

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 $W=0.006TL^{3.215}$ or $\text{Log } W=3.215\text{Log } TL - 2.22$ ($R^2=0.946$). Monthly length frequency data of *R. kanagurta* were analyzed by FiSAT software to evaluate the mortality rates and its exploitation level. Asymptotic length (L_{∞}) and growth co-efficient (K) were estimated at 27.83 cm and 1.50 yr⁻¹, respectively. The growth performance index (ϕ') 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; *Rastrelliger kanagurta*; Marudu Bay; Sabah; Malaysia