

## Macro and Micro element concentrations in water, sediment and commercial fishes of Çatören Dam (Eskişehir)

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### ABSTRACT:

Çatören Dam is located on the Seydisuyu Basin in Kırka district of Eskişehir province, which is one of the most important boron mining areas of Turkey. In addition to the geologic structure of the basin, boron mines and agricultural activities are the most important pollution sources for the region. In the present study, some limnological parameters (temperature, conductivity, salinity, total dissolved solids, pH, oxidation - reduction potential, chlorophyll a, % oxygen saturation and dissolved oxygen) in water and some macro – micro element accumulations (calcium, magnesium, sodium, potassium, total phosphorus, zinc, manganese, arsenic and boron) in abiotic (water and sediment) and biotic (muscle, gill and liver tissues of common carp, mirror carp and tench fish, which are commercial fishes in the region) components of Çatören Dam were investigated in order to evaluate the effects of boron mines on the closest lentic ecosystem. According to data observed, Çatören Dam has third class water quality in terms of arsenic levels and fourth class water quality in terms of boron levels. It was also determined that total P, Zn, Mn, As and B concentrations of sediment detected in the output of reservoir were significantly higher than detected in the input of reservoir. In general, the element bioaccumulations detected in fishes of Çatören Dam were recorded as;  $K > P > Ca > Na > Mg > Zn > Mn > B > As$  respectively

### Keywords:

Çatören Dam, Water quality, Sediment quality, Common carp, Mirror carp, Tench fish