



**SCIENTIFIC COMMITTEE  
EIGHTEENTH REGULAR SESSION**

**ELECTRONIC MEETING**  
10-18 August 2022

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

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**WCPFC-SC18-AR/CCM-09**

**INDONESIA**

**INDONESIAN FISHERIES  
IN  
WCPFC CONVENTION AREA**

**2021**

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



**MINISTRY OF MARINE AFFAIRS AND FISHERIES THE REPUBLIC  
OF INDONESIA  
2022**

**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 2020 | [YES] |
| If no, please indicate the reason(s) and intended actions:   |       |

## **SUMMARY**

The Indonesia's national catch estimate (the 12<sup>th</sup> ACES) for FMAs 713,714, 715, 716 and 717 was conducted by online in the 28-30 July 2021. The WS was attended by MMAF, fishing association, fishing industry, and relevant NGOs, WPEA manager and SPC expert. This activity has collaboratively funded by Indonesian Government and The West Pacific East Asia project (WPEA-ITM) which involved CFR, DGCF and Pusdatin (one data). The catch estimates were provided as follow: skipjack – 258.169t; yellowfin – 233.451t and bigeye – 22.899t and albacore 168 t with total 514.697 t. The estimate catches was represent 86% of data verified as per July 2021 this estimate will be updated after annual catch estimate on late of July 2022.

## **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

The Annual Tuna Fisheries Catch Estimates online Review Workshops (ITFACE-12) was conducted on 28-30 July 2021. PUSDATIN catch estimate data (One Data) were provided with the comparison with the other sources of data that gathered from port sampling, logbook, observer, as well as catch certificate (Surat Hasil Tangkapan Ikan/SHTI). The estimate catches were representing 86% of data verified as per July 2021.

### 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 2000-2020, awaiting updated from ACES 2021

| Year             | Skipjack (SKJ) | %    | Yellowfin (YFT) | %    | Bigeye (BET) | %   | Total tuna |
|------------------|----------------|------|-----------------|------|--------------|-----|------------|
| 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             | 332.628        | 69%  | 134.290         | 28%  | 12.095       | 3%  | 479.013    |
| 2018             | 291.442        | 55%  | 215.460         | 41%  | 19.573       | 4%  | 526.778    |
| 2019             | 296.743        | 55%  | 219.178         | 41%  | 19.163       | 4%  | 535.105    |
| 2020             | 258.169        | 50%  | 233.451         | 45%  | 22.899       | 4%  | 514.687    |
| Fishing Port     | 58.036         | 67%  | 26.970          | 31%  | 2.005        | 2%  | 87.011     |
| Non-Fishing Port | 200.133        | 47%  | 206.481         | 48%  | 20.893       | 5%  | 427.676    |

|                    |         |     |         |     |        |    |         |
|--------------------|---------|-----|---------|-----|--------|----|---------|
| AVG<br>2005-2020*) | 277.402 | 67% | 129.679 | 29% | 17.385 | 4% | 424.518 |
|--------------------|---------|-----|---------|-----|--------|----|---------|

Note:

- a) For total catch in the last three years has included minor catch of albacore, In the ACES 2021 there was reported for 168 ton of albacore from catches in 2020 (i.e. has included in the total catch)
- b) The table was based on the Annual Catch Estimates Workshop on 28-30 July 2021.

Catch estimate for 202 was agreed in the ACES this year (2021) by CFR,DGCF, PUSDATIN and relevants stakeholders from fishing association, fishing industry and non-governments organisation. The total nominal catches in Fisheries Management Area 716 (IEEZ Sulawesi Sea) and 717 (IEEZ Pacific Ocean) was estimated as the following table.

Table 2. Total tuna catch (Skipjack, Yellowfin, Bigeye) for all gear within FMA 716 and 717 estimated for 2000-2020 awaiting updated from ACES 2021

| Year         | Skipjack | %   | Yellowfin | %      | Bigeye | %    | Total tuna |
|--------------|----------|-----|-----------|--------|--------|------|------------|
| 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         | 82,247   | 73% | 28,685    | 26%    | 1,146  | 1%   | 112.077    |
| 2018         | 76.432   | 60% | 48.096    | 37%    | 3.818  | 3%   | 128.425    |
| 2019         | 33.566   | 49% | 30.666    | 44%    | 4.742  | 7%   | 68.975     |
| 2020         | 54.184   | 59% | 32.256    | 35%    | 5.208  | 6%   | 91.648     |
| Fishing Port | 18.329   | 69% | 7.316     | 28%    | 731    | 3%   | 26.375     |

|               |        |     |        |     |       |    |         |
|---------------|--------|-----|--------|-----|-------|----|---------|
| Non-Fishing   | 35.856 | 55% | 24.940 | 38% | 4.477 | 7% | 65.273  |
| AVG 2005-2020 | 67.029 | 62% | 35.853 | 33% | 4.766 | 5% | 108.032 |

Table 3. Total tuna catch (Skipjack, Yellowfin, Bigeye) for all gear within FMA 713, 714, 715, 716, 717 and FAO area 71 estimated for 2020

| 2020*) estimates       |          |     |           |     |        |    |          |            |
|------------------------|----------|-----|-----------|-----|--------|----|----------|------------|
| FMA                    | Skipjack | %   | Yellowfin | %   | Bigeye | %  | Albacore | Total Tuna |
| <b>FMA 713,714,715</b> | 203.984  | 48% | 201.195   | 48% | 17.691 | 4% | 168      | 423.038    |
| <b>FMA 716, 717</b>    | 54.184   | 59% | 32.256    | 35% | 5.208  | 6% | -        | 91.648     |
| <b>FAO Area 71</b>     | 258.169  | 50% | 233.451   | 45% | 22.899 | 4% | 168      | 514.687    |

The nominal catches by gear in Fisheries Management Area 716 (IEEZ Sulawesi Sea) and 717 (IEEZ Pacific Ocean) was estimated 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 2000-2020 awaiting updated from ACES 2021

| 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              | 4     | 2%   | 178    | 91%   | 13    | 7%    | 195    |
| 2018              | -     | 0%   | 7.707  | 86%   | 1.255 | 14%   | 8.962  |
| 2019              | 1.124 | 7%   | 9.953  | 62%   | 4.976 | 31%   | 16.053 |
| 2020              | 1     | 0,1% | 428    | 27%   | 1.130 | 73%   | 1.558  |
| Fishing Port      | -     | 0%   | 268    | 50%   | 267   | 50%   | 536    |
| Non-Fishing Port  | 1     | 0%   | 159    | 16%   | 862   | 84%   | 1.022  |
| Average 2005-2020 | 125   | 2%   | 9.946  | 0,789 | 2.264 | 0,206 | 12.241 |

