

GEOGRAPHIC DISTRIBUTION OF GROUND FISH RESOURCES IN THE SUNDA SHELF AREA OF THE SOUTH CHINA SEA

SHEAN-YA YEH¹ and HSI-CHIANG LIU¹

(Received October 14, 1983; accepted in revised form December 20, 1983)

ABSTRACT

Based on the catch statistics of the log books recovered from the Taiwanese pair trawlers that operated in the Sunda Shelf area from 1970 to 1977, the authors made an investigation on the geographic distribution of the groundfish resources in the area and to recommend a proper demarcation of the area into statistical regions for stock assessment and management purpose.

The results of geographical distribution study show that: (1) Most species in the groundfish community, such as: golden thread, lizard fish, big-eye, goat fish, red snapper, blue-lined bream, large-eye bream, catfish, and sea eel were distributed all over the area. (2) Catch rates of golden thread, big-eye, goat fish, large eye bream, and catfish, were higher in the western Sunda Shelf areas as compared to those in the rest of areas. (3) Catch rates of lizard fish, red snapper, blue-lined bream, cuttle fish, squid, and sea eel were higher in the eastern Sunda Shelf areas as compared to those in the rest of areas. (4) Catch rates of cuttle fish during the NE monsoon season and, squid and butter fish during the SW monsoon season were higher in the Sunda Shelf area. (5) Distribution of high catch rates of golden thread, goat fish, lizard fish, blue-lined bream, and hair tail in the Sunda Shelf extended more northwardly during the SW monsoon season as compared to those of NE monsoon.

The results of comparison of heterogeneity among various groundfish communities indicate that it seems appropriate to demarcate the entire Sunda Shelf into five major statistical regions, and each major statistical regions were further subdivide into two depth zones.

INTRODUCTION

The Sunda Shelf is one of the most extensive and productive continental shelves in the world. Its history of commercial trawl activity, however, is comparatively young. In late 1969, Taiwanese trawlers started to join the area fisheries. Since then the area has become one of the most important fishing grounds for the Taiwanese pair trawl fishery in the 1970s.

As the fishery developed in the 1970s, Taiwan province initiated a reliable catch and effort data collection system on its fishery since 1970. Meanwhile, data are not generally available for assessment of fish stocks in the area. The catch statistics of the Taiwanese pair trawl fishery collected by the Demersal Fish Resources Research Center of the National Taiwan University, therefore, provide the unique opportunity to study the geographic distributions of groundfish stocks in the area.

Groundfish community in the tropical area is characterized by the multitude of species present and none of which is really dominant (Liu et al. 1978; Yeh 1981a). On the other hand, the fishing method of trawling is non-selective in nature. These two factors heavily retard the assessment and management of the resources on a single species basis. Therefore, in order to establish more reasonable basis for assessing and managing such multispecies

1. Institute of Oceanography, National Taiwan University, Taipei, Taiwan, Republic of China.