

Carrying capacity of Fish culture cages in Aras reservoir

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Abstract

This study was conducted to determine capacity and appropriate fish species of cage culture in Aras dam reservoir in West Azarbaijan province regarding trophic state and ecological potential. A common model to quantify the effects of fish cage culture on water quality is the Carrying Capacity model. Carrying Capacity in aquaculture is the highest population of a certain species as not to negatively affect the species and aquatic ecosystem. The carrying capacity of dam reservoirs for aquaculture is calculated by phosphorus load. Phosphorus load is mainly related to initial phosphorus load, cage dimensions, the lake depth and water retention time. Aras dam reservoir was located in Poldasht of West Azarbaijan province and has economical role as drinking water supply and fisheries. According to this study, fish cage culture in Aras reservoir is only possible in certain points with low capacity.

Keywords: Carrying capacity, Aras Dam, fish, cage culture