#### 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 2020 is provisional data

Table 5. Total tuna catch (Skipjack, Yellowfin, Bigeye) for Purse seine gear within FMA 716, 717 estimated for 2000-2020 awaiting updated from ACES 2021

| Year | Skipjack |     | Yellowfin |       | Bigeye |      | Total tuna |
|------|----------|-----|-----------|-------|--------|------|------------|
|      |          | %   |           | %     |        | %    |            |
| 2000 | 8.577    | 82% | 1.735     | 16,6% | 144    | 1,4% | 10.456     |
| 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 <sup>a)</sup> | 46.741 | 66% | 23.370 | 33%   | 708   | 1%   | 70.820 |
| 2018               | 15.650 | 71% | 5.951  | 27%   | 441   | 2%   | 22.043 |
| 2019               | 27.072 | 74% | 8.671  | 24%   | 680   | 2%   | 36.423 |
| 2020               | 24.887 | 66% | 12.304 | 33%   | 566   | 2%   | 37.758 |
| Fishing Port       | 16.659 | 74% | 5.492  | 24%   | 453   | 2%   | 22.604 |
| Non-Fishing Port   | 8.228  | 54% | 6.813  | 45%   | 113   | 1%   | 15.154 |
| Average 2005-2020  | 22.878 | 75% | 7.298  | 23%   | 449   | 2%   | 30.625 |

#### 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 2020 is provisional data

## **POLE and LINE**

Table 6. Total tuna catch (Skipjack, Yellowfin, Bigeye) for Pole and Line within FMA 716, 717 estimated for 2000-2020 awaiting updated from ACES 2021

| <b>Year</b>        | <b>Skipjack</b> | <b>%</b> | <b>Yellowfin</b> | <b>%</b> | <b>Bigeye</b> | <b>%</b> | <b>Total tuna</b> |
|--------------------|-----------------|----------|------------------|----------|---------------|----------|-------------------|
| 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 <sup>a)</sup> | 8.374           | 73%      | 2.983            | 26%      | 115           | 1%       | 11.471            |
| 2018               | 35.685          | 91%      | 3.137            | 8%       | 392           | 1%       | 39.215            |
| 2019               | 1.112           | 74%      | 388              | 26%      | -             | 0%       | 1.500             |
| 2020               | 1.640           | 72%      | 579              | 26%      | 50            | 2%       | 2.268             |
| Fishing Port       | 906             | 72%      | 346              | 28%      | -             | 0%       | 1.252             |
| Non-Fishing Port   | 734             | 72%      | 233              | 23%      | 50            | 5%       | 1.016             |
| Average 2005-2020  | 19.420          | 79%      | 3.702            | 18%      | 890           | 3%       | 24.012            |

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 2020 is provisional data

### **HANDLINE**

Table 7. Total tuna catch (Skipjack, Yellowfin, Bigeye) for Handline (Large tuna) within FMA 716, 717 estimated for 2000-2020 awaiting updated from ACES 2021

| 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 <sup>a)</sup>       | 3.930                                | 68%   | 1.636     | 28%   | 190    | 3%   | 5.756      |

|                   |       |       |        |     |     |    |        |
|-------------------|-------|-------|--------|-----|-----|----|--------|
| 2018              | 3.407 | 14.9% | 19.022 | 83% | 460 | 2% | 22.935 |
| 2019              | 1.004 | 8%    | 11.301 | 90% | 250 | 2% | 12.556 |
| 2020              | 2.782 | 22%   | 9.450  | 75% | 291 | 2% | 12.523 |
| Fishing Port      | 441   | 27%   | 1.206  | 73% | 11  | 1% | 1.658  |
| Non-Fishing Port  | 2.341 | 22%   | 8.243  | 76% | 280 | 3% | 10.865 |
| Average 2005-2019 | 5.373 | 31%   | 9.172  | 86% | 246 | 3% | 11.436 |

#### 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)
11. Catch of 2020 is provisional data.

#### **TROLL LINE**

Table 8. Total tuna catch (Skipjack, Yellowfin, Bigeye) for Troll Line within FMA 716, 717 estimated for 2013-2020 awaiting updated from ACES 2021

| 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 |
| 2017                       | 296                                  | 60%   | 183       | 37%   | 15     | 3%   | 494    |

|                   |        |     |       |     |       |     |        |
|-------------------|--------|-----|-------|-----|-------|-----|--------|
| 2018              | 5.137  | 83% | 745   | 12% | 309   | 5%  | 6.191  |
| 2019              | 1.405  | 29% | 3.497 | 71% | 11    | 0%  | 4.913  |
| 2020              | 6.121  | 44% | 5.989 | 43% | 1.684 | 12% | 13.794 |
| Fishing Port      | -      | 0%  | -     | 0%  | -     | 0%  | 0      |
| Non-Fishing Port  | 6.121  | 44% | 5.989 | 43% | 1.684 | 12% | 13.794 |
| Average 2013-2020 | 12.795 | 66% | 3.687 | 29% | 836   | 5%  | 17.318 |

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. Percentage of catch composition of 2020 using Pusdatin species composition
4. Catch of 2020 is provisional data

### **GILLNET**

Table 9. Total tuna catch (Skipjack, Yellowfin, Bigeye) for Gillnet within FMA 716, 717 estimated for 2013 – 2020 awaiting updated from ACES 2021

| 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 <sup>a)</sup>          | 1.521                                | 97%   | 40        | 3%    | -      | 0%    | 1.561      |
| 2018                        | 1.950                                | 87%   | 303       | 13%   | 3      | 0%    | 2.256      |
| 2019                        | 935                                  | 82%   | 199       | 18%   | -      | 0%    | 1.134      |
| 2020                        | 15.321                               | 85%   | 2.047     | 11%   | 759    | 4%    | 18.127     |
| Fishing Port                | 273                                  | 100%  | -         | 0%    | -      | 0%    | 273        |
| Non-Fishing Port            | 15.048                               | 84%   | 2.047     | 11%   | 759    | 4%    | 17.854     |
| Average 2013-2019           | 3.495                                | 86%   | 508       | 13%   | 97     | 1%    | 4.100      |

