



**SCIENTIFIC COMMITTEE  
FOURTEENTH REGULAR SESSION**

**Busan, Republic of Korea  
8-16 August 2018**

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

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**WCPFC-SC14-AR/CCM-09  
Rev 2 (7 August 2018)**

**INDONESIA**

**INDONESIAN FISHERIES  
IN  
WCPFC CONVENTION AREA**

**2018**

**SCIENTIFIC DATA TO BE PROVIDED TO THE COMMISSION**



**MINISTRY OF MARINE AFFAIRS AND FISHERIES THE REPUBLIC  
OF INDONESIA  
2018**

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

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

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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 2018	[YES]
If no, please indicate the reason(s) and intended actions:	

## **SUMMARY**

The Indonesia's national catch estimates 2017 for FMAs 713,714, 715, 716 and 717 are as follows: skipjack – 310.978 t; yellowfin – 144.960 t and bigeye – 10.331 t with total 466.268 t. The catch estimate was agreed during The 9<sup>th</sup> Tuna Catch Estimates Review Workshops on 22-23 June 2018 supported by the West Pacific East Asia Sustainable Management project (WPEA-SM).

Port sampling activities have been continuing for five landing sites i.e Bitung, Kendari and Sodohoa, Sorong, Majene and recently in May 2016 expand to Gorontalo to cover FMA 715,716 and Sikka Maumere for FMA 714 as a new port sampling. Currently there are 31 trained enumerators that assigned to conduct port samplings. 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**

Indonesia is an archipelagic nation located between the continents of Asia and Australia surrounded by two oceans, Pacific Ocean in the northern part and Indian Ocean in southern part. It consists of 17,508 islands and coast line of approximately 81,000 km<sup>2</sup>. Totally, Indonesia has 5.8 million km<sup>2</sup> of marine waters consisting of 3.1 million km<sup>2</sup> of territorial waters (<12 miles) and 2.7 million km<sup>2</sup> of EEZ (12-200 miles). 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 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). 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.

Indonesian Law Number 31/2004 which amended by law Number 45/2009 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 since late 2013 becomes a member of WCPFC with an outlook to improve international relations and help secure small-scale fisher livelihood. This report is provided as part of obligation as a member of WCPFC.

## ANNUAL FISHERIES INFORMATION

### A. NOMINAL CATCHES IN FISHERIES MANAGEMENT AREA

Nominal catch is evaluated at the Annual Tuna Fisheries Catch Estimates Review Workshops (ITFACE-9) on 22-23 June 2018. At this Workshop, national catch was estimated with the comparison data from port sampling, logbook, observer, Fishing Port Information Center (Pusat Informasi Pelabuhan Perikanan/PIPP) as well as catch certificate (Surat Hasil Tangkapan Ikan/SHTI).

### I. NOMINAL CATCHES IN FISHERIES MANAGEMENT AREA

Indonesia total tuna catch for all gears in Area FAO within WCPFC Statistical Area was estimated as below:

Table 1. Total tuna catch (Skipjack, Yellowfin, Bigeye) for all gear within WCPFC statistical area estimated for 2000-2017

Year	Skipjack	%	Yellowfin	%	Bigeye	%	Total tuna
	(SKJ)		(YFT)		(BET)		
2000	220.717	64%	105.317	31%	16.167	5%	342.20
2001	203.101	64%	96.911	31%	14.876	5%	314.88
2002	195.213	64%	93.147	31%	14.299	5%	302.65
2003	199.129	64%	95.016	31%	14.585	5%	308.73
2004	262.179	64%	125.100	31%	19.204	5%	406.48
2005	173.203	70%	63.625	26%	10.688	4%	247.51
2006	217.310	76%	55.920	20%	12.612	4%	285.84
2007	243.118	76%	67.773	21%	10.999	3%	321.89
2008	255.918	76%	63.055	19%	15.613	5%	334.58
2009	279.985	72%	92.887	24%	15.762	4%	388.63
2010	273.637	76%	73.846	21%	10.771	3%	358.25
2011	270.101	68%	114.442	29%	12.901	3%	397.44
2012	272.052	61%	151.789	34%	19.476	4%	443.31
2013	351.901	67%	146.646	28%	20.446	4%	518.99
2014	322.840	67%	136.210	28%	23.868	5%	482.91
2015	262.927	61%	146.196	34 %	22.953	5%	432.07
2016	336.455	64 %	160.092	31 %	28.344	5 %	525.238
2017 <sup>a)</sup>	310.978	67%	144.960	31%	10.331	2%	466.268
Fishing Port	28.058	55%	22.156	43%	924	2%	51.138
Non-Fishing Port	282.920	68%	122.804	30%	9.407	2%	415.130
AVG 2005-2017*)	274.648	69%	109.034	27%	16.520	4%	400.229

Note:

<sup>a)</sup> The data based on the Annual Catch Estimates Workshop on 22-23 June 2018.

The data for 2017 was agreed during the Indonesia's Annual Catch Estimates Workshop on 22-23 June 2018 attended by MMAF, Indonesia tuna fishing industries, tuna associations, Indonesia relevant NGOs, SPC and WCPFC representative, with amount of 466.268 ton. The total catch of SKJ, YTF and BET for all WCPFC statistical area and all gear has been further validated during the National Data Validation Workshop by MMAF organized from 2 to 4 July 2018 with updated total amount of 479.017 ton consist of SKJ 343.497 ton, YTF 101.748 ton, and BET 33.768 ton. This national report uses the data from the Annual Catch Estimates Workshop on 21-23 June 2018. The data for 2017, particularly for the catch composition by species and gear, will be reviewed at the Annual Catch Estimates Workshop in 2019.

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

Table 2. Total tuna catch (Skipjack, Yellowfin, Bigeye) for all gear within FMA 716 and 717 estimated for 2000-2017

<b>Year</b>	<b>Skipjack</b>	<b>%</b>	<b>Yellowfin</b>	<b>%</b>	<b>Bigeye</b>	<b>%</b>	<b>Total tuna</b>
2000	59.392	57%	39.144	37,3%	6.542	6,2%	105.078
2001	54.651	57%	36.020	37,3%	6.020	6,2%	96.691
2002	52.529	57%	34.621	37,3%	5.786	6,2%	92.936
2003	53.583	57%	35.316	37,3%	5.902	6,2%	94.800
2004	70.548	57%	46.498	37,3%	7.771	6,2%	124.816
2005	52.721	61%	28.653	33,4%	4.443	5,2%	85.817
2006	60.638	68%	23.628	26,4%	5.279	5,9%	89.546
2007	55.715	67%	24.367	29,1%	3.696	4,4%	83.777
2008	54.536	64%	24.024	28,4%	6.156	7,3%	84.717
2009	54.373	51%	44.281	41,8%	7.179	6,8%	105.833
2010	52.833	61%	30.509	35,5%	2.709	3,1%	86.051
2011	51.077	56%	36.665	40,1%	3.612	4,0%	91.353
2012	95.725	68%	37.125	26,5%	7.136	5,1%	139.985
2013	94.304	73%	24.454	19,0%	4.083	3,2%	122.842
2014	74.678	61%	41.510	34,0%	5.803	4,8%	121.991
2015	82.018	36%	61.925	27,4 %	6,413	2,8%	150,357
2016	97.416	61%	56.801	36,0%	4,830	3,0%	159.047
2017	37.260	82%	7.459	16%	771	2%	45.490
Fishing Port	1.230	73%	456	27%	3	0%	1.689
Non-Fishing Port	36.031	82%	7.002	16%	768	2%	43.801
AVG 2005-2017	66.407	63%	33.954	32%	4,778	5%	105.605

Table 3. Total tuna catch (Skipjack, Yellowfin, Bigeye) for all gear within FMA 713, 714, 715, 716, 717 and FAO area 71 estimated for 2017

2017*) estimates								
FMA	Skipjack	%	Yellowfin	%	Bigeye	%	Albacore	Total Tuna
<b>FMA 713,714,715</b>	273.718	65%	137.501	33%	9.559	2%	-	420.778
<b>FMA 716, 717</b>	37.260	82%	7.459	16%	771	2%	-	45.490
<b>FAO Area 71</b>	310.978	67%	144.960	31%	10.330	2%	-	466.268

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

### LONGLINE and PURSE SEINE

Table 4. Total tuna catch (Skipjack, Yellowfin, Bigeye) for Longline within FMA 716, 717 and high seas estimated for 2000-2017

Year	Skipjack	%	Yellowfin	%	Bigeye	%	Total tuna
2000			20.361	81,4%	4.648	18,6%	25.009
2001			18.736	81,4%	4.277	18,6%	23.013
2002			18.008	81,4%	4.111	18,6%	22.119
2003			18.369	81,4%	4.193	18,6%	22.563
2004			24.186	81,4%	5.521	18,6%	29.707
2005			10.762	83,0%	2.202	17,0%	12.964
2006			9.482	75,9%	3.011	24,1%	12.493
2007			10.371	83,9%	1.993	16,1%	12.364
2008			12.689	78,0%	3.579	22,0%	16.268
2009			18.221	82,0%	4.000	18,0%	22.221
2010			14.041	92,0%	1.221	8,0%	15.262
2011			13.750	89,0%	1.699	11,0%	15.449
2012			11.656	76,0%	3.681	24,0%	15.337
2013			8.271	74,3%	2.860	25,7%	11.130
2014			13.060	78,0%	3.673	22,0%	16.733
2015			18.509	83,3%	3.701	16,7%	22.210
2016			5.632	99,9%	8	0,1%	5.640
2017	3	2%	173	91%	13	7%	190
Fishing Port	3	2%	155	97%	1	0%	160
Non Fishing Port	-	0%	18	59%	12	41%	30

