

Habitat Model Review and a Proposed Methodology to Value Economic Trade-Off between Cage Culture and Habitat of an Endemic Species in Lake Maninjau, Indonesia

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Abstract : This paper delivers a review of various methodologies for habitat assessment and a proposed methodology to assess an endemic fish species habitat in Lake Maninjau, Indonesia as a part of a Ph.D. project. This application is mainly aimed to assess the trade-off between the economic value of aquaculture and the fisheries. The proposed methodology is a generalized linear model (GLM) combined with GIS to assess presence-absence data or habitat suitability index (HSI) combined with the analytical hierarchy process (AHP). Further, a cost of habitat replacement approach is planned to be used to calculate the habitat value as well as its trade-off with the economic value of aquaculture. The result of the study is expected to be a scientific consideration in local decision making and to provide a reference for other areas in the country.

Keywords : AHP, habitat, GLM, HSI, Maninjau

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