POPULATION DYNAMIC OF TRUE COCKLES, *Scapharca cornea* AT KG KUALA SETIU IN LAGOON AREA, SETIU WETLAND, TERENGGANU

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POPULATION DYNAMIC OF TRUE COCKLES, *Scapharca cornea* AT KG KUALA SETIU IN LAGOON AREA, SETIU WETLAND, TERENGGANU.

By

Wan Amirudin bin Wan Ghazali

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DECLARATION AND VERIFICATION REPORT
FINAL YEAR RESEARCH PROJECT

It is hereby declared and verified that this research report entitled Population Dynamic of true cockles, *Scapharca cornea* at Kg Kuala Setiu in lagoon area, Setiu Wetland, Terengganu by Wan Amirudin Bin Wan Ghazali, Matric No.UK 23124 have been examined and all errors identified have been corrected. This report is submitted to the Department of Marine Science as partial fulfilment towards obtaining the Degree of Science (Marine Biology), Faculty of Maritime Studies and Marine Science, Universiti Malaysia Terengganu.

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Population dynamic of true cockles, *Scapharca cornea* at Kg Kuala Setiu in lagoon area, Setiu Wetland, Terengganu.

ABSTRACT

The aim of this study to report about population parameter, growth, mortality and exploitation level of cockles, *Scapharca cornea* at lagoon,Setiu Wetland that are examined between May 2012 until April 2013. There are significant correlations between length and weight for all month of fresh weight monthly data. Monthly length frequency data of *S. cornea* were analyzed by FiSAT software for estimation of population parameters like asymptotic length ($L\infty$), growth co-efficient (K) and recruitment pattern to evaluate the status of the cockles at Kg Kuala Setiu. Asymptotic length ($L\infty$) was 4.46 cm and growth co-efficient (K) was 0.84 yr^{-1}. The growth performance index (ϕ') was 1.22. The growth pattern showed negative allometric growths with b value range are 1.164 to 2.6592 was obtained. This Arcidae family have total mortality (Z) was estimated by length-converted catch curve at 1.54 yr^{-1}, fishing mortality (F) at 1.17 yr^{-1}, and natural mortality (M) at 2.71 yr^{-1}. The exploitation level (E) of *S. cornea* was 0.76 and the maximum allowable limit of exploitation (E_{max}) was 0.42. The recruitment pattern was continuous with twice peak event per year. The higer exploitation rate (E = 0.76) than allowable exploitation estimation E_{50} (0.27) show that stock condition was exploited at maximun level in the lagoon of Setiu Wetland, Terengganu through higher commercial scale by community of Setiu Wetland.