Average 2005-2017*	1	0%	11.278	82%	2.434	18%	13.712
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Notes on sources of data and methodology

1. Use same methodology for 2007 for years 2005 and 2006
2. Use average species composition for years 2005 -2013 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 needs to be reviewed (possibly *Thunnus albacares*)
5. Percentage of catch composition of 2009 - 2012 using the P4KSI Species Composition data by gear.
6. The total catch for FMA Areas 716 and 717 of 1978-2004 is assumed to be the same as the WCPFC Statistical Area catch
7. Increasing the number of provinces that provide data of catch per gear per species
8. Percentage of catch composition of 2014 and 2016 using the DGCF and WPEA species composition
9. Source data of fishing port (Bitung) from PIPP there were 5 LL < 30 GT operating in WPP 716, and data from SHTI 1 LL <30 GT
10. Source data of non-fishing port (Bitung) from Port Sampling there were 8 LL < 30 GT
11. Catch of 2017 is provisional data

Table 5. Total tuna catch (Skipjack, Yellowfin, Bigeye) for Purse seine gear within FMA 716, 717 estimated for 2000-2017

Year	Skipjack	%	Yellowfin	%	Bigeye	%	Total tuna
	2000	8.577	82%	1.735	16,6%	144	1,4%
2001	7.892	82%	1.596	16,6%	132	1,4%	9.621
2002	7.586	82%	1.534	16,6%	127	1,4%	9.248
2003	7.738	82%	1.565	16,6%	130	1,4%	9.433
2004	10.188	82%	2.061	16,6%	171	1,4%	12.420
2005	12.462	65%	6.114	32,0%	544	2,8%	19.120
2006	12.665	75%	3.634	21,6%	502	3,0%	16.802
2007	8.619	67%	3.958	30,7%	301	2,3%	12.877
2008	5.625	70%	2.122	26,3%	320	4,0%	8.068
2009	7.551	78%	1.742	18,0%	387	4,0%	9.681
2010	5.525	87%	635	10,0%	191	3,0%	6.351
2011	9.815	83%	1.656	14,0%	355	3,0%	11.825
2012	25.164	75%	8.198	24,4%	235	0,7%	33.597
2013	62.726	96%	2.614	4,0%	0	0,0%	65.340
2014	36.085	83%	7.000	16,1%	289	0,7%	43.374
2015	25.205	73%	8.247	9,0%	1.153	1,3%	34.604
2016	40.262	66%	20.546	33,5%	509	0,8%	61.317
2017	45.497	66%	22.749	33%	689	1%	68.935



Fishing Port	528	98%	13	2%	-	0%	541
Non-Fishing Port	4.352	100%	-	0%	-	0%	4.352
Average 2005-2017	22.862	76%	6.863	23%	421	1%	30.145

#### Notes on sources of data and methodology

1. 2005-2008 catch estimates determined by DGCF using their statistical data collection and estimation systems. Species composition was reviewed by the workshop, compared with other fishery data sources (e.g. RCCF port sampling data, Philippines port sampling data and industry estimates), and adjusted accordingly.
2. Use same methodology for 2007 for years 2005 and 2006
3. Use average species composition for years 2005-2013 and apply to the total catch for years previous to 2004
4. Use average species composition for years 2005 -2009 and apply to the total catch for 2010
5. Percentage of catch composition of 2009 - 2013 using the P4KSI Species Composition data by gear.
6. Percentage of catch composition of 2016 using DGCF Species Composition data by gear.
7. Purse seine FMAs 713-715 based on adjustment figure
8. From data SIPEPI in 2016 : PSPK = 110 vessels, PSPB = 21 vessels ( Total = 131 vessels)
9. From data SIPEPI in 2017 : PSPK = 90 vessels, PSPB = 29 vessels ( Total = 119 vessels)
10. Catch of 2017 is provisional data

#### **POLE and LINE**

Table 6. Total tuna catch (Skipjack, Yellowfin, Bigeye) for Pole and Line within FMA 716, 717 estimated for 2000-2017

Year	Skipjack	%	Yellowfin	%	Bigeye	%	Total tuna
2000	27.848	80,6%	5.264	15,2%	1.425	4,1%	34.538
2001	25.626	80,6%	4.844	15,2%	1.311	4,1%	31.781
2002	24.630	80,6%	4.656	15,2%	1.260	4,1%	30.547
2003	25.124	80,6%	4.750	15,2%	1.285	4,1%	31.159
2004	33.079	80,6%	6.253	15,2%	1.693	4,1%	41.025
2005	22.209	73,1%	6.581	21,7%	1.606	5,3%	30.396
2006	28.385	80,6%	5.166	14,7%	1.673	4,7%	35.224
2007	28.064	81,0%	5.332	15,4%	1.250	3,6%	34.646
2008	30.448	82,5%	4.590	12,4%	1.855	5,0%	36.893
2009	23.339	87,0%	6.045	10,0%	2.515	3,0%	31.899
2010	29.416	87,0%	3.381	10,0%	1.014	3,0%	33.812
2011	25.484	77,3%	6.725	20,4%	758	2,3%	32.968
2012	35.500	92,7%	1.277	3,3%	1.532	4,0%	38.309

2013	16.825	78,3%	4.284	19,9%	377	1,8%	21.486
2014	7.356	68,6%	3.316	30,9%	57	0,5%	10.729
2015	8.860	57,7%	2.280	14,9%	727	4,7%	11.868
2016	8.027	69,8%	3.165	27,5%	311	2,7%	11.502
2017	8.151	73%	2.903	26%	112	1%	11.166
Fishing Port	31	85%	3	9%	2	7%	37
Non Fishing Port	741	73%	263	26%	10	1%	1.014
Average 2000-2017	20.928	80%	4.234	16%	1.061	4%	26.223

#### Notes on sources of data and methodology

1. 2005-2008 catch estimates determined by DGCF using their statistical data collection and estimation systems. Species composition was reviewed by the workshop, compared with other fishery data sources (e.g. RCCF port sampling data, Philippines port sampling data and industry estimates), and adjusted accordingly.
2. Use same methodology for 2007 for years 2005 and 2006
3. Use average species composition for years 2005-2013 and apply to the total catch for years previous to 2004
4. Use average species composition for years 2005-2009 and apply to the total catch for 2010
5. Percentage of catch composition of 2009 - 2012 using the P4KSI Species Composition data by gear
6. Percentage of catch composition of 2013 using the DGCF species composition (RCFMC data of 2013 covered only 4 (four months)
7. Percentage of catch composition of 2016 using the CFR-WPEA species composition
8. Source data of fishing port (Bitung) for 2017 from PIPP there were 4 PL < 30 GT , 1 PL > 30 GT
9. Source data of non-fishing port for 2017 from Port Sampling there were 5 PL < 30 GT operating in 717 (Sorong)
10. Catch of 2017 is provisional data

#### **HANDLINE**

Table 7. Total tuna catch (Skipjack, Yellowfin, Bigeye) for Handline (Large tuna) within FMA 716, 717 estimated for 2000-2017

HANDLINE (FMAs 716, 717)							
Year	Estimated Tuna Catch (metric tonnes)						
	Skipjack	%	Yellowfin	%	Bigeye	%	Total tuna
2000			10.329	97,3%	284	2,7%	10.613
2001			9.504	97,3%	261	2,7%	9.766
2002			9.135	97,3%	251	2,7%	9.386
2003			9.319	97,3%	256	2,7%	9.575
2004			12.269	97,3%	337	2,7%	12.606

2005			4.054	98,0%	81	2,0%	4.136
2006			4.107	98,0%	82	2,0%	4.189
2007			3.497	98,0%	70	2,0%	3.567
2008			3.378	98,0%	68	2,0%	3.446
2009			13.085	99,0%	132	1,0%	13.218
2010			8.500	98,0%	173	2,0%	8.674
2011			8.534	96,0%	356	4,0%	8.890
2012			3.359	92,1%	290	7,9%	3.648
2013			3.801	96,0%	158	4,0%	3.960
2014			15.173	97,0%	461	3,0%	15.634
2015	6.118	18,3%	26.817	80,3%	476	1,2%	33.411
2016	14.994	57%	11.039	42%	396	1,5%	26.430
2017	3.937	68%	1.638	28%	190	3%	5.766
Fishing Port	647	70%	279	30%	0	0%	927
Non-Fishing Port	1.188	46%	1.350	52%	37	1%	2.575
Average 2005-	8.350	80%	8.230	79%	226	2%	10.382

