fiji. In 2011, Vanuatu licensed a total of 171 longline fishing vessels to fish for tuna & tuna-like fish species. Fishing fleets from China and Fiji have increased their fleet over the past year from 2010 to 2011, however, the Taiwan fleet has decreased from 49 vessels in 2010 to 42 vessels in 2011. The Chinese fleet is still the dominant fleet operating in the Vanuatu EEZ, both in terms of vessel numbers and capacity, followed by Fiji, then Taiwan. Most of the vessels that have been licensed to fish in Vanuatu waters were greater than 100 GRT.

2.1 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.

Table 5. Estimated coverage of catch, effort and size data for bilateral-arrangement, foreign fleets fishing in VANUATU's EEZ

| Gear | Fleet | Year | Catch/Effort data coverage | Size data coverage |
|----------|-----------------------|-----------|----------------------------|--------------------|
| LONGLINE | China | 2005-2006 | Low | ?? |
| | | 2007-2008 | Low | ?? |
| | | 2009-2010 | Low | ?? |
| | | 2010-2011 | Low | ~30% |
| LONGLINE | Chinese Taipei | 2005-2006 | LOW | ?? |
| | | 2007-2008 | LOW | ?? |
| | | 2009-2010 | Low | ?? |
| | | 2010-2011 | Low | ~25% |
| LONGLINE | Fiji | 2005-2006 | LOW | ?? |
| | | 2007-2008 | Low | ?? |
| | | 2009-2010 | Low | ?? |
| | | 2010-2011 | Low | ~30% |
| LONGLINE | Locally Based Foreign | 2005-2006 | Low | ?? |
| | | 2007-2008 | Medium | ?? |
| | | 2009-2010 | HIGH | 90% |
| | | 2010-2011 | HIGH | 95% |

2.2 Annual catches in the Vanuatu EEZ

In the period 2007 to 2011, the total annual catch for the longline fleets that were undertaking fishing operations in Vanuatu decreased from 10,495.26mt (2007) to 4,947mt (2011). This catch reduction was a result of the effort decline that took place for this period of years (Figure 4 & Figure 5). For the Purse seine fleet vessels in the Vanuatu EEZ the annual catch estimates for this period also showed a substantial reduction from the 2007 levels of 71,281mt to 23,382mt in 2011. 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 2010 and 2011 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 2007-2011 periods followed by the Taiwanese fleet contributing only 11%. Catches for the Taiwanese fleet have been declining evidently since 2007 as a result of their large decline in effort as can be seen in Figure 5

The annual longline estimated tuna catch composition by weight for 2011, 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 2007 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.

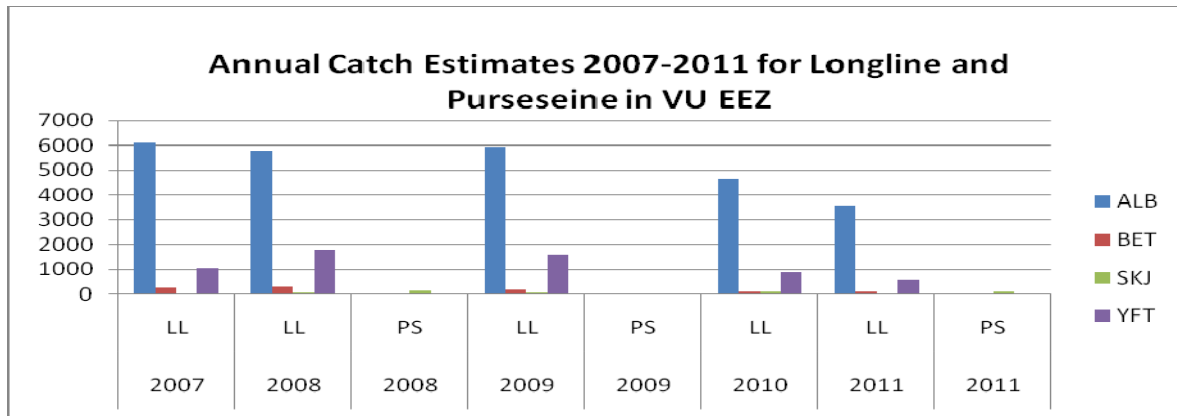
This also applies to the 2011 albacore catch which is estimated to exceed 3,500mt based on unraised data but is likely to have approached 7,000mt if it were raised.

