



**SCIENTIFIC COMMITTEE
FIFTH REGULAR SESSION**

10-21 August 2009
Port Vila, Vanuatu

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

WCPFC-SC5-AR/CCM-31

INDONESIA

INDONESIAN FISHERIES IN WCPFC CONVENTION AREA

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

PART ONE



**MINISTRY OF MARINE AFFAIRS AND FISHERIES
THE REPUBLIC OF INDONESIA
2009**

INDONESIA FISHERIES IN WCPFC CONVENTION AREA

BACKGROUND

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

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

According to Convention of the Law of the Sea and the UNFSA 1995, fisheries industries which operates and obtains benefits from those resources, such as tuna fishing industries, should be operated under the management of regional administrative bodies – five of which currently manage the designated ocean zones. These administrative bodies are: the Indian Ocean Tuna Commission (IOTC), the Commission for the Conservation of the Southern Bluefin Tuna (CCSBT), and the Western and Central Pacific Fisheries Commission (WCPFC).

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

INDONESIAN VIEWS ON RATIFICATION TO THE CONVENTION

Current Indonesian fisheries policy aimed in developing fisheries and marine orientation is in line with national policy in developing cooperation among Pacific, East Asia, and especially with Central and South Pacific countries (Melanesia, Polynesia and Micronesia). Moreover, reliance similarity on fisheries and marine sector is believed would build strategic cooperation in securing sustainability of regional fisheries and economic benefit derived from fishery.

Indonesia has been recorded as cooperating non-member in WCPFC membership Since 2004 and has carried internal process to become the full member. With regard to the above matter, we kindly inform that the internal process to ratify the Convention on the Conservation of Highly Migratory Fish Stock in the Western and Central Pacific Ocean and to become a Contracting Party of WCPFC is carried on by our interdepartmental coordination process to the greatest extend.

As stipulated in the Article 32 of WCPFC Convention, each country seeking or wish to extend their status of cooperating non-member in WCPFC, should submit all requirements requested by the Commission. Those information are presented in the following part of this paper.

NOMINAL CATCHES IN FISHERIES MANAGEMENT AREA VIII

Due to Indonesian statistical system, Indonesia could not provide the data of fishing effort and nominal catches classified by name of the vessels. However, Indonesia provides the data of nominal catches and the number of fishing vessels in Fisheries Management Area 716 (IEEZ Sulawesi Sea) and 717 (IEEZ Pacific Ocean) as shown below:

Table 1. Nominal Catches in Fisheries Management Area 716 IEEZ Sulawesi Sea and 717 IEEZ Pacific Ocean 2003-2007

Species	2003	2004	2005	2006	2007
Total	105,403	107,724	127,679	134,853	151, 554
Albacore	-	5,254	8,186	7,667	8,488
Bigeye Tuna	-	7,917	7,987	9,033	9,985
Yellofin Tuna	36,021	26,733	24,339	18,214	26,503
Southern Bluefin Tuna	-	-	-	-	-
Longtail Tuna	-	9,053	12,264	12,027	12,890
Bullet Tuna	-	-	-	-	-
Frigate Tuna	-	2,935	5,219	7,003	8,220
Kawa-Kawa / Eastern Little Tuna	14,575	3,802	4,374	5,078	4,251
Skipjack Tuna	54,807	51,943	65,223	75,718	79,984
Indo-pacific Sailfish	-	70	100	171	236
Black Marline	-	19	5	20	65
Indo-pacific Blue Marlin	-	-	-	-	-
Stripped marlin	-	-	-	-	-
Swordfish	-	-	-	-	-

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

There are several fishing vessels and fishing gears operated in Indonesian Economic Exclusive Zone, such as purse seine, long line, pole and line, stick held dip net, oceanic drift gillnet, and squid jigging. However, purse seine, long line, pole and line are recognized as the three major fishing vessels operating in IEEZ Sulawesi Sea and IEEZ Pacific Ocean. The following tables illustrated the number of those 4 majors fishing vessels during the period of 2008 in various sizes.

Table : Number of Authorized Fishing Vessels
(Management Area No.716 IEEZ and No. 717)

Vessels	2008
Large Pelagic Purse Seine	Units
< 30 GT	4
30 – 50 GT	13
50 – 100 GT	87
100 – 200 GT	50
200 – 300 GT	3
300 – 500 GT	9
500 – 800 GT	5
800 – 1300 GT	4
1300 – 2000 GT	1
2000 – 3500 GT	0
Sub-Total	176
Small Pelagic Purse Seine	
< 30 GT	7
30 – 50 GT	17
50 – 100 GT	52
100 – 200 GT	13
200 – 300 GT	0
300 – 500 GT	0
500 – 800 GT	0
800 – 1300 GT	0
1300 – 2000 GT	0
2000 – 3500 GT	0
Sub-Total	89
Pole and Line	
< 30 GT	0
30 – 50 GT	7
50 – 100 GT	58
100 – 200 GT	1
200 – 300 GT	0
300 – 500 GT	4
500 – 800 GT	3
800 – 1300 GT	0
1300 – 2000 GT	0
2000 – 3500 GT	0
Sub-Total	73