Notes on sources of data and methodology

1. Percentage of catch composition of 2013 and 2016 using the DGCF species composition
2. Percentage of catch composition of 2020 using Pusdatin species composition
3. Catch of 2020 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 – 2020\*) awaiting updated from ACES 2021

| OTHERS (FMAs 716 and 717) |                                      |       |           |       |        |      |        |
|---------------------------|--------------------------------------|-------|-----------|-------|--------|------|--------|
| Year                      | Estimated Tuna Catch (metric tonnes) |       |           |       |        |      |        |
|                           | Skipjack                             | %     | Yellowfin | %     | Bigeye | %    | Total  |
| 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                      | 21.382                               | 98%   | 295       | 1%    | 104    | 0%   | 21.780 |
| 2018                      | 14.602                               | 54%   | 11.230    | 42%   | 959    | 4%   | 26.824 |
| 2019                      | 1.541                                | 29%   | 2.228     | 41%   | 1.611  | 30%  | 5.381  |
| 2020                      | 3.433                                | 61%   | 1.459     | 26%   | 728    | 13%  | 5.620  |
| Fishing Port              | 50                                   | 95%   | 3         | 5%    | -      | 0%   | 52     |
| Non-Fishing Port          | 3.384                                | 61%   | 1.457     | 26%   | 728    | 13%  | 5.568  |
| Average 2005-2019         | 8.160                                | 64%   | 3.199     | 29%   | 587    | 7%   | 11.950 |

## 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. Percentage of catch composition of 2020 using Pusdatin species composition
11. Catch of 2020 is provisional data

Table 10 a. Landed-Catch estimate of Sharks (metric ton) related to tuna fishery in FMAs 716 and 717, awaiting updated from ACES 2021.

| Year | <i>Centrophoridae, Squalidae</i><br><b>Dogfishes (DGZ) + Others</b> | <i>Carcharhinus longimanus</i><br><b>Oceanic Whitetip (OCS)</b> | <i>Carcharhinus falciformis</i><br><b>Silky shark (FAL)</b> | <i>Galeocerdo cuvier</i><br><b>Tiger Sharks (TIG)</b> | <i>Sphyrna spp</i><br><b>Hammerheads sharks (SPN)</b> | <i>Priocance glauca</i><br><b>Blue Sharks (BSH)</b> | <i>Alopias spp</i><br><b>Thresher sharks (THR)</b> | <i>Isurus spp</i><br><b>Mako sharks (MAK)</b> |
|------|---|---|---|---|---|---|--|---|
| 2016 | 365   | 0   | 92  | 0   | 5   | 0   | 59   | 174   |
| 2017 | 52*   | 1   | 1*  | 0   | 2   | 0   | 6  | 2   |
| 2018 | 31  | 0   | 24  | 0   | 1   | 0   | 0  | 7   |
| 2019 | 0   | 0   | 55*   | 0   | 0   | 0   | ?*   | 1   |
| 2020 | -   | -   | -   | -   | -   | -   | -  | 0.03  |
| 2021 | 10*   | -   | -   | -   | -   | -   | -  | 0.06*   |

Notes:

1. First time in 2016 for estimating total catch of sharks from national fisheries data statistics (landing data)-DGCF
2. Estimated Catch of Sharks in 2017 -2020 from Pusdatin (CSDI)-MMAF
3. \*) subject to be further clarified, source of data from surveillance unit of MMAF and CFR
4. All catches of sharks were fully utilized by the fishers as source for livelihood.
5. -) will be provided after national data validation (end of 2021)

Table 10b. ERS (Ecological Related Species) for sharks interaction of tuna fisheries recorded by observers in the FMA 713,714,715,716 and 717 in 2019



| Gear type     | FMA | ERS Species             | Species Code | QTY | catch | Post catch | Handling |
|---------------|-----|-------------------------|--------------|-----|-------|------------|----------|
| Pole and Line | 715 | <i>Carcharhinus Spp</i> | TBD          | 1   | life  | life       | release  |

Table 10c. ERS (Ecological Related Species) for sharks interaction of tuna fisheries recorded by national observers in the FMA 713,714,715,716 and 717 in 2020, awaiting updated from ACES 2021

| Gear type     | FMA | ERS Species                          | Species Code | QTY | catch | Post catch | Handling |
|---------------|-----|--------------------------------------|--------------|-----|-------|------------|----------|
| Handline Tuna | 714 | <i>Prionace glauca</i>               | BSH          | 1   | life  | dead       | Retained |
| Pole and Line | 714 | <i>C.falciformis</i>                 | FAL          | 1   | life  | life       | Release  |
|               | 715 | <i>C.falciformis</i>                 | FAL          | 1   | life  | life       | Release  |
|               | 715 | <i>C.falciformis</i>                 | FAL          | 1   | life  | dead       | Retained |
| Purse Seine   | 714 | <i>C.falciformis</i>                 | FAL          | 1   | life  | dead       | Retained |
|               | 716 | <i>Stenella longirostris Spinner</i> | -            | 1   | life  | life       | Release  |
|               | 717 | <i>L.olivacea</i>                    | -            | 1   | life  | life       | Release  |

## II. THE NUMBER OF FISHING VESSELS OPERATING IN IEEZ SULAWESI SEA AND IEEZ PACIFIC OCEAN, 2013-2020

The number of Purse Seine operating in the FMA 716 and 717 in 2021 were 99 vessels. Since 2016 the Size of purse seiner operated in these areas were lower than 201 GT (30-200 GT) (Table 11).

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

| <b>Gear</b>                                  | <b>Size Class (GT)</b> | <b>2021</b> | <b>2020</b> | <b>2019</b> | <b>2018</b> | <b>2017</b> | <b>2016</b> | <b>2015</b> | <b>2014</b> | <b>2013</b> |
|--|------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Longline (in EEZ Longline (FMA 716 and 717)) | 0-50                   | 3           | 1           | 0           | 0           | 0           | 1           | 35          | 42          | 41          |
|  | 51-200                 | 2           | 3           | 1           | 2           | 1           | 0           | 92          | 95          | 104         |
|  | 201-500                | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 2           |
|  | 500+                   | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           |
| Pole and Line (in EEZ FMA 716 and 717)       | 0-50                   | 1           | 2           | 1           | 27          | 27          | 28          | 9           | 4           | 6           |
|  | 51-150                 | 1           | 2           | 3           | 18          | 19          | 32          | 22          | 32          | 49          |
|  | 150+                   | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           |
| Purse seine (in EEZ FMA 716 and 717)         | 0-500                  | 99*         | 120*        | 115*        | 104         | 103         | 118         | 111         | 132         | 131         |
|  | 30-60                  | 66          | 81          | 81          |             |             |             |             |             |             |
|  | 61-100                 | 15          | 12          | 8           |             |             |             |             |             |             |
|  | 101-150                | 11          | 18          | 19          |             |             |             |             |             |             |
|  | 151-200                | 7           | 9           | 7           |             |             |             |             |             |             |
|  | 501-1,000              | 0           | 0           | 0           | 0           | 0           | 0           | 6           | 5           | 2           |
| Handlines (in EEZ FMA 716 and 717)           | 0-10                   | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           |
|  | 11-50                  | 4           | 4           | 9           | 9           | 9           | 15          | 0           | 1           | 1           |
|  | 51-200                 | 3           | 3           | 0           | 0           | 0           | 0           | 0           | 2           | 7           |

