



**WEST PACIFIC EAST ASIA
OCEANIC FISHERIES
MANAGEMENT**

WPEA OFM



**NATIONAL TUNA MANAGEMENT PLAN
INDONESIA**

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**MINISTRY OF MARINE AFFAIRS AND FISHERIES
DIRECTORATE GENERAL FOR CAPTURE FISHERIES
JAKARTA
AND
WESTERN AND CENTRAL PACIFIC FISHERIES COMMISSION**

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INDONESIA NATIONAL TUNA MANAGEMENT PLAN



Directorate of Fish Resource Management
Directorate General of Capture Fisheries
Ministry of Marine Affairs and Fisheries, Republic of Indonesia
Jakarta, 2012

PREFACE

This National Tuna Management Plan is prepared on the basis of cooperation between the Directorate General of Capture Fisheries, Ministry of Marine Affairs and Fisheries of Indonesia and the Western Central Pacific Fisheries Commission (WCPFC). The cooperation is funded through WPEA-GEF project, a collaboration project between the WCPFC and the United Nation Development Program (UNDP).

This document is very useful as to support the eventual implementation of tuna fisheries management in Indonesia. Action plan promoted in this document is an important element to be undertaken and enforced, to support the effective management of tuna in a sustainable manner.

The National Tuna Management Plan was prepared by participatory approach of concerned stakeholders. Action plans in this document adopted through a consultation and coordination process with the related agencies within the Ministry of Marine Affairs and Fisheries as well as the Tuna Fishery Associations such as Tuna Long Line Association (ATLI) Bali, Indonesia Tuna Association (ASTUIN) Jakarta, Fisheries Fleet Association, Bitung (North Sulawesi), and Association of Fisheries Company Bitung, North Sulawesi. These associations deal with Indonesian tuna fisheries. Therefore, management measures adopted in this plan could be effectively and efficiently carried out in order to achieve its intended purpose.

Finally, we thank to all those who have made great contribution to complete this national tuna management plan. Our special appreciation also goes to Dr. SungKwon Soh, as the WPEA-GEF Project Manager who has fully supported the preparation and finalization of this document.

Director of Fisheries Resource Management
Directorate General of Capture Fisheries
Jakarta, September 2012

ABBREVIATION

ALB	Albacore
API	Alat Penangkapan Ikan (Fishing Gear)
ATLI	Asosiasi Tuna Longline Indonesia (Indonesia Tuna Longline Association)
ASTUIN	Asosiasi Tuna Indonesia (Indonesia Tuna Association)
BET	Bigeye Tuna
BPSDMKP	Badan Pengembangan Sumberdaya Manusia Kelautan dan Perikanan (Agency for Human Resource Development for Marine Affairs and Fisheries)
CCSBT	Commission for The Conservation of Southern Bluefin Tuna
CMM	Conservation and Management Measures
DGCF	Direktorat Jenderal Perikanan Tangkap (Directorate General of Capture Fisheries)
ERS	Ecological Related Species
FADs	Fish Aggregating Devices
FMA	Fisheries Management Area of Indonesia
GDP	Gross Domestic Product
GT	Gross Tonnage
IATTC	Inter-Atlantic Tropical Tuna Commission
IOTC	Indian Ocean Tuna Commission
ICCAT	International Commission for the Conservation of Atlantic Tunas
IUU Fishing	Illegal, Unreported and Unregulated Fishing
ISSF	International Sustainable Seafood Foundation
LOA	Length Overall
RCFMC	Research Center for Fisheries Management and Conservation
P2HP	Direktorat Jenderal Pengolahan dan Pemasaran Hasil Perikanan (Directorate General of Fish Processing and Marketing)
PSDKP	Direktorat Jenderal Pengawasan Sumberdaya Kelautan dan Perikanan (Directorate General of Fisheries Surveillance)
PPN	Pelabuhan Perikanan Nusantara (Archipelagic Fishing Port)
PPS	Pelabuhan Perikanan Samudera (Oceanic Fishing Port)
PUSKITA	Pusat Kerjasama Internasional dan Antar Lembaga (Center for International Cooperation)
RFMO	Regional Fisheries Management Organization
SBT	Southern Bluefin Tuna
SEAFDEC	Southeast Asian Fisheries Development Center
SIPI	Surat Izin Penangkapan Ikan (Fishing Permit)
SIKPI	Surat Izin Pengangkutan Ikan (Fish Carrier Permit)
SKJ	Skipjack Tuna
WCPFC	Western Central Pacific Fisheries Commission
YFT	Yellowfin Tuna
UNIA	United Nation Implementing Agreement
ZEEI	Zona Ekonomi Eksklusif Indonesia (Indonesia Exclusive Economic Zone)

CHAPTER I PRELIMINARY

Based on article 1 paragraph (7) Act No. 31 Year 2004 as amended by Act No. 45 Year 2009 regarding fisheries defines that "Fisheries Management is all the effort, including the integrated process of information collection, analysis, planning, consultation, decision-making, allocation of fish resources, and the implementation and enforcement of legislation in the field of fisheries, conducted by the government and other authorities, which are aimed at achieving sustainability of marine biological resource productivity and agreed objectives".

In respect to the definition, the implementation of fishery management especially tuna fisheries should be carried out through integrated process of the various activities of the working units within the Ministry of Marine Affairs and Fisheries of the Republic of Indonesia.

This Tuna Fishery Management Plan adopts some conservation and management measures in Indonesia Fisheries Management Area as well as on the high seas. The plan also includes the implementation of traceability scheme to support a trade of tuna and tuna products in sustainable manner.

Development of the Tuna Fisheries Management Plan could be presumed as responsibility and obligation of Indonesia toward various regional and international provisions on tuna management and conservation was adopted by Regional Fisheries Management Organization (RFMO). In this regards, effective implementation of those measures will support the sustainable tuna fishing industry.

1. PRINCIPLES OF DEVELOPMENT

Development of the tuna fishery management plan is based on the legislation, the principles of utilization and conservation generally accepted including international provisions adopted by RFMOs. The principles shall include:

- a. Using best available data in respect to condition of tuna resource as well as socio-economic factors, which are substantial to support the effective implementation of adopted conservation and management measures.
- b. Tuna resources in archipelagic, territorial and EEZ Indonesia waters are only allowed to be used by Indonesian fishermen and / or Indonesian legal entity.
- c. Protection of the fishing right of small fishermen in the archipelagic, territorial and Indonesia EEZ waters as well as on the high seas.
- d. Application of the ecosystem and precautionary approach in fisheries management as stipulated in CCRF 1995.
- e. Sustainable utilization of tuna resources.
- f. Strengthening of cooperation with the WCPFC, CCSBT and IOTC to ensure the sustainable utilization of highly migratory fish stocks and straddling fish stocks.
- g. Transposing of relevant regional and international provisions into national legislations.
- h. Strengthening of catch data collection, controlling of fishing capacity and law enforcement.
- i. Increasing a compliance level of the stakeholders towards the adopted provisions.
- j. Formulation of expected goals will be openly deliberated.

2. GOALS AND OBJECTIVES

National Tuna Fishery Management Plan was developed with the intention to reach a sustainable tuna fisheries both capture and processing industries. To achieve the goals, the plan has following objectives:

- a. To undertake best efforts to maintain tuna utilization remains at the limit of the rate of sustainable exploitation, supported by scientific evidence and socio-economic factors that can be obtained.
- b. Implementing catch data collection and analysis to support the decision making process in order to utilize and conserve of tuna resources in a rational way.
- c. Improving the application of code of conduct for responsible fisheries in tuna catching, processing and marketing.
- d. Improving the compliance of Indonesia flagged vessels which fishing in Indonesia FMA, high seas and waters under the jurisdiction of other states.
- e. Undertaking best efforts to combat IUU fishing through effective controlling measures and law enforcement.
- f. Utilizing scientific data on tuna stocks, both from national and regional research institutions in order to improve adopted management measures.

3. SCOPE OF THE MANAGEMENT PLAN

Management actions are set out in this plan shall be applied to:

- a. All fishing vessels catching skipjack tuna (*Katsuwonus Pelamis*), yellow fin tuna (*Thunnus albacares*), bigeye tuna (*Thunnus obesus*) and Albacore (*Thunnus alalunga*) and southern bluefin tuna (*Thunnus maccoyii*).
- b. Fishing activity is carried out in the FMA -713; FMA-714; FMA-715; FMA-716; FMA-717; FMA-572 and FMA 573, as well as on the high seas of Pacific Ocean and Indian Ocean including EEZ of other states.
- c. Fishing Gear includes longliner, purse-seiner, pole and liner, handline and other gear such as trolling and gillnet.
- d. This management plan also covers trade provisions of tuna and tuna products originating from Indonesian waters, IEEZ and the high seas, as well as catch landed and/or transhipped by foreign flag vessels in Indonesia and catch landed and/or transhipped by Indonesia flagged vessel out site of Indonesia.

4. MANAGEMENT PERIOD, REVIEW AND EVALUATION.

Management period of this National Tuna Management Plan is 3 (three) years after it enters into force and subject to be reviewed and evaluated as required. Implementation of action plan will be (analyzed) annually. Review and evaluation will be organized by Directorate General of Capture Fisheries which is implemented in respect to (i) the issues of tuna fisheries at national and global level (ii) the latest scientific information (iii) changes in national policy and regulation, (iv) changes in management and conservation measures adopted by RFMOs and (v) other factors affecting the activities of the tuna fishing industry. The revision or improvement of the action plan will be done in consultation with all relevant stakeholders.

Chapter II TUNA FISHERY PROFILE INDONESIA

Indonesia is one of the largest tuna producing countries in the world. Tuna resources are spread out almost all over Indonesia waters include archipelagic and territorial waters as well as IEEZ. Contribution of tuna fishery both to gross domestic product (GDP) and working opportunity cannot be ignored.

Tuna is one of the primary export commodities that are exported in various products such as fresh tuna, frozen tuna, canned tuna. In 2011, export of tuna products (fresh, frozen and canned) to Japan, USA, EU, Canada, China and Korea as much as 141,774,186 Kg in volume and USD \$ 498,591,247 in value, as described in the table1 below:

Table 1: Export of Tuna and Tuna Products in 2011

No	Product Type	Export	
		Volume(Kg)	Value(U.S. \$)
1	Fresh	13.332.109	88.026
2	Frozen tuna and skipjack	58.452.825	131.413.987
3	Canned Tuna	69.989.252	279.150.989
Total		141.774.186	498.591.247

Source: BPS-9 Digit HS, (analyzed) by Directorate of Foreign Market Development-DG of Fisheries Product Processing and Marketing, MMAF Rep. of Indonesia.

In addition, the tuna fishing industry also provides huge working opportunities both at upstream and downstream industries, including at supporting industry to tuna fisheries such as logistics supply, fishing gear, shipbuilding, etc.

1. TUNA INSUES IN INDONESIA

In line with implementation of the tuna fisheries development that has been conducted since 1970, recently, the management of tuna fisheries facing at least three (3) issues including (i) tuna resource condition (ii) management practices and (iii) socio-economic.

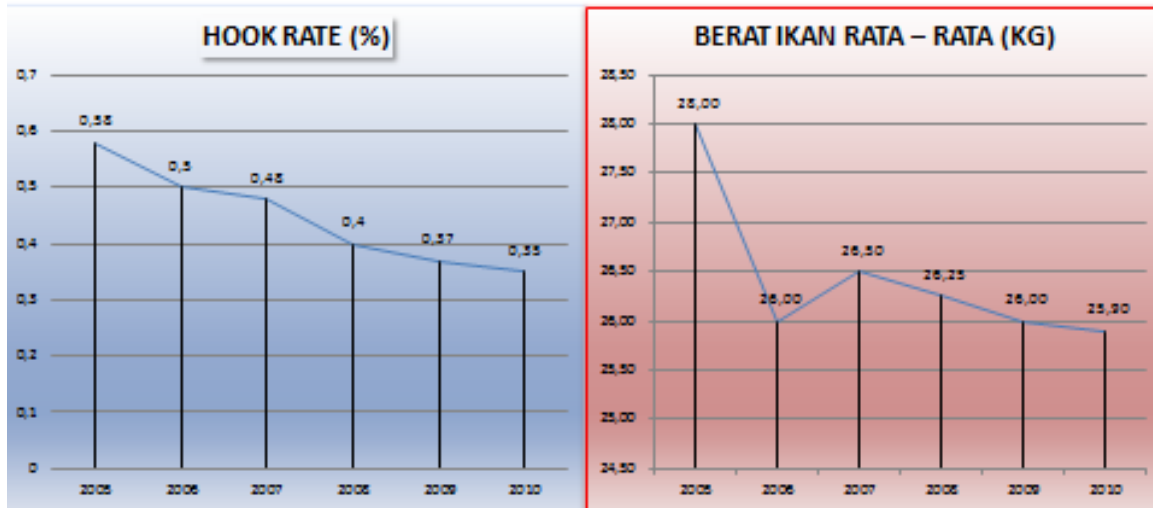
a. Tuna resources

Tuna fishing industry is facing the tendency to decreasing of number and size of catch. Based on information received from PT. ANEKA Tuna, it is known that the size of tuna in 2011 tends to decline between 30 Kgs-40Kgs/individuals, while in 2 (two) previous years ranged from 50 Kgs-70Kgs/individuals. The fleets of this company are fishing in the IEEZ Pacific Ocean.

In addition, catch data of Indonesia Tuna Longline Association (ATLI) Bali (2000-2010) indicates the tendency of decreasing of catch both in catch rate and weight of tuna, as shown in the above graph.

The above data is (analyzed) and presented by ATLI Bali, originating from catch by vessels fishing in the FMA-713; FMA-714; FMA-715; FMA 572 and FMA-573. In addition to tendency of catch decreasing, tuna fishing business also faced to magnitude of operating cost due to high price of fuel oil.

HOOK RATE DAN BERAT IKAN TUNA YANG TERTANGKAP KAPAL TUNA LOGLINE ANGGOTA ATLI



HASIL TANGKAPAN / 100 MATA PANCING

SUMBER ATLI , 2010

To maintain the existence of the fishing business, operators improve of cost efficiency through (i) increasing the catch operation days, (ii) expansion of fishing area, integrated with developing of operation scheme by practicing at sea-transshipment, both to fishing vessel that will return to base port or to fish carrier vessels as collector vessels. But at the other side, the above condition was responded by some operators/fishers by changing the fishing gear from long line to purse-seine. The other issues, there are a number of uncertainties in population dynamic of tuna resources, data and information limitation on tuna stocks as well as the level of utilization. These circumstances would lead to difficulty in the decision-making process related to establishment of conservation and management measures to be adopted in this National Tuna Management Plan.

b. Management

National Tuna Management Plan can be appropriately developed by having supporting data which at least meet three (3) conditions namely (i) objective (ii) accurate and (iii) up to date. Type of data required relates to tuna fishing fleets, catch, fishing ground, (analyzed) catch and fresh catch directly exported including imported data by fish processing unit, etc. Currently, accuracy of the existing data could be in question. Limitation of data greatly affects the effectiveness of the management plan implementation.

Tuna management is also being faced by increasing in utilization of non-selective fishing gear such as purse-seine operated by using FAD associated with light. This operation pattern, will possibly harvest larger amounts of small fish (juvenile) of yellowfin tuna and bigeye tuna that are

often caught together with skipjack tuna as a target species. This condition can threaten the natural growth of these species. Therefore, intensification of fishing practice by using FAD and light must be effectively controlled and regulated.

In addition, indication of IUU Fishing practicing is also a serious concern tuna management. As we know that IUU fishing has been considered as the common enemy of the international community. For that reason, each state has the similar obligations to combat, prevent and eliminate IUU fishing activities, both in waters under their national jurisdiction and on the high seas. In this case, the right of the flag state to provide fishing permits must be accompanied by an obligation to control the operation of the said fishing vessels.

