

**REDUCTION OF THE EFFECTS OF AQUACULTURE IN STAGNANT WATERS IN TERMS
OF NUTRIENTS**

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EXPERTISE THESIS ABSTRACT

Aim of this study is to investigate environmental impacts of Nutrients originating from finfish aquaculture processes in stagnant inland waters such as lakes and dam reservoirs on aquatic ecosystems and relevant methods to reduce these impacts and to develop suggestions for Turkey.

For this purpose; production methods, the current situation, and the development of aquaculture in the world and in Turkey has been investigated. Scientific studies related to environmental impacts of aquaculture on aquatic ecosystems were investigated. And also the factors affecting the amount of nitrogen and phosphorus released from finfish cages and the methods used around the world to reduce nitrogen and phosphorus in the water caused by aquaculture has examined.

As share of fishing in the total production decreases, the amount of aquaculture is increasing rapidly in Turkey as well as all over the world. In Turkey, trout has the largest share of 70% in total production by finfish farming in stagnant inland waters. Some of the main sources of are release of uneaten fish feeds to water column, excretion of indigestible portion of N and P in fish feeds and excretion of surplus digestible N and P to aquatic environment. Increase of N and P in water body increases the growth of algae populations and leads to the various water quality problems such as eutrophication.

In this study the methods which are being used to reduce nitrogen and phosphorus originating from finfish cages such as the carrying capacity of water bodies where finfish cages are located, site selection for the farms, fish feed management, environmental impact assessment, best management practices, eco- labeling, strategic planning etc. are evaluated and some suggestions are developed for Turkey.

Keywords: Aquaculture, Cage Aquaculture, Trout, Nitrogen, Phosphorus, Eutrophication, Aquaculture Best Management Practices, Carrying Capacity.