| Gear  | Size Class (GT) | 2021       | 2020       | 2019        | 2018       | 2017       | 2016       | 2015       | 2014       | 2013       |
|---|-----------------|------------|------------|-------------|------------|------------|------------|------------|------------|------------|
|   | 201-500         | 0          | 0          | 0           | 0          | 0          | 2          | 1          | 0          | 0          |
|   | 500+            | 0          | 0          | 0           | 0          | 0          | 0          | 0          | 0          | 0          |
| Troll line (in EEZ FMA 716 and 717)                                       | 0-10            | 0          | 0          | 0           | 0          | 0          | 0          | 0          | 0          | 0          |
|   | 11-50           | 0          | 0          | 0           | 0          | 0          | 0          | 0          | 0          | 0          |
|   | 51-200          | 0          | 0          | 0           | 0          | 0          | 0          | 0          | 0          | 0          |
|   | 201-500         | 0          | 0          | 0           | 0          | 0          | 0          | 0          | 0          | 0          |
|   | 500+            | 0          | 0          | 0           | 0          | 0          | 0          | 0          | 0          | 0          |
| Gillnet (in EEZ FMA 716 and 717)  | 0-10            | 0          | 0          | 0           | 0          | 0          | 1          | 0          | 0          | 0          |
|   | 11-50           | 0          | 0          | 1           | 2          | 2          | 0          | 2          | 8          | 2          |
|   | 51-200          | 0          | 0          | 0           | 0          | 0          | 0          | 0          | 0          | 0          |
|   | 201-500         | 0          | 0          | 0           | 0          | 0          | 1          | 1          | 3          | 1          |
|   | 500+            | 0          | 0          | 0           | 0          | 0          | 0          | 1          | 1          | 1          |
| Others, excludes troll line, handlines, gillnets (in EEZ FMA 716 and 717) | 0-10            | 0          | 0          | 0           | 0          | 0          | 0          | 65         | 22         | 9          |
|   | 11-50           | 0          | 0          | 0           | 1          | 0          | 0          | 55         | 61         | 53         |
|   | 51-200          | 0          | 0          | 0           | 0          | 1          | 0          | 60         | 67         | 52         |
|   | 201-500         | 0          | 0          | 0           | 0          | 0          | 1          | 1          | 1          | 0          |
|   | 500+            | 0          | 0          | 0           | 0          | 0          | 0          | 0          | 0          | 0          |
| <b>TOTAL</b>  |                 | <b>103</b> | <b>132</b> | <b>+130</b> | <b>163</b> | <b>162</b> | <b>199</b> | <b>461</b> | <b>476</b> | <b>461</b> |

Note : \*) the sum of number of purse seine fishing vessel from size of 30 GT to 200 GT.  
 +) revised number for 2019

### III. THE INDONESIAN FISHING FLEET STRUCTURE REGISTERED IN WCPFC 2020

Table 12. Number of Indonesia fishing fleet by gear and type registered in WCPFC (2015-2020)

| NO | FLEET                          | 2021 | 2020 | 2019 | 2018 | 2017 | 2016 | 2015 |
|----|--------------------------------|------|------|------|------|------|------|------|
| 1  | Long Liner                     | 0    | 0    | 0    | 0    | 0    | 0    | 153  |
|    | Tuna long liner and long liner |      |      |      |      |      |      |      |
| 2  | Purse Seiner                   | 11   | 9    | 17   | 8    | 6    | 4    | 124  |
| 3  | Pole and Liner                 | 2    | 13   | 0    | 13   | 9    | 7    | 28   |
| 4  | Gillnetter                     | 0    | 0    | 0    | 0    | 0    | 0    | 2    |
| 5  | Handliner                      | 0    | 0    | 2    | 0    | 0    | 0    | 4    |
| 6  | Support Vessel                 | 0    | 0    | 0    | 0    | 0    | 0    | 55   |
| 7  | Non Specified vessel           | 0    | 0    | 0    | 0    | 0    | 0    | 2    |

|   |              |    |    |    |    |    |    |     |
|---|--------------|----|----|----|----|----|----|-----|
| 8 | Fish Carrier | 0  | 0  | 0  | 0  | 0  | 0  | 26  |
|   | <b>Total</b> | 13 | 22 | 19 | 21 | 15 | 11 | 394 |

Note: The significant decrease of vessel registered in WCPFC in 2016 due to the national policy on the moratorium on the fishing vessels that were constructed overseas.

#### **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: Issue moratorium, issue changing fishing activities (HL, PL, LL, PS)

1. No transshipment at sea since January 2015 to end of 2020
2. Vessels built by foreign are tight up at port or back to the origin state or other state.
3. No fishing operation on high seas and foreign EEZ, fishing activities were 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 (2017,2018,2019,2020)
2. Updating the R-VIA (Record of Vessel Authorized to fish in Indonesia waters) into DIVA TUNA (Database of Indonesian Vessel Authorised to fish for Tuna) as online and public verification tool.
3. Increase inspection and surveillance in results to date no less than 526 vessels were arrested and partly were sunk 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 highs 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. In the 2020 in the area of WCPFC convention i.e. FMA 716 and FMA 717 there were reported zero interaction with seabird.
- a. 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 2020 (as submitted to Secretariat) there were no (zero) interaction of cetaceans with purse seine (PS) with cetacean

- b. 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, to date such regulation still enforce.
- c. Sea Turtle: There was zero interaction Sea Turtle with Indonesia purse-seine fishing vessels based on 2020 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 2020.
- 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.

## **VII. SUMMARY OF OBSERVER AND PORT SAMPLING PROGRAMMES (SCIENTIFIC DATA) will updated after ACES 2021**

Ministry of Marine Affairs and Fisheries has issued Ministerial Regulation Number 01 Year 2013 concerning national observer program. In 2018, DGCF national observer program has deployed 276 observers for Hand Line, Pole and line and Purse seine in FMAs 716, 717 and Indonesian archipelagic waters (FMAs 714 and, 715), with total 1,881 days at sea. In 2019, a total 1262 days at sea has been covered by 137 observers for various tuna fishing vessel, and in 2020 there were 80 national observers with 1201 days at sea been observed the fishing vessels as describe in Table 14. Port sampling activities is continuing under WPEA-ITM in 2 landing sites i.e: Bitung (12 enumerators) and 1 enumerator in Sorong. The National data collection program by Research Institute for marine fisheries (RIMF) were also conducted for port sampling at Bulukumba (2 enumerators,

Kwandang (2 enumerators) and Manado (2 enumerators) and Sikka, Maumere (2 enumerators). Some Data collections through ports sampling and observer also been conducted by non-government organizations (NGOs) and linked to DGCF and the harvest strategy work of the FMA 713,714, and 715 (The Indonesian Archipelagic Waters-IAW)

