

**EIGHTH STANDING COMMITTEE ON TUNA AND BILLFISH**

16-18 August 1995  
Noumea, New Caledonia

**NATIONAL FISHERY REPORT**

**INDONESIAN FISHERIES FOR TUNA  
IN THE WESTERN PACIFIC - EASTERN INDONESIA**

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Noumea, New Caledonia

August 1995

## 1. INTRODUCTION

Fisheries plays an important role in the Indonesian economic growth, it is not only as a source of food, but also as a strong foreign exchange earning, as well as it creates job opportunities. Fish is the most important protein source in the Indonesian diet contributing 63 percent of total animal protein intake. Forming only a modest percent of GDP (2.0% of 20% agriculture GDP), fisheries makes a disproportionately large contribution to employment providing in 1991 direct jobs for 4.0 million workers (among others 1,632,630 were fishermen). In addition, the fisheries sector provides employment for an estimated additional 100,000 workers in fish processing, transportation, marketing and support industries (e.g boat building and fishing gear manufacturing). These direct and indirect employment is equivalent to 5 percent of Indonesia's total labor force.

As a result of the increasing investment in fishing, aquaculture and processing industries, exports of fisheries products have recorded impressive growth in recent years. From 1987 to 1991 export value of fisheries products was increasing at an annual rate of 28.1 percent from \$ 475 million to a record of \$ 1,256 million. Tuna and skipjack are ranked second after shrimp in term of both value and volume of the overall fisheries commodity export.

Traditionally, the centre of the Indonesia tuna industry is the eastern of Indonesian waters. The region accounts for about 80% of the Indonesia tuna catch, and about 80 - 95% of the tuna exported from Indonesia comes from this area. This dominant position has changed since 1986, at least as far as fresh tuna for sashimi export fishery is concerned, with the Indian Ocean, particularly south of Java and West of Sumatera, accounting for most of the catch.

## 2. TUNA AND SKIPJACK FISHERY IN THE EASTERN INDONESIA

Eastern Indonesia includes nine provinces that are not as well developed economically as compared with the provinces in western Indonesia. The provinces are West Nusa Tenggara, East Nusa Tenggara, East Timor, South Sulawesi, Central Sulawesi, Southeast Sulawesi, North Sulawesi, Mollucas and Irian Jaya. Eastern Indonesia is a vast region of over 3 million sq km and makes up about 52% of the 5.8 million sq km of Indonesian seas (Including Indonesia's Exclusive Economic Zone - IEEZ).

The eastern Indonesia region can be broken down into four major fishing areas of fishing bases. These include the waters of Flores sea, Sulawesi, Mollucas and Irian Jaya.

The Four types of fishing gear used to exploit tuna and skipjack resources in the eastern Indonesia include longline, purse seine, pole and line, and handline. Some other fishing gears categorized as "unclassified that also catch tuna incidentally include troll line, danish seine, and gill net.

Skipjack (*Katsuwonus pelamis*) is the principal tuna caught in the eastern Indonesia area, account for 80 - 90% of total tuna landing of Indonesia. The four other species of tuna caught in the eastern Indonesia include yellowfin (*Thunnus albacares*), bigeye (*T. obesus*), albacore (*T. alalunga*), and southern bluefin tuna (*T. maccoyii*). Among these species, yellowfin is the most important and its catch ranges from 50 to 95%, 5 to 15%, and 25 to 70%, for the longline, pole-and-line and purse seine fisheries, respectively.

## 3. LANDING AND NUMBER OF VESSELS

Skipjack tuna is the principal species caught by pole and line fishery; the species account for 85 to 95% of pole and line landings and 80 to 90% of the total tuna landings. Skipjack tuna landings increased from 73,660 mt in 1992 to 77,346 mt in 1993

and to 81,219 mt in 1994. Yellowfin tuna landings caught by pole and line have slightly increased from 5,319 mt in 1992 to 5,585 mt in 1993 and to 5,830 mt in 1994. The number of pole and liners in eastern Indonesia based (Bitung, Gorontalo, Kendari, Ternate, Labuha, Ambon, Sorong, Biak and Fak-fak) was 823 vessels in 1993 and 820 vessels in 1994.

Preliminary estimate of the Indonesian long line catch of yellowfin in eastern Indonesia ( WPYF - 3 code area) for 1994 is 4600 mt compared to 6241 in 1993 (~~Table 4~~). The number of longliners has increased from 141 in 1992 to 309 in 1993 and decreased to 293 in 1994 (~~Table 4~~). Since the end of 1992, many longliners (mostly small longliners of 50 GRT (gross registered tons) or less have been moved from Benoa Bali - based operate in Indian Ocean to Bitung North Sulawesi - based operate in Banda Sea and Sulawesi Sea (WPYF - 3 code area). Some of these longliners target was yellowfin and bigeye for the sashimi market of Japan.

Purse seine catches were also dominated by skipjack and then followed by yellowfin. The yellowfin catches were 2,200 mt in 1992, increased to 4,599 mt in 1993 and to 4,900 mt in 1994. The increased was caused by reentering of three large purse seiners Biak - based to the fishery at the beginning of 1993 which was slow down their activities in 1992. The number of large purse seine in Biak was still remaine 3 purse seiners, while the number of ringnet (purse seiners) operate in Sulawesi Sea were 156 vessels in 1993 and 162 vessels in 1994.

Tuna (yellowfin and bigeye) landings by artisanal fisheries (hand-line and "unclassified" fishing gear such as gill net, danish seine and troll line) have increased from 4,794 mt in 1992 to 5,034 mt in 1993 and to 6,150 mt in 1994 caught by hand line and increased from 36,770 mt in 1992 to 38,608 mt in 1993 and decreased to 37,650 mt in 1994 (yellowfin caught by unclassified fishing gear). Number of hand liners have increased from 286 vessels in 1992 to 307 vessels in 1993 and to 388 vessels in 1994.