#### Notes on sources of data and methodology

1. 2005-2008 catch estimates determined by DGCF using their statistical data collection and estimation systems. Species composition was reviewed by the workshop, compared with other fishery data sources (e.g. RCCF port sampling data, Philippines port sampling data and industry estimates), and adjusted accordingly.
2. FMA area 715 accounts for at least 5,000 t. more HL catch, but os not included here
3. Use same methodology for 2007 for years 2005 and 2006
4. Use average species composition for years 2005-2013 and apply to the total catch for years previous to 2004
5. Use average species composition for years 2005-2009 and apply to the total catch for 2010
6. Percentage of catch composition of 2009 - 2012 using the P4KSI Species Composition data by gear.
7. Percentage of catch composition of 2013 and 2015 using the P4KSI species composition of FMAs 716 -7 17
8. Handline (large tuna) WCPFC area based on adjustment figure
9. Handline in this year (2015) was combination of surface handline, deep handline, Kite line, vertical line
10. in year 2016, HL is combined catch surface HL (skipjack, small YFT/BET) and Deep HL (Large YFT/BET)

### **TROLL LINE**

Table 8. Total tuna catch (Skipjack, Yellowfin, Bigeye) for Troll Line within FMA 716, 717 estimated for 2013-2017

TROLL LINE (FMAs 716, 717)							
Year	Estimated Tuna Catch (metric tonnes)						
	Skipjack	%	Yellowfin	%	Bigeye	%	Total
2013	5.290	65,0%	2.447	30,1%	400	4,9%	8.138

2014	19.877	93,6%	915	4,3%	435	2,1%	21.228
2015	36.076	88,6%	1.788	4,4%	299	0,7%	38.163
2016	28.160	61.7%	13.929	30.5%	3.533	7,7%	45.622
<b>2017</b>	<b>1.837</b>	<b>60%</b>	<b>1.137</b>	<b>37%</b>	<b>95</b>	<b>3%</b>	<b>3.069</b>
Fishing Port	-	0%	-	0%	-	0%	0
Non-Fishing	1.136	100%	4	0%	2	0%	1.142
Average 2013-2017	18.248	79%	4.043	17%	953	4%	23.244

Notes on sources of data and methodology

1. Percentage of catch composition of 2013 using PPS Kendari species composition
2. Percentage of catch composition of 2014-2015 using DGCF species composition
3. Catch of 2017 is provisional data

### **GILLNET**

Table 9. Total tuna catch (Skipjack, Yellowfin, Bigeye) for Gillnet within FMA 716, 717 estimated for 2013 – 2017

GILL NET (FMAs 716 and 717)							
Year	Estimated Tuna Catch (metric tonnes)						
	Skipjack	%	Yellowfin	%	Bigeye	%	Total tuna
2013	2.312	83,3%	460	16,6%	2	0,1%	2.775
2014	3.351	85,0%	584	14,8%	6	0,2%	3.941
2015	1.046	20,2%	297	5,7%	2	0,03%	1.344
2016	1.522	91,7%	136	8,2%	2	0,1%	1.660
2017	1.480	97%	39	3%	-	0%	1.519
Fishing Port	-	0%	-	0%	-	0%	0
Non-Fishing Port	1.480	97%	39	3%	-	0%	1.519
Average 2013-2017	1.942	86%	303	13%	3	0%	2.248

Notes on sources of data and methodology

1. Percentage of catch composition of 2013 and 2016 using the DGCF species composition
2. Catch of 2017 is provisional data

### **OTHERS (Exclude Troll, small-fish HI, gillnet, etc.)**

Table 10. Total tuna catch (Skipjack, Yellowfin, Bigeye) for Other gear within FMA 716, 717 estimated for 2000 – 2017\*)

OTHERS (FMAs 716 and 717)							
Year	Estimated Tuna Catch (metric tonnes)						
	Skipjack	%	Yellowfin	%	Bigeye	%	Total tuna

2000	22.966	93,9%	1.455	5,9%	41	0,2%	24.463
2001	21.133	93,9%	1.339	5,9%	38	0,2%	22.511
2002	20.313	93,9%	1.287	5,9%	36	0,2%	21.636
2003	20.720	93,9%	1.313	5,9%	37	0,2%	22.070
2004	27.281	93,9%	1.729	5,9%	49	0,2%	29.058
2005	18.050	93,7%	1.142	5,9%	10	0,4%	19.202
2006	19.588	93,7%	1.240	5,9%	11	0,4%	20.838
2007	19.032	93,7%	1.209	5,9%	81	0,4%	20.322
2008	18.463	92,1%	1.245	6,2%	334	1,7%	20.042
2009	23.484	81,5%	5.187	18,0%	144	0,5%	28.814
2010	17.891	81,5%	3.951	18,0%	110	0,5%	21.953
2011	15.778	71%	6.000	27,0%	444	2,0%	22.222
2012	35.061	71,4%	12.635	25,7%	1.398	2,8%	49.094
2013	7.151	71,4%	2.577	25,7%	285	2,8%	10.013
2014	8.010	77,4%	1.462	14,1%	881	8,5%	10.352
2015	4.714	40,1%	3.988	33,9%	55	0,5%	8.757
2016	4.451	65%	2.345	34%	71	0,6%	6.876
2017	16.486	98%	227	1%	80	0%	16.794
Fishing Port	20	80%	5	20%	-	0%	25
Non-Fishing Port	27.134	82%	5.329	16%	706	2%	33.169
Average 2005-2017	16.012	82%	3.324	17%	300	2%	19.637

#### Notes on sources of data and methodology

1. 2005-2008 catch estimates determined by DGCF using their statistical data collection and estimation systems. Species composition was reviewed by the workshop, compared with other fishery data sources (e.g. RCCF port sampling data, Philippines port sampling data and industry estimates), and adjusted accordingly.
2. The workshop acknowledged that information on species composition for these gears is lacking and more work in data collection for these gears is required in the future.
3. % BET was reduced from 7.0% to 0.4% reflecting expected %BET to %YFT composition according to understanding that most of catch comes from the TROLL gear
4. Use same methodology for 2007 for years 2005 and 2006
5. Use average species composition for years 2005- 2012 and apply to the total catch for years previous to 2004
6. Use average species composition for years 2005 -2009 and apply to the total catch for 2010
7. % BET reduced from 7.0% to 0.4% reflecting expected %BET to %YFT expected from these gears
8. Percentage of catch composition of 2009 and 2010 using P4KSI sampling in Kendari of 2010
9. Catch of other gears for 2013 and 2014 excluded troll line, gill net and small-fish handline
10. Catch of 2017 is provisional data

Table 10 a. Catch estimate of Sharks in FMAs 716 and 717, 2016-2017 (metric ton)

Year	<i>Centrophoridae, Squalidae</i> <b>Dogfishes (DGZ) + Others</b>	<i>Carcharhinus longimanus</i> <b>Oceanic Whitetip (OCS)</b>	<i>Carcharhinus falciformis</i> <b>Silky shark (FAL)</b>	<i>Galeocerdo cuvier</i> <b>Tiger Sharks (TIG)</b>	<i>Sphyrna spp</i> <b>Hammerheads sharks (SPN)</b>	<i>Priocance glauca</i> <b>Blue Sharks (BSH)</b>	<i>Alopias spp</i> <b>Thresher sharks (THR)</b>	<i>Isurus spp</i> <b>Mako sharks (MAK)</b>
2016	365	0	92	0	5	0	59	174
2017	52*	1	1**	0	2	0	6	2

Notes:

1. First time in 2016 for estimating total catch of sharks from national fisheries data statistics
2. \*) subject to be further clarified, source of data from Surveillance unit of MMAF and CFR
3. \*\*) source of data from one data (CDSI-MMAF) and CFR
4. All catches of sharks were fully utilized by the fishers as source for livelihood.

## II. THE NUMBER OF FISHING VESSELS OPERATING IN IEEZ SULAWESI SEA AND IEEZ PACIFIC OCEAN, 2013-2017

Table 11. Number of fishing vessel operating in EEZ FMA 716 and 717, by size and gear

Gear	Size Class (GT)	2017	2016	2015	2014	2013
Longline (in EEZ FMA 716 and 717)	0-50	0	1	35	42	41
	5 1-200	1	0	92	95	104
	201-500	0	0	0	0	2
	500+	0	0	0	0	0
Pole and Line (in EEZ FMA 716 and 717)	0-50	27	28	9	4	6
	51-150	19	32	22	32	49
	150+	0	0	0	0	0
Purse seine (in EEZ FMA 716 and 717)	0-500	103	118	111	132	131
	50 1-1,000	0	0	6	5	2
	1,001-1,500	0	0	0	0	0
	1,500+	0	0	0	0	0
Handlines (in EEZ FMA 716 and 717)	0-10	0	0	0	0	0
	11-50	9	15	0	1	1
	51-200	0	0	0	2	7
	201-500	0	2	1	0	0

