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

WCPFC-SC8-AR/CNM-33 Rev1

INDONESIA

INDONESIAN FISHERIES IN WCPFC CONVENTION AREA

Indonesia's Application for Cooperating Non-Member Status
Of the Western and Central Pacific Fisheries Commission (WCPFC)

PART ONE



**MINISTRY OF MARINE AFFAIRS AND FISHERIES
THE REPUBLIC OF INDONESIA
2012**

**The Commission for the Conservation and Management of
Highly Migratory Fish Stocks in the Western and Central Pacific Ocean**

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

INDONESIA

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 2012	[NO/YES]
If no, please indicate the reason(s) and intended actions:	

SUMMARY

The national catch estimates for the three species of concern of the WCPFC in 2011 at FMAs 716 and 717 are as follows: skipjack –69.713 MT; yellowfin – 33.009 MT and bigeye – 3.889 MT. This catch estimate was obtained during the 3rd Tuna Catch Estimates Review Workshops in July 2012, the workshops also made progress to estimate national catch in other fisheries management areas ie FMAs 713, 714 and 715. Through West Pacific East Asia Oceanic Fisheries Management project (WPEA OFM) Port sampling activities have been continuing conducted since 2010 for three landing sites i.e Bitung, Kendari and Sodohoa, and recently in 2012 expand to Sorong Papua as a new port sampling. Currently there are 23 trained enumerators that assigned to conduct port samplings in Bitung, Kendari, Sodohoa and Sorong. Catch composition by species by gear resulted from port sampling in Bitung and Kendari have been successful used for reference and validation for past and recent national tuna catch estimate.

BACKGROUND

As an archipelagic nation, Indonesia covers with 5.8 million km of marine fisheries area, which consist of 3.1 million km of territorial water and 2.7 million km of Indonesian Exclusive Economic Zone. Geographical situation of marine fisheries areas provide interaction with the convention area of WCPFC at Sulawesi Sea as well as Indonesia EEZ in Pacific Ocean where presence of at highly migratory species is obvious.

Internationally, fisheries resources identified as highly migratory resources should follow several international and regional measures or guidelines, such as UNCLOS 1982, FAO-Compliance Agreement 1993, UN Fish Stock Agreement 1995 and FAO-Code of Conduct for Responsible Fisheries (CCRF).

Indonesian Law Number 31/2004 of Fisheries in Article 5 (2) stipulated that fishery management outside the Fishery Management Zones of the Republic of Indonesia shall be carried out in conformity with the laws and regulations, prerequisites, and/or generally accepted international standards. It is conducted to achieve the optimum and sustainable benefits while ensuring sustainable fishery resources (Article 6 (1)). Furthermore, Article 10 stipulated that the Government shall participate actively in the membership of anybody/institution/ organization at the regional or international levels with respect to the cooperation for regional and international fishery management.

Indonesia has ratified UNIA 1995 through Act. Number 21 year 2009. The objective of this ratification is to ensure the long-term conservation and sustainable use of straddling fish stocks and highly migratory fish stocks through effective implementation of the relevant provisions of the UNCLOS 1982.

ANNUAL FISHERIES INFORMATION

I. NOMINAL CATCHES IN FISHERIES MANAGEMENT AREA VIII

The nominal catches in FMAs 716 and 717 were obtained through a series of national tuna workshop catch estimates. The workshop was agree to use criteria and methodology as follow: 1). Use same methodology for 2007 for years 2005 and 2006; 2) Use average species composition for years 2005-2007 and apply to the total catch for years previous to 2004; 3). Use average species composition for years 2005-2009 and apply to the total catch for 2010; 4). Catch of albacore needstobe reviewed (possibly *Thunnus albacares*) 5). Catch of 2009 is revised; 7). Catch of 2011 is preliminary figure; 8). Percentage of catch composition of 2009 and 2011 using the RCFMC (P4KSI) Species Composition data by gear

Total tuna catch for all gears in FMAs 716 and 717 was estimated as below:

TOTAL TUNA CATCH -- ALL GEARS (FMAs 716 and 717)							
Year	Estimated Tuna Catch (metric tonnes)						Total tuna
	Skipjack	%	Yellowfin	%	Bigeye	%	
2000	20.759	68%	8.357	27,3%	1.492	4,9%	30.609
2001	26.759	68%	10.773	27,3%	1.924	4,9%	39.456
2002	41.761	68%	16.812	27,3%	3.002	4,9%	61.576
2003	61.600	68%	24.799	27,3%	4.429	4,9%	90.828
2004	62.292	68%	25.077	27,3%	4.478	4,9%	91.847
2005	62.422	64%	30.751	31,4%	4.814	4,9%	97.987
2006	73.196	71%	24.509	23,7%	5.723	5,5%	103.427
2007	68.118	68%	27.712	27,7%	4.081	4,1%	99.912
2008	68.761	67%	26.839	26,3%	6.574	6,4%	102.174
2009	75.381	61%	39.299	32,0%	8.157	6,6%	122.837
2010	75.656	72%	26.283	25,0%	3.356	3,2%	105.296
2011	69.713	65%	33.009	31,0%	3.889	3,6%	106.611

AVG 2007-2009	70.753	65,61%	31.283	28,67%	6.271	5,72%	108.308
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The 3rd annual catch estimate workshop 23-25 July 2012 in Jakarta hosted by DRFM-RCFMC and supervised by Mr Peter William from SPC has started to estimate other FMAs i.e 713, 714, 715 beside FMAs 716 and 717. The workshop noted that next year workshops should consider improvements in the estimation of annual catches by species and by gear and this is a major step in satisfying the obligations for the provision of scientific data to the WCPFC. Pre-result of the workshops is presented in the table below, while improvement of data provision is continuing conducted by DGCF.

FMAs	2011 estimates from DGCF statistics (in MT)						
FMAs 713,714,715	179.429	57%	97.017	31%	39.800	13%	316.246
FMAs 716, 717	63.558	60%	34.807	33%	8.228	8%	106.593
WCPFC Stat. Area	242.987	57%	131.824	31%	48.028	11%	422.839

The nominal catches in Fisheries Management Area 716 (IEEZ Sulawesi Sea) and 717 (IEEZ Pacific Ocean) is as the following table.

LONGLINE and PURSE SEINE

Year	Estimated Tuna Catch (metric tonnes) -LONG LINE						
	Skipjack	%	Yellowfin	%	Bigeye	%	Total tuna
2000			3.104	80,90%	731	19,10%	3.834
2001			4.001	80,90%	942	19,10%	4.942
2002			6.243	80,90%	1.470	19,10%	7.713
2003			9.209	80,90%	2.168	19,10%	11.377
2004			9.313	80,90%	2.192	19,10%	11.505
2005			10.762	83,00%	2.202	17,00%	12.964
2006			9.482	75,90%	3.011	24,10%	12.493
2007			10.371	83,90%	1.993	16,10%	12.364
2008			9.564	58,80%	6.704	41,20%	16.268
2009			18.221	82,00%	4.000	18,00%	22.221
2010			14.041	92,00%	1.221	8,00%	15.262
2011			13.750	89,0%	1.699	11,0%	15.449
Average 2005-2007			10.205	80,90%	2.402	19,10%	12.607
Year	Estimated Tuna Catch (metric tonnes)-PURSE SEINE						
	Skipjack	%	Yellowfin	%	Bigeye	%	Total tuna
2000	6.560	69,20%	2.662	28,10%	259	2,70%	9.482
2001	8.456	69,20%	3.432	28,10%	334	2,70%	12.222
2002	13.197	69,20%	5.356	28,10%	521	2,70%	19.074
2003	19.466	69,20%	7.900	28,10%	769	2,70%	28.135
2004	19.684	69,20%	7.989	28,10%	778	2,70%	28.451
2005	22.163	65,20%	10.873	32,00%	968	2,80%	34.004
2006	25.223	75,40%	7.237	21,60%	1.000	3,00%	33.460
2007	21.022	66,90%	9.653	30,70%	734	2,30%	31.409
2008	19.131	69,70%	7.218	26,30%	1.089	4,00%	27.438
2009	28.559	78,00%	6.591	18,00%	1.465	4,00%	36.614
2010	28.349	87,00%	3.259	10,00%	978	3,00%	32.585
2011	27.477	83,0%	4.618	14,0%	891	3,0%	32.986
Average 2005-2007	22.803	69,20%	9.254	28,10%	901	2,70%	32.958