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 91 thousand 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.

Figure 4 shows a steady but declining catch of albacore tuna by the long line fleet. Otherwise one of the US treaty purse seine vessel fished in 2008 taking just over 129mt of tuna like species and just over 111mt in 2011, which was more of skipjack than yellowfin and bigeye.

Figure 4. Annual Catch Estimates by the main foreign LONGLINE/Purse seine fleets active in the VANUATU EEZ for 2007 -2011



2.3 Annual distribution of fishing effort

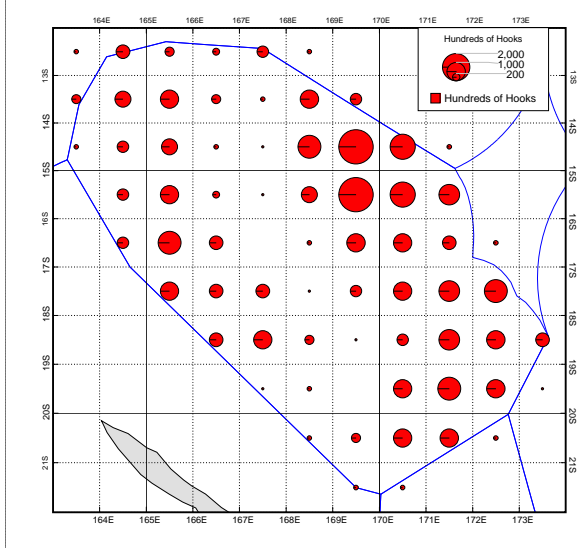
The fishing effort for the tuna fishery in Vanuatu occurred more in the eastern area of the EEZ which borders Fiji, Solomon Islands and the high seas enclave. This is probably due to economic reasons such as the closer proximity to canneries in American Samoa and Fiji.

The graphical representation of the distribution of fishing effort from the various fleets namely Chinese, Chinese Taipei and Fiji active in the Vanuatu EEZ during 2007 to 2011 is shown in Figure 4. From this effort distribution map, it can be seen that fishing was dominant within the latitudes 20N, 20S and 164E, 164W in this period.

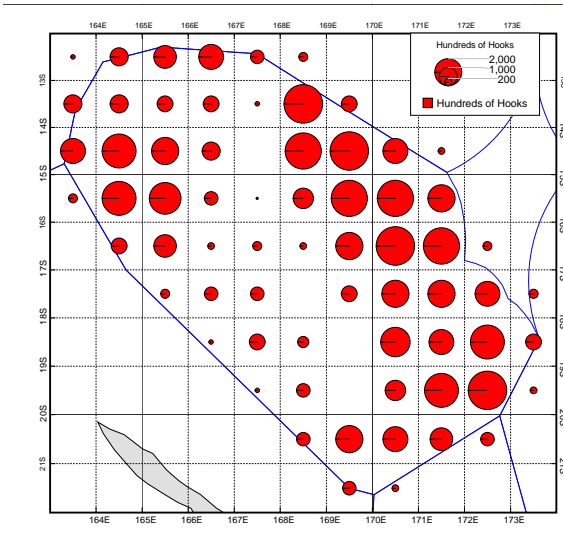
Figure 5. Annual distribution of EFFORT by the main foreign LONGLINE fleets active in the VANUATU EEZ for 2008 -2011