Gear	Size Class (GT)	2017	2016	2015	2014	2013
	500+	0	0	0	0	0
Troll line (in EEZ FMA 716 and 717)	0-10	0	0	0	0	0
	11-50	0	0	0	0	0
	51-200	0	0	0	0	0
	201-500	0	0	0	0	0
	500+	0	0	0	0	0
Gillnet (in EEZ FMA 716 and 717)	0-10	0	1	0	0	0
	11-50	2	0	2	8	2
	51-200	0	0	0	0	0
	201-500	0	1	1	3	1
	500+	0	0	1	1	1
Others, excludes troll line, handlines, gillnets (in EEZ FMA 716 and 717)	0-10	0	0	65	22	9
	11-50	0	0	55	61	53
	51-200	1	0	60	67	52
	201-500	0	1	1	1	0
	500+	0	0	0	0	0
<b>TOTAL</b>		<b>162</b>	<b>199</b>	<b>461</b>	<b>476</b>	<b>461</b>

Note:

Active vessels based on the licenses issued by Central Government

### III. THE INDONESIAN FISHING FLEET STRUCTURE REGISTERED IN WCPFC 2017

Table 12. Number of Indonesia fishing fleet by gear and type registered in WCPFC (2015-2017)

NO	FLEET	2015	2016	2017*
1	Long Liner Tuna long liner and long liner	153	0	0
2	Purse Seiner	124	4	6
3	Pole and Liner	28	7	9
4	Gillnetter	2	0	0
5	Handliner	4	0	0
6	Support Vessel	55	0	0
7	Non Specified vessel	2	0	0
8	Fish Carrier	26	0	0

	<b>Total</b>	<b>394</b>	<b>11</b>	15
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\*Note: data as per 31 December 2017

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

Regulations related to major changes of Indonesia tuna fisheries are Minister Regulation No. 56/2014 concerning on moratorium of fishing license for vessels built outside Indonesia (foreign built vessel) and Minister Regulation No. 57/2014 on banning of transshipment at sea. Implementation of these regulations take changes such as:

1. No transshipment at sea since January 2015
2. Vessels built by foreign are tight up at port or back to origin flag.
3. No fishing operation on high seas and foreign EEZ, fishing are most conducted in archipelagic and territorial waters.
4. Increase number of small scale fishing boat that mostly operated in archipelagic and territorial waters, at the same time increase catch rate of these vessel

In order to monitor the activities of fishing vessel government of Indonesia (GOI) has introduced to the fishers and fishing company;

1. Re-registry and re-measure of all fishing boats
2. Develop R-VIA (Record of Vessel Authorized to fish in Indonesia waters), on line and public verification.
3. Increase inspection and surveillance in results more than 263 vessels were arrested due to IUU Fishing activities both national and foreign vessel boats since 2015.

#### **V. SPECIFIC INFORMATION ABOUT IMPLEMENTATION OF CMM (SEABIRD, CETACEAN, AND WHITE-TIP SHARK)**

- a. Seabird : According to the Minister regulation No 12/2012 concerning on fishing in high seas, that Indonesian Longline fishing vessel operating in high seas should utilized tori line. Recently, Indonesia has developed national plan of action (NPOA) of seabird in collaboration with seabird life South Africa and able to join several workshops related to seabird conservation both in Indonesia and Vietnam in 2016 and April 2017. During the workshops it is noted that very small number of seabird has interact with vessel that operated in the Indian Ocean. While In the area of WCFPC convention, there were reported zero interaction with seabird.
- b. Cetacean: According to Indonesian government Act No. 7 year 1999 on protecting of cetaceans and stipulating the Minister Regulation No. 12 /20 12 on Fishing Business in High Seas, Minister Regulation No. 30 year 2012 on Fishing Business in Fisheries Management Area of Republic of Indonesia, and Minister Regulation No. 26 year 2013 on Amended of Minister Regulation No. 30 year 2012 article 73 on Fishing Business in Fisheries Management Area of Republic of Indonesian cetaceans are protected. Log book data reported in 2017 (as submitted to Secretariat) there were no (zero) interaction of cetaceans with purse seine (PS) with cetacean
- c. White-tip Shark: According to Minister regulation No 12/2012, No 59/2014 as amended by minister regulation No 34/2015 it is regulated that landing of oceanic whitetip shark and hammer head sharks are prohibited.
- d. Sea Turtle: There was zero interaction Sea Turtle with Indonesia purse-seine fishing vessels based



on 2017 log book, surveillance and national observer report.

## VI. DISPOSAL OF CATCH (FRESH/FROZEN/OTHER)/MARKET DESTINATION (EXPORT)

- a. Disposal of Catch: There was no disposal of catch in 2017.
- b. Market Destination (Export)
 

The export data of tuna has been divided by HS number. The export data included catches from Indian Ocean and Pacific Ocean.

Indonesia has issued detailed breakdown of tuna exports into 16 HS code, as the following:

  - a. YFT (Fresh or Chilled);
  - b. Skipjack (Fresh or Chilled);
  - c. Bigeye (Fresh or Chilled);
  - d. Albacore (Fresh or Chilled);
  - e. Other tunas (Fresh or Chilled);
  - f. YFT (Frozen);
  - g. Skipjack (Frozen);
  - h. Bigeye (Frozen);
  - i. SBT (Frozen);
  - j. Other tunas (Frozen);
  - k. Skipjack and Frozen tuna fillet;
  - l. Whole or sliced tuna in the air tied container;
  - m. Whole or sliced Skipjack or bonito in the air tied container.

Indonesia export data is as attached.

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

Ministry of Marine Affairs and Fisheries has issued Ministerial Regulation Number 01 Year 2013 concerning national observer program. In 2017, DGCF national observer program has deployed 41 observers for gear Long line, Pole and line and Purse seine in FMAs 716, 717 and Indonesian archipelagic waters (FMAs 714 and, 715), with total 619 days at sea. Port sampling activities is continuing in 6 landing sites i.e: Bitung (12 enumerators), Kendari (5 enumerators), Sodohoa (3 enumerators), Sorong (3 enumerators), Majene (2 enumerators) it was recently expand to Gorontalo FMAs 715 (2 enumerators) and Sikka, Maumere (4 enumerators).

Table 14. Indonesia national observer program in 2016-2017 (LL : Longline, HL: handline, PL; Pole and line, PS: Purse seine)

Gear Type	FMA	2016		2017	
		No Observer	No. Days at sea	No Observer	No. Days at sea
LL	714	-	-	4	74
	714-715	-	-	2	19

	715	-	-	3	55
	717	-	-	1	20
HL	715	1	8	-	-
PL	714	3	12	3	59
	715	8	69	3	50
	715-716	-	-	1	7
	716	-	-	2	19
PS	714	2	12	4	125
	714-715	-	-	1	8
	715	17	63	11	94
	715-716	-	-	3	28
	715-717	-	-	1	17
	716	-	-	2	44
Total		31	164	41	619

#### **REPORTING OF EFFORT (Purse seine, Hand line and Pole and line)**

Indonesia has launched interim harvest strategy document for skipjack, yellowfin and bigeye in its Archipelagic waters at the 3<sup>rd</sup> Bali Tuna Conference on 31 May 2018. The interim harvest strategy document is provided as an information paper. Pole and line is one of the main gears in these waters to catch skipjack. Recent CPUE of the skipjack has been estimated (using WPEA data) for 1.2 tons/day and effort for all pole and line operated in FMAs 713 to 715 to be 64,581 days with 177 days/year/vessel. Log book data on 2017 for PS, LL and PL have been submitted to the WCPFC that might be used to estimate effort for those fishery.

### **VIII. STATISTICAL DATA COLLECTION SYSTEMS IN USE ORGANIZATION AND JOB DUTIES**

#### **A. GENERAL PROCEDURE OF ONE DATA POLICY**

1. Since 2017, based on One Data Policy within the Ministry of Marine and fisheries Affairs (MMAF), data collection has been conducted by Centre of Data Statistic and Information (CDSI). CDSI 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 as a data validator at Province Level.
3. District Fisheries Services has responsible as a data validator at District Level.
4. Field Enumerators has responsible for collecting data in field.
5. Data collection in fishing port is derived from fishing logbook, landing data information, initial sheet for catch certification, Vessel Inspection Report and observer program.

**B. RESEARCH ACTIVITIES (TUNAS, OTHER SPECIES, SPECIES OF SPECIAL INTEREST, OCEANOGRAPHIC INFLUENCES)**

- ) WPEA: Tuna data collection based on ports sampling on selected sampling is continuing under WPEA project. To date there are 7 landing sites are observed to produce a catch composition by species by gear as well as its size distribution. Those information will be used as references in the national annual catch estimate (by gear by species), Other research activities in this project are investigating to reduce of BET and YFT juvenile bycatch from Pole and line fishery, tuna supply chain and prior study on climate change for highly migratory species.
- ) Collaboration between MMAF (Indonesia) and ACIAR – CSIRO (Australia) is “developing capacity for management of Indonesia’s large pelagic fisheries resources” in this project investigating connectivity of tuna stock (YFT, BET, SKJ) in the Pacific Ocean and Indian Ocean as well as Indonesia’s archipelagic waters through genetic populations, parasites and otolith micro chemistry techniques, FADs characteristic in Indonesia (“determining stock structure and connectivity information for bigeye and yellowfin tuna and characterizing the FAD fisheries”)
- ) Collaboration between MMAF- CFR (Indonesia) and CLS (France) in INDESO project estimating biomass of large tuna (BET, YFT, SKJ) in archipelagic waters, Indian Ocean and Pacific ocean through SEAPODYM model that aimed to support; Optimal Catch and Effort Allocation, Real Time monitoring of effort and catch, Identification of spawning grounds & nursery areas and their time variability, Illegal fishing control, Rapid improvement of fish distribution dynamic model
- ) Collaboration with NGOs (MDPI, TNC, SFP) and fishing association (AP2HI) in collecting catch data from artisanal fisheries using IFISH and trial on used of spot trace.
- ) Study on for neritic tuna within Indonesian waters to support national fish stock Assessment conducted by Research Institute for Marine Fisheries (RIMF-MMAF).