However, the positive aspect that can encourage the achievement of the objectives set out in this NTMP is the commitment of members to RFMO that has adopted various conservations and management of tuna.

c. Socioeconomic

Promotion of the development of tuna fishery has been conducted since 1970. As a result, government and tuna fishing industries including fishermen have made investments in fishing and processing industries. The government has made big investments to improve fisheries infrastructure facilities. On the other hand, the private sectors have also invested by building fishing fleet and processing industries. This investment requires a return that can only be obtained from the catch / yield of tuna. These situation become the basis for difficulty to change the mind-set of operators, from production oriented to sustainable oriented.

In addition, Indonesian tuna fisheries are facing the paradoxical situation. When catch for certain species seems tend to decline, there is an obligation to provide working opportunity both in fishing and processing industries. This situation leads to increase catch by changing fishing gear from long line to purse-seine. The competition between longliner and purse-seiner may lead to potential conflict among fishermen as resource user.

Conflict among fishermen is showing by dispute between tuna purse-seine and tuna longliner. This dispute may occur since when there is a decreasing of catch of tuna longliner such as yellowfin tuna and bigeye tuna, at the other side, purse-seine keep catching juvenile tunas in significant portion. This may be occurred since purse-seine are operated by using FAD associated with light.

2. REGULATION

Management, utilization and conservation of tuna resource in Indonesia waters stipulated in various laws and regulations, such as:

- (i) Act No. 31 of 2004 as amended by Act - Act No. 45 of 2009 on fisheries;
- (ii) Act No. 5 of 1983 on the Indonesian Exclusive Economic Zone;
- (iii) Law No. 32 Year 2004 on Regional Government;
- (iv) Act No. 6 of 1996 on Indonesian Waters;
- (v) Law No. 21 Year 2009 on the ratification of Agreement for the implementation of the provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (Approval of the implementation of the provisions of the convention union of

- nations marine law dated 10 December 1982 relating to the conservation and management of fish stocks and the stocks are limited stocks of fish stocks away);
- (vi) of the Law No. 17 Year 2008 on the voyage;
 - (vii) Government Regulation No. 54 Year 2002 on Fisheries Business;
 - (viii) Government Regulation No. 60 of 2007 on Conservation of Fish Resources;
 - (ix) Presidential Decree No. 9 of 2007 on Ratification of the Agreement for the Establishment of the Indian Ocean Tuna Commission (Agreement on the establishment of the Indian Ocean Tuna Commission);
 - (x) Presidential Decree No. 109 of 2009 on the Ratification Convention for the Conservation of Southern Bluefin Tuna;
 - (xi) Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas in 1993, the Food and Agriculture Organization.

To carry out the provisions of the above regulation, the Ministry of Maritime Affairs and Fisheries Minister has issued various regulations such as capture fisheries business, fishing gear, fisheries management area, vessel's marking and registration, fishing logbook, catch certificate, vessels monitoring, etc.

In addition, Indonesia also has a national policy such as the Medium Term Development Plan, Regional Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated (RPOA-IUU), Establishment of Marine Protected Area about 20 million hectares, including various provisions concerning environment, trade and ship that can also support the implementation of sustainable management of tuna resources in the Indonesia FMA and the high seas.

Furthermore, Indonesia in the process of ratifying the FAO Compliance Agreement and the FAO Port State Measure; has been implementing various international agreements that affect fisheries such as the Convention on Biological Diversity and the Convention on the International Trade in Endangered Species of Wild Flora and Fauna (CITES). Indonesia has adopted principles of sustainable management of fisheries resources contained in the FAO Code of Conduct for Responsible Fisheries and the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU), although those international instruments are non-binding.

To implement obligations as a full member of the Indian Ocean Tuna Commission (IOTC) and the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) as well as Cooperating Non-Member in Western and Central Pacific Fisheries Commission (WCPFC), Indonesia has integrated various conservation and management measures adopted by those organizations into national legislations. Indonesia also actively cooperate with other regional organizations such as the Inter-Atlantic Tropical Tuna Commission (IATTC), International Commission for the Conservation of Atlantic Tuna (ICCAT), Asia Pacific Fisheries Commission (APFIC), Southeast Asian Fisheries Development Council (SEAFDEC), Asia Pacific Economic Cooperation (APEC), and Regional Plan of Action to Promote Responsible Fishing Practices Including Combating Illegal, Unreported and Unregulated Fishing (RPOA), Coral Triangle Initiative (CTI) and ASEAN.

In trading of tuna and tuna products, Indonesia has also participated actively in the WTO rules on tariff and non-tariff barriers, fisheries Subsidies, anti-dumping, sanitary and phyto-sanitary measures. Policy in Traceability Scheme has also been carried out through the implementation of Catch Documentation Scheme (CDS) for Southern Bluefin Tuna ; IOTC Bigeye Statistical Document; Catch Certification for all fishery products as defined in Europe Council 1005/2008 IUU Regulation, including NOAA Form 307 (dolphin save) and ICCAT Form (Swordfish).

3. FISHING FLEET

Indonesia Tuna fisheries include purse-seiner, hand liner, trolling liner and gill-netter and longliner. Longliner, purse-seine, pole and line and gillnetter are usually dominated by large vessels with a length over all (LOA) greater than 24 meters or 30 gross tonnages (GT). While handline and trolling line, are dominated by small scale vessels less than 24 meters length overall or below 30 GT. The structure of the tuna fishing fleet based on vessel size is reflected in table 2 below:

Table 2: Structure of Fleet in FMA-713; FMA-714; FMA-715; FMA-716; FMA-717 and FMA572 and FMA 573

Category	2007	2008	2009	2010
< 5 GT	40.781	50.878	48.547	52.598
5 - 10 GT	16.383	13.863	14.974	16.778
Sub-Total	57.164	64.741	63.521	69.376
10 - 20 GT	3.800	3.335	3.910	4.509
20 - 30 GT	1.961	1.976	2.693	2.615
Sub-Total	5.761	5.311	6.603	7.124
30 - 50 GT	909	425	747	850
50 - 100 GT	2.092	1.961	1.188	1.905
100 - 200 GT	1.173	1.107	951	993
200 - 300 GT	45	40	50	52
300 - 500 GT	27	40	32	18
500 - 1000 GT	32	32	21	22
> 1000 GT	3	4	3	3
Sub-Total	4.281	3.609	2.992	3.843
Total	67.206	73.661	73.116	80.343

Source: Fisheries Statistics, 2011, (analyzed)

From table 2 above it can be seen that in 2010, the total number of fishing fleets in the region which is the scope of this management plan about 80,343 units. From authority perspective, the Directorate General of Capture Fisheries is authorized to issue fishing permits of 3843 vessels; Provincial Government of 7,124 vessels and District/Municipality Government of 16,778 vessels including small scale vessel registration of 52,598 vessels. At this time, there is no reported data on the number of fishing permits issued by Provincial and District/City Government to tuna longliner, purse-seiner, pole and liner, handline and other gear such as trolling line and gillnet. Number of fishing permits issued by the Directorate General of Capture Fisheries can be reflected by number of vessels listed in the RFMO Record of Vessels.

Structure in FMA-713; FMA-714; FMA-715; FMA-716 and FMA-717 which is related to WCPFC statistical area is reflected in table 3 below:

Table 3: Fleet Structure in FMA-713; FMA-714; FMA-715; FMA-716 and FMA-717

Category	2007	2008	2009	2010
< 5 GT	30.203	36.784	35.659	39.346
5 - 10 GT	10.884	7.920	9.359	10.024
10 - 20 GT	2.714	1.815	2.517	2864

20 - 30 GT	637	813	844	1.032
30 - 50 GT	579	95	337	384
50 - 100 GT	1.263	1.132	702	1.140
100 - 200 GT	576	510	373	324
200 - 300 GT	29	24	43	44
300 - 500 GT	17	30	24	12
500 - 1000 GT	17	17	12	13
> 1000 GT	2	3	2	2
Total	46.921	49.143	49.872	55.185

Source: Fisheries Statistics, 2011 (analyzed)

Furthermore, Fleet Structure in archipelagic water such as FMA-713; FMA-714; FMA-715 is reflected in table 4 below:

Table 4: Fleet Structure in FMA-713; FMA-714 and FMA-715

Category	2007	2008	2009	2010
< 5 GT	27.313	29.911	30.847	34.720
5 - 10 GT	9.431	6.681	7.952	8.182
10 - 20 GT	2.094	1.162	1.882	2.474
20 - 30 GT	469	668	785	956
30 - 50 GT	422	16	286	331
50 - 100 GT	806	684	432	792
100 - 200 GT	397	319	259	224
200 - 300 GT	0	0	25	25
300 - 500 GT	0	0	0	0
500 - 1000 GT	0	0	0	0
> 1000 GT	0	0	0	0
Total	40.932	39.441	42.468	47.704

Source: Fisheries Statistics, 2011 (analyzed)

While Fleet Structure in IEEZ such as FMA-716 and FMA-717 is reflected in table 5 below:

Table 5: Fleet Structure in FMA-716 and FMA-717

Category	2007	2008	2009	2010
< 5 GT	2890	6873	4812	4626
5 - 10 GT	1453	1239	1407	1842
10 - 20 GT	620	653	635	390
20 - 30 GT	168	145	59	76
30 - 50 GT	157	79	51	53
50 - 100 GT	457	448	270	348
100 - 200 GT	179	191	114	100
200 - 300 GT	29	24	18	19
300 - 500 GT	17	30	24	12

500 - 1000 GT	17	17	12	13
> 1000 GT	2	3	2	2
Total	5989	9702	7404	7481

Source: Fisheries Statistics, 2011 (analyzed)

In relation to IOTC area of competence, tuna fleet structure is reflected in table 6 below:

Table 6: Fleet Structure in FMA-572 and FMA-573

Category	2007	2008	2009	2010
< 5 GT	10.578	14.094	12.888	13.252
5 - 10 GT	5.499	5.943	5.615	6.754
10 - 20 GT	1.086	1.520	1.393	1.645
20 - 30 GT	1.324	1.163	1.849	1.583
30 - 50 GT	330	330	410	466
50 - 100 GT	829	829	486	765
100 - 200 GT	597	597	578	669
200 - 300 GT	16	16	7	8
300 - 500 GT	10	10	8	6
500 - 1000 GT	15	15	9	9
> 1000 GT	1	1	1	1
Total	20.285	24.518	23.244	25.158

Source: Fisheries Statistics, 2011 (analyzed)

4. RESEARCH ACTIVITIES

a. Annual Catch Estimates

Annual catch estimates was made to 5 (five) tuna species such as skipjack tuna (*Katsuwonus Pelamis*), yellowfin tuna (*Thunnus albacares*), Bigeye tuna (*Thunnus obesus*), albacore tuna (*Thunnus alalunga*) and Southern Bluefin Tuna (*Thunnus maccoyii*). Catch data was collected by gear type and species landed in Indonesia fishing ports but it is not including foreign flagged vessels that landed their catch in Indonesia.

Based on fisheries statistics (2011), the annual catch estimates during year 2000-2011, in the 7 (seven) FMA and on the high seas of Pacific Ocean is reflected in table 7 below:

Table 7: Annual Catch estimates (FMA713; FMA-714; FMA715; FMA716; FMA-717; FMA-572 and FMA-573 and on high seas of Pacific Ocean)

Year	Estimated Year Catch (tons)									Total
	SKJ	%	YFT	%	BET	%	ALB	%	SBT	
2000	20.759	67,8	8.357	27,3	1.492	4,9	-	-		30.608
2001	26.759	67,8	10.773	27,3	1.924	4,9	-	-		39.456
2002	41.761	67,8	16.812	27,3	3.002	4,9	-	-		61.575
2003	61.600	67,8	24.799	27,3	4.429	4,9	-	-		90.828
2004	62.292	67,8	25.077	27,3	4.478	4,9	-	-		91.847
2005	111.090	48,7	88.079	38,6	18.151	8,0	10.902	4,8	1831	230053
2006	123.714	61,5	55.093	27,4	19.970	9,9	2.383	1,2	447	201.607
2007	115.815	56,3	56.707	27,6	21.114	10,3	12.126	5,9	1079	206841

2008	115.640	58,2	51.571	26,0	19.190	9,7	12.231	6,2	888	199520
2009	140.665	57,6	71.557	29,3	26.334	10,8	5.560	2,3	641	244757
2010	144.122	55,5	74.209	28,6	28.126	10,8	13.030	5,0	474	259961
2011	330.048	56,7	169.526	29,1	70.704	12,2	11.426	2,0	700	582404
Average	107.855	58	54.380	29	18.243	10	5.638	3	865	187031

Source: Fisheries Statistics, 2011 (analyzed)

Note: in 2000-2004, excluding FMA-572 and FMA-573.

Based on catch estimates in table 7 above, it is indicated that annual catch increased every year. Significant enhancement commencing from 2005 to 2011. As highly migratory fish stocks and straddling fish stocks that are managed regionally through RFMO, annual catch estimates will be grouped by FMA related to statistical area of RFMO, such as:

A.1. Catch Estimates in FMA-713; FMA-714; FMA-15; FMA-716; FMA--717 is related to the WCPFC Statistical Area.

B.1. Catch Estimated in FMA-572 and FMA--573 is related to the IOTC Statistical Area.

Scientific information in each FMA will be described as follows:

A.1. Catch Estimates FMA related to WCPFC Statistical Area.

Catch Estimates in the archipelagic waters such as FMA-713; FMA-714 and FMA-715 as well as the territorial waters and IEEZ of Sulawesi Sea (FMA-716) and IEEZ Pacific Ocean (FMA 717), during year 2000-2011 was made in the workshop of Annual Catch Estimates, which is a workshop collaboration between the Directorate General of Capture Fisheries and SPC represented by Mr. Peter William. The workshop was held in Jakarta on 23-25 July 2012 and catch estimates was determined based on fisheries statistical data, 2011. Catch estimate in FMA-716 and FMA-717 during year 2000-2011 is reflected in table 8 below:

Table 8: Tuna Catch Estimates in FMA-716 and FMA-717

Year	Yearly Catch Estimates (ton)						
	Skipjack		Yellowfin		Bigeye		Total (ton)
	(ton)	(%)	(ton)	(%)	(ton)	(%)	
2000	20.759	68	8.357	27,3	1.492	4,9	30.609
2001	26.759	68	10.773	27,3	1.924	4,9	39.456
2002	41.761	68	16.812	27,3	3.002	4,9	61.576
2003	61.600	68	24.799	27,3	4.429	4,9	90.828
2004	62.292	68	25.077	27,3	4.478	4,9	91.847
2005	62.422	64	30.751	31,4	4.814	4,9	97.987
2006	73.196	71	24.509	23,7	5.723	5,5	103.427
2007	68.118	68	27.712	27,7	4.081	4,1	99.912
2008	68.761	67	26.839	26,3	6.574	6,4	102.174
2009	75.381	61	39.299	32,0	8.157	6,6	122.837
2010	75.656	72	26.283	25,0	3.356	3,2	105.296
2011	69.713	65	33.009	31,0	3.889	3,6	106.611
Mean	70.753	65,61	31.283	28,7	6.271	5,72	108.308

Source: Fisheries Statistics, 2011 (analyzed)

Table 8 above indicates that annual catch increase significantly from year 2002 to 2011.