Long Line	
< 30 GT	2
30 – 50 GT	38
50 – 100 GT	88
100 – 200 GT	23
200 – 300 GT	0
300 – 500 GT	2
500 – 800 GT	1
800 – 1300 GT	0
1300 – 2000 GT	0
2000 – 3500 GT	0
Sub-Total	154
Others	
< 30 GT	0
30 – 50 GT	0
50 – 100 GT	1
100 – 200 GT	16
200 – 300 GT	5
300 – 500 GT	1
500 – 800 GT	1
800 – 1300 GT	0
1300 – 2000 GT	0
2000 – 3500 GT	0
Sub-Total	24
Grand Total	516

Note : Light boat is not included

SOME CHARACTERISTICS OF FISHING VESSELS OPERATING IN IEEZ SULAWESI SEA AND IEEZ PACIFIC OCEAN

Related to mentioned above, Indonesia provide details of its current fishing presence in the Convention Area which includes the number of those three main fishing vessels operating in IEEZ Sulawesi Sea and IEEZ Pacific Ocean fishing vessels and their characteristics as of **26 September 2008** (as detailed see Annex) Some characteristics of those fishing vessels can be described as follows:

1. Purse Seine

Purse seines in Pacific Ocean of Indonesian EEZ operated in groups and classified as purse seine for big pelagic fish or small pelagic fish, equipped with their light boats and carriers. The size of purse seine fishing vessels (including light boat and carriers) operating in IEEZ Sulawesi Sea and IEEZ Pacific Ocean. Purse seine vessels construct either in steel, fiberglass or wooden material and set with marine engine as its power. Other specifications of the vessels are equipped by auxiliaries machines such as winch, power block (if any) and others. In its operation, fish aggregating device namely rumpon or payaos is required.

The specification of this fishing gear is equipped with float rope 600 – 650 meters in length and which the net consists of 25 – 75 mm mesh size. Sinker line and purse line are 625 – 750 meters and 700 – 1800 meters in length respectively. There also 1200 – 2750 pieces of floating buoys attached to this fishing gear.

Main catches of Purse Seine are kind of fish which schools at surface water layer (pelagic) like small pelagic (Trevallies, Indian oil sardinella, Indian mackerel, and others fish) and intermediate swimming layer of big pelagic fish (Skipjack tuna, Thunus, and other fishes).

2. Tuna Long Line

The size of current tuna long line fishing vessels operating in IEEZ of Pacific Ocean ranging from 30 - 563 GT. Tuna Long Line is kind of fishing gears which operated horizontally in sea level layer (50-400 meters), consist of main line which is on fastened certain distance draped by of branch line which is on tip of the branch lines fastened by hook.

Every basket compose 5-15 fishing hook (branch lines), with distance between branch line about 23-30 meter, which is on tip of the branch line fastened by fishing hook. Amount of branch line per basket can changed as according to deepness layer of tuna swim becoming its capture target.

3. Pole and Line

Pole and line or huhate is only permitted to operate in territorial water of certain region outside Fishing Lines of I, IEEZ of Sulawesi Sea and IEEZ of Pacific Ocean.

The size of pole and line fishing vessels operating in IEEZ of Pacific Ocean varying from 30 - 143 GT. Pole and line construct in wood material and set with 240 – 435 HP of marine engine.

