

Preliminary Study of the Elasmobranch Fishery in Valaichchenai, Sri Lanka

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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 for sustainable management practices. A questionnaire survey was conducted with 140 fishers and biological parameters (length, weight and maturity data) were 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. 11.76% of them were observed to be pregnant. From the male sharks, 16% were immature. For the rays, 40% were immature, comprising of 67% of females of which 3.44% were pregnant. The most abundant species with growth coefficients and condition factors were *Carcharhinus brevipinna* (1.25, 1.09), *Carcharhinus limbatus* (2.80, 0.83), *Carcharhinus anzboinensis* (2.36, 1.17), *Mobula japonica* (1.62, 1.47) and *Neotrygon kuhlii* (1.86, 1.98) respectively. All species showed a negative allometric growth, except *Carcharhinus limbatus* and most of the species have shown condition factor greater than one. The questionnaire revealed that fishers were aged between 18 to 68 years (mean=37.55±11.23) and 64% of fishers stated that their fishing area is as far North as Jaffna, with offshore ranging from 10-700 km. There was no significant difference between attitudes on the awareness of rules and regulations with fishers of varying age groups, but propensity of crossing boundaries showed a significant difference ($p < 0.05$) with age group. The results showed that some endangered species such as *Sphyrna lewini* and also vulnerable species such as, *Mobula tarapacana* were being caught and immature males & pregnant females were landed. These results indicate the need of proper implementation of management plans for sustainable utilization of these resources. Thus, conducting awareness programs, declaring restricted areas (nursery grounds) and optimum length at first capture are important for sustainable utilization of fishery resources.

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

Acknowledgement: Tokyo Cement Group and The Manta Trust