While the average of annual catch in the archipelagic waters such as FMA- 713; FMA-714 and FMA-715, within the year 2011 is reflected in table 9 below:

Table 9: Catch Estimates in FMA-713; FMA-714 and FMA-715

Year	Annual Catch Estimates(ton) year 2011						
	Skipjack		Yellowfin		Bigeye		Total
	(ton)	(%)	(ton)	(%)	(ton)	(%)	(ton)
Mean 2011	179.429	56,7	97.017	30,7	39.800	12,6	316.246

Source: Fisheries Statistics, 2011 (analyzed)

In addition, catch estimates in the high seas of Pacific Ocean is obtained from 7 (seven) Indonesia longliner. Catch estimates in 2011 is reflected in table 10 below:

Table 10: Catch Estimates on the High Seas of Pacific Ocean

No	Fish Species	Catch (mt)		Total (mt)	Remarks
		5 Ships	2 Ships		
1	Bigeye Tuna	869,220	86,955	956,175	Catch data of 2 longliners is obtained from at-Sea Transhipment Declaration.
2	Yellowfin Tuna	141,258	22,509	163,767	
3	Swordfish	96,221	7,170	103,391	
Total		1.106,698	116,634	1.223,332	

Source: Report on the high seas catches landed outside Indonesia, (analyzed)

Based on catch estimates as described in table 8, table 9 and table 10, it can be concluded that by 2011, the annual catch estimates of 5 (five) FMA which is related the WCPFC statistical area including high seas of Pacific Ocean as much as 424,080 tons with details as reflected in table 11 below:

Table 11: Catch Estimates of 5 Indonesia FMA and the Sea of Pacific Ocean

FMA	Average Catch Estimates (2011)								Total
	Skipjack		Yellowfin		Bigeye		Swordfish		
	(ton)	(%)	(ton)	(%)	(ton)	(%)	(ton)	(%)	
713;714;715	179.429	56,7	97.017	30,7	39.800	12,6	0	0	316.246
716;717	69.713	65,4	33.009	31,0	3.889	3,6	0	0	106.611
High Seas	0	0	164	13,4	956	78,2	103	8,4	1.223
Total	249.142	58,7	130.982	30,8	43.853	10,3	103	0,2	424.080

Based on catch estimates in Table 11 above, it can be concluded that tuna was harvested from:

- (i) Archipelagic Waters (FMA-713; FMA-714 and FMA-715): 74.6%
- (ii) Territorial Waters and IEEZ of Sulawesi Sea and the Pacific Ocean (FMA-716 and FMA-717): 25.1%
- (iii) High seas of the Pacific Ocean: 0.3%

a.2A.2. Catch Estimates by Gear Type

a.2.1A.2.1. Longliner

Catch Estimates of longliner in the fishing ground which is related to WCPFC Statistical Area such as FMA-713; FMA-714; FMA-715; FMA-716 and FMA-717 during years 2000-2011 as ~~reflected in~~ reflected in table 12 below:

Table 12: Catch Estimates of Longliner (FMA--713; FMA- 714; FMA- 715; FMA--716 and FMA-717)

Year	Catch Estimates (tons)								Total
	Skipjack	%	Yellowfin	%	Bigeye	%	Albacore	%	
2000	0		3.104	80,9	731	19,1	0		3.834
2001	0		4.001	80,9	942	19,1	0		4.942
2002	0		6.243	80,9	1.470	19,1	0		7.713
2003	0		9.209	80,9	2.168	19,1	0		11.377
2004	0		9.313	80,9	2.192	19,1	0		11.505
2005	0		17.542		7.528		0		25.070
2006	0		19.152		10.609		0		29.761
2007	0		21.935		11.079		0		33.014
2008	0		23.699		12.229		0		35.928
2009	0		28.926		12.411		0		41.337
2010	0		26.767		11.221		0		37.988
2011	0		31.526		15.665		0		47.191
Average composition			16.785	69,5	7.354	30,5			24.138

Source: Fisheries Statistics, 2011 (analyzed)

Note: in 2000-2004, excluding Catch from FMA-713, FMA-714 and FMA-715

Based on catch estimates as reflected in table 12 above, it may be concluded that catch of longliner in the fishing ground which is related to WCPFC Statistical area composed of yellowfin tuna and bigeye tuna, with an average composition of 69.5% and 30.5% respectively.

In respect to Convention territorial water adjacent to IEEZ in Sulawesi Sea (FMA-716) and Pacific Ocean (FMA-717), Catch Estimates of longliner within 11 years as reflected in table 13 below:

Table 13: Catch Estimates of Longliner (FMA-716 and FMA-717)

Year	Estimated Year Catch (tons)								Total
	Skipjack	%	Yellowfin	%	Bigeye	%	Albacore	%	
2000	0		3.104	80,9	731	19,1	0		3.834
2001	0		4.001	80,9	942	19,1	0		4.942
2002	0		6.243	80,9	1.470	19,1	0		7.713
2003	0		9.209	80,9	2.168	19,1	0		11.377
2004	0		9.313	80,9	2.192	19,1	0		11.505
2005	0		14.152	74,4	4.845	25,6	0		19.017
2006	0		14.317	67,8	6.810	32,2	0		21.127
2007	0		16.153	71,2	6.536	28,8	0		22.689
2008	0		18.194	69,7	7.904	30,3	0		26.098
2009	0		23.574	74,2	8.205	25,8	0		31.779
2010	0		20.404	76,6	6.221	23,4	0		26.625
2011	0		22.638	72,3	8.681	27,7	0		31.320
Average composition			13.442	74	4.725	26			18.169

Source: Fisheries Statistics, 2011 (analyzed)

Based on catch estimates as reflected in table 13 above, it may be concluded that catch of longliner in Indonesia territorial waters and IEEZ which is related to WCPFC Statistical area

compose of yellowfin tuna and bigeye tuna, with an average composition of 74 % and 26 respectively.

Furthermore, Catch Estimates of longliner in the Indonesia Archipelagic Waters which is related to WCPFC Statistical Area such as FMA-713; FMA- 714; FMA- 715 during years is only available from year 2005-2011 as reflected in table 14 below:

Table 14: Catch Estimates of Longliner (FMA-713; FMA-714; FMA715)

Year	Estimated Year Catch (tons)								Total
	Skipjack	%	Yellowfin	%	Bigeye	%	Albacore	%	
2000	0		NA		NA		NA		NA
2001	0		NA		NA		NA		NA
2002	0		NA		NA		NA		NA
2003	0		NA		NA		NA		NA
2004	0		NA		NA		NA		NA
2005	0		3.390	56	2.663	44	NA		6.053
2006	0		4.835	56	3.799	44	NA		8.634
2007	0		5.782	56	4.543	44	NA		10.325
2008	0		5.505	56	4.325	44	NA		9.830
2009	0		5.352	56	4.206	44	NA		9.558
2010	0		6.363	56	5.000	44	NA		11.363
2011	0		8.888	56	6.983	44	NA		15.871
Average composition			5.730	56	4.502	44			10.233

Source: Fisheries Statistics, 2011 (analyzed)

Based on catch estimates as reflected in table 14 above, it may be concluded that catch of purse-seiner in Indonesia Archipelagic waters which is related to WCPFC Statistical area compose of yellowfin tuna and bigeye tuna, with an average composition of 56 % and 44 % respectively.

a.2.2A.2.2. Purse-Seiner

Catch Estimates of purse-seiner in FMA-713; FMA-714; FMA715; FMA-716; FMA-717 is from year 2000-2011 is reflected in table 15 below:

Table 15: Catch Estimates of Purse-Seiner (FMA-713; FMA-714; FMA715; FMA-716; FMA-717)

Year	Catch Estimates (tons)								Total
	Skipjack	%	Yellowfin	%	Bigeye	%	Albacore	%	
2000	61.411	69,2	24.923	28,1	2.426	2,7	0		88.760
2001	58.167	69,2	23.607	28,1	2.297	2,7	0		84.071
2002	61.087	69,2	24.792	28,1	2.413	2,7	0		88.292
2003	63.281	69,2	25.682	28,1	2.500	2,7	0		91.463
2004	79.794	69,2	32.384	28,1	3.152	2,7	0		115.329
2005	35.233	65,2	17.285	32,0	1.539	2,8	0		54.057
2006	42.141	75,4	12.091	21,6	1.671	3,0	0		55.903
2007	37.732	66,9	17.326	30,7	1.317	2,3	0		56.376
2008	37.326	69,7	14.083	26,3	2.125	4,0	0		53.534
2009	56.862	78,0	13.122	18,0	2.916	4,0	0		72.900
2010	59.098	87,0	6.793	10,0	2.038	3,0	0		67.929
2011	51.139	83,2	8.609	14,0	1.746	2,8	0		61.495

Average	53.606	72,3	18.391	24,8	2.178	2,9			74.176
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Source: Fisheries Statistics, 2011, (analyzed)

Based on catch estimates as reflected in table 15 above, it may be concluded that catch of purse-seiner in Indonesia which is related to WCPFC Statistical area composed of skipjack tuna, yellowfin tuna and bigeye tuna, with an average composition of 72,3 % and 24.8% and 2.9 % respectively.

Catch Estimates of purse-seiner in FMA-716, FMA-717 during year 2000-2011 is reflected in table 16 below:

Table 16: Catch Estimates of Purse-Seiner (FMA- 716 and FMA-717)

Year	Estimated Year Catch (tons)								Total
	Skipjack	%	Yellowfin	%	Bigeye	%	Albacore	%	
2000	6560		2622		259		0		9482
2001	8456		3432		334		0		12222
2002	13197		5356		521		0		19074
2003	19466		7900		769		0		28135
2004	19684		7989		778		0		28451
2005	22163		10873		968		0		34004
2006	25223		7237		1000		0		33460
2007	21022		9653		734		0		31409
2008	19131		7218		1089		0		27438
2009	28599		6591		1465		0		36614
2010	28349		3259		978		0		32585
2011	27477		4618		891		0		32986
Average	19944	73.4	6396	23.6	816	3.0			27155

Source: Fisheries Statistics, 2011 (analyzed)

Based on catch estimates as reflected in table 16 above, it may be concluded that catch of purse-seiner in Indonesia territorial waters and IEEZ which is related to WCPFC Statistical area composed of skipjack tuna, yellowfin tuna and bigeye tuna, with an average composition of 73.4 % and 23.6% and 3 % respectively.

Catch Estimates of purse-seiner in the Indonesia archipelagic waters such as FMA-713, FMA-714 and FMA-715 in 2000-2011 is reflected in table 17 below:

Table 17: Catch Estimates of Purse-Seine (FMA-713, FMA-714, and FMA-715)

Year	Estimated catch						
	Skipjack		Yellowfin Tuna		Bigeye Tuna		Total
	(ton)	(%)	(ton)	(%)	(ton)	(%)	
2000	54.851	69,2	22.261	28,1%	2.167	2,7%	79.278
2001	49.710	69,2%	20.175	28,1%	1.963	2,7%	71.849
2002	47.890	69,2%	19.436	28,1%	1.892	2,7%	69.218
2003	43.815	69,2%	17.782	28,1%	1.731	2,7%	63.328
2004	60.109	69,2%	24.395	28,1%	2.374	2,7%	86.878
2005	13.070	65,2%	6.412	32,0%	571	2,8%	20.053
2006	16.918	75,4%	4.854	21,6%	671	3,0%	22.443

2007	16.710	66,9%	7.673	30,7%	583	2,3%	24.967
2008	18.195	69,7%	6.865	26,3%	1.036	4,0%	26.096
2009	28.303	78,0%	6.531	18,0%	1.451	4,0%	36.286
2010	30.749	87,0%	3.534	10,0%	1.060	3,0%	35.344
2011	23.662	83,0%	3.991	14,0%	855	3,0%	28.509
Average	33.665	71,60%	11.992	25,50%	1.363	2,90%	47.021

Source: Fisheries Statistics, 2011 (analyzed)

Based on catch estimates as reflected in table 17 above, it may be concluded that catch of purse-seiner in Indonesia archipelagic waters which is related to WCPFC Statistical area composed of skipjack tuna, yellowfin tuna and bigeye tuna, with an average composition of 71.6 % and 25.5 % and 2.9 % respectively.

a.2.3A.2.3. Pole and Line

Catch Estimates of pole and line in Indonesia Fisheries Management Areas such as FMA-713; FMA-714; FMA-715; FMA-716; FMA-717 which is related to WCPFC Convention from year 2000-2011 is reflected in table 18 below:

Table 18: Catch Estimates of Pole-Line (FMA-713; FMA-714, FMA-715, FMA-716, FMA-717)

Year	Estimated Year Catch (tons)								Total
	Skipjack	%	Yellowfin	%	Bigeye	%	Albacore	%	
2000	94.641	78,4	20.549	17,0	5.449	4,5			120.640
2001	78.571	78,4	17.060	17,0	4.524	4,5			100.155
2002	72.850	78,4	15.818	17,0	4.195	4,5			92.862
2003	65.695	78,4	14.264	17,0	3.783	4,5			83.742
2004	76.939	78,4	16.706	17,0	4.430	4,5			98.075
2005	76.290	73,1	22.606	21,7	5.517	5,3			104.413
2006	101.131	80,6	18.406	14,7	5.961	4,7			125.497
2007	118.578	81,0	22.529	15,4	5.282	3,6			146.389
2008	124.710	82,5	18.800	12,4	7.598	5,0			151.108
2009	133.913	84,2	18.755	11,8	6.328	4,0			158.996
2010	134.697	87,0	15.482	10,0	4.645	3,0			154.824
2011	123.515	77,7	32.193	20,2	3.308	2,1			159.016
Average	100.128	80,3	19.431	15,6	5.085	4,1	-		124.643

Source: Fisheries Statistics, 2011, (analyzed)

Based on catch estimates as reflected in table 18 above, it may be concluded that catch of pole and line in Indonesia FMA which is related to WCPFC Statistical area composed of skipjack tuna, yellowfin tuna and bigeye tuna, with an average composition of 80.3 % and 15.6 % and 4.1 % respectively.

Catch Estimates of pole and line in Indonesia territorial waters and IEEZ such as FMA-716 and FMA-717 which is related to WCPFC convention area is reflected in table 19 below:

Table 19: Catch Estimates of Pole-Line (FMA-716 and FMA-717)

Year	ESTIMATE CATCH						Total
	Cakalang Skipjack		Yellowfin Tuna		Bigeye Tuna		
	(ton)	(%)	(ton)	(%)	(Ton)	(%)	
2000	8.414	78,4%	1.827	17,0%	484	4,5%	10.725
2001	10.846	78,4%	2.355	17,0%	624	4,5%	13.825
2002	16.926	78,4%	3.675	17,0%	975	4,5%	21.576
2003	24.967	78,4%	5.421	17,0%	1.438	4,5%	31.826
2004	25.247	78,4%	5.482	17,0%	1.454	4,5%	32.183
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	26.458	77,0%	6.983	20,0%	787	2,0%	34.228
Average	22.893	79,1	4.737	16,4	1.306	4,5	28.936

Source: Fisheries Statistics, 2011 (analyzed)

Based on catch estimates as reflected in table 19 above, it is indicated that catch of pole and line in Indonesia territorial waters and IEEZ which is related to WCPFC Statistical area composed of skipjack tuna, yellowfin tuna and bigeye tuna, with an average composition of 79.1 % and 16.4 % and 4.5 % respectively.

Catch Estimates of pole and line in the Indonesia archipelagic waters such as FMA-713, FMA-714 and FMA-715 in 2000-2011 is reflected in table 20 below:

Table 20: Catch Estimates of Pole-Line (FMA-713, FMA-714 and FMA-715)

Year	Estimate Catches						Total
	Skipjack		Yellowfin Tuna		Bigeye Tuna		
	(ton)	(%)	(ton)	(%)	(ton)	(%)	
2000	86.227	78,4%	18.723	17,0%	4.965	4,5%	109.915
2001	67.725	78,4%	14.705	17,0%	3.900	4,5%	86.330
2002	55.924	78,4%	12.143	17,0%	3.220	4,5%	71.286
2003	40.728	78,4%	8.843	17,0%	2.345	4,5%	51.916
2004	51.692	78,4%	11.224	17,0%	2.976	4,5%	65.892
2005	54.081	73,1%	16.025	21,7%	3.911	5,3%	74.017
2006	72.746	80,6%	13.240	14,7%	4.288	4,7%	90.273
2007	90.514	81,0%	17.197	15,4%	4.032	3,6%	111.743
2008	94.262	82,5%	14.210	12,4%	5.743	5,0%	114.215
2009	110.574	87,0%	12.710	10,0%	3.813	3,0%	127.097
2010	105.280	87,0%	12.101	10,0%	3.630	3,0%	121.012
2011	97.057	77,0%	25.210	20,0%	2.521	2,0%	126.048

Average	77.234	80,6%	14.694	15,4%	3.779	4,0%	95.812
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Source: Fisheries Statistics, 2011 (analyzed)

Based on catch estimates as reflected in table 20 above, it may be concluded that catch of pole and line in Indonesia archipelagic waters which is related to WCPFC Statistical area composed of skipjack tuna, yellowfin tuna and bigeye tuna, with an average composition of 80.6 % and 15.4 % and 4.0 % respectively.

a.2.4A.2.4. Handline

Catch Estimates of handline in Indonesia Fisheries Management Areas such as FMA-713; FMA-714; FMA-715; FMA-716; FMA-717 which is related to WCPFC Convention in 2000-2011, is reflected in table 21 below:

Table 21: Catch Estimates of Handline (FMA-713; FMA-714; FMA-715; FMA-716; and FMA-717)

Year	Estimated Catch (tons)								Total
	Skipjack	%	Yellowfin	%	Bigeye	%	Albacore	%	
2000	0		1.888	98,0	38	2,0			1.926
2001	0		2.434	98,0	49	2,0			2.483
2002	0		3.799	98,0	76	2,0			3.875
2003	0		5.603	98,0	113	2,0			5.716
2004	0		5.666	98,0	114	2,0			5.780
2005	0		1.493	98,0	30	2,0			1.523
2006	0		1.527	98,0	31	2,0			1.558
2007	0		1.319	98,0	26	2,0			1.345
2008	0		1.260	97,1	38	2,9			1.298
2009	0		5.515	99,0	56	1,0			5.571
2010	0		3.842	98,0	78	2,0			3.921
2011	0		3.859	96,0	160	4,0			4.019
Average Composition			3.184	97,9	67	2,1			3.251

Source: Fisheries Statistics, 2011 (analyzed)

Based on catch estimates as reflected in table 21 above, it is indicated that catch of handline in Indonesia FMA which is related to WCPFC Statistical area composed of yellowfin tuna and bigeye tuna, with an average composition of 97.9 and 2.1 % respectively.