CHINESE FLEET

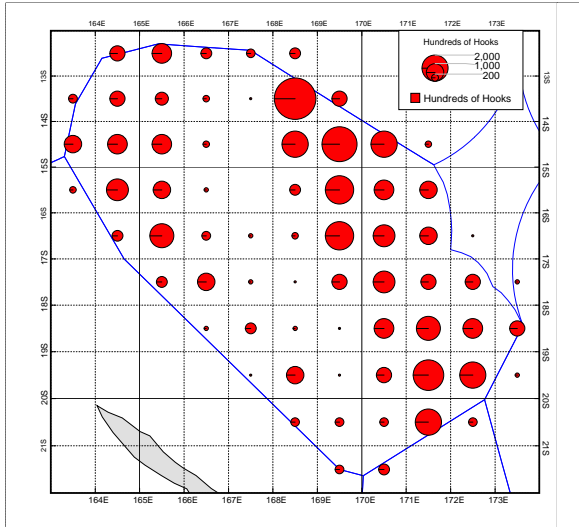
LL Effort 2008



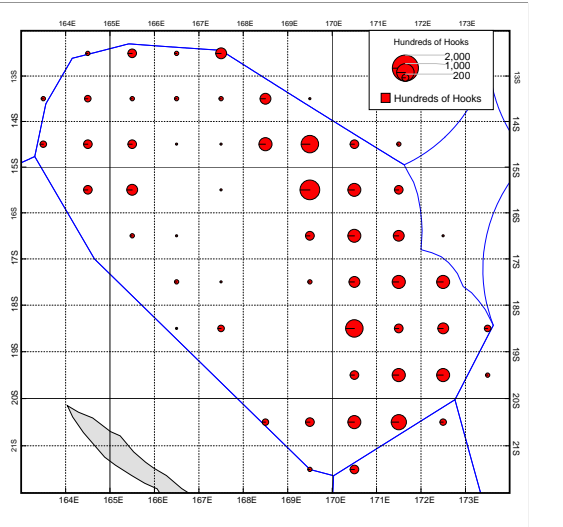
LL Effort 2009



LL Effort 2010

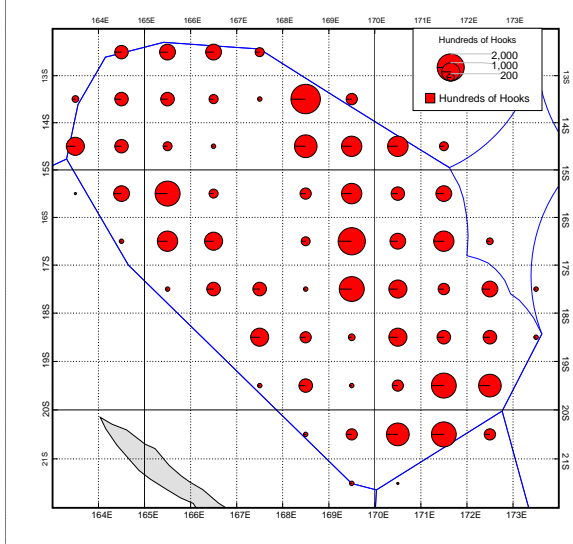


LL Effort 2011

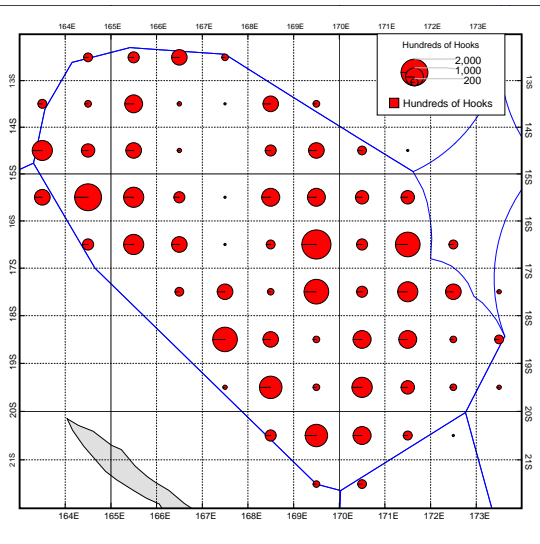


CHINESE TAIPEI FLEET

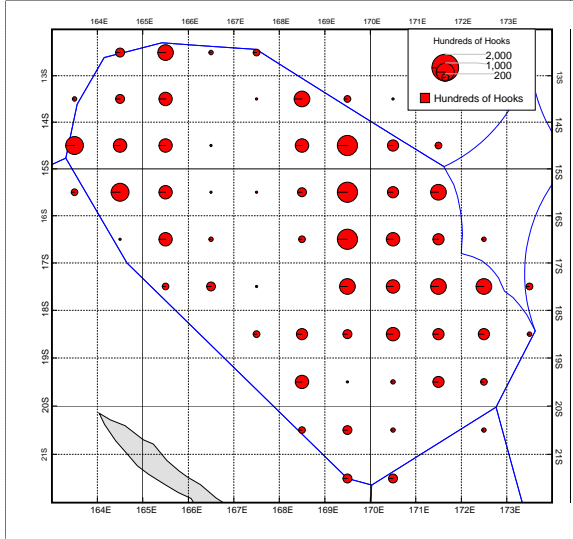
LL Effort 2008



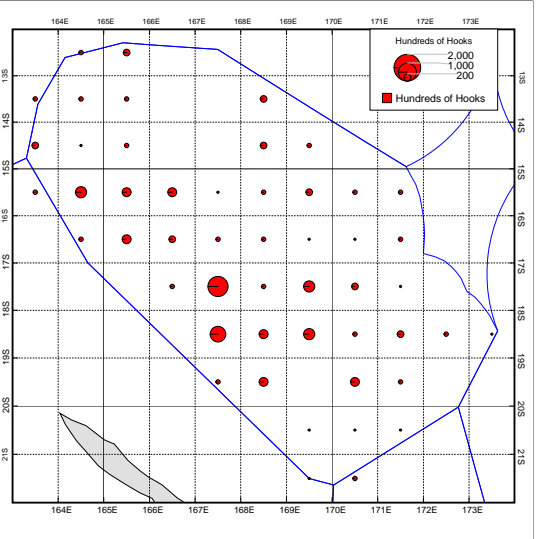
LL Effort 2009



LL Effort 2010

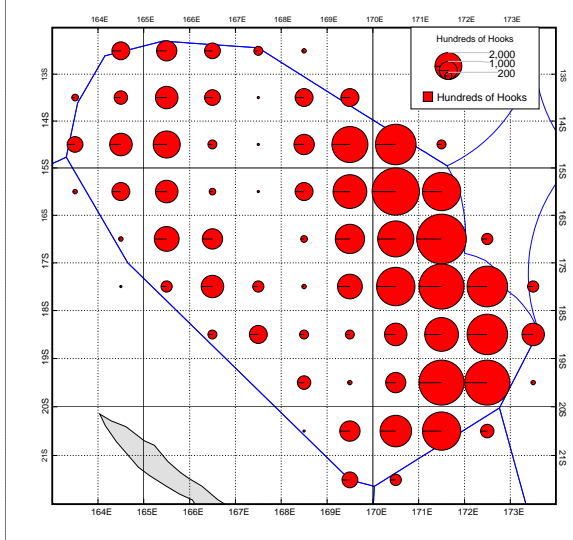


LL Effort 2011