## I. FISHING GROUND

Based on interview with the skippers and having them point the position of fishing in one-degree-grid map, the fishing grounds can be presented in the following figures:

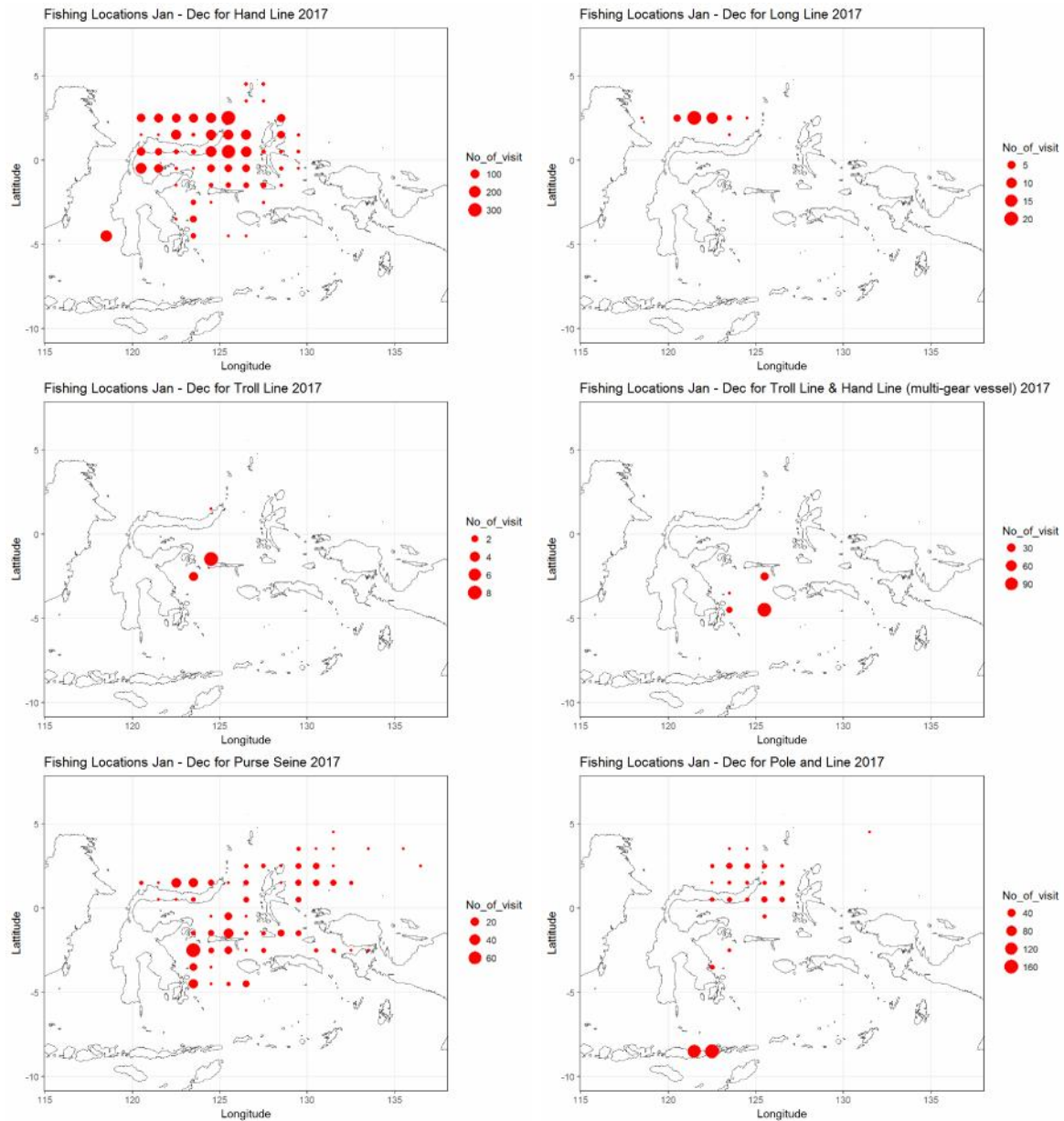


Figure 2. Fishing areas for Hand Line, Long Line, Troll Line, Troll Line/Hand Line (multi-gear), Purse Seine and Pole and Line vessels.

## II. CATCH COMPOSITION

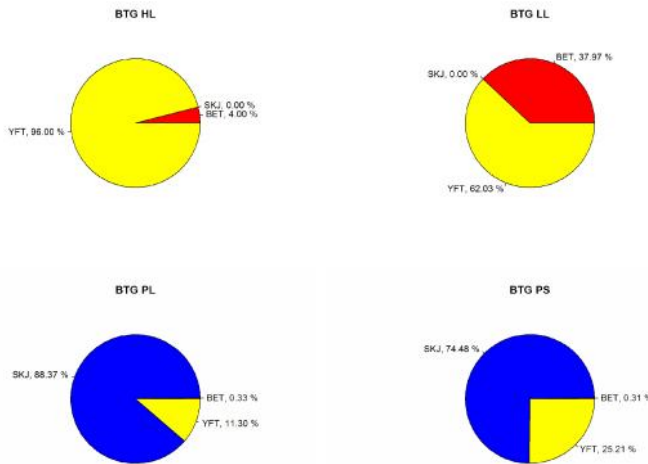


Figure 3. Catch composition of Hand Line, Long Line, Pole and Line and Purse Seine, based at Bitung, in 2017

The port sampling activity in Bitung in 2017 reported that catch composition by gear varied, for instance purse seines and pole and lines were dominated by SKJ (74.48% and 88.37%, respectively) relative to BET and YFT. Whereas, hand lines and long lines landed mostly YFT (96.00% and 62.03%, respectively).



Figure 4. Catch composition of Purse Seine and Hand Line based at Gorontalo in 2017

Port sampling program in Gorontalo reported that Purse Seine predominantly landed SKJ (70.78%), On the other hand, Hand Line landed mostly YFT (66.05%).



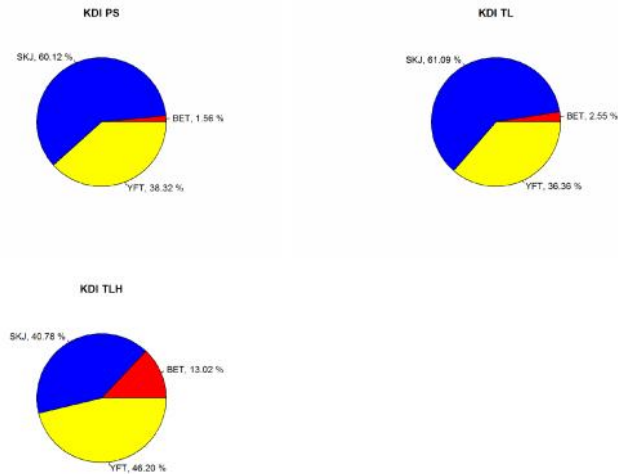


Figure 5. Catch composition for Hand Line, Pole and Line, Purse Seine, Troll Line, Troll Line/Hand Line in Kendari for 2017

The graphs showed that SKJ fills the biggest portion of catch from Hand Line (47.80%), Pole and Line (66.36%), Purse Seine (60.12%), and Troll Line (61.09%). The gears which caught YFT predominantly was Troll Line / Hand Line (46.20%)



Figure 6. Catch composition landed in Majene, 2017

Majene only operates Deep Hand Line where the composition of the catch dominated by YFT (94.77%).