Catch Estimates of pole and line in Indonesia territorial waters and IEEZ such as FMA-716 and FMA-717 which is related to WCPFC convention area is reflected in table 22 below:

Table 22: Catch Estimates Handline (FMA-716 and FMA-717)

Year	ESTIMATED CATCH						Total
	Skipjack		Yellowfin Tuna		Bigeye Tuna		
	(ton)	(%)	(ton)	(%)	(ton)	(%)	
2000			398	98	8	2	406
2001			513	98	10	2	523
2002			800	98	16	2	816
2003			1.180	98	24	2	1.204

2004			1.194	98	24	2	1.218
2005			1.393	98	28	2	1.421
2006			1.384	98	28	2	1.412
2007			1.147	98	23	2	1.170
2008			1.097	98	35	2	1.133
2009			3.256	99	33	1	3.289
2010			1.651	98	34	2	1.685
2011			1.658	96	68	4	1.726
Average Composition			1.306	97,9	28	2,1	1.334

Source: Fisheries Statistics, 2011 (analyzed)

Based on catch estimates as reflected in table 22 above, it is indicated that catch of handline in Indonesia territorial waters and IEEZ which is related to WCPFC Statistical area composed of yellowfin tuna and bigeye tuna, with an average composition of 97.9 % and 2.1 % respectively.

Catch Estimates of handline in the Indonesia archipelagic waters such as FMA-713, FMA-714 and FMA715 in 2000-2011 in only available from 2005-2011 as reflected in table 23 below:

Table 23: Catch Estimates of Handline (FMA-713, FMA-714, and FMA-715)

YEAR	ESTIMASI CATCH (tons)						TOTAL
	Skipjack		Yellowfin Tuna		Bigeye Tuna		
	(ton)	(%)	(ton)	(%)	(ton)	(%)	
2000			NA		NA		
2001			NA		NA		
2002			NA		NA		
2003			NA		NA		
2004			NA		NA		
2005	0		100	98	2	2	102
2006	0		143	98	3	2	146
2007	0		172	98	3	2	175
2008	0		163	98	3	2	166
2009	0		2.259	99	23	1	2.282
2010	0		2.191	98	45	2	2.236
2011	0		2.201	96	92	4	2.293
Average Composition			1.032	97,7		2,3	1.057

Source: Fisheries Statistics, 2011 (analyzed)

Based on catch estimates as reflected in table 23above, it is indicated that catch of handline in Indonesia archipelagic waters which is related to WCPFC Statistical area composed of yellowfin tuna and bigeye tuna, with an average composition of 97.7 % and 2.3% respectively.

a.2.5A.2.5. Other Fishing Gear

In this regards other fishing gear consist of trolling line, gillnet and small scale handline. Catch estimates in Indonesia Fisheries Management Area which is related to WCPFC Convention Area from 2000-2011 is indicated in table 24 below:

Table 24: Catch estimates of Other Gear (FMA-713; FMA-714; FMA-715; FMA-716; and FMA717)

Year	Catch Estimates (tons)								Total
	Skipjack	%	Yellowfin	%	Bigeye	%	Albacore	%	
2000	40.245	58,2	26.000	37,6	2.904	4,2	0		69.149
2001	36.519	58,2	23.593	37,6	2.635	4,2	0		62.747
2002	39.390	58,2	25.448	37,6	2.843	4,2	0		67.680
2003	34.599	58,2	22.352	37,6	2.497	4,2	0		59.448
2004	18.581	58,2	12.004	37,6	1.341	4,2	0		31.926
2005	61.680	93,8	3.914	5,9	196	0,3	0		65.790
2006	74.038	93,7	4.699	5,9	244	0,3	0		78.980
2007	86.808	93,7	5.515	5,9	371	0,4	0		92.693
2008	93.881	93,7	6.016	6,0	337	0,3	0		100.234
2009	89.210	81,5	19.703	18,0	547	0,5	0		109.460
2010	79.842	81,5	17.634	18,0	490	0,5	0		97.966
2011	95.446	71,0	36.296	27,0	2.688	2,0	0		134.431
Average Composition	62.520	77,30	16.931	20,93	1.424	1,8	-		80.875

Source: Fisheries Statistics, 2011 (analyzed)

Based on catch estimates as reflected in table 24 above, it is indicated that catch of other fishing gear in Indonesia FMA which is related to WCPFC Statistical area composed of skipjack tuna, yellowfin tuna and bigeye tuna, with an average composition of 77.3 % and 20.9 % and 1.8 % respectively.

Catch Estimates of other fishing gear in Indonesia territorial waters and IEEZ such as FMA-716 and FMA-717 which is related to WCPFC convention area is reflected in table 22 below:

Table 25: Catch Estimates of other Fishing Gear (FMA-716 and FMA-717)

Year	Estimated Catch (tons)						TOTAL
	Skipjack		Yellowfin Tuna		Bigeye Tuna		
	(ton)	(%)	(ton)	(%)	(ton)	(%)	
2000	5.785	93,9	367	5,9	10	0,2	6.162
2001	7.458	93,9	473	5,9	13	0,2	7.943
2002	11.638	93,9	738	5,9	21	0,2	12.397
2003	17.167	93,9	1.088	5,9	31	0,2	18.286
2004	17.360	93,9	1.100	5,9	31	0,2	18.491
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	19.182	93,2	1.245	5,9	16	0,4	21.159
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	71,0	6.000	27,0	444	2,0	22.222
Average	16.034	88,4	1.978	10,9	77	0,3	18.149

Source: Fisheries Statistics, 2011 (analyzed)

Based on catch estimates as reflected in table 25 above, it is indicated that catch of other fishing gear in Indonesia territorial waters and IEEZ which is related to WCPFC Statistical area composed of skipjack tuna, yellowfin tuna and bigeye tuna, with an average composition of 88.4 % and 10.9 % and 0.3 % respectively.

Catch Estimates of other fishing gear in the Indonesia archipelagic waters such as FMA-713, FMA-714 and FMA-715 in 2000-2011 in only available from 2005-2011 as reflected in table 26 below:

Table 26: Catch Estimates of other Fishing Gear (FMA-713; FMA-714, FMA-715)

Year	Estimated Catch (tons)						TOTAL
	Skipjack		Yellowfin Tuna		Bigeye Tuna		
	(ton)	(%)	(ton)	(%)	(ton)	(%)	
2000	34.459	54,7%	25.633	40,7%	2.894	4,6%	62.987
2001	29.061	53,0%	23.120	42,2%	2.622	4,8%	54.804
2002	27.751	50,2%	24.710	44,7%	2.822	5,1%	55.283
2003	17.431	42,3%	21.265	51,7%	2.466	6,0%	41.162
2004	1.221	9,1%	10.904	81,2%	1.310	9,7%	13.435
2005	43.630	93,7%	2.772	5,9%	187	0,4%	46.588
2006	54.450	93,7%	3.459	5,9%	233	0,4%	58.142
2007	67.776	93,7%	4.306	5,9%	290	0,4%	72.371
2008	74.699	93,2%	4.771	5,9%	321	0,4%	80.192
2009	65.726	81,5%	14.516	18,0%	403	0,5%	80.646
2010	61.951	81,5%	13.682	18,0%	380	0,5%	76.013
2011	79.668	71,0%	30.296	27,0%	2.244	2,0%	112.209
Average	46.485	74%	14.953	23,8%	1.348	2,2%	62.819

Source: Fisheries Statistics, 2011 (analyzed)

Based on catch estimates as reflected in table 23 above, it is indicated that catch of other fishing gear in Indonesia archipelagic waters which is related to WCPFC Statistical area composed of skipjack tuna, yellowfin tuna and bigeye tuna, with an average composition of 74 % and 23.8 % and 2.2 % respectively.

3.3.3. Average Annual Catch and Catch Composition

Annual catch estimates since 2000-2011 at FMA-716 and FMA-717 is presented in appendix 1. Based on the catch estimates, it is indicated that catch composition by gear type and species is reflected in table 27 below:

Table 27: Catch Composition Estimates

No	Fishing Gear Type	Fish Species							
		Skipjack		Yellowfin		Bigeye		Albacore	
		(ton)	(%)	(ton)	(%)	(ton)	(%)	(ton)	(%)
1	Longliner			13.442	74	4.725	26	0	
2	Purse-seiner	19.941	73,4	6.399	23,6	816	3	0	
3	Pole and liner	22.893	79,1	4.737	16,4	1.306	4,5	0	
4	Handline	0	0	1.306	97,9	28	2,1	0	
5	Lain-Lain	16.034	88,6	1.978	10,9	77	0,4	0	
6	Average	58.868	62,8	27.862	29,7	6.952	7,4	0	

No Source: Fisheries Statistics, 2011 (analyzed)

a.4A.4. Port Sampling Program

RCFMC has been conducting a port sampling activity since 2011. There are 20 enumerators have been trained in this regards, 12 enumerators in Bitung, 5 enumerators in Kendari and 3 enumerators in Sodohoa-Kendari. Port sampling in Bitung was conducted in collaboration with PT. Bitung Main Mina; PT. Independent Star Brothers; PT. Sinar Pure Food; PT. Perikani; PPS Bitung; and PT. Nurindo Fresh Food International.

In Kendari and Sodohoa, port sampling activities is carried out at the Kendari fishing port and SodohoSodohoa fish landing center. Sampling port activities have also been carried out in collaboration with PT. Anindo Perkasa Abadi and PT. Image Raja Ampat Sorong which is located in Papua. The scope of the port sampling activities includes catch estimates, catch rate estimates, catch composition and size distribution of the catch.

a.5A.5. Catch Rate Estimates

Catch rate estimates is carried out at the oceanic fishing port Bitung and Kendari with the result as reflected in table 28 below:

Table 28: Catch Rate Estimates in Bitung and Kendari

No	Location	Catch Rate Estimates				Remarks
		Purse-seiner	Pole and Line	Longline	Handline	
1	Bitung	43.03	6,15	5,98	0,42	tons / vessel / month
2	Kendari	12,32	2,03	0,97	0,59	ton / vessel/month

Source: Indonesia Annual Scientific Report to WCPFC, 2011

a.6A.6. Catch Composition Estimates

Catch Composition Estimates is classified by gear type and species such as skipjack tuna, yellowfin tuna and bigeye tuna. Result of the activity is reflected in table 29 below:

Table 29: Catch Composition Estimates by Gear Type

No	Fishing Gear	Catch Composition (%)		
		Skipjack	Yellowfin	Bigeye
A	BITUNG			
1	Purse-seine	86	11	3
2	Pole and Line	94,2	3,5	2,3
3	Handline	0	96	4
4	Tuna Long Line		89	11
B	KENDARI			
1	Purse-seine	69	26	5
2	Pole and Line	67	25	8
2	Troll Line	70,9	27,1	2

Sources: Indonesia Annual Scientific Report to WCPFC, 2011

a.7A.7. The Length Distribution of Catch

Catch length distribution estimates was made to skipjack tuna by gear type such as purse-seiner and pole and liner in Bitung and purse-seiner and trolling line in Kendari. Result of catch length frequency estimates is reflected in table 30 below:

Table 30: Length Distribution of Skipjack Tuna

No	Location / Fishing Gear	Length(cm)	
		Range (Cm)	Average (Cm)
A	BITUNG		
	Purse-Seine	17-68	40-41
	Pole and Line	14-69	39-40
B	KENDARI		
	Purse-Seine	18-65	42-43
	Troll Line	24-62	45-46

Source: Indonesia Annual Scientific Report to WCPFC, 2011

Scientific data as described above is obtained by research activities in collaboration between Research Center for Fisheries Management and Conservation with the West Pacific East Asia Oceanic Fisheries Management Project (OFM WPEA) sponsored by UNDP through the WCPFC.

b.1B.1. Indonesia FMA related to IOTC Statistical Area

Annual Catch Estimates in FMA-572 and FMA-573 during 2000-2011 is reflected in table 31 below:

Table 31: Catch Estimates in FMA-572 and FMA-573

Year	Estimated Annual Catch (tonnes)										Total
	Skipjack		Yellowfin		Bigeye		Albacore		SBT		
	(ton)	(%)	(ton)	(%)	(ton)	(%)	((ton)	(%)	(ton)	(%)	
2000	NA		NA		NA		NA		NA		
2001	NA		NA		NA		NA		NA		
2002	NA		NA		NA		NA		NA		
2003	NA		NA		NA		NA		NA		

2004	NA		NA		NA		NA		NA		
2005	48.668		57.328		13.337		10.902		1831		132.066
2006	50.518		30.584		14.247		2.383		447		98.179
2007	47.697		28.995		17.033		12.126		1079		106.889
2008	46.879		24.732		12.616		12.231		888		97.346
2009	65.284		32.258		18.177		5.560		641		121.920
2010	68.466		47.926		24.770		13.030		474		154.666
2011	80.906		38.544		26.851		11.426		700		158.427
Average	58.345	46,9	37.195	29,9	18.147	14,6	9.665	7,7	865	0,7	124.213

Source: Directorate General of Capture Fisheries Statistics 2011, (analyzed)

Based on catch estimates as reflected in table 31 above, it is indicated that catch estimates in Indonesia FMA which is related to IOTC Statistical area composed of skipjack tuna, yellowfin tuna and bigeye tuna, albacore and southern bluefin tuna with an average composition of 46.9 % and 29.9 % and % and 14.6 % and 7.7% and 0.7 respectively.

