

A STUDY ON THE SPECIES AFFINITY GROUPS OF THE GROUND FISH COMMUNITIES IN THE SUNDA SHELF AREA

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ABSTRACT

The groundfish community in the Sunda Shelf is made of so many species and most likely to have complex ecosystem interactions. In order to simplify this situation so that the dynamics and effects of trawling on the resources may be tracked by a smaller number of species groups, the purpose of this study is thus to define species affinity groups within a groundfish community based on the studies of (1) the effect of trawling upon each individual fish population and (2) correlating species catch rates in each statistical region.

The results of this study showed that lizard fish in the northern Sunda Shelf (R8A), lizard fish and big eye in the western Sunda Shelf (R2A), and hair tail and pompanos in the southern Sunda Shelf (R6A) revealed CPUE increasing trend in response to the increment of fishing intensity; while most of the rest species appeared an opposite trend.

Based on the sign and correlation coefficients of inter-group and intra-group analyses, the results showed that 4 species groups in R8A, 3 species groups in both R2A and R6A may be identified.

INTRODUCTION

The demersal fauna of the Sunda Shelf regions, which is one of the most extensive continental shelves in the world, is characterized by the presence of large numbers of species, none of which is especially dominant (Liu *et al.* 1978). For instance, the results obtained from the experimental trawl survey, conducted by the R/V Hai Ching in 1962, revealed that (a) about 80 species were collected in 9 hauls in the northern part of the Gulf of Thailand; (b) about 150 species in 28 hauls at the entrance of the Gulf of Thailand; and (c) about 90 species in 15 hauls in the region off the coast of south Vietnam (Dean 1962). A single commercial haul usually brings up 50 or more species.

Since the groundfish community is made of so many species, it is most likely to have complex ecosystem interactions. Unfortunately, at present state of knowledge, these interactive mechanisms among species or species groups in response to fishing are largely unclear. Hence, it is the attempt of this paper to define species affinity groups based on correlating species catch rates in each statistical region so that the dynamics and effects of trawling on the resources may be tracked by a smaller number of species groups.

AREA STUDIED AND SOURCE OF DATA

The Sunda Shelf defined here is the continental shelf bounded by the coasts of Vietnam (as far as 14°N), Cambodia, Thailand, the east coast of the Malay Peninsula (to 1°N),

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