POLE and LINE , HAND LINE

Year	Estimated Tuna Catch (metric tonnes) -POLE-AND-LINE						
	Skipjack	%	Yellowfin	%	Bigeeye	%	Total tuna
2000	8.414	78,40%	1.827	17,00%	484	4,50%	10.725
2001	10.846	78,40%	2.355	17,00%	624	4,50%	13.825
2002	16.926	78,40%	3.675	17,00%	975	4,50%	21.576
2003	24.967	78,40%	5.421	17,00%	1.438	4,50%	31.826
2004	25.247	78,40%	5.482	17,00%	1.454	4,50%	32.183
2005	22.209	73,10%	6.581	21,70%	1.606	5,30%	30.396
2006	28.385	80,60%	5.166	14,70%	1.673	4,70%	35.224
2007	28.064	81,00%	5.332	15,40%	1.250	3,60%	34.646
2008	30.448	82,50%	4.590	12,40%	1.855	5,00%	36.893
2009	23.339	73,20%	6.045	19,00%	2.515	7,90%	31.899
2010	29.416	87,00%	3.381	10,00%	1.014	3,00%	33.812
2011	26.458	77,0%	6.983	20,0%	787	2,0%	34.228
Average 2005-2007	26.219	78,40%	5.693	17,00%	1.510	4,50%	33.422
Year	Estimated Tuna Catch (metric tonnes) _HANDLINE (large-tuna)						
	Skipjack	%	Yellowfin	%	Bigeeye	%	Total tuna
2000			398	98,00%	8	2,00%	406
2001			513	98,00%	10	2,00%	523
2002			800	98,00%	16	2,00%	816
2003			1.180	98,00%	24	2,00%	1.204
2004			1.194	98,00%	24	2,00%	1.218
2005			1.393	98,00%	28	2,00%	1.421
2006			1.384	98,00%	28	2,00%	1.412
2007			1.147	98,00%	23	2,00%	1.170
2008			1.097	98,00%	35	2,00%	1.133
2009			3.256	99,00%	33	1,00%	3.289
2010			1.651	98,00%	34	2,00%	1.685
2011			1.658	96,0%	68	4,0%	1.726
Average 2005-2007			1.308	98,00%	26	2,00%	1.334

OTHERS (Troll, small-fish HL, gillnet, etc.)

Year	Estimated Tuna Catch (metric tonnes) _OTHERS (Troll, small-fish HL, gillnet, etc.)								
	Skipjack	%	Yellowfin	%	Bigeeye	%	Black marlin	%	Total tuna
2000	5.785	93,90%	367	5,90%	10	0,20%			6.162
2001	7.458	93,90%	473	5,90%	13	0,20%			7.943
2002	11.638	93,90%	738	5,90%	21	0,20%			12.397
2003	17.167	93,90%	1.088	5,90%	31	0,20%			18.286
2004	17.360	93,90%	1.100	5,90%	31	0,20%			18.491
2005	18.050	93,70%	1.142	5,90%	10	0,40%			19.202
2006	19.588	93,70%	1.240	5,90%	11	0,40%			20.838
2007	19.032	93,70%	1.209	5,90%	81	0,40%			20.322
2008	19.182	93,20%	1.245	5,90%	16	0,40%	21	0,50%	20.464
2009	23.484	81,50%	5.187	18,00%	144	0,50%	0	0,00%	28.814
2010	17.891	81,50%	3.951	18,00%	110	0,50%	0	0,00%	21.953
2011	15.778	71,0%	6.000	27,0%	444	2,0%			22.222
Average 2005-2007	18.890	93,90%	1.197	5,90%	34	0,20%			20.121

II. THE NUMBER OF FISHING VESSELS OPERATING IN IEEZ SULAWESI SEA AND IEEZ PACIFIC OCEAN

There are several fishing vessels and fishing gears operated in Indonesian Economic Exclusive Zone. The following tables illustrated the number of fishing vessels based on fishing gear and size of fishing gear (GT) during the period of 2010. Number of fishing vessels active in tuna fisheries in WCPFC Convention Area by gear and size class is provided below:

Gear	LONGLINE	2006-2008
Fleet	Indonesian FMA's 716 and 717	ND (No data available)

Size class (GRT)	2009	2010
-	0	nd
0-50	40	41
50-200	119	119
200-500	4	3
500+	0	3

Gear	POLE-AND-LINE	2006-2008
Fleet	Indonesian FMA's 716 and 717	ND (No Data)

Size class (GRT)	2009	2010
0-50	3	4
50-150	15	14
150+	0	0

Gear	PURSE SEINE	2006-2008
Fleet	Indonesian FMA's 716 and 717	ND (No data available)

Size class (GRT)	2009	2010
0-500	148	143
500-1,000	8	10
1,000-1,500	2	3
1,500+	0	0

Gear	TROLL	2006-2008 and 2010
Fleet	Indonesian FMA's 716 and 717	ND (No data available)

Size class (GRT)	2009	2010
0-10	20	nd
10-50	56	nd
50-200	12	nd
200-500	4	nd
500+		nd

Gear	TROLL	2006 - 2010
Fleet	Indonesian FMA's 716 and 717	ND (No data available)

III. DEVELOPMENTS/TRENDS IN THE FISHERY (CHANGES IN FISHING PATTERNS, FLEET OPERATIONS, TARGET SPECIES, LEVEL OF TRANSHIPMENT, ETC.)

Regarding the transshipment programme, during 2010 Indonesia fishing vessels did not allowed join the programme. However, during 2011 Indonesia fishing vessels has started join the transshipment programme. In 2011, there were 4 (four) fishing vessels joined the transshipment programme. Those fishing vessels are LINA, MINAKO, MINAFA and TOMIO. In detail the report of the transshipment programme is as shown in the table below:

No	Name of Fishing Vessel (Call sign)	Name of Recieving Vessels	NOTIFICATION			DECLARATION					
			Proposed Date and Location of Transshipment			Actual Transshipment					
			Date	Location	Total weight (Kgs)	Date	Location	Total weight (Kgs)	Master's Name FV	Master's Name Carrier	WCPFC Observer Name
1	LINA (YEUY)	TENHO MARU (YJQE5)	30 May 2011	High seas	105,103	30 May 2011	WCPFC	115,000	Brandi Susilo	Shikato Ishikawa	Affis, Kerem Betuwei
2	MINAFA (PNNQ)	TENHO MARU (YJQE5)	23 August 2011	High seas	89,475	-	-	-	-	-	-
3	MINAKO (YHVB)	TENHO MARU (YJQE5)	23 August 2011	High seas	64,000	-	-	-	-	-	-
4	MINAFA (PNNQ)	TENHO MARU (YJQE5)	6 September 2011	High seas	105,400	6 September 2011	WCPFC	97,588	Tjuk Arief Sunarjanto	Masamitsu Shirao	Eka Loloma Avok BEN
5	MINAKO (YHVB)	TENHO MARU (YJQE5)	5 September 2011	High seas	77,200	5 September 2011	WCPFC	74,500	Sarwono Sup	Masamitsu Shirao	Eka Loloma Avok BEN
6	TOMIO (YBMH)	TENHO MARU (YJQE5)	13 Oktober 2011	High seas	-	13 Oktober 2011	WCPFC	81,714	Paskah Halomoan	Masamitsu Shirao	Eka Loloma Avok BEN
7	LINA (YEUY)	HARU (H9AM)	23 Oktober 2011	High seas	82,044	25 Oktober 2011	WCPFC	95,060	Brandi Susilo	Masaki Shimizu	Ruben Vira Nako/Vanuatu
8	MINAKO (YHVB)	KAJHO MARU (YJQE4)	8 Desember 2011	High seas	130,655	8 Desember 2011	WCPFC	129,300	Sarwono Sup	Sumio Michiyama	Bule Noel Damiel
9	TOMIO (YBMH)	KAJHO MARU (YJQE4)	12 Desember 2011	High seas	84,188	11 Desember 2011	WCPFC	76,160	Paskah Halomoan	Sumio Michiyama	Bule Noel Damiel

IV. DISPOSAL OF CATCH (FRESH/FROZEN/OTHER)/MARKET DESTINATION (EXPORT/DOMESTIC)

In 2011, Indonesia exported tuna product (fresh, frozen and canned). Market destination of the export is Japan, United States, European Union, Canada, Korea, China and others countries. The detail of the Indonesia export of tuna product as shown in the table below:

No	Product	Volume (Kg)	Value (US\$)
		2011	2011
1	Fresh Tuna	13.332.109	88.026
2	Frozen Tuna/Skipjack	58.452.825	131.413.987
3	Canned Tuna (Others)	69.989.252	279.150.989
	Total	141.774.186	498.591.247

**) BPS-HS 9 Digit, processed by Directorate of Foreign Market Development – DG of Fisheries Product Processing and Marketing, MMAF Rep. of Indonesia.*

V. ONSHORE DEVELOPMENTS (PROCESSING PLANTS, SUPPORT FACILITIES, ETC.)

In order to support fish processing and export of the fish product, Indonesia has facilities for the fish processing. Indonesia has 17 processing unit for tuna in detail as follow:

Tuna Processing Unit

No	Province	Tuna/Skipjack Processing Unit
1	North Sumatera	4
2	West Sumatera	2
3	Banten	1
4	West Java	4
5	Jakarta	43
6	Central Java	1
7	East Java	12
8	Bali	32
9	West Nusa Tenggara	1
10	East Nusa Tenggara	3
11	North Sulawesi	35
12	Gorontalo	2
13	South Sulawesi	12
14	Southeast Sulawesi	4
15	Maluku	9
16	North Maluku	2
17	West Irian Jaya	1
	Total	168

**) Source: Directorate of Product Processing, 2011 – DG of Fisheries Product Processing and Marketing, MMAF Rep. of Indonesia.*

VI. SUMMARY OF OBSERVER AND PORT SAMPLING PROGRAMMES (SCIENTIFIC DATA)

Regarding the national observer programme, DGCF has organized national observer training since 2006. There are 78 persons (34 government officer and 44 ex-vessel crews) observers taken part. This training program was financed by Indonesia Government as well as OFCF Japan. However, Observer activity has not yet undertaken due to budget constraint. Indonesia also has prepare the national regulation concerning the observer.

VII. RESEARCH ACTIVITIES (TUNAS, OTHER SPECIES, SPECIES OF SPECIAL INTEREST, OCEANOGRAPHIC INFLUENCES, ETC.)

To improve conservation and management of highly migratory fish stocks in the West Pacific East Asia region, West Pacific East Asia Oceanic Fisheries Management project (WPEA OFM) has been developed. The project moreover focus on three countries (Indonesia, Philippines and Vietnam) to strengthen national capacities and international cooperation on priority trans-boundary concerns relating to the conservation and management of highly migratory fish stocks in the west Pacific Ocean and East Asia. Port sampling activities have been continuing conducted in 2011. In total there are 20 trained enumerators that assigned to conduct port samplings i.e. 12 enumerators in Bitung, 5 in Kendari and 3 enumerators in Sodohoa-Kendari. Port samplings in Bitung were held at PT Bitung Mina Utama (PT BMU), PT Bintang Mandiri Bersaudara (PT BMB), PT Sinar Pure Food (PT SPF), PT Perikani, PPS Bitung and PT Nutrindo Freshfood International (PT NFI). In Kendari and Sodohoa, samplings were conducted at PPS Kendari and TPI (Tempat Pendaratan Ikan)/PPI (Pusat Pendaratan Ikan) Sodohoa, respectively. Recently 3 new recruited and trained enumerator have assigned to conduct port sampling activities in PT Anindo Perkasa abadi and PT Citra Raja Ampat as a new sampling site in Sorong Papua.

FLEET

During 2010 DGCF has reported that 377 fishing vessels have registered in WCPFC. Fleet structure, GRT distribution are presented below:

Tabel 1. Indonesian fishing fleet structure registered in WCPFC.

NO	FLEET	NUMBER
1	Tuna Long Liner	163
2	Purse Seiner	139
3	Pole and Liner	16
4	Support Vessel	57
5	Non specified vessel	2
T o t a l		377

Source: Dit. DGCF 2010.

During 2011, the number of Indonesia fishing vessels flagged which were registered on the WCPFC Record of Fishing Vessels is about 401 fishing vessels (DGCF-DRFM 2012).

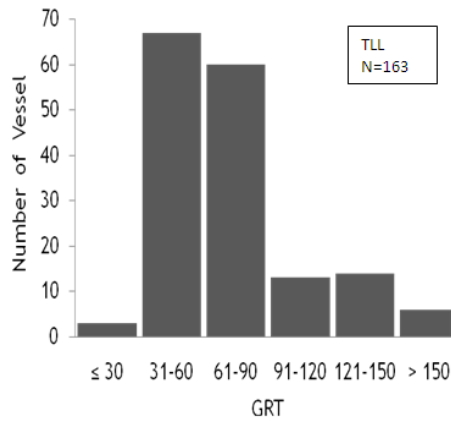


Figure 1. The GRT distribution of Indonesian tuna long line fleet registered on the WCPFC.

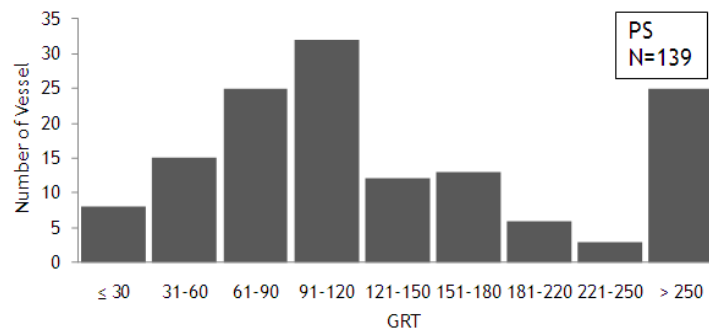


Figure 2. The GRT distribution of Indonesian purse seine fleet registered on the WCPFC.

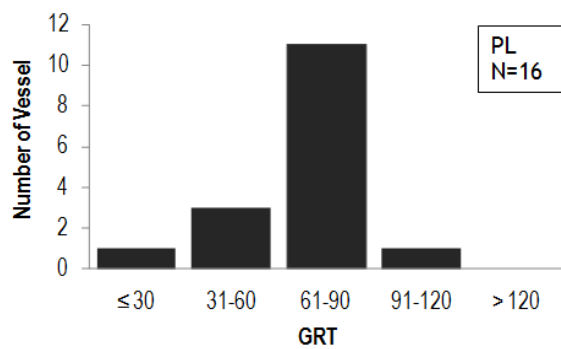


Figure 3. The GRT distribution of Indonesian pole and line fleet registered on the WCPFC

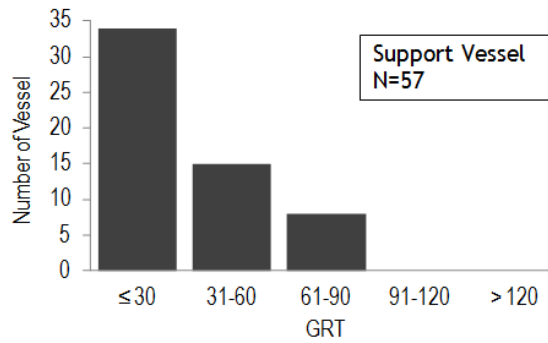


Figure 4. The GRT distribution of Indonesian pole and line fleet registered on the WCPFC.

Other fishing fleets that caught tuna in Indonesian Pacific waters are hand line and troll line fleet.

Fishing Ground

Base on the way points those recorded in the GPSs of each fleet as well as interview with their skippers, the fishing grounds as presented on the Figure 5 as below:

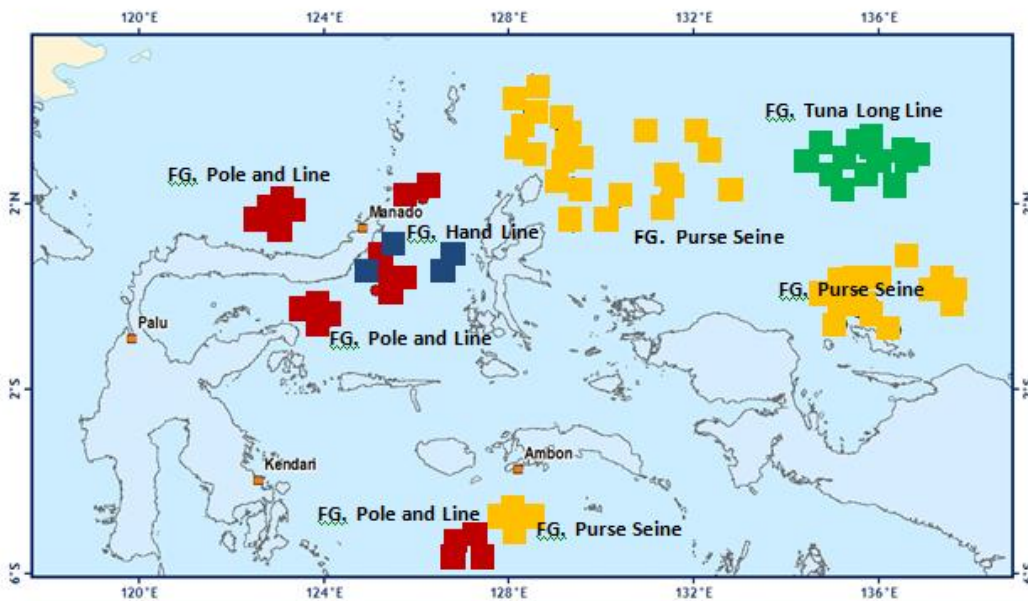


Figure 5. The fishing area of pole and line (indicated as red dots), hand line (blue dots), purse seine (yellow dots) and long line (green dots).