B.2 Catch Estimates by Fishing Gear Type

B.2.1 Longliner

Catch Estimates of Longliner in FMA-572 and FMA-573 is only available from 2005-2011 which is reflected can in table 32 below:

Table 32: Catch Estimates of Longliner (FMA-572 and FMA 573)

Year	Catch Estimates (tonnes)										Total
	Cakalang/Skipjack		Yellowfin		Bigeye		Albacore		SBT		
	(ton)	(%)	(ton)	(%)	(ton)	(%)	((ton)	(%)	(ton)	(%)	
2000	NA		NA		NA		NA				
2001	NA		NA		NA		NA				
2002	NA		NA		NA		NA				
2003	NA		NA		NA		NA				
2004	NA		NA		NA		NA				
2005	1850		47570		13337		10839		1831		75427
2006	2741		27090		13278		2383		447		45939
2007	1306		15837		12708		10190		1079		41120
2008	492		15133		11830		11159		888		39502
2009	585		13487		10001		4015		641		28729
2010	1463		14572		14202		5505		474		36216
2011	4666		8976		15488		6999		700		36829
Rata-rata	1871	4,3	20380	46,9	12977	29,9	7298	16,8	865	1,9	43394

Source: Directorate General of Capture Fisheries Statistics 2011, (analyzed)

NA: Data not available

Based on catch estimates as reflected in table 32 above, it is indicated that catch of longliner in Indonesia FMA which is related to IOTC Statistical area composed of skipjack tuna, yellowfin tuna and bigeye tuna, albacore and southern bluefin tuna with an average composition of 4.3 % and 46.9 % and 29.9 % and 16.8 % and 1.9% respectively.

b.2.2B.2.2. Purse-Seiner

Catch Estimates of Purse-Seiner in FMA-572 and FMA-573 is only available from 2005-2011 which is reflected can in table 33 below:

Table 33: Catch Estimates of Purse-Seine

Year	Annual Catch Estimates (tonnes)								Total
	Skipjack		Yellowfin		Bigeye		Albacore		
	(ton)	(%)	(ton)	(%)	(ton)	(%)	((ton)	(%)	
2000	NA		NA		NA		NA		NA
2001	NA		NA		NA		NA		NA
2002	NA		NA		NA		NA		NA
2003	NA		NA		NA		NA		NA
2004	NA		NA		NA		NA		NA
2005	22.960	97,2	651	2,8	NA		NA		23.611
2006	11.722	95,1	371	3,0	237	1,9	NA		12.330
2007	16.982	85,1	1.282	6,4	1.478	7,4	218	1,1	19.962
2008	13.216	75,9	3.373	19,4	726	4,2	86	0,5	17.403
2009	27.209	87,6	1.717	5,5	2.125	6,8	0	0	31.053
2010	22.652	63,7	4.334	12,2	8.226	23,1	341	0,9	35.553
2011	36.016	68,2	8.331	15,8	7.385	14,0	1.027	1,9	52.759
Average	21536	78,2	2865	10,1	2882	10,0	334	1,2	27524

Source: Directorate General of Capture Fisheries Statistics 2011, (analyzed)

Based on catch estimates as reflected in table 33 above, it is indicated that catch of purse-seiner in Indonesia FMA which is related to IOTC Statistical area composed of skipjack tuna, yellowfin tuna and bigeye tuna, albacore with an average composition of 78.2 % and 10.1 % and 10.0 % and 1.2 % respectively.

b.2.3B.2.3. Pole and Line

Catch Estimates of Pole and Line in FMA-572 and FMA-573 is only available from 2005-2011 which is reflected can in table 34 below:

Table 34: Catch Estimates of Pole and Line

Year	Catch Estimates (tonnes)								Total
	Skipjack		Yellowfin		Bigeye		Albacore		
	(ton)	(%)	(ton)	(%)	(ton)	(%)	((ton)	(%)	
2000	NA		NA		NA		NA		NA
2001	NA		NA		NA		NA		NA
2002	NA		NA		NA		NA		NA
2003	NA		NA		NA		NA		NA
2004	NA		NA		NA		NA		NA
2005	2.071	75,2	684	24,8	0		0		2.755
2006	3.780	91,0	373	9,0	0		0		4.153
2007	0		0		0		0		0
2008	0		0		0		0		0
2009	3.613	90,9	358	9,1	0		0		3.971

2010	2.255	83,1	457	16,9	0		0		2.712
2011	2.506	60,5	1.639	39,5	0		0		4.145
Average	2.845	80,2	702	19,8	-	0,00	-	0,00	3547

Source: Directorate General of Capture Fisheries Statistics 2011, (analyzed)

Based on catch estimates as reflected in table 33 above, it is ~~indicated that~~ indicated that catch of pole and ~~line in~~ line in Indonesia FMA which is related to IOTC Statistical area composed of skipjack tuna and yellowfin tuna with an average composition of 80.2 % and 19.8 % respectively.

b.2.4B.2.4. Handline

Catch Estimates of Pole and Line in FMA-572 and FMA-573 is only available from 2005-2011 which is reflected can in table 35 below:

Table 35: Catch Estimates of Handline

Year	Annual Catch Estimates (tonnes)								Total
	Skipjack		Yellowfin		Bigeye		Albacore		
	(ton)	(%)	(ton)	(%)	(ton)	(%)	((ton)	(%)	
2000	NA		NA		NA		NA		NA
2001	NA		NA		NA		NA		NA
2002	NA		NA		NA		NA		NA
2003	NA		NA		NA		NA		NA
2004	NA		NA		NA		NA		NA
2005	66	45,2	80	54,8	0		0		146
2006	353	38,9	554	61,1	0		0		907
2007	685	44,4	856	55,4	2	0,1	0,6	0,03	1.543
2008	2.947	31,7	5.256	56,8	58	0,6	984	10,6	9.247
2009	3.720	53,5	3.028	43,6	200	2,9	0		6.949
2010	3.373	50,1	3.117	46,3	200	2,9	39	0,5	6.729
2011	2.743	53,2	2.133	41,2	239	4,6	39	0,7	5.154
Average	1983	45,2	2146	48,9	99	2,2	151	3,4	4382

Source: Directorate General of Capture Fisheries Statistics 2011, (analyzed)

Based on catch estimates as reflected in table 33 above, it is indicated that catch of handline in Indonesia FMA which is related to IOTC Statistical area composed of skipjack tuna, yellowfin tuna, bigeye tuna and albacore with an average composition of 45.2 % and 48.9 % and 2.2% and 3.4% respectively.

B.2.5 Other Fishing Gear

Catch Estimates of other fishing gear in FMA-572 and FMA-573 is only available from 2005-2011 which is reflected can in table 35 below:

Table 36: Catch Estimates of Other Fishing Gear

Year	Annual Catch Estimates (tonnes)								Total
	Skipjack		Yellowfin		Bigeye		Albacore		
	(ton)	(%)	(ton)	(%)	(ton)	(%)	((ton)	(%)	
2000	NA		NA		NA		NA		NA
2001	NA		NA		NA		NA		NA

2002	NA		NA		NA		NA		NA
2003	NA		NA		NA		NA		NA
2004	NA		NA		NA		NA		NA
2005	21.721	72,1	8.343	27,7	0		63	0,2	30.127
2006	31.922	91,6	2.196	6,3	732	2,1	0		34.850
2007	28.723	64,8	10.979	24,8	2.843	6,4	1.716	3,9	44.262
2008	30.222	96,8	969	3,2	0		0		31.191
2009	30.155	58,8	13.664	26,7	5.848	11,4	1.544	3,0	51.213
2010	38.723	52,7	25.446	34,6	2.142	2,9	7.145	9,7	73.456
2011	34.975	58,7	17.465	29,3	3.738	6,2	3.361	5,6	59.539
Average	30920	66,7	11295	24,4	2186	4,7	1976	4,2	46377

Source: Fisheries Statistics, 2011 (analyzed)

Based on catch estimates as reflected in table 33 above, it is indicated that catch of handline in Indonesia FMA which is related to IOTC Statistical area composed of skipjack tuna, yellowfin tuna, bigeye tuna and albacore with an average composition of 66.7% and 24.4 % and 4.7% and 4.2 % respectively.

b.3B.3. Catch Composition Estimates

Annual catch estimates in FMA 572 and FMA 573 from 2005-2001 is summarized in appendix 2 and based on that, catch composition estimates is reflected in table 37 below:

Table 37: Catch Composition Estimates in FMA-572 and FMA-573

No	Fishing Gear	Species										Total (ton)
		Skipjack		Yellowfin		Bigeye		Albacore		SBT		
		(ton)	(%)	(ton)	(%)	(ton)	(%)	(ton)	(%)	(Ton)	(%)	
1	Longliner	1872		20381		12978		7299		866		43396
2	Purse-seiner	21537		2866		2883		239		0		27525
3	Pole and liner	2032		502		0		0		0		2534
4	Handline	1984		2146		100		152		0		4382
5	Others	30920		11295		2186		1976		0		46377
6	Average	11669	47,0	7438	29,9	3629	14,6	1933	7,8	173	0,7	24843

Source: Fisheries Statistics, 2011 ((analyzed))

Based on table 37 above, it is indicated that catch composition in Indonesia FMA which is related to IOTC Statistical area composed of skipjack tuna, yellowfin tuna, bigeye tuna, albacore and southern bluefin tuna with an average composition of 47.0 % and 29.9% and 14.6 % and 7.8 % and 0.7% respectively.

b.4B.4. Port Sampling

Based on the port sampling activities to catch landed in Bena Port in 2004-2011 by longliners, it is known that catch composition as reflected in table 38 below:

Table 38: Catch Composition Estimates of Longliner in Benoa, Bali

Year	Yellow Fin Tuna		Bigeye Tuna		Albacore		SBT		Total
	(ton)	(%)	(ton)	(%)	(Ton)	(%)	(Ton)	(%)	
2004	4.413		4.184		1.906		613		11116
2005	4.196		3.939		1.494		1690		11319
2006	4.223		4.366		1.450		558		10697
2007	5.354		5.292		1.132		1077		12855
2008	6.924		5.033		2.811		905		15673
2009	7.240		4.680		1.020		746		13686
2010	5.372		2.168		983		566		9089
2011	2.882		2.413		383		407		6085
Total	40.704		32.075		11.179		6562		90520
Average	5088	45,0	4009	35,4	1397	12,3	820	7,2	11313

Source: Indonesia Annual Scientific Report to IOTC Scientific, 2010.

Based on the table 38 above, catch composition of longliner in Bali consists of yellow fin tuna and big eye tuna, albacore and southern bluefin with average composition 45.0% and 35.4% and 12.3% and 7.2% respectively.

From port sampling activity, it is known that number of tuna longliners which landing their catch in Bali during 2004-2010 tends to decrease annually, as shown in table 39 below:

Table 39: Number of longliner landed their Catch in Bali

Year	Number Longliner in Bali (unit)
2004	2922
2005	2439
2006	1664
2007	1916
2008	1965
2009	1850
2010	1099

Source: Indonesia Annual Scientific Report to IOTC Scientific, ~~2010~~, 2010.

b.5B.5. Scientific Observer Program

Scientific data is collected by conducting scientific observer program (observer on-board). This program is implemented through a partnership program between the Ministry of Maritime Affairs and Fisheries with CSIRO Marine and Atmospheric Research (Australia), which was signed in 2005. As a follow-up the program, the Ministry of Marine and Fisheries has established a Tuna Fisheries Research Institute in Bali, 2011 which is intended to keep continue the port-sampling and scientific observer programs, especially in the Indian Ocean.

In 2007, the RCFMC has conducted scientific data collection through observer on-board program. There are 6 (six) observers have been assigned in this program, ~~but in~~ but in 2010 number of them was decreased to five (5) persons due to duty of tours. The average number of days at sea /trip between 20 days to 50 days, so the total days of observer on-board activity between 150 days-758 days, as described in table 40 below:

Table 40: Number of observers and observed days

Year	Number of observer	Number of Trip	Number of company	Number of days at sea	Days/trip	Average days/trip
2005	6	6	1	251	19-22	20
2006	6	19	5	758	7-99	39
2007	6	14	5	648	21-108	34
2008	5	15	7	481	23-66	30
2009	5	14	8	535	15-59	38
2010	5	8	4	240	40-50	45
2011	5	6	3	210	30-50	40

Source: Indonesia National Scientific Report 2010, (analyzed)

b.6B.6. Hook Rate for SBT

In 2005-2011, RCFMC undertaken a scientific observer program for southern bluefin tuna based in the port of Benoa, Bali. Under this activities, it was recorded that hook rate for SBT in 2005 is 0.4 per-1000 hooks, but tend to decrease to 0.02 per-1000 hooks in 2010, and the increased to 0.1 per-1000 hooks in 2011. A highest hook rate occurred around October - November namely 0.1 to 0.3 per-1000 hooks. A lowest hook rate around April-August namely 0.00 to 0.01 per-1000 hooks.

b.7B.7. Size distribution of SBT

As additional, the scientific observer program also includes a measurement of length distribution and weight of SBT landed at the port of Benoa, Bali. During 2011, from 1,739 individuals of SBY, there are 748 individuals was taken as samples. The length frequency of SB during September 2011 to April 2012 ranged from 136 cm - 212 cm. Farley et.al (2010) reported that the distribution of average length decreased from 188.1 cm to 166.8 cm between the years 1993/1994 and in 2002/2003 fluctuated between 168.3 cm and 170.1 cm.

Based on port sampling activities at Benoa port during the year 2011-2012, it is recorded that the proportion of SBT length ranges between 160 Cm-180 Cm in which average length (fork length) about 169 cm. Therefore it can be ~~concluded that~~ concluded that there is no significant changing in average length of SBT during 2011-2012 compared with the average length during 2002/2003. From the previous study, it is known that the length of SBT (FL) which is considered as adult fish or maturity of gonad at the first time ranges from 155 cm-164 cm. The catch that was landed in 2011 showed that more than 50% of landing is as adult SBT. Annually, there is an indication that the length of SBT landed in Benoa Port, Bali tends to decrease from 182 in 1990 to 169 Cm in 2007. The average length of SBT remained stable from 2008 to 2011 which ranging about 175 Cm.

CHAPTER III INSTITUTIONAL FRAMEWORK

1. NATIONAL INSTITUTION

The policy on Tuna fisheries management shall be established by the central government through the Ministry of Marine Affairs and Fisheries. This policy will become a guideline for Provincial or District / City Government to regulate tuna fisheries within their own authority. Based on the Minister of Marine Affairs and Fisheries Regulation No. 15/Men/2012 on Organization and Administration of the Ministry of Marine Affairs and Fisheries, it is stipulated that working unit as Echelon 1 having the following tasks:

- a. Directorate General of Capture Fisheries is mandated to formulate and implement policies and technical standardization in the capture fisheries.
- b. Directorate General of surveillance is mandated to formulate and implement policies and technical standardization in the surveillance of marine and fisheries resources.
- c. Directorate General of Processing and Marketing of Fish and Fisheries Product is mandated to formulate and implement policies and technical standardization in the processing and marketing of fish and fish products.
- d. Agency of Research and Development of Marine Affairs and Fisheries is mandated to carry out research and development activity in the marine affairs and fisheries.
- e. Agency of Human Resource Development is mandated to carry out education, training and extension in the Marine Affairs and Fisheries.
- f. National Commission for Fish Resources Assessment.

In addition, there are various related agencies that influencing the effectiveness of the achievement of tuna fisheries management, among others:

- a. Ministry of Transportation, in documents of Vessels;
- b. Ministry of Commerce, in international trading provisions;
- c. Ministry of Forestry, the conservation;
- d. Ministry of Foreign Affairs, in international fisheries cooperation (bilateral and multilateral) as well as membership in regional and international organizations;
- e. Indonesian Police and Navy in Fisheries Law Enforcement; and
- f. Indonesian Institute of Sciences (LIPI) in research activities.

According to Act No. 32 Year 2004 on Regional Government, the provincial government has authority and responsibility to manage the fishery resources up to 12 nautical miles while District / City Government has authority and responsibility to manage fish resources to one fourth from provincial authorities (4 nautical miles). Furthermore, based on Government Regulation No. 54 Year 2002 on Fisheries Business, the Provincial Government is authorized to issue fishing permits for vessels between 10 GT - 30 G and District/ City Government is authorized to issue fishing permits for vessels between 5 GT -10 GT. In this concern, fishing vessel less than 5 GT is not required to have a fishing permit, but shall registered in District/City Office.

The scope of authority and responsibility of the Province and District / City Government include the management, conservation, development, protection and utilization of fish resources in the area of management within their own authority. To carry out its authority, the Province and District / City can formulate fishery management policy and developing a local legislation as necessary to realize

the goal of fisheries management. Local laws shall be complied with the policies, law and regulation stipulated by the Central Government.

To improve the effectiveness of coordination in implementation of fisheries management policy, it has been organized the annual meeting of the Coordination Forum for Fisheries Resource Management and Utilization (FKPPS) both at provincial, regional and national levels.

