

# **Investigating the effect of water physic- chemical factors on fish cage culture at Aras Dam reservoir**

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## **Abstract**

The increase in fish production, the reduction of harvesting pressures on natural water resources, the economic cost and the creation of major employment are benefits from the implementation of fish farming plans in floating cages. But due to the dense nature of fish breeding in cages and high concentrations of biomass and high concentrations of waste products, it has inevitable effects on the water environment. In this study, some physical and chemical factors influencing fish cage culture were investigated in Aras Dam. Three stations have been selected along the dam body. In this study, Nitrate, nitrite, ammonia, nitrogen and total phosphorus, dissolved oxygen, water temperature and pH were determined.

This study showed that the total nitrogen and total phosphorus in the warm season are very high, which is a deterrent to the development of fish cage culture at Lake Aras dam. The source of P and N comes from untreated sewage sludge and agricultural runoffs contain high concentrations of phosphorus and nitrogen. Therefore, the construction of a wastewater treatment plant in the centers around the lake of Aras Dam is proposed.

**Keywords:** Physico-chemical factors, water, cage culture, Fish, Aras, Dam, Iran