Table 14. Indonesia national observer program (DGCF) in 2016-2020 (LL : Longline, HL: handline, PL; Pole and line, PS: Purse seine).

| Gear Type | FMA     | 2016        |                 | 2017        |                 | 2018        |                 | 2019        |                 | 2020        |                 |
|-----------|---------|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|
|           |         | No Observer | No. Days at sea | No Observer | No. Days at sea | No Observer | No. Days at sea | No Observer | No. Days at sea | No Observer | No. Days at sea |
| LL        | 714     | -           | -               | 4           | 74              | -           | -               | -           | -               | 1           | 4               |
|           | 714-715 | -           | -               | 2           | 19              | -           | -               | -           | -               | -           | -               |
|           | 715     | -           | -               | 3           | 55              | -           | -               | -           | -               | -           | -               |
|           | 716-717 | -           | -               | 1           | 20              | -           | -               | 2           | 57              | -           | -               |
| HL        | 715     | 1           | 8               | -           | -               | 9           | 162             | 5           | 44              | 4           | 50              |
|           | 716-717 |             |                 |             |                 |             |                 | 1           | 6               | -           | -               |
| PL        | 714     | 3           | 12              | 3           | 59              | 3           | 23              | 7           | 137             | 11          | 132             |
|           | 715     | 8           | 69              | 3           | 50              | 13          | 133             | 18          | 164-            | 18          | 204             |
|           | 715-716 | -           | -               | 1           | 7               | 15          | 144             | -           | -               | -           | -               |
|           | 716     | -           | -               | 2           | 19              | 2           | 11              | 3           | 26              | -           | -               |
| PS        | 714     | 2           | 12              | 4           | 125             | 63          | 331             | 46          | 457             | 18          | 152             |
|           | 714-715 | -           | -               | 1           | 8               | 81          | 458             |             |                 | -           | -               |
|           | 715     | 17          | 63              | 11          | 94              | 18          | 127             | 31          | 156             | 18          | 351             |

|              |         |    |     |    |     |     |      |     |      |    |      |
|--------------|---------|----|-----|----|-----|-----|------|-----|------|----|------|
|              | 715-716 | -  | -   | 3  | 28  | 36  | 246  |     |      | -  | -    |
|              | 715-717 | -  | -   | 1  | 17  | 18  | 127  |     |      | -  | -    |
|              | 716     | -  | -   | 2  | 44  | 18  | 119  | 21  | 127  | 5  | 132  |
|              | 717     |    |     |    |     |     |      | 3   | 88   | 5  | 176  |
| <b>Total</b> |         | 31 | 164 | 41 | 619 | 276 | 1881 | 137 | 1262 | 80 | 1201 |

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

Indonesia has launched interim harvest strategy framework for skipjack, yellowfin and bigeye in its Archipelagic waters at the 3<sup>rd</sup> Bali Tuna Conference on the 31 May 2018. Recent nominal 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 and 2020 for PS, LL and PL in particular for FMA 716 and 717 have been submitted to the WCPFC that might be used to estimate effort for those fishery,. During annual catch estimate workshop, the need to have detail information of total effort of PS, HL & PL operated in 716 & 717 derived from logbook data is remained and required further discussion in a dedicated catch and effort workshop.

## **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. Data validation process is conducted with hierarchical scheme from district, provincial to center government (MMAF).
3. Directorate General (DG) such as DG of Capture Fisheries, DG of Aquaculture, DG of Spatial and Zoning will conduct validation for catches production, Aquaculture production and Salt production respectively, all data from these DG as well as from district and Provinces will be validated by CDSI.
4. Data collection conduct at 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-ITM project. To date there are 2 landing sites are observed to produce a catch composition by species by gear as well as its size distribution by WPEA-ITM.
- A collaborative research project between CFR-MMAF (Indonesia) and ACIAR – CSIRO (Australia) for period 2018-2021 that extended to March 2023 is “Harvest strategies for Indonesian tropical tuna fisheries to increase sustainable benefits”, among other objectives this activity will determine productivity of tropical tuna in Indonesia and collect socio-economic information for the different sectors of the tuna fisheries, as well as improve capacity of operational fisheries management and research..
- Continuing data collection port based program for small scale tuna fisheries through collaborative work with NGOs (i.e. MDPI, TNC, SFP, YKAN, YII) and fishing association (AP2HI) fisheries using E.BRPL platform , IFISH and trial on used of spot trace.
- National fish stock Assessment conducted by Research Institute for Marine Fisheries (RIMF-MMAF). Data Collection with support from Indonesia’s government under national stock assessment program has been conducted for FMA 713,716,717 including the tropical tuna since 2019.



## I. FISHING GROUND (2021)

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:

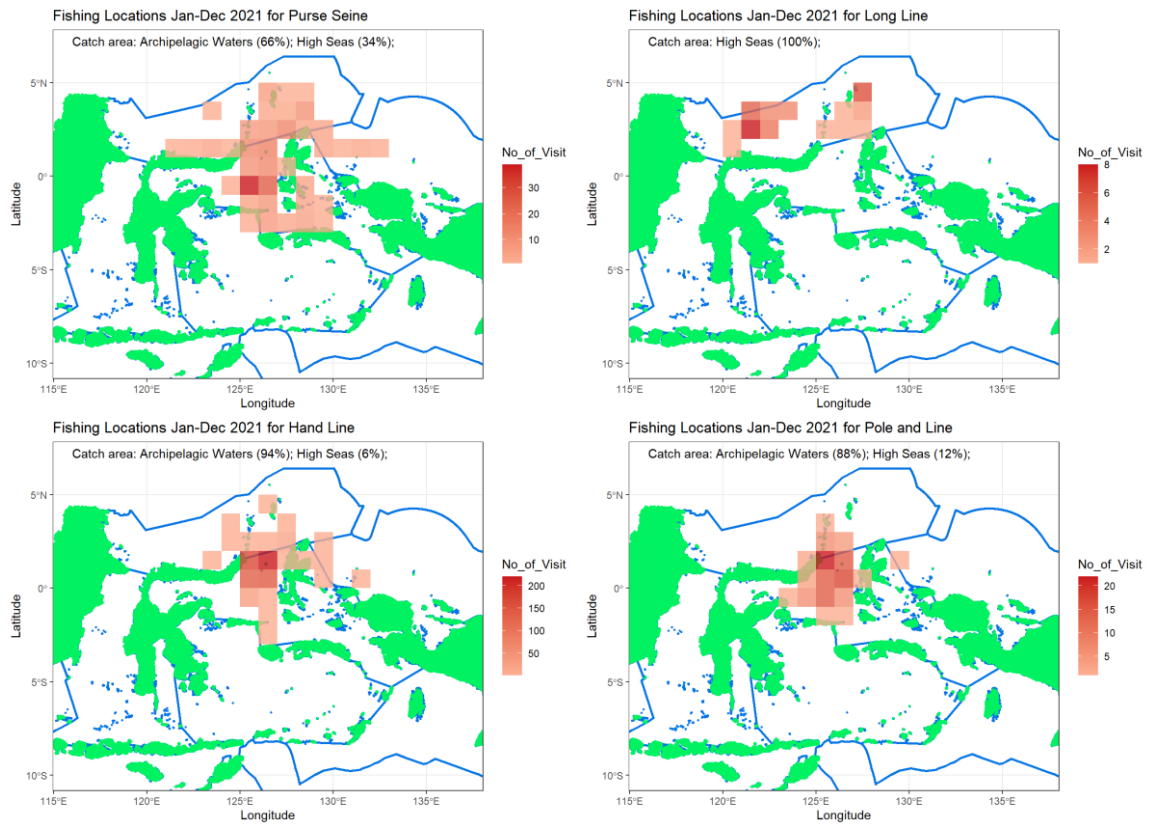


Figure 2. Fishing areas for Purse Seine, Pole and Line, Long Line and Hand Line vessels.

## II. CATCH COMPOSITION 2021

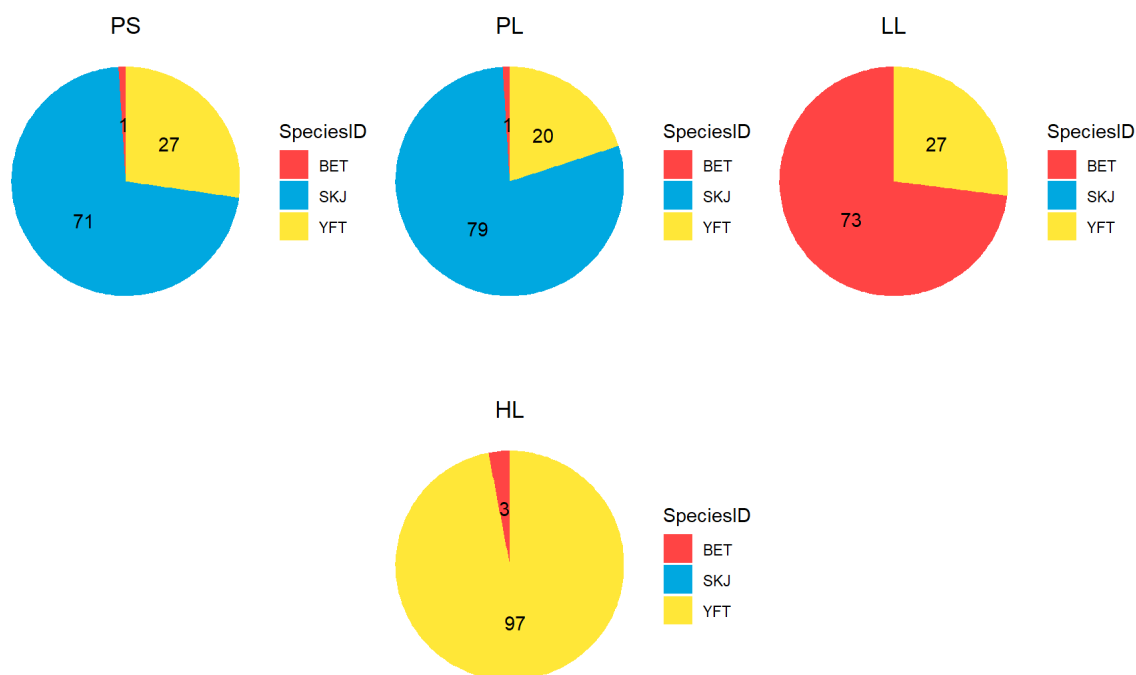


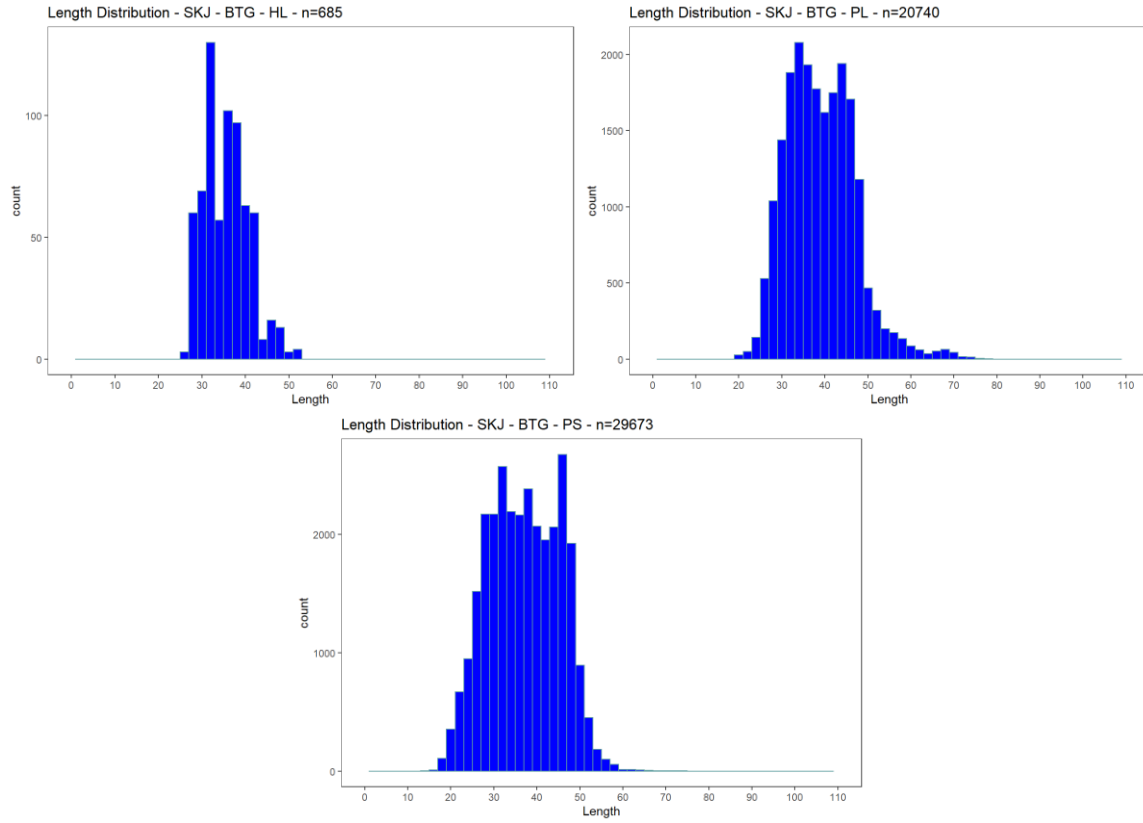
Figure 3. Catch composition of Purse Seine, Pole and Line, Long Line and Hand Line, based at Bitung, in 2021