Membership of this forum consists of all working units within the Ministry of Maritime Affairs and Fisheries (MMAF), the National Commission for Fish Stock Assessment; Province and District / City Government, Fisheries Researcher, Academicians from various universities, including Indonesia Fishermen Association and other fishing industry association such as Indonesia Tuna Association, Indonesia Tuna Longline Association [Bali, Indonesia](#) [Bali, Indonesia](#) Tuna Commission (KTI) as well as fishing and fish processing industries.

REGIONAL COOPERATION

Tuna is grouped as highly migratory fish stocks and straddling fish stocks. For this reason, tuna management shall be undertaken based on regional and international cooperation.

According to Article 10 paragraph (2) of Act No. 31 of 2004 as amended by Act No. 45 of 2009 on Fisheries, the government shall actively participate in the membership of bodies / institutions / organizations in the framework of regional and international co-operation in fishery management. To implement this mandate, Indonesia has ratified the following regional cooperation:

- a. Indian Ocean Tuna Commission (IOTC) Agreement through Presidential Decree No. 09 Year 2007.
- b. Convention for the Conservation of Southern Bluefin Tuna (CCSBT) through Presidential Decree No. 109 of 2007.
- c. Agreement for the implementation of the provisions of the UNCLOS of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stock and Highly Migratory Fish Stock or the United Nations Implementing Agreement (UNIA) in 1995 through Act No. 21 of 2009.

Furthermore, Indonesia has also actively participated in the Western Central Pacific Fisheries Commission (WCPFC) which is a membership status as a Cooperating Non-Member (CNM). The internal process to improve the Indonesia membership status to become a member is in progress. By strengthening of cooperation among existing Tuna RFMOs, there is a necessary that Indonesia may also participate at the ICCAT and IATTC.

2. STAKEHOLDER COOPERATION

Cooperation with businesses operators both fishing and processing industries should be effectively empowered. This concern is very important, since business operators are main actors (primary stakeholder) in implementing adopted management actions. Common understanding on the expected management objectives must be properly understood which can be facilitated through establishing of two-way communications, awareness building programs, training, workshops and public consultation. The cooperation strengthening can be carried out directly to business operators or indirectly through various associations registered in the Ministry of Maritime Affairs and Fisheries.

Furthermore, cooperation strengthening among government related institutions shall also be improved, among other by synchronization of annual activities/programs. In this context, each related

working units within the Ministry of Marine Affairs and Fisheries which has mandate to support the achievement of management objectives shall prepare their annual program/activities in line with adopted management actions. Therefore, the output of annual activities/program will provide contributions due to the determined management objectives. In this regards, less cooperation among government related units will make a difficulty in achieving of expected management objectives.

**CHAPTER IV
TUNA MANAGEMENT MEASURES**

A. MANAGEMENT MEASURES IN INDONESIA FMA

1. CATCH ESTIMATES

Directorate General of Capture Fisheries will conduct catch data collection by integration of various data sources such as statistical sampling, fishing logbook, Catch Certification, IOTC Bigeye Statistical Document, Catch Documentation Scheme (CDS) and Transshipment Declaration. The catch data will be analyzed to provide annual catch estimates by gear type and species at the following fishing areas:

- a. Catch Estimates in the Archipelagic waters;
- b. Catch Estimates in the Territorial Waters and IEEZ;
- c. Catch Estimates in the high seas;
- d. Catch Estimates of Indonesian flagged vessels landed abroad;
- e. Catch Estimates of foreign flagged landed in Indonesia, but it will not be accounted as Indonesia catch.

To increase the effectiveness of the catch data collection, activities as adopted in the following action plan will be undertaken:

Plan of Action:

Responsible Unit	Activities	Year		
		1 (2014)	2 (2015)	3 (2016)
DGCF and RCFMC	1. Improving Information Management System (IMS) in Catch Data Collection.	v	v	v
	2. Integrate MIS of Catch Data with the Capture Fisheries Statistics.	v	v	v
	3. Prepare a standard operating procedures on catch reporting by Indonesian flagged vessels landed abroad	v	v	v
	4. Socialize a standard <u>standard</u> operating procedures on catch reporting by Indonesian-flagged vessel landed abroad.	v	v	v

Note :

Definition of IMS : 716, 717, 572, and 573 already existed. Add data of FMA 713, 714, 715. Data provided by statistics, completed by research center.

2. SCIENTIFIC DATA COLLECTION

In addition to the existing research activities undertaken during 2011, RCFMC and Directorate General of Capture Fisheries will conduct scientific data collection through National Observer Program. The program is conducted by deploying observer on-board especially to tuna fishing vessel which is intended to collect catch data and verified scientific data related to tuna and tuna like species fisheries.

Observer on-board program will firstly be conducted on fishing vessels with LOA greater than 24 meters. It is expected, that within 3 (three) years, scientific data can be collected at least from 5% of number of vessels or number of operations or number of setting by gear type of the whole year. In order to scientific data collection, observers on-board will carry out but not limited to:

- a. Recording and reporting of fishing activity;
- b. Verifying the vessel's position in each fishing operation;
- c. Monitoring and estimating the total catch and where if possible identifying the catch composition by species, discard, by catch, size frequency of catch;
- d. Recording of fishing gear type, mesh size and additional equipment attached by the master (if any);
- e. Collecting of data and information in order to carry out a cross-checking to catch data contained in fishing logbook, such as catch composition and total catch;
- f. Training of crews in-charge in filling out of fishing logbook ;
- g. Collecting other scientific data such as fish sample including other data as required by research and other institutions.

To support the implementation of observer on-board program in respect to scientific data collection, since 2006, Directorate General of Capture Fisheries has implemented a national observer training for 78 participants, consisting of 34 civil servant and 44 crews of tuna long liner's. But the training program has not been carried out by an accredited training institution.

To increase the effectiveness of the observer on-board program, activities as adopted in the following action plan will be undertaken:

Plan of Action:

Responsible Unit	Activities	Year		
		1	2	3
RCFMC	Develop standard operating procedures on observer on-board program in respect to scientific data collection.	2013	2014	2015
BPDSM	Conducting trainings to observers on board. Trainees shall be certified by accredited training institution to ensure the standard of competency in observing on-board.	2012	2014	2016
DGCF and RCFMC	Develop legislation such as Regulation of Minister of Marine Affairs and Fisheries in respect to implementation of observer on-board program.	2013	-	-
RCFMC, DGCF, and association, surveillance	Undertake various scientific research that is intended to facilitate:			
	a. Annual catch estimates by gear type and fishing area and species such as skipjack tuna, yellowfin tuna, bigeye tuna, albacore and southern bluefin tuna	2013	2014	2015
	b. Annual catch estimates of tuna like species by gear type, fishing ground and species such as marlin, swordfish, etc.	2014	2015	2016
	c. Active vessels estimate. (involving surveillance	2014	2015	2016
	d. Aggregate annual catch and effort estimates by gear type and fishing area.	2013	2014	2015

	e. Measuring length and weight ratio esp Tuna	2013	2014	2015
	f. Stock Assessment Estimates. (with KOMNASKAJISKAN)	2016		
	g. Catch Rate Estimates	2014	2015	2016
	h. Catch limit Estimates.	2016		
	i. By catch Estimates	2014	2015	2016
	j. Ecological Related Species (ERS) Catch estimates.(involving WWF and TNC)	2014	2015	2016

To ensure the sustainable management of tuna, it is necessary to develop a long-term research activity to include stock assessment, harvesting strategy, environmental impact, post-harvest handling, trade and markets, handling of by catch and Ecological Related Species (ERS) particularly in Indonesian archipelagic waters such as FMA-713; FMA-714 and FMA-715.

3. DETERMINATION OF CATCH LIMIT

Indonesia Fisheries Management Area consists of (i) the archipelagic waters and territorial (sovereignty) and (ii) Indonesia Exclusive Economic Zone (Sovereign Right). Archipelagic waters include FMA-713; FMA-714 and FMA-715. Territorial waters adjacent to Pacific Ocean include FMA-716 and FMA-717, while FMA-572 and FMA-573 adjacent to Indian Ocean. In this concern, it is necessary to understand that FMA-716 and FMA-717 is a part of WCPFC Statistical Area while FMA-572 and FMA 573 is a part of IOTC Area of Competence.

Determination of catch limit is a result of a complicated and long-term research activity. Therefore, in this management plan, it is suggested that catch limits could be determined as follows:

a. Determination of catch limit in territorial water and IEEZ

Catch limit for certain species in Indonesia Territorial Waters and IEEZ could be determined by adoption of Conservation and Management Measures (CMM) of RFMOs such as WCPFC, IOTC and CCSBT. In this case, WCPFC and CCSBT have adopted CMM or Resolution in respect to determination of catch limit of each member, as for Indonesia reflected in table 41 below:

Table 41: Catch Limit of Indonesia

No	RFMO	CATCH LIMIT (ton)			Information
		2012	2013	2014	
A	CCSBT				
	<i>Southern Bluefin Tuna</i>	685	710	750	
B	WCPFC				
	<i>Bigeye Tuna</i>	5.889	TBD	TBD	Will be decided at the Annual Session in December 2012.

Moreover, IOTC Scientific Committee has proposed the implementation of catch limit or quota for certain species. The proposed catch limit in Indian Ocean can be seen in table 42 below:

Table 42: Proposed Catch Limit in IOTC Area

No	Species	proposed Catch Limit (tonnes / year)
1	Bigeye tuna	100.000
2	Yellowfin tuna	300.000
3	Albacore	100.000

b. Determination of catch limit in archipelagic waters.

As it is understood, determination of catch limits is complicated and long-term research activity. But at the other hand, it is substantial to support the sustainable fishing business. Therefore, it is suggested that research program conducted by RCFMC shall be integrated with data collection program undertaken DGCF to enable Indonesia to determine catch limit estimates. It is very necessary for Indonesia to provide scientific argument to international community in respect to sustainable utilization of tuna resource in the archipelagic waters.

To support a determination of catch limit, activities as adopted in the following action plan will be undertaken:

Plan of Action:

Responsible Unit	Activities	Year		
		1	2	3
RCFMC	Collection of scientific data to support facilitate development of provisional catch limit estimates.	2014	2015	2016
RCFMC and NC	Determine provisional catch limit for 3 (three) years period.	2015		
DGCF/Province/District/City	Will control fishing capacity by licensing system which is based on catch limit.	2014		

4. CONTROL MECHANISM OF CATCH LIMIT

In respect to recommendation of WCPFC Eight Regular Session, Technical and Compliance Committee Meeting in Pohnpei on 27 September to 3 October 2012, it was proposed that annual catch limit of bigeye tuna for members shall be based on annual catch in 2010. In this case, Indonesia annual catch estimates during 2010 is about 1,221 tons / year, but Indonesia is allowable to increase annual catch up to 2,000 tons / year within three (3) years. It will be deliberated in the WCPFC Commission Annual Session on December 2 to 6, 2012 in Manila prior to be adopted.

To support a control mechanism of catch limit, activities as adopted in the following action plan will be undertaken:

Plan of Action:

Responsible Unit	Activities	Time		
		Year		
		1	2	3
DGCF	1. Dissemination of information on catch limit of big eye	2015		

	tuna harvested from FMA-716 and FMA-717, and high seas of Pacific Ocean, to fishing business operators in Bitung and Kendari Jakarta.			
	2. Develop “ a guideline on catch controlling” of big eye tuna	2014		
	3. Regularly monitor of big eye catch estimates at quarterly basis.	2015		
	4. Provide warning to fishing operators in terms of catch <u>catch estimates</u> has <u>estimates has</u> reached 90% of the catch limit.	2015		
	5. Moratorium to harvest bigeye tuna in term of catch estimates has reach catch limit. Develop such strategy to control overcatch of big eye tuna, once it’s approaching the catch limit.	2014		
	6. Provide administrative sanction to vessels landed bigeye tuna after moratorium.			
DGCF and RCFMC	Preparing criteria allocation for IOTC concerned.	2014		
	Assessment of Indonesia catch limit based on the criteria allocation.	TBD Depend on the results of IOTC catch allocation meeting		
	Actively participating in IOTC quota allocation meeting.	TBD		

5. CONTROLLING OF FISHING EFFORT

Controlling of fishing effort is a consequence of application of limited access regime in fishing business, even though there is an equal right to conduct such activities. Controlling of fishing effort is necessary to limit the exploitation of tuna resources at an optimum level, in order to ensure the sustainable tuna fisheries. It is important to remember that even though tuna classified as renewable resources but the stock is not unlimited. Control mechanism will be made through:

a. Inventory of Fishing Permits

Based on Government Regulation No. 54 Year 2002, a competent authority in respect to a fishing permit issuance is determined by vessel size as follows:

- (i) Central Government authorize to issue fishing permits for vessels greater than 30 GT, and
 - (ii) Province Government authorize to issue fishing permits for vessels of 10 GT-30 GT, and
 - (iii) District / City government authorize to issue fishing permits for vessels below 10 GT.
- There is an indication that the issuances of fishing permit for these vessels are hampered by lacking of vessels’ documents which is a mandate of government related units.

To increase effectiveness in controlling of fishing effort, activities as adopted in the following action plan will be undertaken:

Plan of Action:

Responsible Unit	Activities	Year		
		1	2	3
DGCF	Inventory of fishing permits issues by DGCF, Province and Districts/City Government in respect to fishing area in this management plan.	2014		
	Develop MISIMS on Fishing Permits for tuna vessels.	2014		
	Facilitate the issuance of 5 GT-10 GT vessels' documents.	2014		
	Facilitate the issuance of fishing permits for 5 GT - 10 GT vessels.	2014		

b. Vessel Registration and Marking

Under Article 36 of Act No. 31 of 2004 as amended by Act No. 45 of 2009 on Fisheries, all Indonesia flagged vessels are authorized to fish in Indonesia FMA shall be prior registered as Indonesia fisheries vessel. Moreover, article 37 stipulated that Registered Indonesia Flagged Vessels shall be completed with vessel marking such as vessel's identity, FMA number and Fishing Gear Code. To implement the provisions, Minister of Marine Affairs and Fisheries has issued No. Per.27/MEN/2009 dated 17 November 2009 regarding the registration and marking of fishing vessels. As consequences of this regulation, all fishing vessels that have not been registered and marked, shall not undertake fishing operations despite they have had fishing permits.

In line with authority to issue fishing permit, vessel registration and marking activities will be carried out by:

- (i) Directorate of Fishing Vessel and Fishing Gear, DGCF for vessels greater ~~that~~than 30 GT;
- (ii) Province Government, for vessels of 10 GT and GT-30;
- (iii) District/City Govern men for vessel 5 GT-10 GT.

To increase effectiveness in vessel registration and marking, activities as adopted in the following action plan will be undertaken:

Plan of Action:

Responsible Unit	Activities	Year		
		1	2	3
DGCF	Complete "vessel registration and marking within DGCF mandate.	2011	2012	2013
	Provide assistance both technical and non-technical to local government, to ensure that vessel registration and marking across in Indonesia can be completed within 3 (three) years.	2014	2015	2016
	Develop Management Information System MISIMS on Fishing Vessel Registration and Marking.	2011	2012	2013

c. Vessel Registration in RFMO

Fishing vessel authorized to fish in the RFMO area of competence such as IEEZ and high seas will be registered to be included in the RFMO Record of Vessel Authorized to Fish. Vessels that shall be registered are:

- (i) Fishing vessels with LOA greater than 24 meters;
- (ii) Fishing vessels with LOA of 24 meters below, conducting fishing up to the high seas.
- (iii) Fish carrier vessel that will involve (receiving vessel) in at-sea transshipment.

Vessel registration would be organized as follows:

- (i) Vessel authorized to fish in the Indian Ocean will be included in the IOTC Record of Vessels Authorized to Operate in the IOTC Area.
- (ii) Vessel authorized to IEEZ of Celebes Sea and IEZ of Pacific Ocean will be included in the WCPFC Record of Fishing Vessels Authorization to Fish.
- (iii) Vessel authorized to fish of southern bluefin tuna will be included in the CCSBT Record of Vessels Authorized to Fish Southern Bluefin Tuna.

Furthermore, if it is required by export market, fishing vessels authorized to fish in the Indonesian archipelagic waters such FMA-713; FMA-714 and FMA-715 may be registered and included in the WCPFC Record of Fishing Vessels Authorization to Fish.