Catch Rate

The catch rate of purse seine, pole and line, tuna long line and hand line based at Bitung in 2011 were estimated 43.03 ton/vessel/month, 6.15 ton/vessel/month, 5.98 ton/vessel/month and 0.42 ton/vessel/month respectively. The catch rate of purse seine, pole and line, troll line and hand line based at Kendari in 2011 were estimated 12.32 ton/setting (day), 2.03 ton/day, 0.97 ton/day and 0.59 ton/day respectively.

Catch Composition

Port sampling result in Bitung year 2011 showed that the catch composition by gear were vary for instance purse seine in Bitung was skipjack (86 %), yellowfin tuna (11 %) and bigeye tuna (3 %). Pole and line was skipjack (94.2 %), yellowfin tuna (3.5 %) and bigeye tuna (2.3 %). Hand line was yellowfin tuna (96 %) and bigeye tuna (4 %). While catch composition of tuna long line was yellowfin tuna (89 %) and bigeye tuna (11 %). The catch composition is presented on Figure 6.

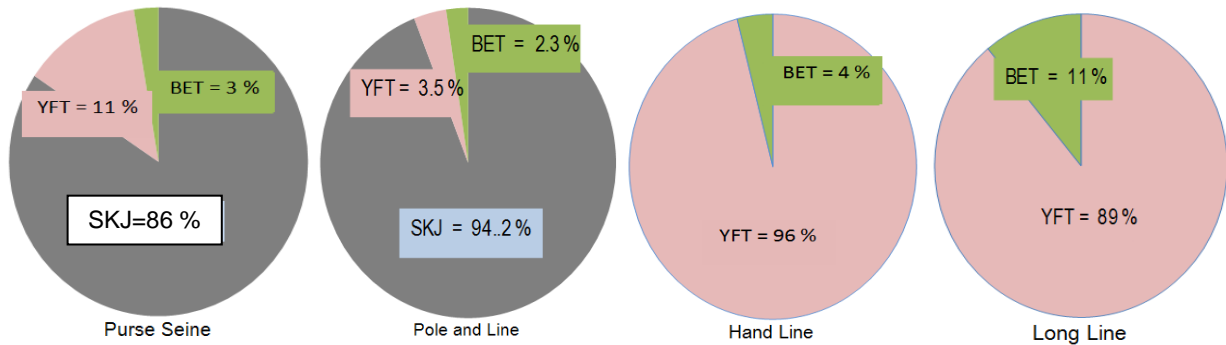


Figure 6. Catch composition of purse seine, pole and line, hand line and long line based at Bitung in 2011

Kendari's Port sampling in year 2011 showed that catch composition of purse seine was skipjack (69 %) yellowfin (26 %) and bigeye tuna (5 %). Pole and line was skipjack (67 %), yellowfin tuna (25 %) and bigeye tuna (8 %). Whilst catch composition of troll line was skipjack 70.9 %, yellowfin tuna 27.1 % and bigeye tuna 2.0 % (Figure 7).

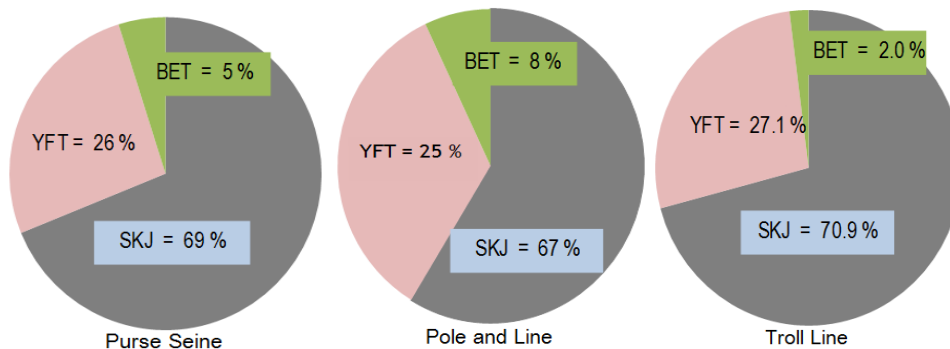


Figure 7. Catch composition of purse seine, pole and line, and troll line based at Kendari.in 2011.

Size Distribution

Skipjack (*Katsuwonus pelamis*)

Size (fork length-FL) distribution of skipjack (SKJ)-*Katsuwonus pelamis* caught by purse seine (PS) based at Bitung ranged 17-68 cm (mode 40-41 cm), while in Kendari ranged 18-65 cm (mode 42-43 cm). Skipjack caught by pole and line (PL) in Bitung ranged 14 -69 cm (mode 39-40 cm). Skipjack caught by troll line (TR) based at Kendari ranged 24-62 cm (mode 45-46 cm). size distribution by species and gear based at Bitung and Kendari in a yearly basis is presented on figure 8 while size distribution on quarterly basis is presented in appendix 1.

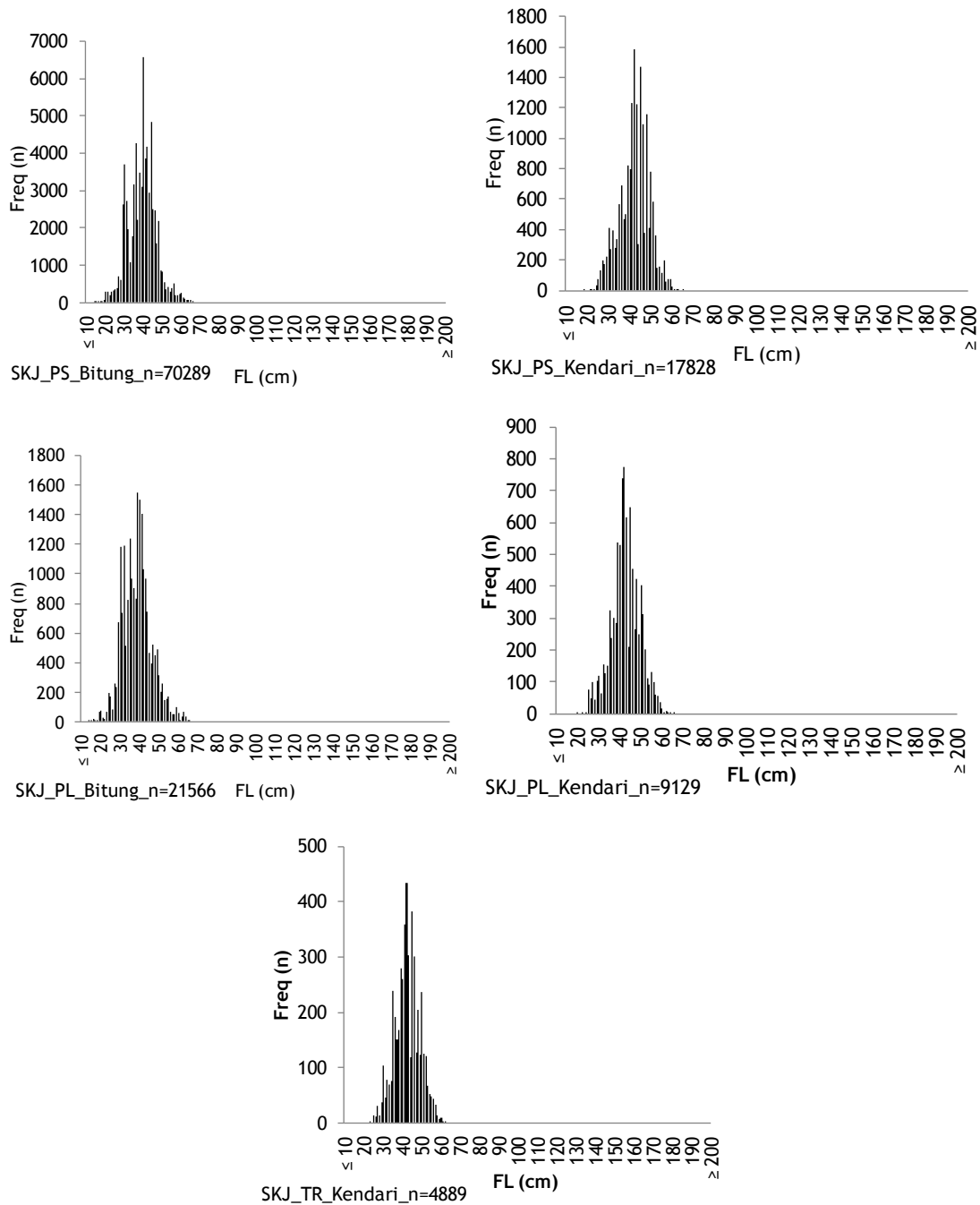


Figure 12. Size distribution (FL) of skipjack caught by purse seine, pole and line as well as troll line based at Bitung and Kendari.

