

Fishery Independent Assessment of the Size on Maturity of the Palk Bay Blue Swimming Crab Fishery (*Portunus pelagicus*) in Jaffna District

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Blue swimming crab (*Portunus pelagicus*) fishery industry in Sri Lanka has become a valuable source of foreign exchange recently, developed following the end of civil conflict in 2009. Size on maturity is a key life history parameter of exploited populations, used in fishery management practices. The aim of this study was to investigate the size on maturity of *Portunus pelagicus* by using a standardized sampling approach for the Palk Bay fishery. Crab samples were collected from both stake net fishery and crab net fishery during September-November, 2017. *Portunus pelagicus* were sampled from bottom-set crab nets in Mandaitheevu, Thuraiyoor and Chattipulam. *Portunus pelagicus* caught in stake nets were sampled from Kurunagar and Pannai. The maturity for standard sample of female crabs were assessed for a series of length classes ranged at 40 mm-159 mm, to identify the size on maturity for *Portunus pelagicus* in Jaffna District in the Palk Bay fishery. 1,253 of total female crabs were sampled. Carapace width and weight of *Portunus pelagicus* were recorded and Excel solver was used to estimate the size on maturity. The results of size on maturity data collected from crab net fishery dependent data were then compared. The level of maturity and immaturity for crab net were 83% and 17% respectively. 10% and 90% maturity and immaturity level were recorded for stake net fishery. As results revealed, L50 was recorded as 110.41 mm and L95 was 130.87 mm for this stock. According to the results and dependent data analysis, there is an effect in size on maturity of *Portunus pelagicus* by different sampling approaches in Palk Bay Fishery.

Keywords: *Portunus pelagicus*, size on maturity, Sri Lanka