By 11 September 2012, the number of Indonesian-flagged vessels which have been included in the list of RFMO as reflected in table 43 below:

Table 43: Number of Indonesia Flagged Vessel in RFMO Record.

No	RFMO	Fishing Vessel	Unit	
			Number of vessels registered in the Website	Fishing Permit valid until 10 October 2012
1	IOTC	Longliner	1,253	356
		Purse seiner	19	5
		Unknown Gear	1	0
		Gillnetter	2	0
		Sub-total	1,275	361
2	WCPFC	Longliner	182	55
		Tuna Purse-seiner	160	12
		Gillnetter	1	1
		Pole and Liner	23	5
		Unspecified	2	0
		Support Vessel	62	0
		Sub-total	430	73
Grand Total		1,683	434	

Note: not including vessels fishing in archipelagic waters.

To increase an effectiveness of vessel registration in RFMO, activities as adopted in the following action plan will be undertaken:

Plan of Action:

Responsible Unit	Activities	Year		
		1	2	3
DGCF	Conduct daily updating of vessels the RFMO records in respect to fishing permit validity.	2008		
	Develop MISIMS on Indonesia flagged Vessels included in the Record of Fishing Vessels Authorization to Fish.	2014		

6. IMPLEMENTATION OF TREACIBILITY SCHEME

Implementation of TREACIBILITY SCHEME is intended to trace the fish origin. This scheme is presumed as one of the conservation and management measures to combat IUU fishing activities. By adoption of this scheme, it is expected that fish harvested illegally shall not be landed legally. In order to accurately monitor of the scheme implementation, DGCF will develop MIS in this regards.

a. Fishing Logbook

Fishing logbook is a landing declaration, containing information on landed fish includes:

- (i) Name of Fishing Vessels
- (ii) Fishing activity by time and Fishing area
- (iii) Catch estimates by species in each fishing operation
- (iv) Landed catch by species and volume.

Fishing Logbook program is implemented under the Regulation of Minister of Marine Affairs and Fisheries No. Per.18/Men/2010 on Fishing Logbook. In this concern, fishing logbook shall be carried out by all fishing vessels greater than 5 GT. Prior to fish landing, fishing logbook shall be submitted to fishing port administrator.

To increase the effectiveness of fishing logbook program, activities as adopted in the following action plan will be undertaken:

Plan of Action:

Responsible Unit	Activities	Year		
		1	2	3
DGCF	Conducting technical guidance on logbook program at national level to various stakeholder such as:			
	(i) Related Officers at the Directorate General of Capture Fisheries			
	(ii) Officers in-charged at the Province of Marine Affairs and Fisheries Office.			
	(iii) Officers in-charged at the District/City of Marine Affairs and Fisheries Office.			

	(iv) Fishing Port Officers (v) Association of fishing operators (vi) Captain (vii) Officer in charge (TOT) in data collection at fishing industries.			
	Provisions in submission of fishing logbook before landing will be effectively enforced.			
	Develop MIS in fishing logbook			

In respect to the technical guidance, the scope of activities includes introduction of logbook template, procedure of filling-in, procedure of submission, procedure of verification and benefits in implementation of fishing logbook as well as simulation in filling-in of logbook template. By conducting the technical guidance activities, it is expected to increase (i) an understanding in filling-in procedure and (ii) compliance level of implementation.

b. Catch Certificate

Catch Certificate is applied in order to meet the requirements of trading of fisheries products to EU and to actively participate in preventing, eliminating and combating IUU fishing activities. This policy was implemented under the Regulation of Minister of Marine Affairs and Fisheries No: Per. 13/Men/2012 on Catch Certificate to meet the European Council (EC) No.1005/2008 of 29 September 2008.

To increase the effectiveness of catch certificate program, activities as adopted in the following action plan will be undertaken:

Plan of Action:

Responsible Unit	Activities	Year		
		1	2	3
DGCF	Technical Guidance of Catch Certificate to DGCF Officers and fishing operators.			
	Develop MIS of Catch Certificate.			

c. Application of IOTC Bigeye Statistical Document

Application of IOTC Bigeye Statistical Document is based on Resolution No.06/01. The document contains of data and information on fishing vessels, fishing area, fishing time, and fish size and weight. The document is an export requirement for bigeye tuna.

To increase the effectiveness of IOTC Bigeye Statistical Document, activities as adopted in the following action plan will be undertaken:

Plan of Action:

Responsible Unit	Activities	Year		
		1	2	3
DGCF	Strengthening capacity in IOTC Bigeye Statistical Document.			
	Integrates IOTC Resolution No. 06/01 into national legislation;			
	Develop MIS of IOTC Bigeye Statistical Document			

	Management			
	Auditing the implementation of IOTC Bigeye Statistical Document.			

d. Implementation of Catch Documentation Scheme

Catch Documentation Scheme is effectively implemented from 1 January 2010 for southern bluefin tuna (SBT). Each individual of SBT must be tagged immediately after killed.

To increase an effective implementation of CDS program, activities as adopted in the following action plan will be undertaken:

Plan of Action:

Responsible Unit	Activities	Year		
		1		
DGCF	Conduct a Technical Guidance program and simulation to fill-in CDS form, both to fishing industries as well as port officers.			
	Monitoring and recording SBT production monthly, quarterly and yearly.			
	Develop MIS of CDS.			
	Conduct an boat inspection in respect to SBT to SBT transshipment at port.			
	Conducts catch actual inspections periodically and randomly during unloading. Port officer will record the catch by species such as skipjack tuna, yellowfin, Bigeye ,albacore and SBT			
RCFMC	Conduct verification of catch by observer on board (on scientific level).	2008		
	Conduct verification of catch by enumerator at port (on scientific level).	2006		
Dit. PDN-P2HP	Conduct market inspection and verification in respect to collect SBT data that in local markets (restaurants, hotels, ete etc.)			

e. Monitoring of at-sea Transshipment

Transshipment means the unloading of all or any of the fish on board a fishing vessel to another fishing vessel at sea. Basically, transshipment at is not permitted, however, for reasons of cost efficiency in fishing operations, at-sea transshipment is allowable with certain requirement and only for certain fishing gear, such as:

- (i) Tuna Long Line
- (ii) Pole and Line
- (iii) Trolling Line
- (iv) Hand Line
- (v) Purse-seine group

To ensure the fish are transferred to other another vessel do not resulted from and / or related to IUU fishing activities, the procedure of at-sea transshipment is strictly regulated.

At-sea transshipment is only allowable to tuna Longliner; Pole and Line; Trolling line; Hand Line to another fishing vessels and / or carrier vessels, with the following conditions:

- (i) All vessels engaged in transshipment activities shall have a fishing permit and be in one company.
- (ii) The fish which is transshipped must be landed at the base port of receiving vessel.
- (iii) Filling-in of transshipment declaration at sea accurately and completely.
- (iv) Transshipment declaration shall be signed by each captain involved in at-sea transshipment and submitted to administrator of base port of the receiving vessel to obtain prior approval before landing.
- (v) Port administrator will verify the validity of data in the transshipment declaration. Verification will determine whether port administrator may endorse or refuse the transshipment declaration.
- (vi) In regards that the port administrator refuse to endorse the transshipment declaration, fishing vessels and fish carrier vessels engaged in transshipment to be considered have carried out IUU fishing activities, and shall be liable to revocation of permits.

While procedures for at-sea transshipment of purse-seine group is defined as follows:

- (i) Transshipment is only allowable from fishing vessels to fish carrier vessels.
- (ii) Purse-seiner has no fish holds.
- (iii) Fishing and transporting activity conducted by authorized vessels in unity of operation.
- (iv) Transshipped fish shall be landed at the base port of the receiving vessel.
- (v) Fill-in the transshipment declaration and shall be signed by each captain.
- (vi) The transshipment declaration must be submitted to the port administrator for endorsement prior to landing.
- (vii) Based on the transshipment declaration, port administrator will verify the validity of species and volume of transshipped in the transshipment declaration as well as the ~~location~~ of location of the transshipment.
- (viii) Verification will determine whether port administrator may endorse or refuse to endorse the transshipment declaration.
- (ix) In regards that the port administrator refuse to endorse the transshipment declaration, fishing vessels and fish carrier vessels engaged in transshipment to be considered have carried out IUU fishing activities, and shall be liable to revocation of permits.

To increase an effective implementation of at-sea transshipment program, activities as adopted in the following action plan will be undertaken:

Plan of Action:

Responsible Unit	Activities	Year		
		1	2	3
Fishing Port administrator	Shall submit a monthly report to Director General regarding at-sea transshipment declaration he has endorsed.			
DGCF	Audit implementation of at-sea transshipment annually.			

7. IMPLEMENTATION OF PORT STATE MEASURES

In line with the duty of all states to combat, prevent and eliminate IUU Fishing activity, Indonesia

will apply port state measures against any foreign-flag vessels that will land tuna and tuna like species in Indonesian ports.

Port state measures include a procedure of entering the port, inspection the validity of the vessel's documents, fishing permit, fishing gear type, catch and safety equipment on board, including reporting obligations. This activity will be implemented in fishing ports that are designated as ports for foreign-flag vessel that will land tuna and tuna like species, namely (i) Oceanic fishing port Bitung, North Sulawesi (ii) Oceanic fishing port Bungus, West Sumatra (iii) Oceanic fishing port Nizam Zachman Jakarta, (iv) Archipelagic Fishing Port Palabuhanratu, West Java (v) Archipelagic Fishing Port Ambon, Maluku. In addition, the Directorate General of Capture Fisheries will coordinate with cargo port authorities across Indonesia in this regards.

To increase an effective implementation port state measures program, activities as adopted in the following action plan will be undertaken:

Plan of Action:

Responsible Unit	Activities	Year		
		1	2	3
DGCF	Develop a Standard Operating Procedures (SOP) for implementation of port state measures <u>measures</u> .			
	Conducting a technical guidance of SOP for implementation port state measures (PSM) to fishing port officers.			
	Coordinate with cargo port authorities to implement PSM against foreign vessels that will land fish in Indonesia.			

8. FISHING VESSEL MONITORING SYSTEM

Based on the International Plan of Action on Illegal, Unreported and Unregulated Fishing (IPOA-IUU Fishing) FAO 1995, all flag states shall combat IUU fishing activities both within and outside of their jurisdiction of the flag states. The obligation is essential to be properly applied due to IUU fishing activities will undermine the conservation and management measures which is intended to ensure the sustainability of tuna fisheries resources. For that reason, the right to issue of authorization to fish (fishing permit) by a state shall be followed by the state's obligation to monitor the movement/activities of any vessel fishing authorized to fish, in order to prevent violations to adopted conservation and management measures.

Monitoring the movement of the ship is given by the SIPI Indonesia through fishing vessel monitoring systems implemented by the Minister of Marine Affairs and Fisheries No. Per.05/Men/2007 on Fishing Vessel Monitoring System Providing and/or changes. Monitoring the movement of ships carried out by using technology Vessel Monitoring System (VMS). In this case, any size fishing vessels over 60 GT shall be completed with VMS on-line, while the ships are 30 GT - 60 GT must be equipped with VMS off-line.

Monitoring of Vessels authorized to fish shall be undertaken by VMS as stipulated under the Regulation of Minister of Marine Affairs and Fisheries Number: Per. 05/Men/2007 on Vessel Monitoring System. In this concern, all vessels greater than 60 GT shall install VMS on-line while vessel between 30 GT – 60 GT shall install VMS off-line. However, there is a possibility to adjust the size of vessel in order to comply with the regional / international provision. In this

concern, RFMO has adopted- that any vessel ~~greaten~~greater than 15 meters authorized to fish tuna and tuna like species shall install VMS on-line.

To support an implementation of VMS, policy on fishing vessel monitoring system will be integrated in to the licensing system.

To increase an effective implementation VMS program, activities as adopted in the following action plan will be undertaken:

Plan of Action:

Responsible Unit	Activities	Year		
		1	2	3
DGCF	Will integrate VMS on-line with MIS IMS of fishing permit.	2014		
DJ-PSDKP	Documentation of vessels' tracking (movement) both on-line and off-line.	2013		
	Develop standard operating procedures for manual reporting in case VMS not properly function.	2013		
	Conduct annual audit of VMS program performance	2010-2011		
	Promote the revision of the existing regulation to comply with international/regional provisions.	2012		

9. MANAGEMNT OF FADs

Usage of FADs shall be controlled by restrictions on the use of FADs with the following principles:

- a. Permit of FADs only granted to purse-seiner, handline, pole and line and trolling line fishing gear.
- b. Restrictions on FAD number for each vessel.
- c. Restrictions on FADs deployment area.

To increase an effective implementation FAD management, activities as adopted in the following action plan will be undertaken:

Plan of Action:

Responsible Unit	Activities	Year		
		1	2	3
RCFMC	Conducting a research on tuna FAD shall be allowable to each vessel (to keep fishing operation remain viable)	2013		
	Conducting a research on number of FAD shall be allowable to each vessel (to keep fishing operation remain viable)	2014		
	Present Provide the recommendation from tuna FAD research to DGCF for follow up action.	2016		
RCFMC DGCF and RCFMC, Law Bureau	Promote the revision of the existing regulation such as Minister of Marine Affairs and Fisheries No. 30 of 2004 concerning the installation and use of FADs.	2011	2012	2013

B. MANAGEMENT MEASURES FOR INDONESIA FLAGGED VESSELS ON THE HIGH SEA

Besides the obligation to comply with the conservation and management measures for all vessels operating in the Indonesia FMA, the Indonesian-flagged vessels operating on the high seas are also required to comply with the conservation and management measures on the high seas, as follows:

1. AT-HIGH SEAS TRANSHIPMENT AND REGIONAL OBSERVER PROGRAM

Procedures for at-high seas transshipment stipulated in the conservation and management measures adopted by the RFMO. In this case, transshipment is only permitted from fishing vessels to carrier vessel (receiving vessel). In order to ensure that there is no fish resulted from IUU fishing activities to be transhipped to legal vessels, at-high seas transshipment shall be witnessed by observer on-board assigned by RFMO concerned. Deployment of observer on-board to carrier vessel will be made under the Regional Observer Programme mechanism.

The purpose of the deployment observer on-board at-high seas transshipment, among others:

- a. Collecting catch data accurately to support a scientific assessment of the fish stock;
- b. To ensure that the fish are transferred from fishing vessel to another carrier vessel is not derived from IUU fishing activities.

For that reason, observer on-board will but not limited to:

- a. Record of Vessels name involved.
- b. Inspect and record fishing permits and other required documents.
- c. Record location of at-high seas transshipment
- d. Inspect fishing logbook
- e. Record number of fish to be transhipped
- f. Provide a transshipment declaration to be signed by captain of vessels involved.
- g. Endorse transshipment declaration

To increase an effective implementation at-high seas transshipment program, activities as adopted in the following action plan will be undertaken:

Plan of Action:

Responsible Unit	Activities	Year		
		1	2	3
DGCF	Integrating a procedure for transshipment on the high seas into National legislation			
	Develop a standard <u>standard</u> operating procedures on at-high seas transshipment.			
	Introducing the SOP to fishing industries.			
	Provide sanction in accordance with legislation such as fishing permit suspension to each infringement.			
	Inventory of vessels involved in at-high seas transshipment, including elaboration of transshipment transshipment at semester basis.			

	Provide annual report on at-high seas transshipment activities to relevant RFMO.			
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2. APPLICATION OF CLOSED-OPENED SYSTEM

RFMO has adopted a conservation and management measures on the application of close and open system to fish at the certain fishing areas.

To increase an effective implementation close-open system, activities as adopted in the following action plan will be undertaken:

Plan of Action:

Responsible Unit	Activities	Year		
		1	2	3
DGCF	Disseminate information to fishing industry in respect to closure to fish at the certain fishing area.			
	Provide sanction in accordance with legislation such as fishing permit suspension to each infringement.			
PSDKP	Monitor ships' movement that are <u>movements that are</u> fishing near the fishing area through VMS tracking.	2013	2014	2015

3. BOARDING AND INSPECTION

To ensure all vessels not involved in IUU fishing activities on the high seas, RFMO has adopted a conservation and management measures on boarding and inspection. DGCF will notify the Indonesian flagged vessels that are fishing on the high seas, that they have rights and obligations to receive boarding and inspection personnel. As a state flag, Indonesia should be informed on each boarding and inspection activities conducted by the competent authority.

