



**LOSS OF AQUATIC FAUNA DURING
COLLECTION OF *Penaeus monodon* POST LARVAE
IN KUMIRA, COASTAL REGION OF
CHATTOGRAM**

Roll No. 0120/12

Registration No. 864

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**A thesis submitted in the partial fulfillment of the requirements for the degree of
Master of Science in Fisheries Resource Management**

Department of Fisheries Resource Management

Faculty of Fisheries

Chattogram Veterinary and Animal Sciences University

Chattogram-4225, Bangladesh

AUGUST, 2022

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The Author

August, 2022

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This is to certify that we have examined the above Master's thesis and have found that is complete and satisfactory in all respects, and that all revisions required by the thesis examination committee have been made

Abrar Shakil

Supervisor

Shahida Arfine Shimul

Co-supervisor

Dr. Sk. Ahmad Al Nahid

Chairman of the Examination Committee

Department of Fisheries Resource Management

Faculty of Fisheries

Chattogram Veterinary and Animal Sciences University

Chattogram-4225, Bangladesh

AUGUST, 2022

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LIST OF ABBREVIATION

Acronym	Definition
PL	Post larvae
Mm	Millimeter
Ft	Feet
ANOVA	Analysis of variance
SD	Standard deviation
QGIS	Quantam Geographic Information System

Abstract

In Bangladesh, due to a lack of hatchery-produced post-larvae compared to demand, shrimp farming is dependent on wild post larvae (PL). The activity of indiscriminate wild PL fishing has a notorious impact on biodiversity in coastal ecosystems due to significant amounts of by-catch. Samples were collected from three different selected stations using push and pull net in Kumira, Chattogram from January to December 2021 to analyze the quantity of black tiger shrimp (*Penaeus monodon*) post larvae (PL) and estimate the harm to various aquatic species during shrimp PL collection. The investigation revealed that approximately 261 crustacean, 53 fin fish and 297 unidentified larvae in station-1, 222 of crustacean, 47 fin fish and 231 unidentified larvae in station-2, 196 of crustacean, 52 fin fish and 224 unidentified larvae in station-3 were cruelly damaged at the time of collection for every 100 PL of *P. monodon*. *P. monodon* larvae were found to occupy a small portion of the total annual catch composition, such as 14%, 17% and 18% at station-1, 2 and 3, respectively. Higher number of *P. monodon* PL was found in August in all three sites. Finfish larvae were more abundant in rainy season (July to October) than other time of the year. *P. monodon* PL was also found to be higher in rainy season compared with the other groups. Whereas, their abundance reduced during winter season when PL of *Macrobrachium lamerrei* was in peak position. The statistical analysis revealed that, there was no significant difference ($P > 0.05$) among mean catch composition from different sampling stations. Also, the mean number didn't significantly differ with the change of different season. But the monthly mean catch composition of three sampling stations showed significant variation ($P < 0.05$). The findings show that the current seed harvesting approach severely harms other valuable aquatic fauna, which has an impact on the faunal diversity, natural productivity and self-recruitment pattern of mother stock.

Keywords: *P. monodon* PL, finfish, crustacean, damaged, catch composition