Yellowfin Tuna (*Thunnus albacares*)

Size distribution of yellowfin tuna (YFT)-*Thunnus albacares* caught by purse seine based at Bitung ranged 16-66 cm (mode 40-41 cm) whilst in Kendari ranged 20-69 cm (mode 41-43 cm). Yellowfin tuna caught by pole and line based at Bitung ranged 13 -64 cm (mode 50-51 cm), whilst in Kendari ranged 21-63 cm (mode 41-42 cm). Yellowfin tuna caught by tuna long line (TLL) based at Bitung ranged 89-166 cm (mode 126 cm), while those caught by hand line (HL) ranged 106-162 cm (mode 128). Yellowfin tuna caught troll line (TR) ranged 25-67 cm (mode 42 cm),

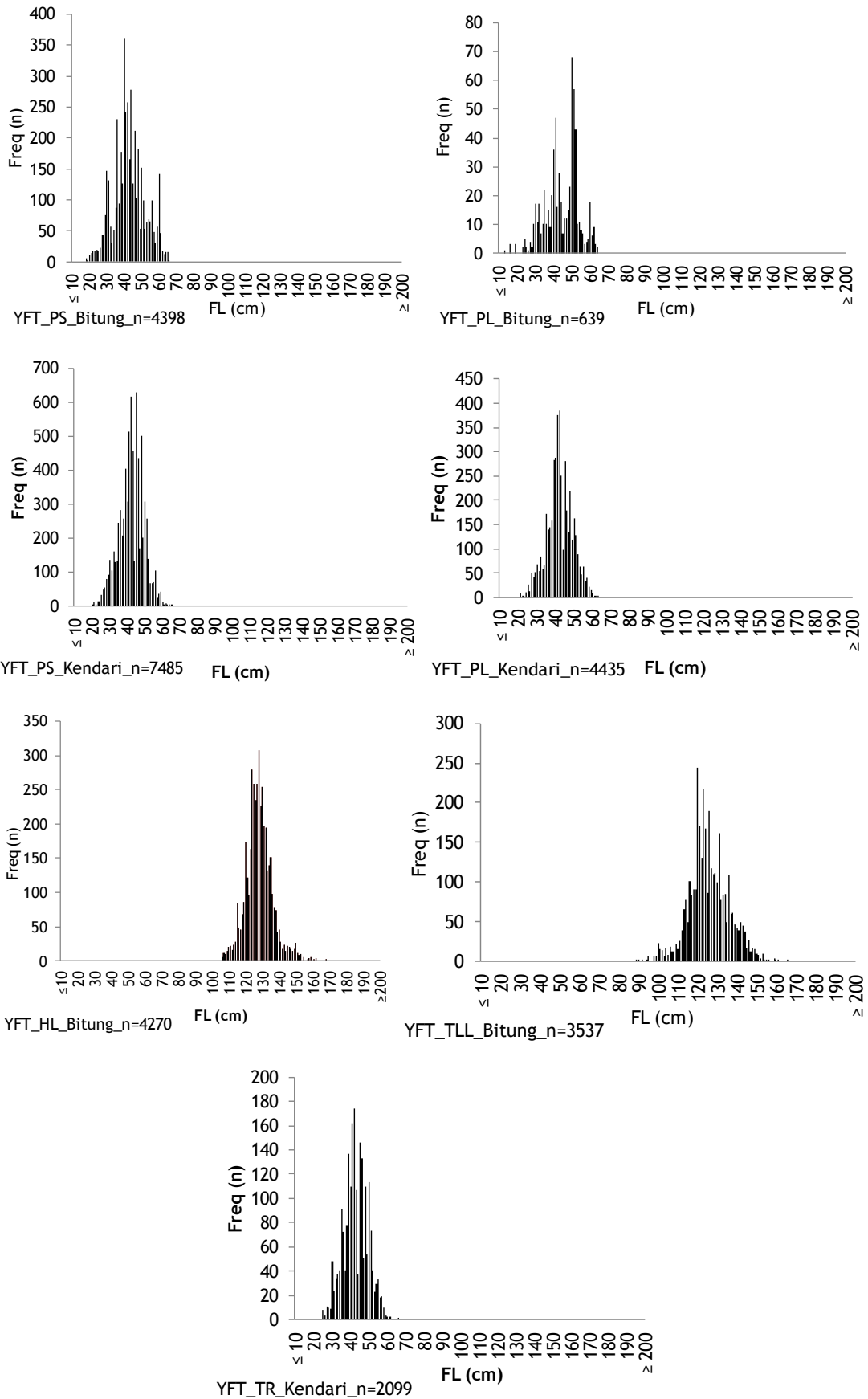


Figure 12. Size distribution (FL) of yellowfin tuna caught by purse seine, pole and line, hand line as well as troll line based at Bitung and Kendari.

Bigeye Tuna (*Thunnus obesus*)

Size distribution of bigeye tuna (BET)-*Thunnus obesus* caught by purse seine based at Bitung ranged 10-66 cm (mode 40cm) whilst in Kendari ranged 24-62 cm (mode 42 cm). Bigeye tuna caught by pole and line based at Kendari ranged 26 -65 cm (mode 40 and 45 cm). Whilst bigeye tuna caught by tuna long line (TLL) based at Bitung ranged 98-177 cm (mode 128 cm), and those caught by hand line (HL) ranged 98-180 cm (mode 120).

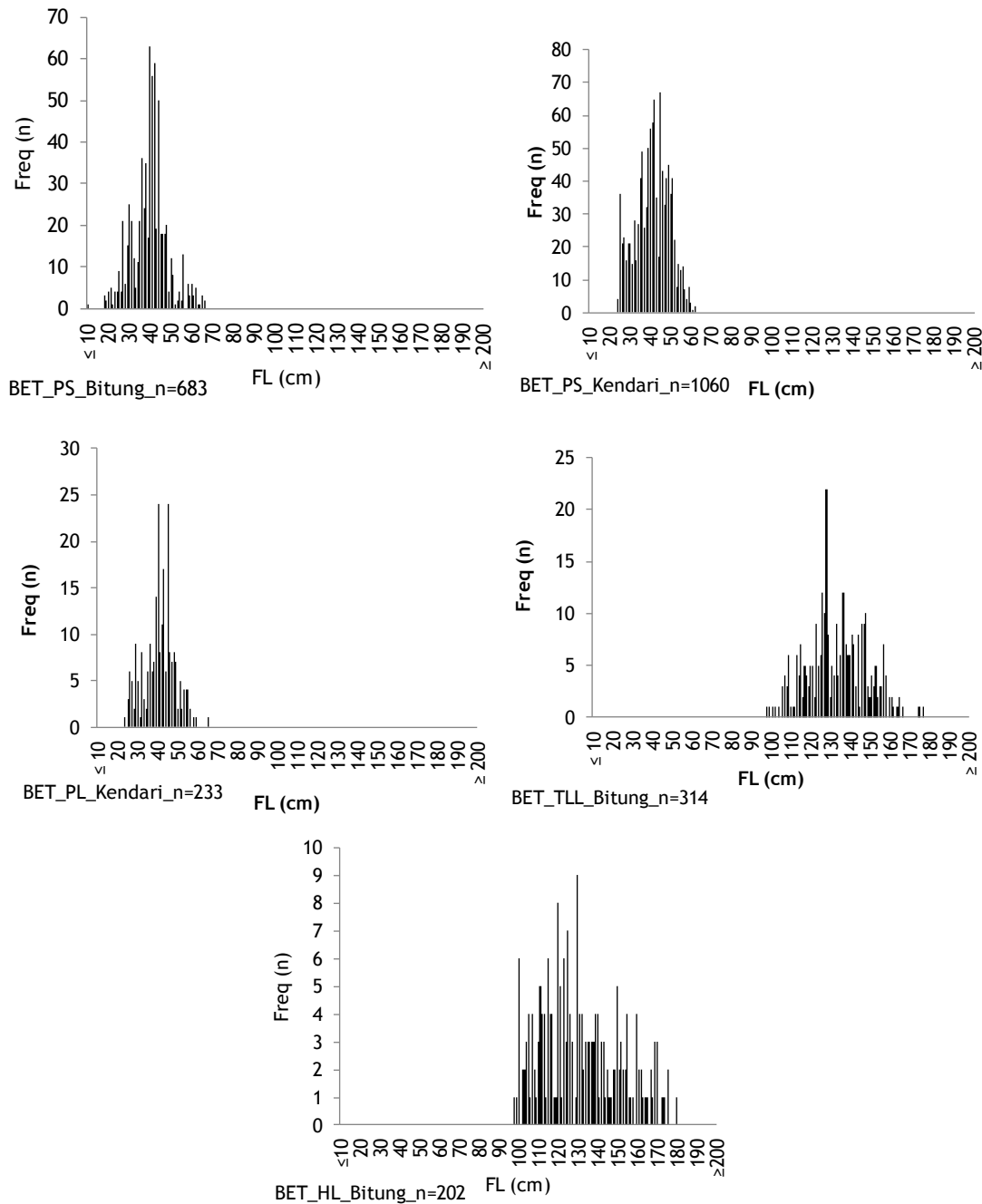


Figure 13. Size distribution (FL) of bigeye tuna caught by purse seine, pole and line, and hand based at Bitung and Kendari.

