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ON MANAGEMENT OF THE FINFISH FISHERY OF THE NEGOMBO LAGOON, SRI LANKA

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ABSTRACT

The average annual yield of finfish from Negombo lagoon (7°10'N and 79°50'E) was estimated to be around 15 kg/ha. About 36% of the catch came from brush parks, while encircling nets contributed for 28%; the gill nets and modified set nets contributed for about 20%. The maximum sustainable yield (MSY) was calculated using Schaefer's "surplus yield" model. The results show that an increase in the use of gill nets and a decrease in the use of modified set nets may increase the present catch towards MSY. The catch from other gears appears to be very close to the level of MSY.

INTRODUCTION

Brackishwater fishery resources of Sri Lanka have received very little attention of fishery scientists. Schuster (1951) had estimated that the average annual natural production of brackishwaters of Sri Lanka was less than 20 lb/acre. Some management measures necessary to increase the production from brackishwater environments of Sri Lanka were also described by Pillai (1965).

The present investigations were carried out in Negombo lagoon (7° 10' N and 79° 50' E), which is situated on the west coast of Sri Lanka with a surface area of 4088 ha. In this study, the maximum sustainable yield of the fin-fish fishery in the system is estimated using 'surplus yield' model of Schaefer (1954), besides discussing some management measures which could be used to increase the present catch.

Samples were collected from fish catch of Negombo lagoon every week at the fish landing sites at Pitipana, Negombo and Katunayaka from January 1980 to December 1982. The types of gear used and the amount of time spent in fishing were also recorded. The total catch and the fishing effort of each gear for every six-month period were determined. The maximum sustainable yield (MSY) of finfish and the amount of fishing effort needed to obtain this MSY (MSE) were calculated using the 'surplus yield model' of Schaefer (1954) as described by Pauly (1980).