9th International Conference on
FISHERIES & AQUACULTURE
September 17-18, 2018 | Vancouver, Canada

A review of habitat models and proposed application in lake maninjau

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This paper delivers a proposed methodology to value economic trade off between cage culture activities and habitat of an economically important endemic species, Rasbora maninjau. The Proposed methodology is by 1. Reviewing 20 habitat models/ species distribution models (SDM), Lake Maninjau's characteristics and previous studies of and environmental factors affecting fish distribution in lakes, 2. Choosing the best possible model and environmental predictors to create a spatial map of the habitat, 3. Spatially mapping the fish habitat (designing survey, running model and spatially mapping), 4. Assigning economic value of the habitat, 5. Overlaying the obtained habitat map with available fish cage spatial map, 6. Calculating economic trade off between cage culture and the fish habitat. The proposed applied model is Maximum Entropy Model (MAXENT) to assess presence only data and/or Generalized Linear Model (GLM) combined with GIS to assess presence-absence data. Further, a cost of habitat replacement approach is planned to be used to calculate the habitat value as well as its trade off with economic value of aquaculture. It is expected that comments and inputs can be obtained in this conference to improve the methodology of the study. The result of the study is projected to be a scientific consideration in local decision making and to provide a reference for other areas in the country.

Biography

Ivana Yuniarti is a first year PhD student in University of Edinburgh, UK. She is also an active employee at Research Centre for Limnology, Indonesian Institute of Sciences. Her main research interest is inland water ecological economic.

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