The catch rate of purse seine, pole and line, tuna long line and hand line based at Bitung in 2011 were estimated 43.03 ton/vessel/month, 6.15 ton/vessel/month, 5.98 ton/vessel/month and 0.42 ton/vessel/month respectively. The catch rate of purse seine, pole and line, troll line and hand

linebased at Kendari in 2011 were estimated 12.32 ton/setting (day), 2.03 ton/day, 0.97 ton/day and 0.59 ton/day respectively.

The catch composition of purse seine in Bitung was skipjack (86 %), yellowfin tuna (11 %) and bigeye tuna (3 %); pole & line was skipjack (94.2 %), yellowfin tuna (3.5 %) and bigeye tuna (2.3 %); hand line was yellowfin tuna (96 %) and bigeye tuna (4 %). Catch composition of tuna long line was yellowfin tuna (89 %) and bigeye tuna (11%). Catch composition of purse seine based in Kendari showed skipjack (69 %) yellowfin (26 %) and bigeye tuna (5 %); Pole and line was skipjack (67 %), yellowfin tuna (25 %) and bigeye tuna (8 %); troll line was skipjack (70.9 %), yellowfin tuna (27.1 %) and bigeye tuna (2.0 %). Mostly yellowfin and bigeye tuna caught by purse seine and pole and line are young fishes (juvenile), while adult tuna were mostly caught by tuna long line and hand line.

VIII. STATISTICAL DATA COLLECTION SYSTEMS IN USE

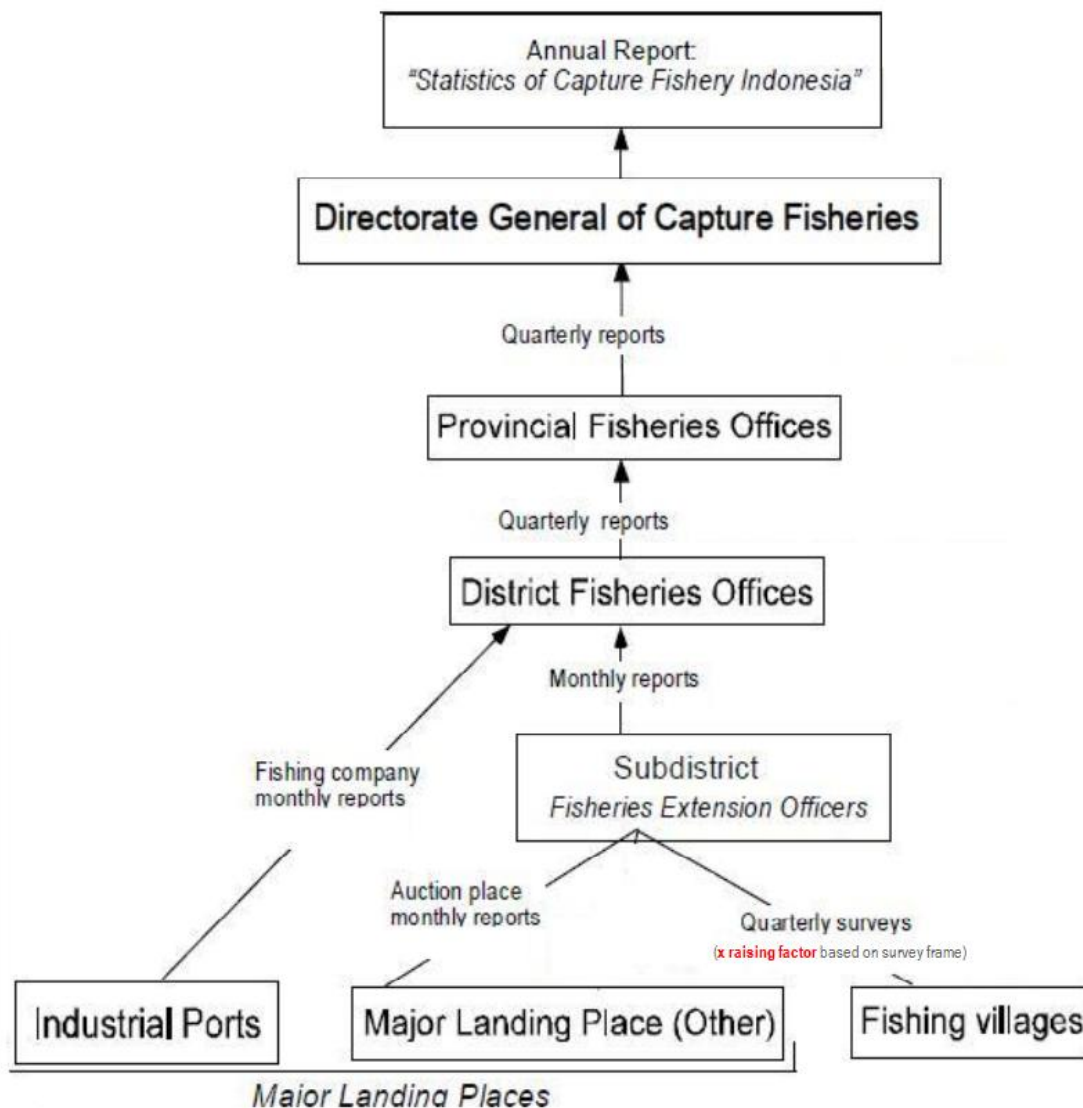
The statistical data collection system was designed on 1973. On 1974, Government started established and developed of statistical system. On 1976, Government implemented the survey method on national-wide, also developed survey frame based on the 1973 Agriculture Census. On the 1974 started the Potential Village system. On 1984-1989 Government always improve of data collection method. 1990 – Now, Government always improve data collection method, data collection form, data processing, species breakdown, fisheries management area, etc.

Organization and Job Duties

1. Directorate General of Capture Fisheries has responsible for designing survey method, supervision of the survey, tabulation/compilation, analyzing, and publishing of National Capture Fisheries Statistics
2. Province Fisheries Services has responsible for selecting sampling village at district level, supervision of the survey at the district level, tabulation/compilation, analyzing, and publishing of Provincial Capture Fisheries Statistics
3. District Fisheries Services has responsible for supervision, collecting of data, processing/estimation of the survey form, and reporting statistical fisheries data at district level.
4. Field Enumerators has responsible for collecting data in field.

The Generalized Procedure of Data Acquisition

- Refers to the landing. Fisheries data collection system sourced fishing port and industrial port/processor (census for powered boat) and sampling village (multiple raising factors for non-powered boat) at district level.
- The total catch from districts are aggregated per province and are validated and published in the annual fishery report by national government
- The generalized procedure of data acquisition shown on the flowchart bellow:



IX. DATA COVERAGE OF CATCH, EFFORT AND SIZE DATA FOR ALL SPECIES

Data coverage of catch, effort and size data for all species were obtained through port sampling programs in Bitung, Kendari and Sodohoa in 2011 as presented in appendix 1 West Pacific East Asia Oceanic Fisheries Management (WPEA OFM) progress report. Example of size data by gear by species in quarterly basis were presented in appendix 1.

Catch data base on fishing logbook not well implemented yet therefore it is required a scientific observer program In order to improve catch data quality and coverage.