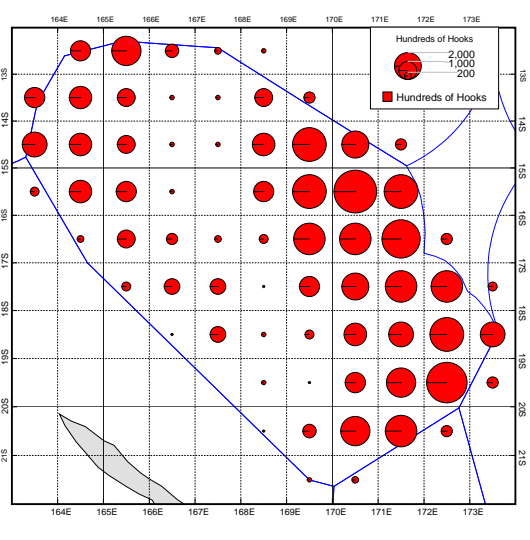


FIJI FLEET

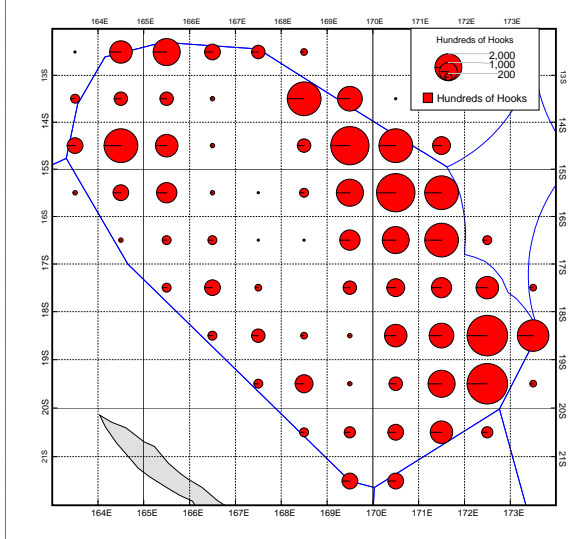
LL Effort 2008



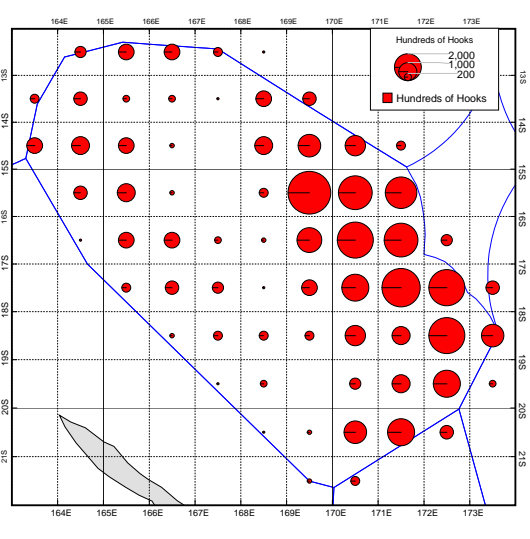
LL Effort 2009



LL Effort 2010



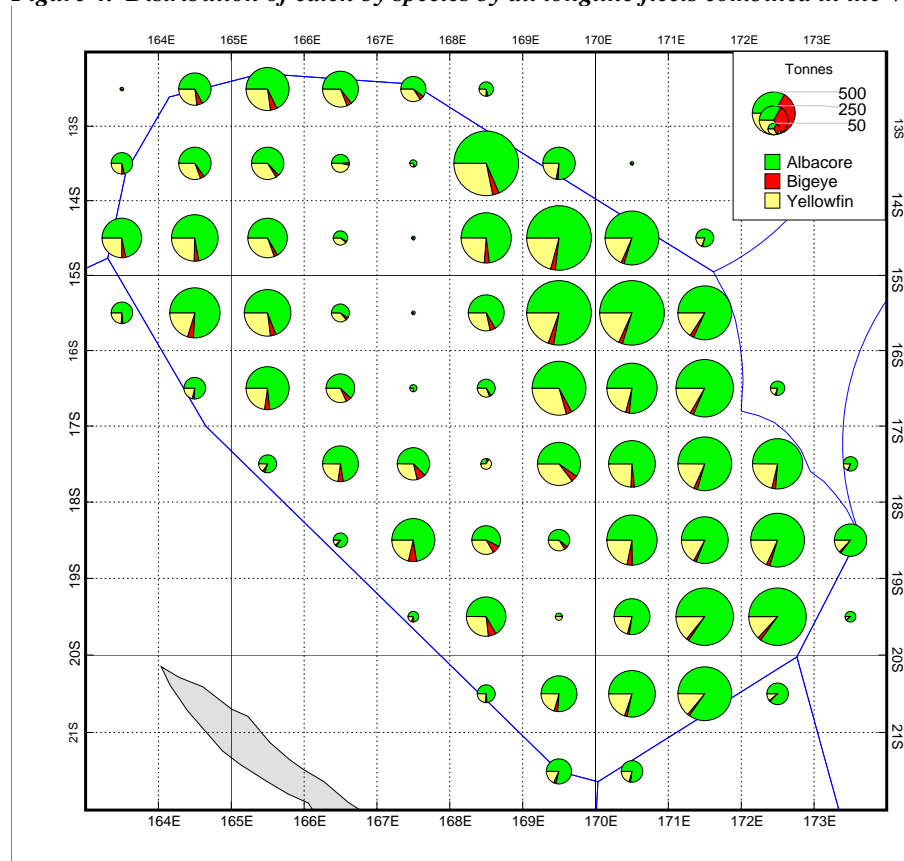
LL Effort 2011



2.4 Distribution of Catch by Species

The distribution of catch by species was similar to the distribution of effort for the same period, i.e. distributed more to the eastern part of the Vanuatu EEZ bordering the western and eastern EEZ boundaries of the Fiji and Solomon Islands including the high seas enclave between these EEZs (Figure 4). Catches were high in this area with albacore being the dominant species. Increased catches of bigeye tuna were observed in the western part of the Vanuatu EEZ compared to those on the eastern part. It is likely that the vicinity of the New Hebrides trench in the western EEZ may have some influence on the catchability of bigeye.

Figure 4. Distribution of catch by species by all longline fleets combined in the VANUATU EEZ, 2007–2011



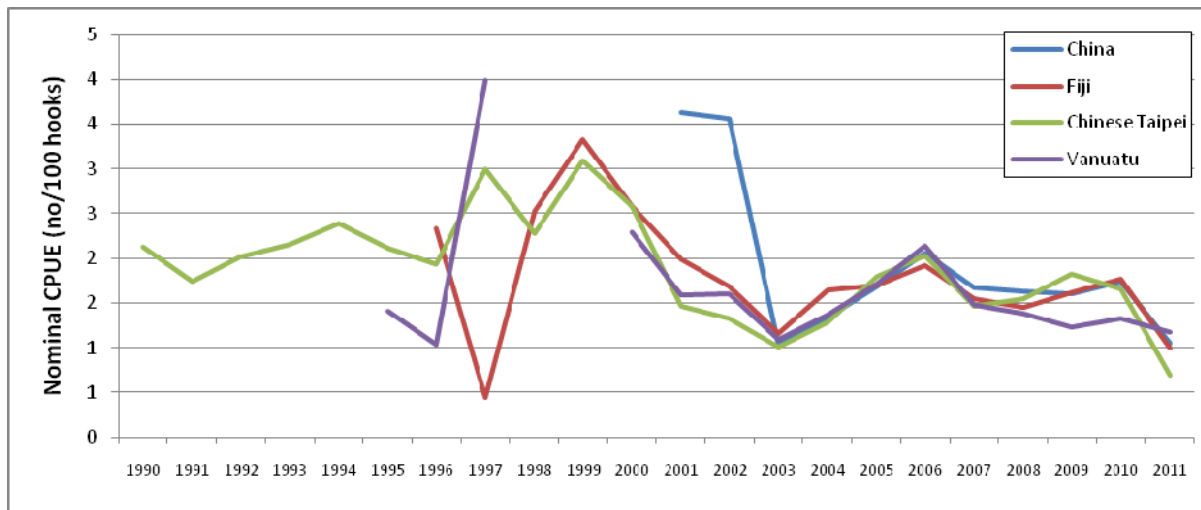
Historically, the Taiwanese fleet fished within the EEZ during the spring (October – December) and summer (January – March), with most of the effort occurring in spring. Albacore catch rates were moderate during spring and summer and lowest during fall. Yellowfin catch rates were highest at the advent of winter (July), but declined thereafter and remained low until fall.