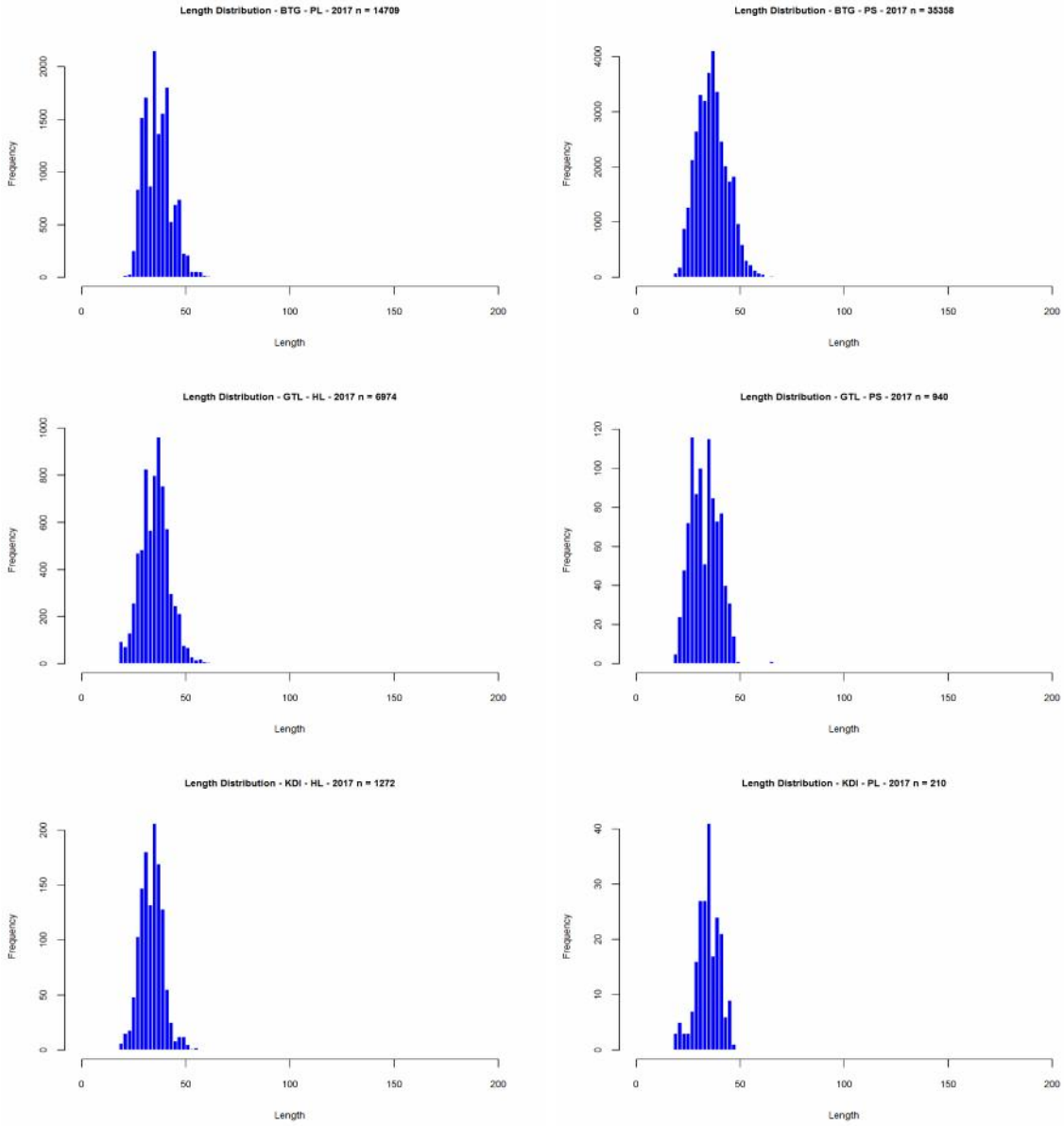
Figure 7. Catch composition for Sikka, 2017

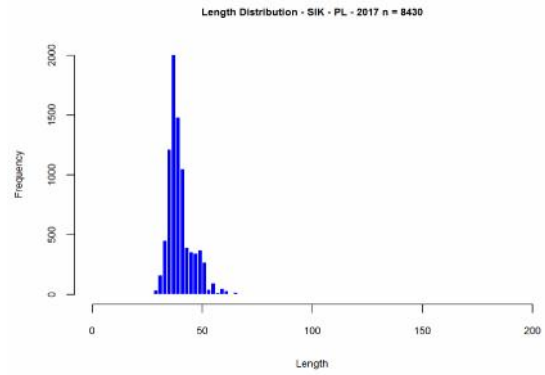
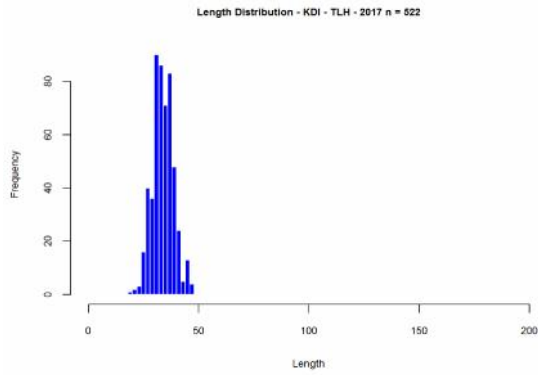
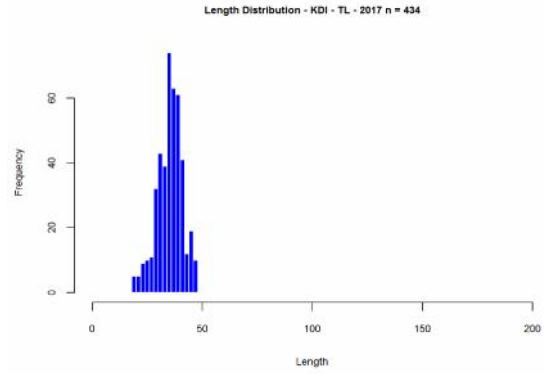
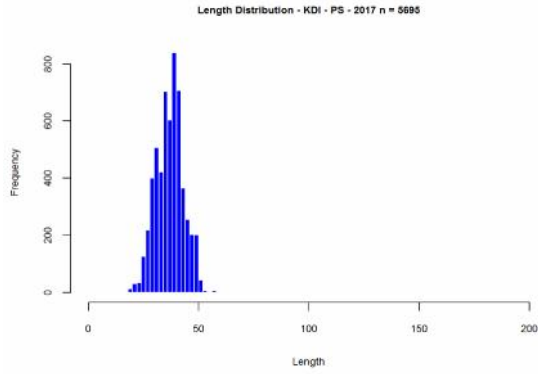
Pole and Line operating in Sikka landed the catch that was composed mostly by SKJ about 76.25%, follow by YFT (22.56%) and BET (1.19%).

### III. SIZE DISTRIBUTION BASED ON PORT SAMPLING.

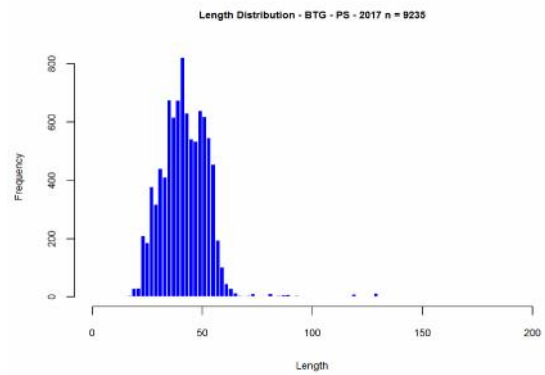
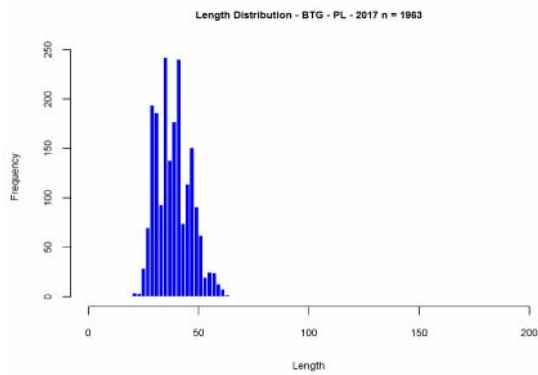
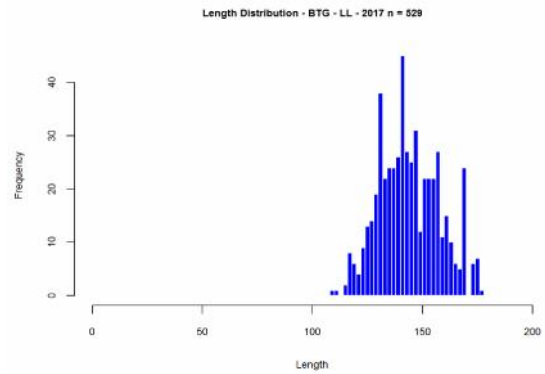
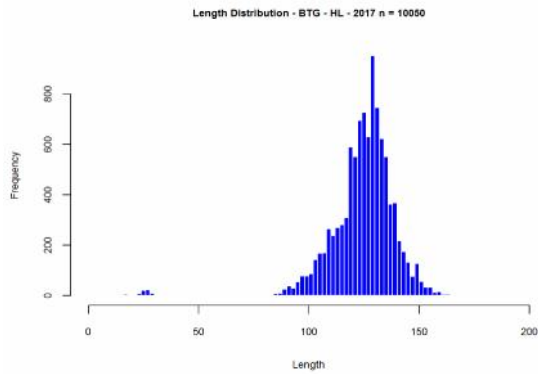
#### A. Length