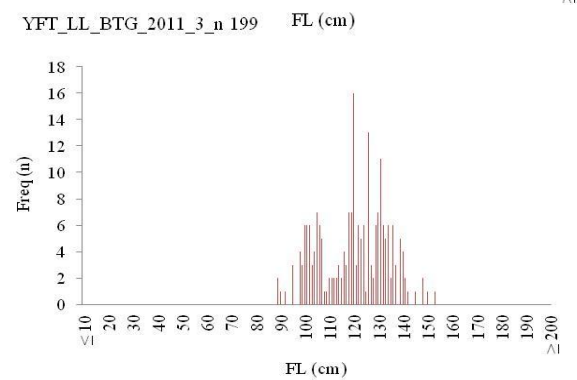
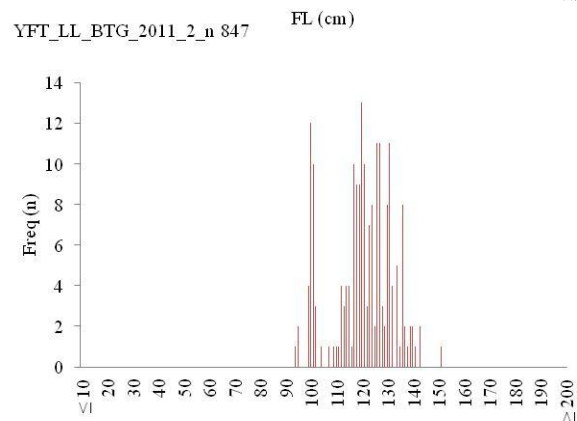
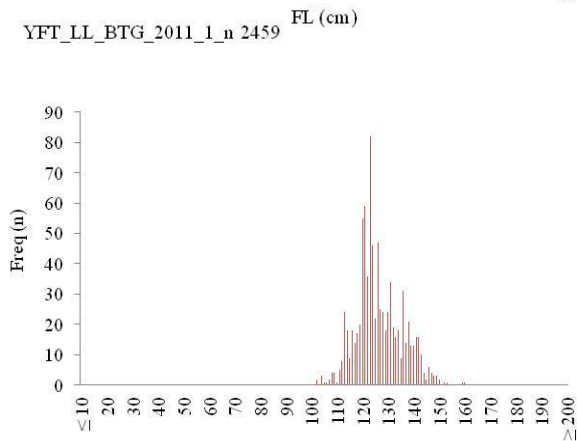
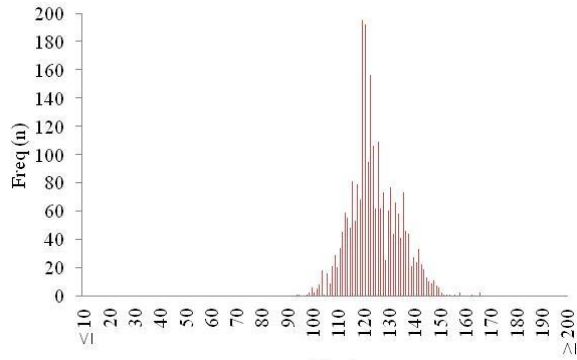
This Report prepared by: Fayakun Satria, Anung Widodo, Berbudi Wibowo and Gede Bayu (RCFMC-P4KSI); Erni Widjayanti, Saut tampubolon, Indras (DGCF-SDI)

Thanks to all enumerators in Bitung, Kendari and Sodohoa who spent their efforts and provide port sampling data under WPEA OFM project.

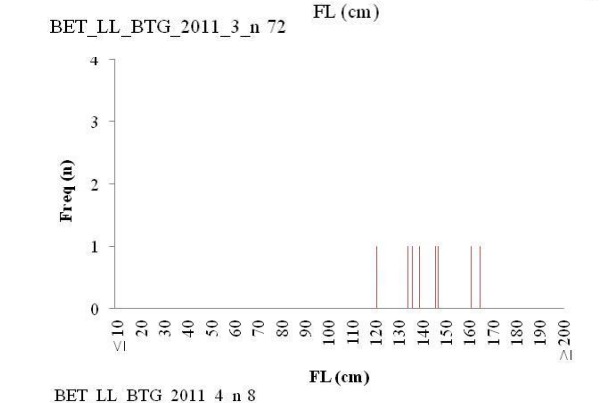
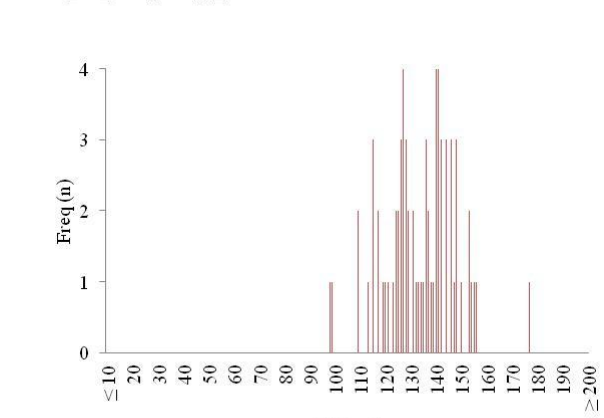
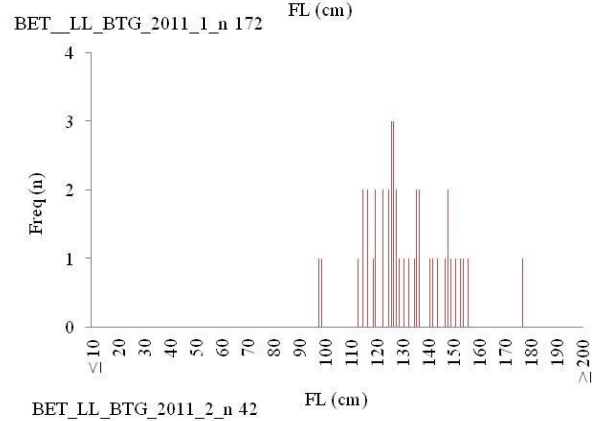
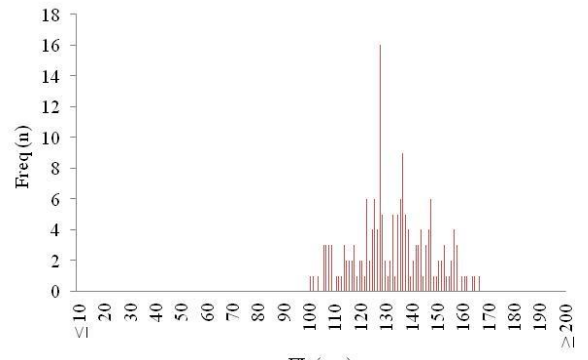
Appendix 1. Size distribution by gear by species

Size distribution of Tuna long Line Based at Bitung [quarterly basis]

