

**PRELIMINARY STUDY OF THE ELASMOBRANCH
FISHERY IN VALAICHCHENAI, SRI LANKA**

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by

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ABSTRACT

Sharks and rays are included within the sub class Elasmobranchii. Indiscriminate fishing techniques have resulted in the progressive depletion of their populations globally. In Sri Lanka these fisheries are driven by demand for shark fins, mobulid gill plates, their fresh meat and dried fish. This study collected information on shark and ray landings to provide information to recommend sustainable management practices. A questionnaire survey was conducted with 140 fishers and biological data collected from 123 shark specimens and 129 ray specimens in Valaichchenai (7 °55.58', 81 ° 31.80'), in the Eastern Province of Sri Lanka. Results showed a female biased sex ratio for sharks with 11.76% of them observed to be pregnant. Of the male sharks, 16% were determined to be immature. For the rays, 40% were immature, comprising of 67% of females of which 3.44% were pregnant. The growth coefficients and condition factors for the most abundant species were *Carcharhinus brevipinna* (1.25; 1.09) and *Neotrygon kuhlii* (1.86; 1.98). All species showed a negative allometric growth, and most of the species have shown condition factors above one. The questionnaire revealed that fishers were aged between 18 to 68 years (mean = 37.553 ± 11.23 SD) and 64% of fishers stated they go as far North as Jaffna, and offshore ranging from 10 to 700 km for fishing. There was no significant difference between attitudes on the awareness of rules and regulations with fishers of varying age groups. However, propensity of crossing waters of Sri Lankan boundaries showed a significant difference ($p < 0.05$). The results showed that some endangered species such as *Sphyrna lewini* and also vulnerable species such as, *Mobula tarapacana* were being caught and that immature males and pregnant females were being landed. These results indicate the need for proper implementation of management plans to ensure sustainable utilization of these resources. Thus, conducting awareness programs, declaring restricted areas or closed seasons, imposing catch or export quotas, and introducing optimum length at first capture are important for sustainable resource use.

Keywords: Elasmobranch, Growth factor, Condition factor, Maturity, Gill plates