2.5 Fishing Effort - Catch Per Unit Effort (cpue)

The cpue is measured as nominal cpue, which is numbers of fish per hundred hooks (no. / 100 hook). Recent cpue had been dominated by albacore and yellowfin. The Taiwanese fleet was the only fleet that showed a longer nominal cpue trend going back to 1991.

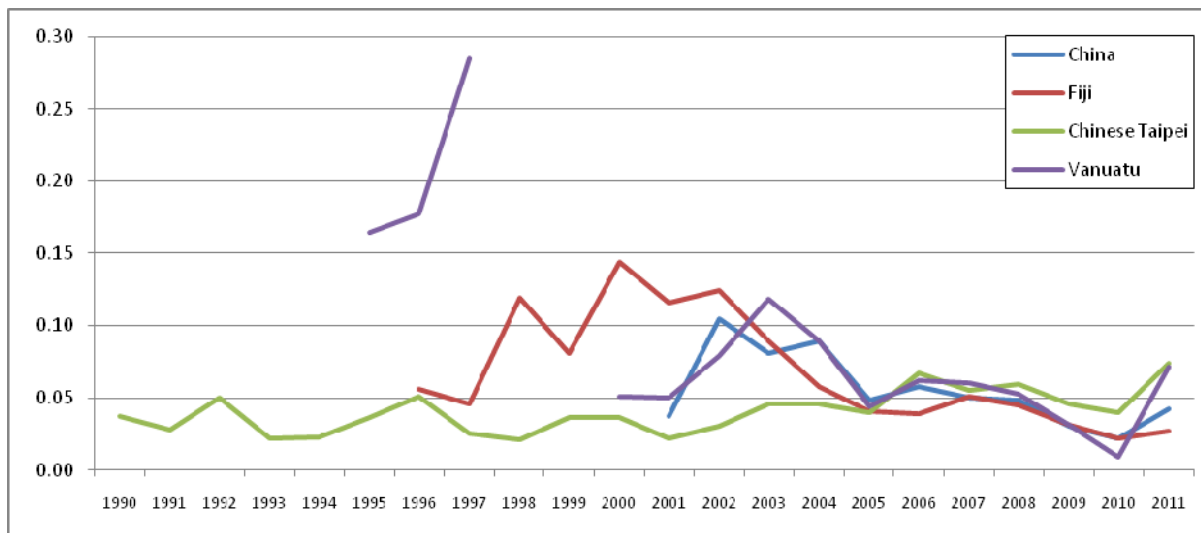
During late 1990s cpue for albacore as observed by the Taiwanese fleet was around 2 fish / 100 hooks. However since 1999 the cpue had fallen to 1 fish / 100 hooks as seen in 2003. This has however been recovered since late 2004 for all fleets with 1.6 - 1.8 fish/100 hooks being obtained in 2005

2) Trends in nominal catch rates of ALBACORE TUNA taken by longline fleets operating in the VANUATU EEZ, 1990-2011



The highest recorded nominal cpue for Albacore was 4 fish per 100 hooks in 1996. Recent nominal cpues have been variably low after that from 2003 onwards which showed a convergence trend among the fleets with cpues ranging from 1 to just over 2 fish per 100 hooks being achieved in 2006 through to 2011. This level of effort was similar to the 2000 level, but was still lower than the late 1990s.