Port Sampling activity in Bitung in 2021 reports that catch composition by gear varied: Purse Seine caught mostly SKJ (71 %); Pole and Line caught mostly SKJ (79 %); Long Line caught mostly BET (73 %); Hand Line caught mostly YFT (97 %);

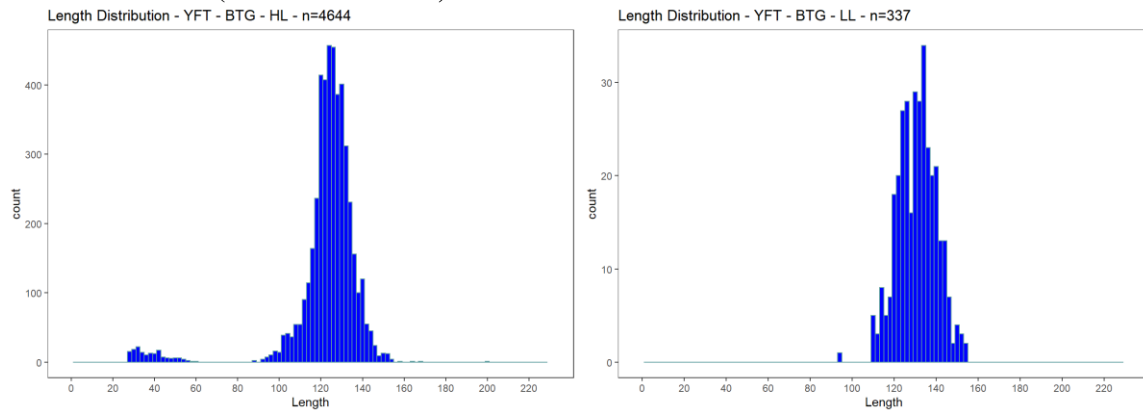
### III. SIZE DISTRIBUTION BASED ON PORT SAMPLING YEAR 2021.

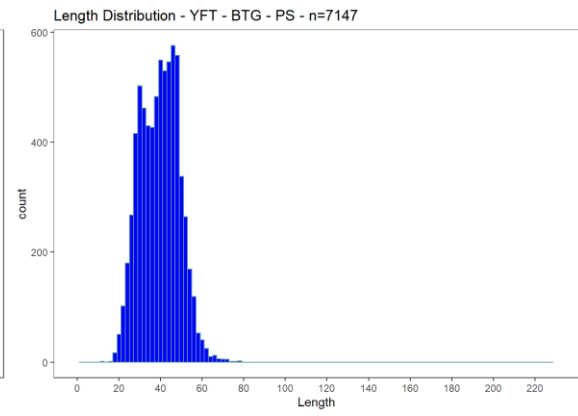
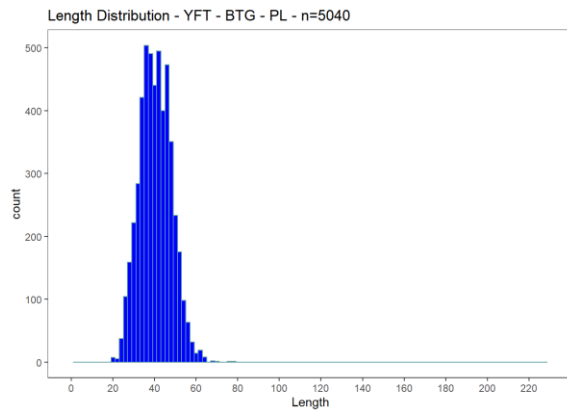
#### A. Length Frequency Distribution

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



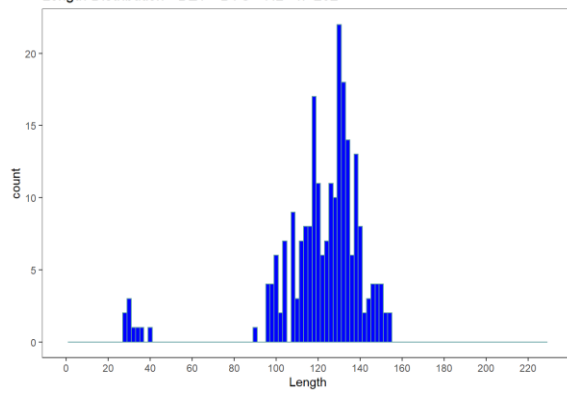
##### Yellowfin Tuna (*Thunnus albacares*)



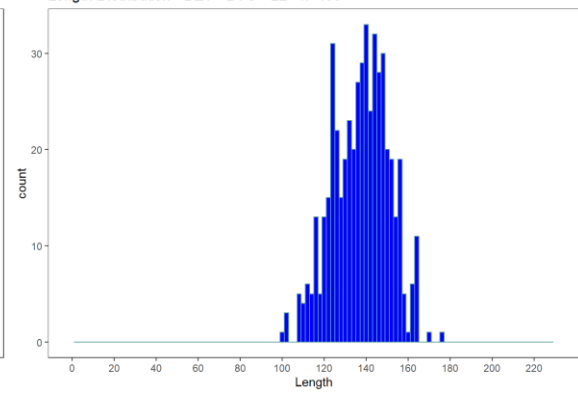


**Bigeye Tuna (*Thunnus obesus*)**

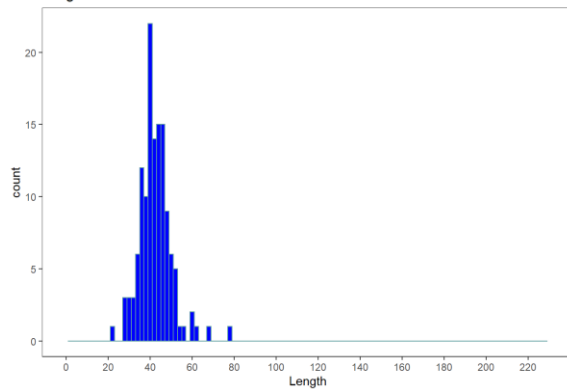
Length Distribution - BET - BTG - HL - n=232



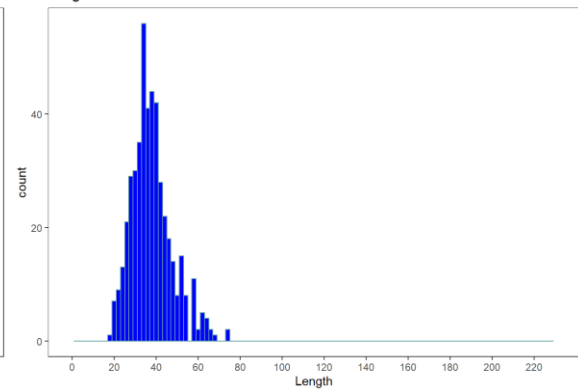
Length Distribution - BET - BTG - LL - n=499



