Population parameters of Rastrelliger kanagurta (Cuvier, 1816) in the Marudu Bay, Sabah, Malaysia

ABSTRACT

An investigation of the population parameters of Indian mackerel, Rastrelliger kanagurta (Cuvier, 1816) in the Marudu Bay, Sabah, Malaysia was carried out from January to September 2013. The relationship between total length and body weight was estimated as W=0.006TL3.215 or Log W=3.215LogTL ï 2.22 (R2=0.946). Monthly length frequency data of R. kanagurta were analyzed by FiSAT software to evaluate the mortality rates and its exploitation level. Asymptotic length (Lµ) and growth co-efficient (K) were estimated at 27.83 cm and 1.50 yr-1, respectively. The growth performance index (ű') was calculated as 3.07. Total mortality (Z), natural mortality (M) and fishing mortality (F) was calculated at 4.44 yr-1, 2.46 yr-1 and 1.98 yr-1, respectively. Exploitation level (E) of R. kanagurta was found to be 0.45. The exploitation level was below the optimum level of exploitation (E=0.50). It is revealed that the stock of R. kanagurta was found to be still under exploited in Marudu Bay.

Keyword: Population parameters; Rastrellier kanagurta; Marudu Bay; Sabah; Malaysia