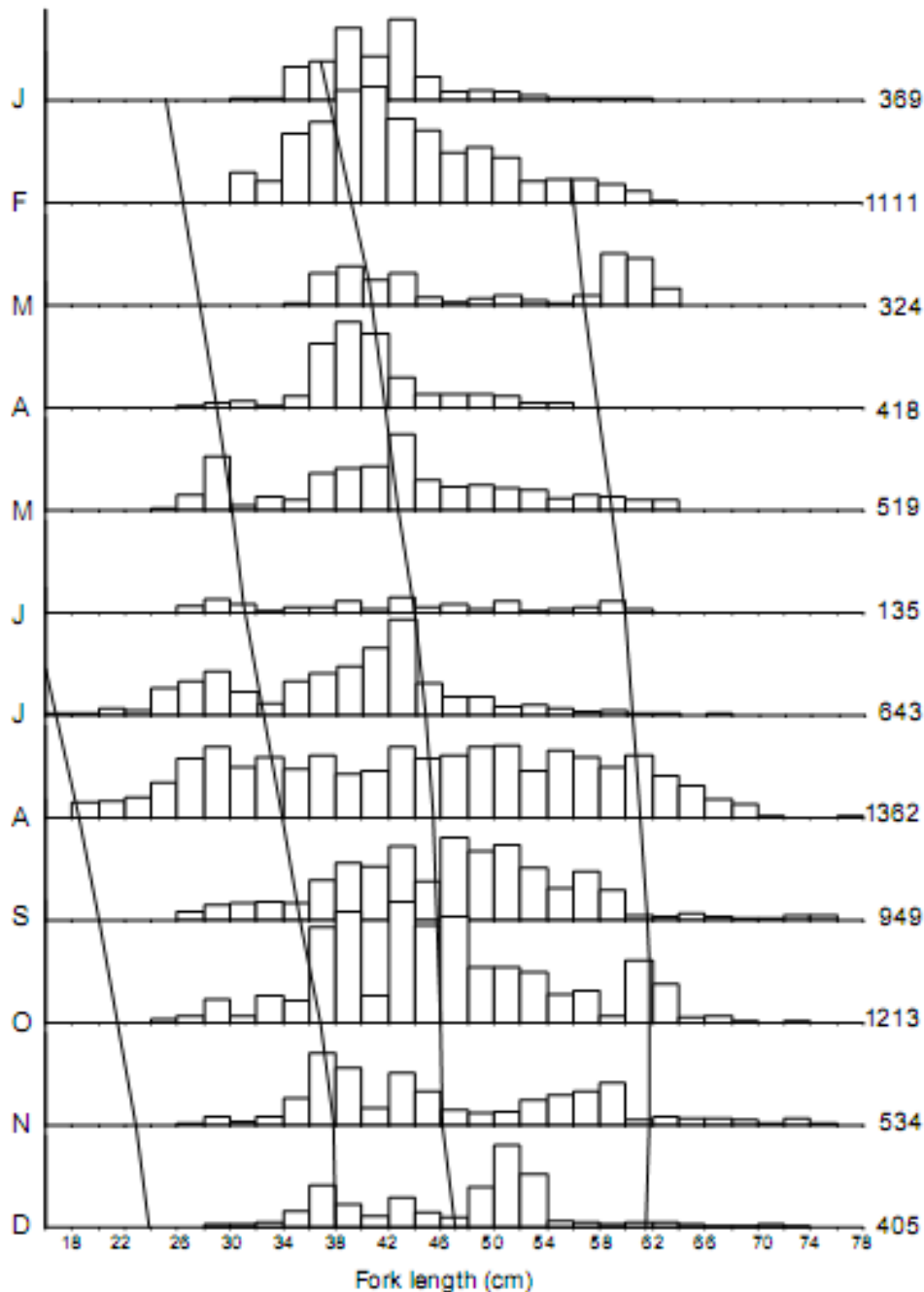
Pole and Lines or huhate specifications can be summarized as follow: pole/stick and line are 3.15 – 3.3 meters and 2.2 -2.15 meters in length respectively. The number of hooks used in pole and line fisheries is 20 pieces with 28 mm of its each size.

INDONESIAN RESEARCH PROGRAMMES IN THE CONVENTION AREA

Indonesia has conducted some research programmes in the convention area. The result of those research programmes could be summarized as follow:

1. Composition of pelagic species in Pacific Ocean is categorized into tuna, skipjack, eastern little tuna, marlin, swordfish, narrow barred king mackerels, and shark. Three main big pelagic fishes such as yellow fin tuna, skipjack, and little tuna play important role in that tuna fisheries and are dominant which about 66% of total catch. The second dominant pelagic fish is yellow fin tuna and it was exploited from juvenile size (less than 30 cm) up to mature size (170 cm).

- The length of yellow fin tuna is ranging from 20 – 172 cm and 0,4 – 82 kg in weight. While for skipjack tuna, 19 – 89 cm in length and 0,1 – 5,2 kg in weight. And big eye tuna 80 – 110 cm and 10,0 – 22,0 kg in weight.
- Growth pattern for skipjack tuna is identified as allometric positive with value $b > 3$ ($B = 3.2005$), while yellow fin tuna has allometric negative with $b < 3$ ($b = 2.7213$).



- Comparison of male sex between skipjack and yellowfin tuna tends to be higher than their female.
- Fishing season for tuna reach its peak on December-January and June.

6. Gonad maturity Level for skipjack is found in I, II, III and IV level and abundant in level.
7. Fecundity for yellow fin tuna is 4,992,000 - 129,223,500 eggs with fork length 93-133 cm, while for skipjack 1,176,142 - 12,725,000 eggs.
8. Gastric organ in yellow fin tuna showed its main feed contained 54% of scads (Malalugis), while other species like threadfins, deho, diodon and shrimp feed was dominated by scads which contained 57,681% while sardines, Indian mackerel and crabs acted as complimentary feed.
9. Skipjack dynamic population can be described as follows: growth rate (K) = 0.29; asymptotic length (L_{∞}) = 79.8; natural mortality rate (M) = 0.6; catch mortality rate (F) = 0.53; total mortality rate (Z) = 1.13; exploitation rate (E) = 0.44; and year maximum (t_{max}) = 6 years (Figure 1).
10. Most of skipjack were migrated near rumpon and it gave the consequences that its installation has been increased during the period 1999-2003. Fishing gear that used in skipjack fisheries are including pole and line, hand line, gillnet and purse seine.
11. The development of Catch per Unit Effort (CPUE) of skipjack trends to fluctuate in declining trend on the previous years and this phenomenon showed decreasing resources of stock.
12. Based on the biology and stock indicator, it is obviously seen that skipjack exploitation in Pacific Ocean were overexploited. Therefore, rational management is urgently required in order to sustain resources.
13. In 2008, Indonesia conducting research on biological aspect of tuna and skipjack. This research held to support WCPFC project on the Indonesia and Philippines Data Collection Project.