##### Skipjack (*Katsuwonus pelamis*)



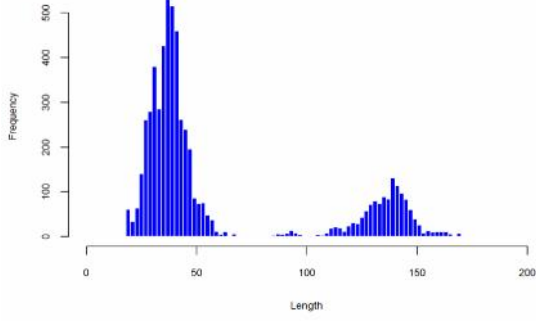


## Yellowfin Tuna (*Thunnus albacares*)

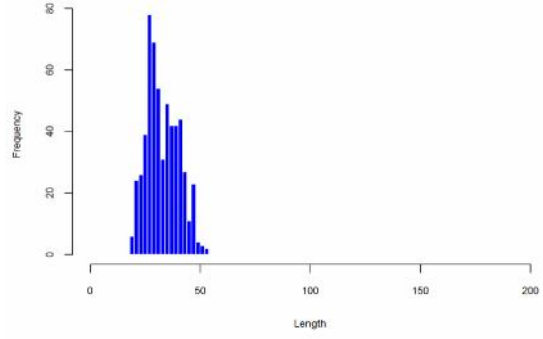




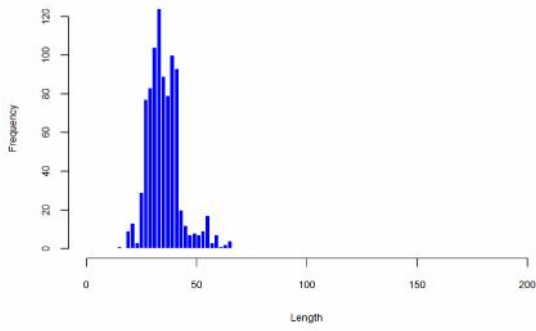
Length Distribution - GTL - HL - 2017 n = 5854



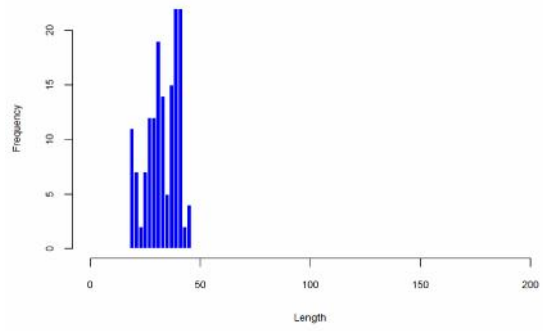
Length Distribution - GTL - PS - 2017 n = 574



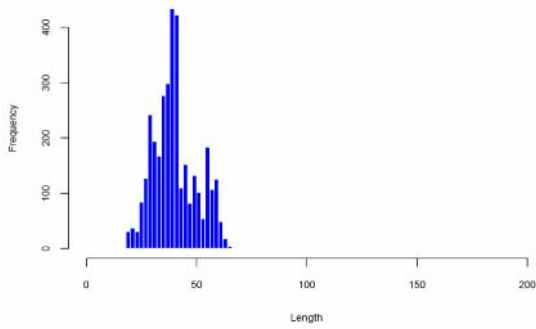
Length Distribution - KDI - HL - 2017 n = 901



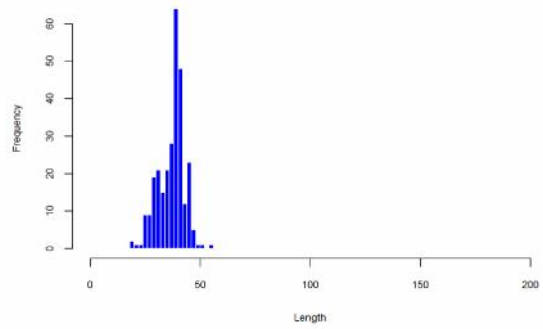
Length Distribution - KDI - PL - 2017 n = 154



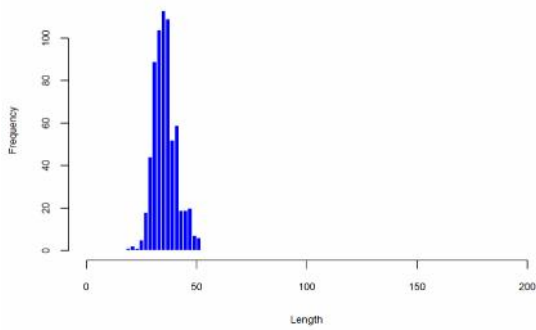
Length Distribution - KDI - PS - 2017 n = 3464



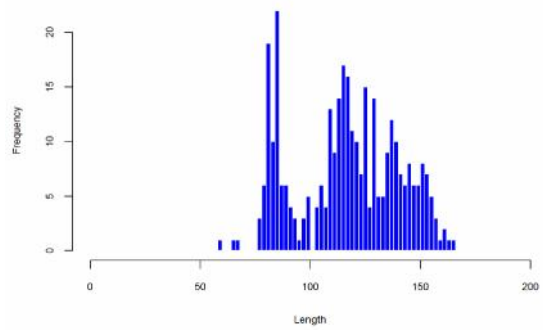
Length Distribution - KDI - TL - 2017 n = 281

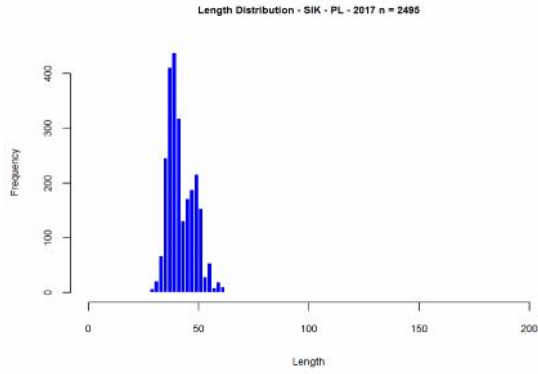


Length Distribution - KDI - TLH - 2017 n = 668

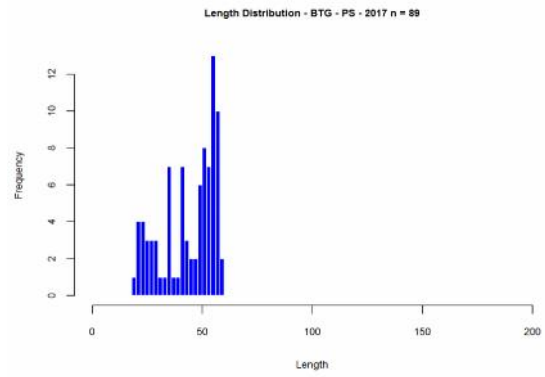
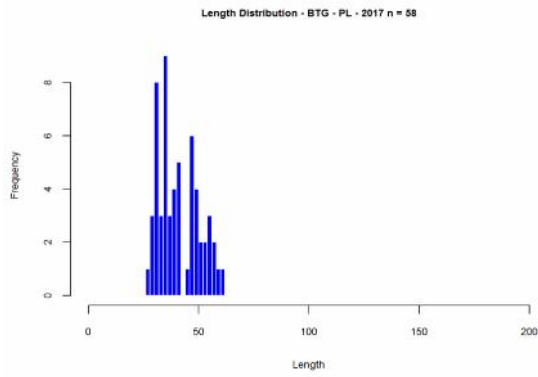
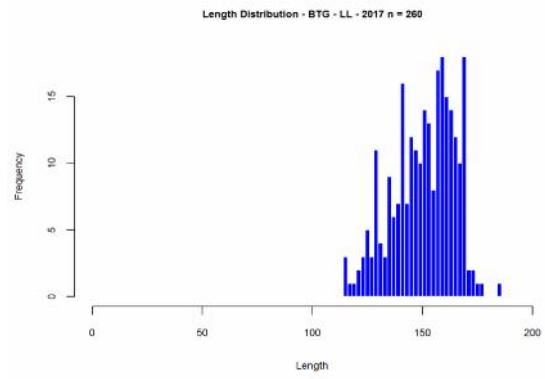
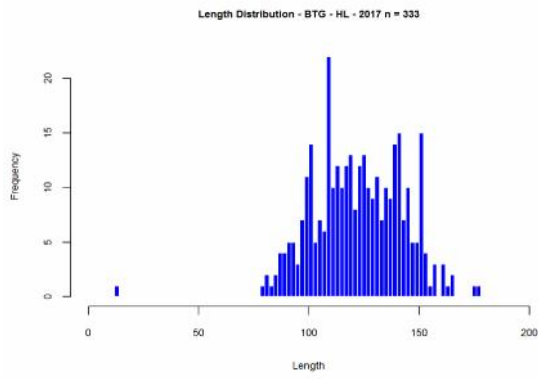


