

THE DEMERSAL FISH STOCKS OF THE WATERS OF NORTH AND NORTHWEST AUSTRALIA¹

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ABSTRACT

Based on the catch statistics derived from the official returns which were offered from all Taiwan pair trawlers operated in the waters of north and northwest of Australia, dating from 1972 to 1974, the author made an investigation on the species composition and the demersal fish stocks in the area is also appraised.

The species composition of each region reveal a great diversity of species without any being really dominant.

The total stock size of the area is estimated as 2,066,000 tons. The potential harvest of the area is estimated to be 1,033,000 tons. The present catch in the area is only about 84,000 tons.

INTRODUCTION

A new fishing ground of north and northwest Australia neritic regions was first introduced to the Taiwan trawl fisheries in 1971. The fishing activity since then on grew rapidly in recent few years. In 1974, for instance, the landings caught from this area were about 84 thousand tons occupied about 64 per cent of the Taiwan yearly total pair trawl landings and about 47 per cent of yearly total trawl fisheries (above 50 tons trawlers). Evidently this is a very stimulating and promising fishing ground for Taiwan trawl fisheries. Furthermore, the ground are not exploited for quite a long time hence can be considered as a virgin stock.

The purpose of this report are two fold. First, we attempt to find out or to figure out the potential harvest, i. e., the sustained catch that can be taken year after year under the correct exploitation rates, of the area for indicating the possibilities in further development and planning such development of the fisheries in the area. Second is to provide, in the long run, an early warning of the need of management or conservation when catches approach the potential limit of the resources.

AREA STUDIED

The line defined here is from 22°S, 115°E, eastward along the continental shelf of Australia terminates at 139°E. It consists the Arafura Sea, the Timor Sea, and part of the Gulf of Carpentaria.

As shown in Fig. 1, along the north side of the Australia, the continental shelf extends about 300 to 400 km offshore, which is one of the largest continental shelf in the world and is surrounded by Australia continent and the island of New Guinea.

The Arafura Sea and the Timor Sea is shallow with depths of mainly 50 to 100 meters. The shallow continental shelf become narrow westward from the Timor Sea.

The trawl fishing grounds of the Area is demarcated into three statistical areas of half

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