

Stock Assessment of *Leiopotherapon plumbeus* (Ayungin) in Laguna de Bay

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Background

Ayungin, *Leiopotherapon plumbeus* (Kner) is the only freshwater theraponid and an indigenous species in Laguna de Bay. It has hermaphroditic sex glands such that both sexes are in one individual. It spawns throughout the year with peak season from March to May.

The population of Ayungin in the lake has markedly declined over the years. Because of its great demand, its market priced increased.

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Background

According to preliminary observations made by Ma. Isabel P. Sumilang of the Fishery Research Center of the URS Cardona Campus revealed that the probable causes of population decline are:

- The use of over-efficient fishing gears that catch even the undersized fish
- Overshooting of lake's carrying capacity brought about by the booming aquaculture activities (i.e. fishpens and fish cages)
- Ecological disturbances (i.e. eutrophication and siltation)
- Introduction of invasive exotic species of fish competing for food and habitat

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Objectives

The general objective of the study is to conduct a stock assessment of Ayungin in Laguna de Bay.

The specific aims are:

- Determine the production level in terms of total catch and fishing efforts
- Determine the exploitation level in terms of growth parameters (i.e. length and weight relationship) and mortality parameters

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Significance

The research study will be of significance to environmental management efforts of concerned LGU's surrounding the Laguna de Bay. This may also serve as basis for formulating/regulating conservation and management measures on *L. plumbeus*.

This study will also serve as a tool for educating the small-scale fishermen on the importance of *L. plumbeus* as an indigenous lake species, as well as other resources of Laguna de Bay.

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Materials and Methods

The study will the following analytical processes:

- Length frequency distribution analysis
- Estimation of the Von Bertalanfy Growth Formula (VBGF)
- Estimation of mortality parameters
- Estimation of the exploitation rate, using FAO-ICLARM Statistical Analysis Tool

Four (4) landing centers for data gathering are identified namely, Binangonan and Cardona in Rizal, and Pila and Bay in Laguna. There will be one enumerator assigned in each of the landing centers. Sampling will be ten times per month at three days interval.

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Activities	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A
Preparation of materials/paper works	■																	
Coordination with LGU's of identified landing centers		■	■															
Site inspection (landing centers)			■	■	■													
Hiring/orientation of the enumerators; procurement of materials					■	■												
Collection of date							■	■	■	■	■	■	■	■	■	■	■	■
Interpretation and validation of data																	■	■
Presentation of data																		■