To increase an effective implementation of boarding and inspection, activities as adopted in the following action plan will be undertaken:

Plan of Action:

Responsible Unit	Activities	Year		
		1	2	3
PSDKP	Develop a guidelines contains the rights and obligations of captain and crews in receiving the boarding and inspection personnel.	2012	2013	2014
	Conducting investigation to vessel presumed to have carried out infringement as resulted from boarding and inspection measures.	2012	2013	2014
DGCF	Disseminate a guidelines on boarding and inspection measures adopted by RFMO			
	Provide notification to the owner or person in charge of the vessel regarding the results of investigations conducted by PSDKP.			
	Integrate the provision of boarding and inspection at sea into national legislation.			
	Provide sanction in accordance with legislation such as fishing			

	permit suspension to each infringement.			
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4. VESSEL MONITORING SYSTEM

To increase an effective implementation of VMS on the high seas, activities as adopted in the following action plan will be undertaken:

Plan of Action:

Responsible Unit	Activities	Year		
		1	2	3
PSDKP	1. Ensure that VMS of any vessels fishing on the high seas compatible with land-based VMS center in Jakarta and RFMO.	2013		
	2. Develop a technical guideline to ensure a compatibility of VMS on-board and RFMO requirement.	2013		
	3. Provide DGCF with a list of vessels having VMS that compatible with RFMO requirement.	2013		
	4. Provide annual report of VMS implementation in accordance with the RFMO template.	2013		

5. PORT STATE MEASURES

Indonesia, shall meet all requirements adopted by the state of destination port. The Captain shall understand and comply with all provisions regarding the port state measures such as notification of port entry, inspection to the validity of vessels documents, fishing permits, gear type, catch and safety equipment on board, including reporting obligations. Based on the international Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, ~~FAO 2009 that~~ by application of port state measures, the coastal states shall take a ~~law~~[law](#) enforcement against each infringement. The law enforcement may include banning the landing of catch, prohibition of entering the port except due to emergency or natural disaster (distress call).

To increase an effective implementation of Port Sate Measure outside of Indonesia, activities as adopted in the following action plan will be undertaken:

Plan of Action:

Responsible Unit	Activities	Year		
		1	2	3
DGCF and PSDKP	Develop a practical guidance on standard operating procedures in implementation PSM outside of Indonesia.			
	Disseminate the standard operating procedures to fishing industries.			

6. ESTABLISHMENT OF INDONESIA IUU-LIST LIST

Inclusion of vessel in the IUU vessels list will be made after there is sufficient evidence that the vessel presumed has carried out IUU fishing activities. Such evidence can be taken from observer on-board program, or board and inspection or port inspection or other investigations which can provide evidence that the vessel suspected involved in IUU fishing activities. The suspected

vessel will be included in the draft or provisional IUU Vessel List, unless the flag state may provide evidence otherwise.

As Indonesia is a member of IOTC and CCSBT and CNM of CCSBT, therefore the scope of activities that can be classified as IUU fishing will be accordance with –IOTC Resolution 11/03 and WCPFC-CMM 07-03 as follows:

- a. Harvest species covered by RFMO Convention in the Area of Competence and are neither on the RFMO record of authorized vessels nor a fishing vessel fishing exclusively in waters under the jurisdiction of its flag State, or
- b. Conduct fishing activities in waters under the jurisdiction of a coastal State, without permission of that State, or in contravention of its law and regulations, or
- c. Do not record or report their catches made in the convention area consistent with RFMO conservation and management measures, or
- d. Take and land undersized fish in a way that undermines RFMO conservation measures, or
- e. Fish in closed area or during a closed season in a way undermine RFMO conservation and management measures, or
- f. Use prohibited fishing gear in a way that undermine RFMO conservation measures, or
- g. Transship with, participate in joint fishing operation with, support or re-supply vessels included in the IUU Vessel List, or
- h. ~~Are w~~Without nationality and harvesting ing species covered by RFMO convention in the ~~are~~area of competence, or
- i. Engage in fishing, including transshipping, re-supply or re-fuelling, contrary to any other RFMO conservation and management measures.
- j. Engaged in any other fishing activities that undermine the provisions of the RFMO convention or any other RFMO conservation measures.

To increase an effective implementation in combating IUU Fishing, activities as adopted in the following action plan will be undertaken:

Plan of Action:

Responsible Unit	Activities	Year		
		1	2	3
A	In terms of IUU Fishing activity discovered by Indonesia and / or as the results of vessel monitoring by PSDKP:			
DGCF	Informing vessel’s owner and / or operator and / or the company, in charged. They shall provide evidences that the vessel did not involved <u>involve</u> in violation.			
	Provide sanction in accordance with legislation such as fishing permit suspension to each infringement.			
	To Include the vessel into IUU vessel list established by <u>Indonesia</u> by Indonesia .			
	To remove the vessel from IUU Vessel list in accordance with the internal procedure to be established.			
B	In terms of IUU Fishing activities discovered RFMO and / or other States:			
DGCF	Informing vessel’s owner and / or operator and / or the company in charged. They shall provide evidences that the vessel did not involved <u>involve</u> in violation.			

	Based on the available evidence and the investigation made by PSDKP, DGCF will communicate with RFMO and concerned state to protect the vessel from inclusive into IUU Vessel List.			
	In the case the evidence provided by the flag state is unacceptable to RFMO and concerned state, the vessel will be included into RFMO IUU Vessel List.			
	Provide sanction in accordance with legislation such as fishing permit suspension to each infringement.			
	Facilitate the removal of the vessel from IUU Vessel List.			
PSDKP	Investigate vessels movement by VMS by VMS tracking at the time of violation.	2011		
	Provide recommendation to DGCF	2011		

In respect to measures against vessels included in the RFMO IUU List, in collaboration between the Directorate General of Fisheries and PSDKP and related port authority would take necessary action:

- a. So that the fishing vessels, the carrier/cargo vessel flying Indonesia flag do not participate in any transshipment with vessels on the IUU Vessel List;
- b. So that IUU Vessel that enter ports voluntarily are not authorized to land, ~~tranship~~transship, refuel, resupply, or engage in other commercial transactions;
- c. To prohibit the chartering of a vessel included on the IUU Vessels List
- d. To refuse to grant Indonesia flag to vessels included in the IUU Vessel List, except if the vessel has changed owner and the new owner has provided sufficient evidence demonstrating the previous owner or operator has no further legal, beneficial or financial interest in, or control of, the vessel, or having taken into account all relevant facts, that the vessel will not result in IUU fishing.
- e. To prohibit the imports, landing or transshipment, of tuna and tuna-like species from vessels included in the IUU Vessels List.
- f. To encourage the importers, transporters and other sectors concerned, to refrain from transaction and transshipment of tuna and tuna-like species caught by vessels included in the IUU Vessel List.
- g. To prohibit the changing of vessel's name.

Furthermore, PSDKP in collaboration with the Directorate General of Capture Fisheries and other related port authority, will also take a similar action to the foreign flagged vessel presumed to have carried out IUU fishing activities in Indonesia waters and inform RFMO to include the vessel in the IUU Vessels List.

7. ECOSYSTEM APPROACH IN TUNA MANAGEMENT

Ecosystem approach in tuna management is implemented by mitigation to by catch and ecologically related species with tuna (ERS) in accordance with national and / or international instruments. By catch means all fishes are caught along with tuna fishing, such as shark (shark). While ERS is means all non-fishes which is incidental caught along with tuna fishing, such as sea birds, sea turtles, whales, and other marine mammals.

To increase an effective implementation of ecosystem approach in tuna management, activities as adopted in the following action plan will be undertaken:

Plan of Action:

Responsible Unit	Activities	Year		
		1	2	3
DGCF	Publish by catch species and ERS that shall be alive released.			
	Develop a standard operating procedure in handling of bycatch and the ERS.			
	Integrate by catch and ERS mitigation into national legislation.			
	Provide sanction in accordance with legislation such as fishing permit suspension to each infringement.			
RCFMC	Conduct a research and scientific data collection in respect to bycatch and ERS mitigation by gear type such as Longliner, Purse-seiner, Pole and Line and Hand line. (indian ocean)	2013		
RCFMC	Conduct a research and scientific data collection in respect to bycatch and ERS mitigation by gear type such as Longliner, Purse-seiner, Pole and Line and Hand line. (pacific ocean)	2014		

C. DEVELOPMENT OF TUNA MANAGEMENT INFORMATION SYSTEM.

To improve the effectiveness and efficiency of the national tuna fishery management plan, will be the development of Tuna Management Information Systems which integrated on-line, with a time frame such as the following action plan:

To increase an effective implementation of national tuna management, activities as adopted in the following action plan will be undertaken:

Plan of Action

Responsible Unit	Activities	Year		
		1	2	3
DGCF	Integrate MIS of fishing permits with:			
	a. Vessel Registration and Marking MIS			
	<ul style="list-style-type: none"> • At Central Level • At province level • At District/City level 			
	b. Fishing logbook MIS			
	c. Catch Certificate MIS			
	d. Fishing Vessel Monitoring System			
	e. Catch Documentation Scheme MIS			
f. IOTC Bigeye Statistical Document MIS				

Integrated on-line management information system will facilitate provide necessary information to ensure that the fish landed is resulted from legal fishing activities. This system could also ensure that there is no fish are resulted from IUU fishing activities will be legally landed by legal vessels.

Therefore, development of integrated Tuna Management Information Systems is one of the effective tools to combat IUU fishing activities.

D. ELABORATION TUNA TRADE AND ECONOMIC ASPECT

1. TUNA TRADE

In assessment of performance of this national tuna management plan in the future, it is necessary to collect data of tuna trade both in domestic and export markets. Data collection shall be at national level basis.

To increase an effective implementation of data collection of tuna trade at national level, activities as adopted in the following action plan will be undertaken:

Plan of Action

Responsible Unit	Activities	Year		
		1	2	3
Directorate of Export Market.	Collect and present of export data (fresh and frozen) by species, volume, and value as well as destination states.			
	Collect and present of export data of processed tuna products by species, volume, value and destination states.			
	Collect and present of data of imported tuna by species, volume, value and state of origin.			
Directorate of Domestic market.	Collect and present of data of imported tuna by species, volume, value and state of origin.			
	Inventories number of Tuna processing units.			
	Inventories number of tuna processing units who imported tuna as raw material.			
	Inventories number of tuna processing units who imported tuna which intended to be re-exported without any processed.			
	Conduct a survey study on the distribution of tuna in domestic market every 3 (three) years.			

2. SOCIAL AND ECONOMIC CONTEXT

Tuna fisheries industry has made a great contribution to the Gross National Product (GDP), as well as the main source of income of fishermen and supported industries operators. In assessment of the role of tuna fisheries from social and economic perspective, activities as adopted in the following action plan will be undertaken:

Plan of Action

Responsible Unit	Activities	Year		
		1	2	3
Socio-Economic Research Center	Estimates tuna fisheries contribution to Indonesia GNP.			
	Estimates number of people directly involved in tuna fisheries (fishing, processing and marketing, port labors, ete etc.).			
	Estimates the value of tuna fisheries transaction at the domestic market.			
	Estimates monthly tuna fishermen income and others who directly involved in tuna fisheries activities (processing,			

	marketing and port labors, etc.)			
	Estimates number of people involved in tuna supporting industries such as shipyards, fishing gear industries, logistic supplier ete etc.			

E. INTEGRATION OF REGIONAL AND INTERNATIONAL PROVISIONS INTO NATIONAL LEGISLATION

In accordance with Para 5 point (g) of the explanation to the Act No. 21 Year 2009 on the ratification of agreement for the implementation of the provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Fish Straddling Stocks and Highly Migratory Fish Stocks, is stipulated that states who has made a ratification to UNIA 1995 shall integrate the principles of tuna management on the high seas as adopted by UNIA 1995 into national tuna management policy.

To effective implementation of these requirements, the Directorate General of Capture Fisheries in collaboration with related units within Ministry of Marine Affairs and Fisheries will promote the integration of conservation and management adopted by the RFMO into national legislation.

In case there is Conservation and Management Measures adopted by the RFMO that have not been integrated into national legislation, it shall be implemented after it enters into force. This is intended to protect the interest of Indonesia tuna fisheries. For that reason, DGCF will distribute the said conservation and management measures to fishing industries as well as their respective associations.

F. CAPACITY BUILDING OF TUNA FISHERIES ASSOCIATION

Tuna Association plays an important role to support the implementation of sustainable tuna management. Association is an organization that was formed by fishing industries which is intended to protect their interests. Therefore, communication between government and association must be well performed, so that adopted conservation and management measures can be implemented efficiently and effectively. In this case, the association is expected to be a partner of the government to communicate the various provisions adopted at national and regional level, to fishing industries as well to captain and crews.

There are at least six (6) expected roles could be taken by Indonesia tuna associations, such as:

1. As a pioneer to change mindset of fishing industries, so that production oriented could be combined into sustainable oriented approach.
2. As a liaison to communicate and disseminate various government and international policies in tuna management to tuna fishing industries.
3. As a representative of fishing industries and to be a government partner in developing public policies concerning tuna fisheries management.
4. As a pioneer to increase effective implementation of various government and international policies in tuna management practices.
5. As a pioneer in catch data collection which is intended to protect the interest of tuna fishing industries.
6. As a communication and coordination forum among members.

In order to strengthen the institutional capacity of the Association to be capable to play the 6 (six) expected role, the Directorate General of Capture Fisheries will:

1. Involve associations as partners in the decision making process.
2. Invite the association in any discussion / workshop / meeting on tuna fisheries.

3. Invite the association as a member of the Indonesian delegation in bilateral and / or multilateral and / or RFMOs meeting.

G. PARTICIPATION IN INTERNATIONAL MEETING

As a follow up to the mandate of Article 10 of Act No. 31 of 2004 as amended by Act No. 45 of 2009 on Fisheries, Indonesia has participated in international and regional organizations on fisheries such as WCPFC, IOTC and CCSBT including FAO, ASEAN, SEAFDEC, RPOA on IUU Fishing and the WTO. To enhance the role of Indonesia in various international organizations, it is necessary to determine the head of delegation in this regards:

1. Directorate General of Capture Fisheries will be acting as a head of delegation in the following meeting:
 - a. RFMO Compliance Committee Meeting
 - b. RFMO Annual Commission Annual Meeting/Session
 - c. Non-RFMO
2. RCFMC will be acting as a head of Indonesian delegation at the Scientific Meeting.
3. PSDKP will be acting as head of Indonesia delegation at the meeting RPOA-IUU Fishing.
4. Directorate General of Processing and Marketing Fisheries Product (DGPMF) will be a head of Indonesia delegation at the WTO meetings.
5. PUSKITA and DGPMF will be a head of Indonesia delegation of Indonesia is the ASEAN meeting.

H. FISHING IN WATERS OF OTHER STATE JURISDICTION

Pursuant to Article 27 paragraph (4) of Law No. 31 of 2004 as amended by Act No. 45 of 2009 on Fisheries, stated that the Indonesian-flagged vessels fishing in the territorial jurisdiction of other countries must first obtain approval from the Government. Issuance of the permit by the government will be preceded by a bilateral agreement between Indonesia and other countries, and so far Indonesia has not had such an agreement.

Whenever there is a vessel in violation of this provision, the Directorate General of Capture Fisheries will:

1. Include the vessel into Indonesia IUU Vessel List.
2. Provide sanction in accordance with legislation such as fishing permit suspension to each infringement.

CHAPTER V CLOSING

This NTMP will significantly contribute benefits to sustainability of tuna fisheries both fishing and processing industries. Achievement of goals can only be reached if the government and all relevant stakeholders are committed to implement the action plan proposed. Management measures in this NTMP will be updated based on (i) best available data and information that can be obtained during the management period, (ii) goals to be achieved and (iii) institution capacity of government and private institutions and/or business entity.

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