Length Distribution - BET - BTG - PL - n=131

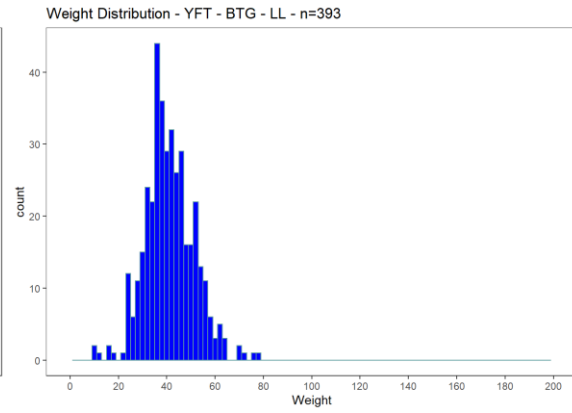
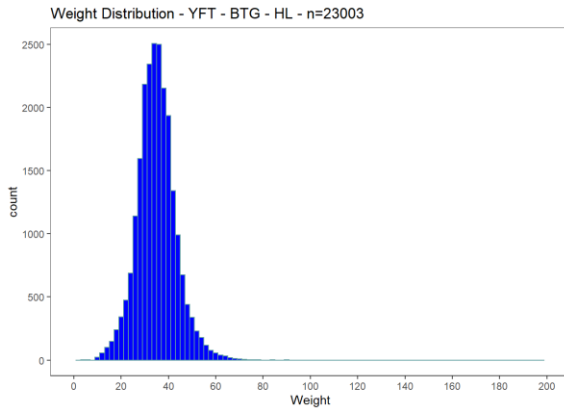


Length Distribution - BET - BTG - PS - n=468

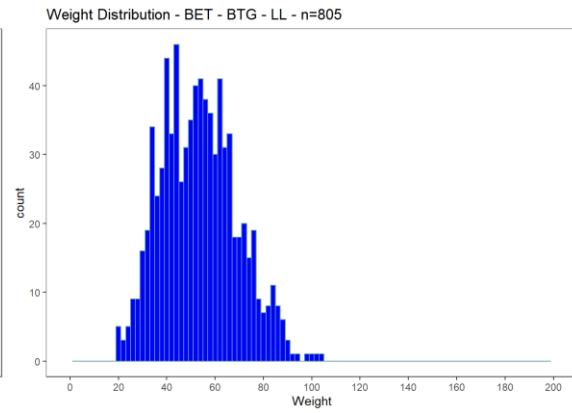
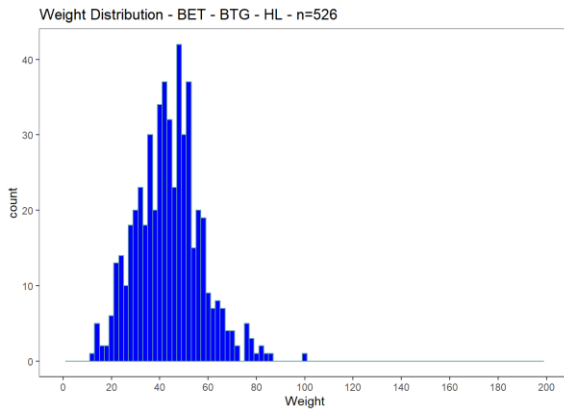


## B. Weight Distribution

### Yellowfin Tuna (*Thunnus albacares*)



### Bigeye Tuna (*Thunnus obesus*)





**ADDENDUM TO ANNUAL REPORT PART 1**  
**Specific information to be provided in Part 1 as required by CMMs<sup>1</sup>**

|   |   |
|---|---|
| <b>CMM 2005-03</b><br>[North Pacific Albacore], Para 4            | There are no catch of north albacore from (PS,LL, PL) gear that operated north of equator.  |
| <b>CMM 2006-04</b><br>[South West striped Marlin], Para 4         | Not Applicable for Indonesia. No Indonesian fishing vessel operated South of 15 S   |
| <b>CMM 2009-03</b><br>[Swordfish], Para 8                         | Not Applicable for Indonesia → No Indonesia fishing vessels targeting swordfish<br>South of 20 <sup>0</sup> S as well as north of 20 <sup>0</sup> S in WCPFC convention Area  |
| <b>CMM 2009-06</b><br>[Transshipment], Para 11 (ANNEX II)         | <b>No transshipment in 2020</b> , all catch shall landed directly to port. Indonesia has issued Minister Regulation No. 57/20 14 on banning of transshipment.   |
| <b>CMM 2010-07</b><br>[Sharks], Para 4                            | Catch of shark is provide in the table 10 a.  |
| <b>CMM 2011-03</b><br>[Impact of PS fishing on cetaceans], Para 5 | <b>No PS interaction with cetaceans</b><br>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</b><br>[Oceanic whitetip sharks], Para 3           | Provision Catch of shark is provide in the table 10 a   |
| <b>CMM 2012-04</b><br>[Whale sharks], Para 06                     | <b>No PS interaction with cetaceans</b>   |
| <b>CMM 2013-08</b><br>[Silky sharks], Para 3                      | 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.<br><b>Not applicable</b> . In year 2020 there was no Indonesia vessel operated in high seas and on other countries EEZ.                             |
| <b>CMM 2015-02</b><br>[South Pacific Albacore] Para 4             | <b>Not applicable</b> for Indonesia. no Indonesian fishing vessel operated South of 20 S  |
| <b>CMM 2017-06</b><br>[Seabirds] Para 9                           | Zero interactions of seabird to Indonesia's Tuna fishing Vessel   |

<sup>1</sup> Reporting requirements requested by CMMs and decisions by the Commission, as of WCPFC15 (Dec 2018)

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

Indonesia has adopted CMM 2012-07/CMM 2015-03/CMM 2017-06 through Minister Regulation No. 12 year 2012 on Fishing in High Seas. No interactions were reported by observer on board on 2020.

#### **ACKNOWLEDGEMENTS**

We acknowledge the support of all enumerators in Bitung and sorong, who spent effort and provide port sampling data under WPEA project, Enumerators from RIMF, Enumerators from MDPI and AP2H1. Thanks to WCPFC including persons and countries involved. Thanks to Centre of Data Statistic and Information (Pusat Data Statistik dan Informasi) for national capture fisheries data, Directorate Fish and Resource Management (DFRM) - Directorate General for Capture Fisheries (DGCF) for log book and national observer data.

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