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Optimized catch of the Largehead hairtail (*Trichiurus lepturus*) in the waters of the Oman Sea (Sistan and Baluchestan Province)

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Abstract

The purpose of this study was to develop a framework for investigating the catch trend and estimation of optimized catch limit of the *T. lepturus* stock by collecting catch data in the northern waters of the Oman Sea. In this research, catch data was collected for 20 years and optimized catch limit was estimate with the help of limited data approach and R software. The average (95% confidence interval) of the Bayesian surplus production model and Monte Carlo simulation for the intrinsic growth rate (r), maximum sustainable yield (MSY), biomass of maximum sustainable yield (BMSY), and fishing mortality of maximum sustainable yield (Fmsy) were obtained 0.92 (1.12-0.76) annually, 8.42 (12.5-5.68) thousand tons, 18.2 (12.8-25.8) thousand tons, 0.46 (0.56-0.38) per year, respectively. The results showed that exploitation ratio of the Largehead hairtail stock is over fishing and decrease exploitation ratio and fishing effort proposed. It seems that reducing catch and fishing effort of *T. lepturus* stock will put in a more suitable condition in the Long-term and more benefits of the exploiters and the fishing community will provide.

Keywords: Bayesian surplus production model, Largehead hairtail, Monte Carlo simulation

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