Length Distribution - MJN - HL - 2017 n = 337

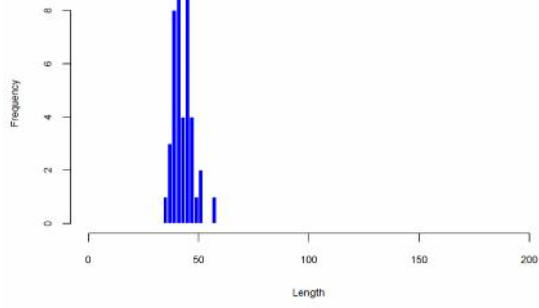




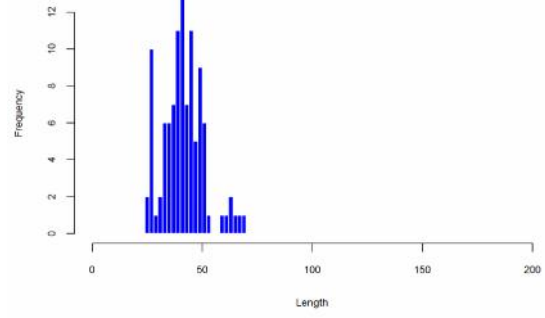
**Bigeye Tuna (*Thunnus obesus*)**



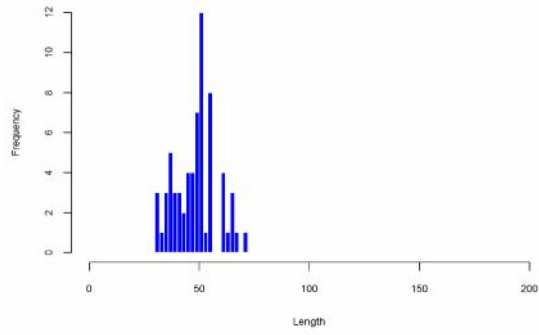
Length Distribution - KDI - HL - 2017 n = 42



Length Distribution - KDI - PS - 2017 n = 104

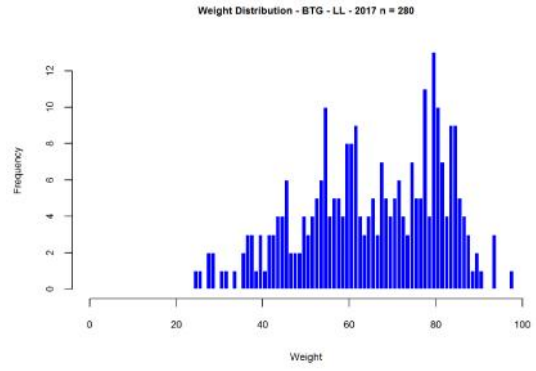
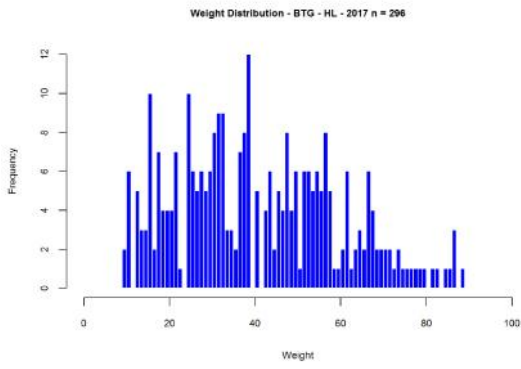


Length Distribution - SIK - PL - 2017 n = 66

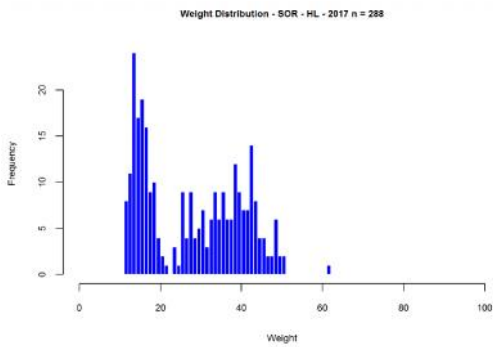
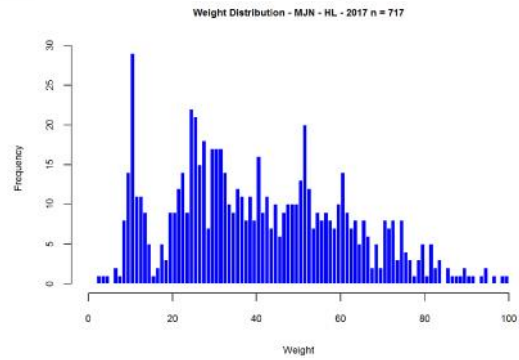
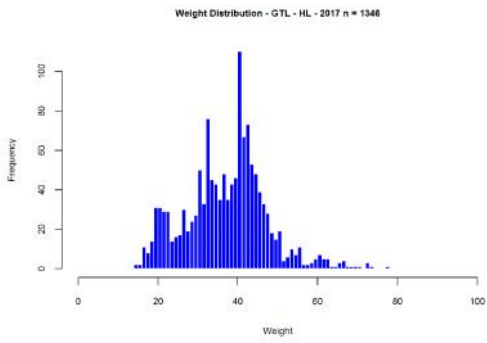
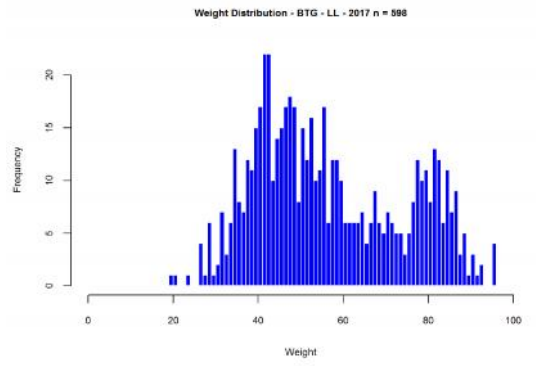
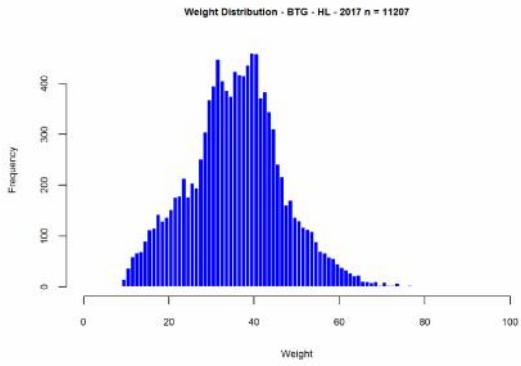


## B. Weight

### Bigeye Tuna (*Thunnus obesus*)



### Yellowfin Tuna (*Thunnus albacares*)





## ADDENDUM TO ANNUAL REPORT PART 1

### Specific information to be provided in Part 1 as required by CMMs

26 February 2018

<b>CMM 2005-03 [North Pacific Albacore], Para 4</b>	Not Applicable for Indonesia. No Indonesian fishing vessel operated targeting North Pacific Albacore
<b>CMM 2006-04 [South West striped Marlin], Para 4</b>	Not Applicable for Indonesia. No Indonesian fishing vessel operated South of 15 S
<b>CMM 2009-03 [Swordfish], Para 8</b>	Not Applicable for Indonesia → No Indonesia fishing vessels targeting swordfish South of 20°S as well as north of 20°S in WCPFC convention Area
<b>CMM 2009-06 [Transshipment], Para 11 (ANNEX II)</b>	No transshipment, all catch shall landed directly to port. Indonesia has issued Minister Regulation No. 57/20 14 on banning of transshipment
<b>CMM 2010-07 [Sharks], Para 4</b>	Catch of shark is provide in the table 10 a.
<b>CMM 2011-03 [Impact of PS fishing on cetaceans], Para 4</b>	<b>No PS interaction with cetaceans</b> CCMs shall include in their Part 1 Annual Report any instances in which cetaceans have been encircled by the purse seine nets of their flagged vessels, reported under paragraph 2(b).
<b>CMM 2011-04 [Oceanic whitetip sharks], Para 3</b>	Provision Catch of shark is provide in the table 10 a
<b>CMM 2012-04 [Whale sharks], Para 06</b>	<b>No PS interaction with cetaceans</b>
<b>CMM 2012-07 [Seabirds], Para 9</b> <i>Applies until 1 Jan 2017 (see CMM 2015-03 below)</i>	<b>Zero interaction with seabird</b> for Indonesian vessel operated in WCPFC convention area
<b>CMM 2013-08 [Silky sharks], Para 3</b>	Provision Catch of shark is provide in the table 10 a
<b>Observer coverage (WCPFC 11 decision – para 484(b))</b>	Indonesia has national observer program as inform in annual part 1. Table 14. <b>Not applicable</b> . In year 2017 there was no Indonesia vessel operated in high seas and on other countries EEZ.
<b>CMM 2015-02 [South Pacific Albacore] Para 4</b>	<b>Not applicable</b> for Indonesia. no Indonesian fishing vessel operated South of 20 S
<b>CMM 2017-06 [Seabirds] Para 9</b>	Zero interactions of seabird to Indonesia's Tuna fishing Vessel

#### **CMM 2017-06: [Seabirds] Annex 2. Guidelines for reporting templates for Part 1 report**

Indonesia has adopted CMM 2012-07/CMM 2015-03 through Minister Regulation No. 12 year 2012 on Fishing in High Seas. No interactions were reported by observer on board on 2006 – 2017.

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**This Report prepared by: Fayakun Satria, Anung Widodo, Lilis Sadiyah, Ignatius and I Gede Bayu Sedana (CFR); Ismayanti (Centre of Data Statistic and Information); Trian Yunanda, Syahrir Abd. Raup, Riana Handayani, Putuh Suadela, Aris Budiarto, and Wawan Rowandi (DFRM-DGCF); Muhammad Anas, (DGCF Data Section).**