

Determination of cadmium(Cd) in samples of sediment cores, water and biota in Köyceğiz Lake (Turkey)Feyyaz KESKİN¹, Ahmet DEMİRAK²¹Mugla Sıtkı Kocman University, Research and Application Centre for Research Laboratories, 48000 Mugla, Turkey²Mugla Sıtkı Kocman University, Department of Chemistry, 48000 Mugla, Turkey
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Aim of the study: It has varied widely cadmium levels in the environment. The values of cadmium are moved continually between the three main compartments of environmental which are air, water and soils. There are cadmium as usually minor constituent of surface water. Cadmium is transported in a variety of ways to the aquatic environment such as erosion, atmospheric deposition, and direct discharge from industrial operations, leakage from landfills and contaminated sites, and the dispersive use of sludge and fertilisers in agriculture. Much of the cadmium entering surface waters from these sources may be rapidly adsorbed by particulate matter and then settled down in the sediment, and a small portion of the cadmium is dissolved in water as the hydrated ion, as inorganic complexes or as organic complexes with humic acids. The values of cadmium in the sediment and in the water are an important factor in whether is or is not available to enter the biota. The main aims of the study are to determine the concentrations of cadmium in sediment cores, water, and biota and to try to understand the accumulation of biota of cadmium in Köyceğiz Lake.

Material and Methods: In present study, concentration of Cd in sediment cores, water, fish tissue (muscle, liver, gill) and macrophytes samples taken from Koycegiz Lake were measured by Atomic Absorption Spectrophotometer (AAS).

Results: The finding of the study revealed that Cd concentration is higher in the top sediment layers. Moreover, the presence of cadmium in water, fish and macrophytes samples shows that it accumulates in biota.

Keywords: Cadmium accumulation, sediment cores, Biota, Köyceğiz Lake(Turkey).