

Fish abundance in relation to some environmental parameters and gear type in the Negombo Lagoon with special reference to shrimp.

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Keywords: Fish abundance, shrimp, salinity, temperature, chlorophyll

Abstract

Finfish and shellfish are the major resources of the Negombo Lagoon on which a fishing population of around 20,000 people is directly or indirectly dependent for their living. Fisheries in the system are multi-gear and multi-species. The lagoon fishery targets juveniles and the pre adults of penaeid shrimp, which utilize the lagoon for their nursery life. Fish catch data in relation different gear type was analyzed with some environmental parameters for the year 1999 to evaluate the impact of environmental parameters on fish abundance. Fish catch data was obtained from five sampling stations out of 17 landing sites while other parameters were from 10 sampling stations.

The estimated mean total catch rates of brush piles and drag nets varied substantially without any seasonal pattern. However, the estimated mean total shrimp catch rates showed seasonal variations over the study period. The statistical analysis showed that salinity and water temperature influence on total fish catch; total shrimp catch in significant level. The estimated *Penaeus indicus*, total shrimp and total catch rates at higher temperatures was significantly lower than the same estimated at the lower levels of above parameter and total shrimp catch rate at higher salinities were significantly higher than the same estimated at lower levels of salinity. The interactions between the sampling stations and the gear type were also significant. But, the chlorophyll content and precipitation were not found to influence on total catch and total shrimp catch.

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