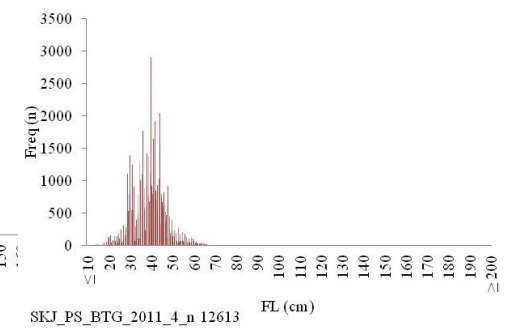
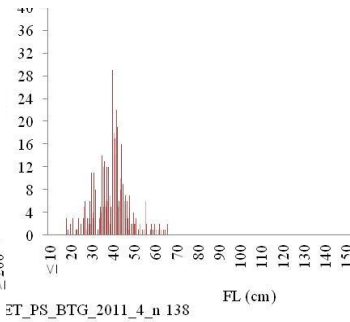
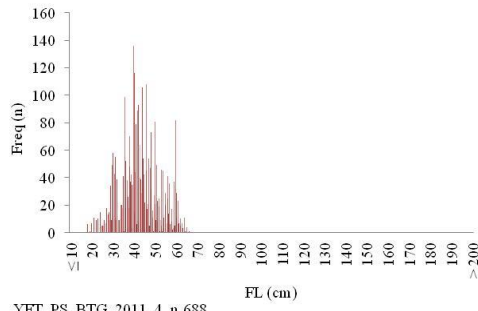
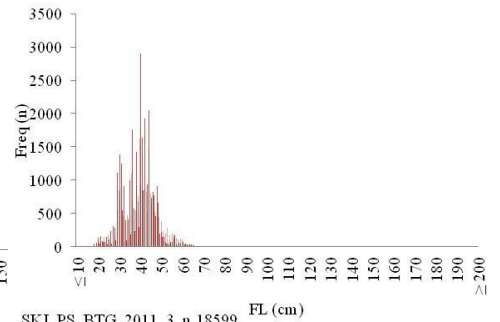
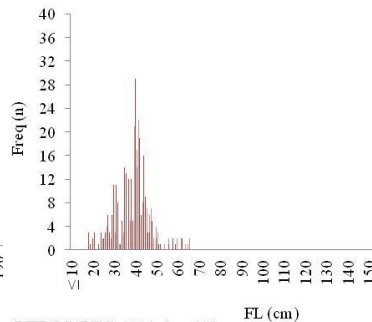
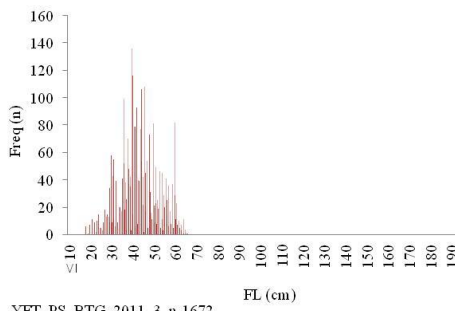
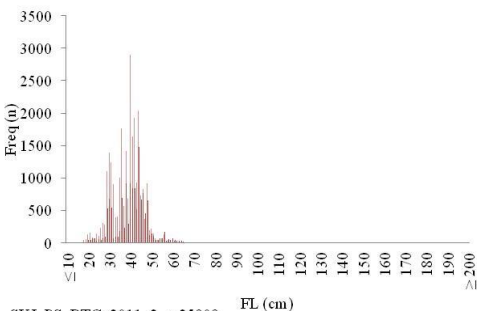
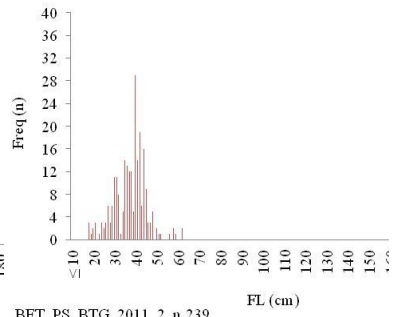
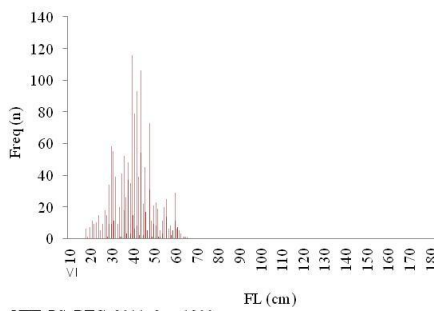
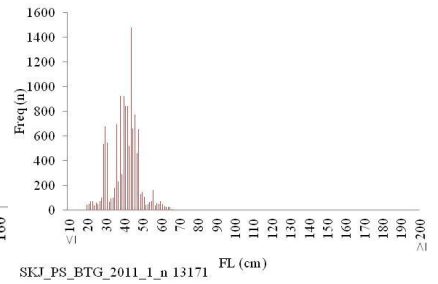
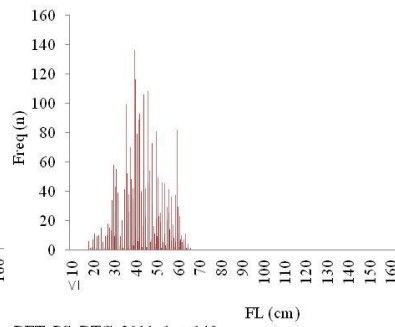
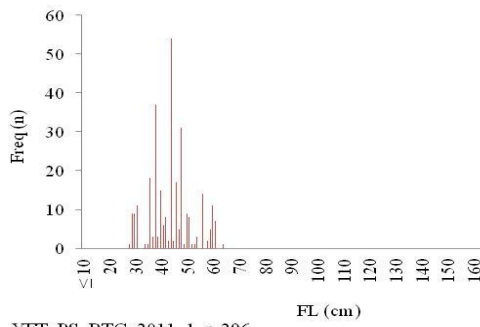
Yellowfin



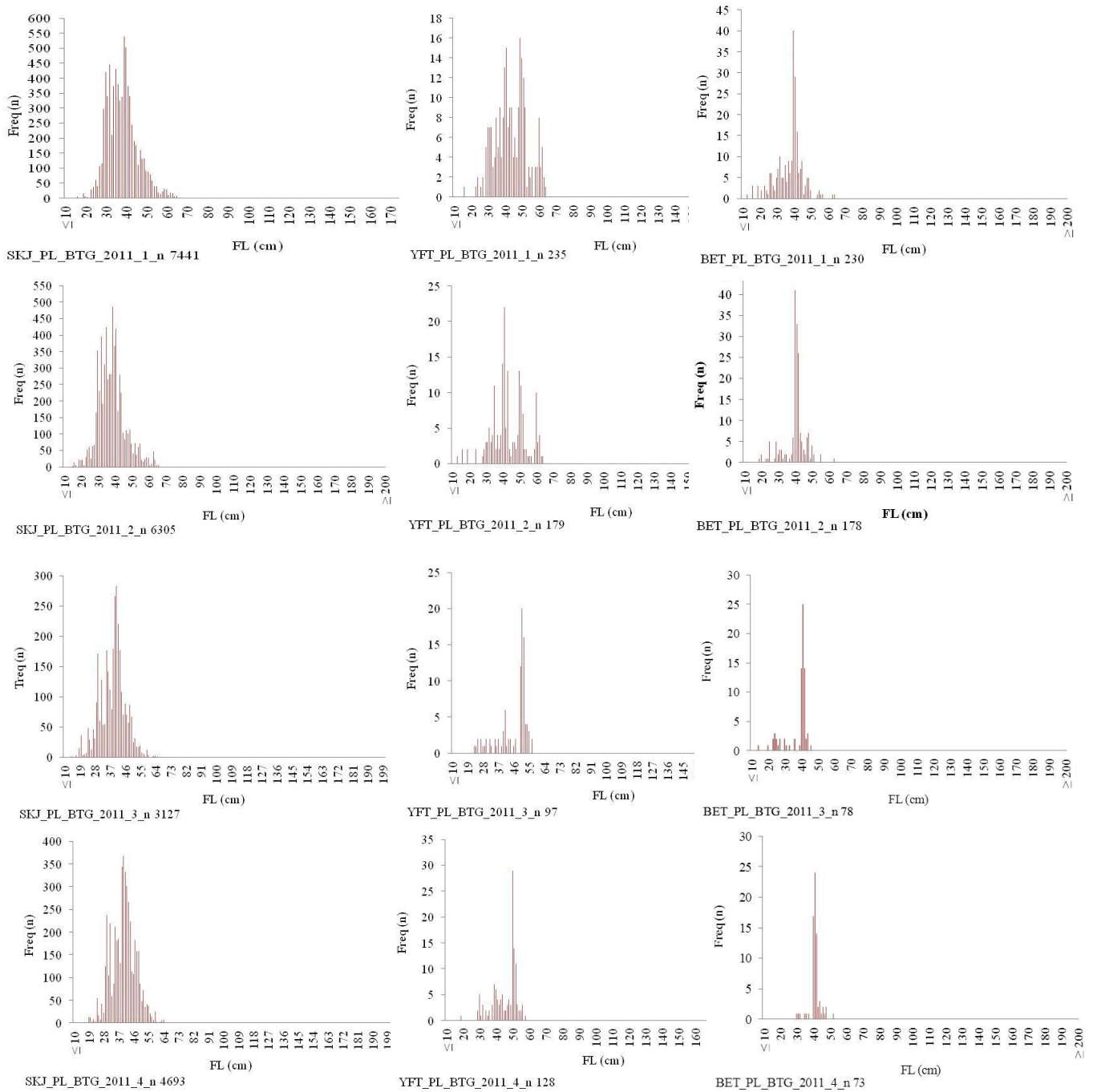
Bigeye



Size distribution of Catch of Tuna Purse Seine Based at Bitung

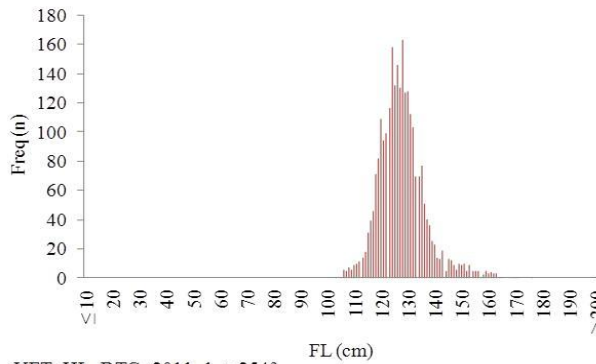


Size distribution of Tuna Pole & Line Based at Bitung [quarterly basis]



Catch of Tuna Hand & Line Based at Bitung [quarterly basis]

Yellowfin (YFT)



Bigeye (BET)