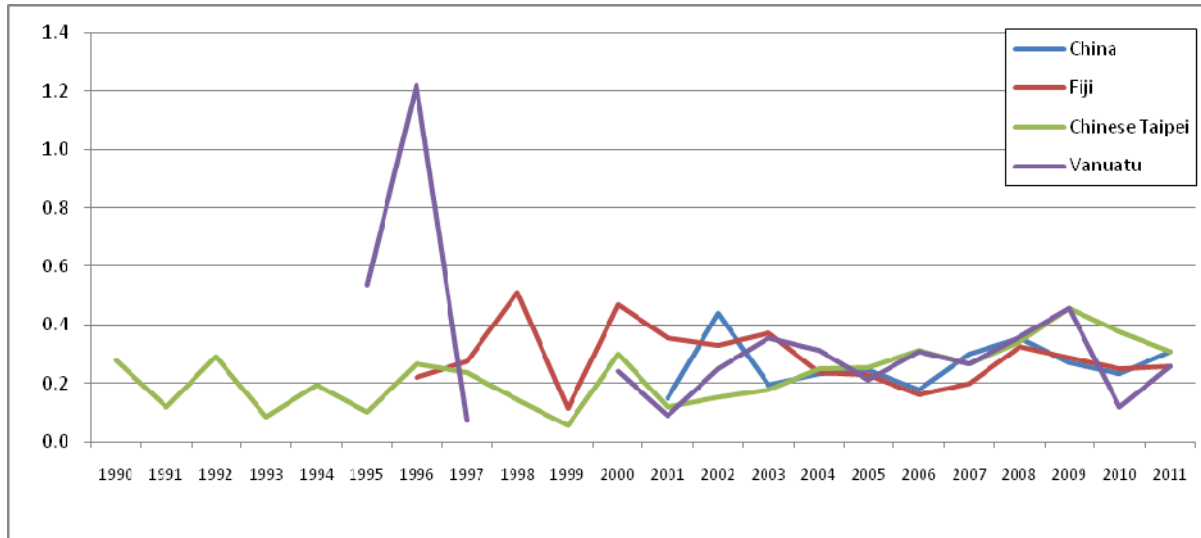
3) Trends in nominal catch rates of BIGEYE TUNA taken by longline fleets operating in the VANUATU EEZ, 1990-2011



With the exception of the Taiwanese fleet, nominal cpue rates for Bigeye in 2001 were highly variable between 0.04 to 0.13 fish per 100 hooks. Since then all fleets recorded between 0.03 to 0.05 fish per 100 hooks in 2005 with the Taiwanese displaying an increase in cpue from 2006. The Taiwanese cpue was flexible in the years 1997 to 2004 but increased to 0.06 fish per 100 hooks in 2006 and a further increase

to 0.07 fish per 100 hooks in 2011. In 2011 apart from the Taiwanese fleets alone, all other fleets recorded an increase in cpue rates between 0.03 to 0.07 fish per 100 hooks as compared to 2010 levels.

4) Trends in nominal catch rates of YELLOWFIN TUNA taken by longline fleets operating in the VANUATU EEZ, 1990-2011



The Yellowfin cpue shows a slightly flexible trend from the years 1996 to 2010 with the highest cpue recorded to be around 0.5 fish per 100 hooks in 1998 and 2000 by the Fiji fleet. Excluding other fleets the Chinese Taipei yellowfin cpue data was recorded way back as far as 1990 and has slowly increased from 0.2 fish per 100 hooks in 2004 to 0.4 fish per 100 hooks in 2009 and dropped to 0.3 fish per 100 hooks again in 2011. All other fleets experienced gradual rise and fall in cpue rates between the years 2001 to 2011 from rates between 0.1 to 0.4 fish per 100 hooks.

Research and Statistics

3.1 Observer program and Port sampling 2008-2011

Vanuatu has recently established its National Observer and Port Sampling Program in 2008. During the late 2008 and early 2009 to date, port activities in Vanuatu slowly began to gain pace; at the moment it is fully established with 100% observer coverage on Locally Based Foreign Vessels and also during port transshipment and unloading but there is still a very limited observer coverage in the Vanuatu fishery for these period for the Fiji based fleet operating in the Vanuatu EEZ.

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

Vanuatu urges and at the same time welcomes SPC, FFA, WCPFC and other fisheries organizations to carry out more research especially in its EEZ specifically on the Albacore stock as it is the most dominant target species as noticed in the period 2007-2011. This will enable our managers to determine the status and migration patterns of albacore stocks within the vicinity of the Vanuatu EEZ. The Vanuatu observer

program will continue to assist in collecting relevant scientific data and as much size based data as possible during landings to support every possible research that is projected for this fishery.

ANNEX 1

Table 2 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% | 0-50% |
| - | 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 unloadings 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.