Evaluation of heavy metals, Pb, Cu and Cd in water, sediments and aquatic plant in Shoormast Lake

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Abstract

Study in the spring of 1392, to the knowledge of lake Shormast pollution of heavy metals (lead, copper and cadmium) surface sediment samples, deep blue water and aquatic buttercups Ranunculus fluitans were collected from 4 stations. To extract metals from the samples, the method of determining the concentration of heavy metals by chemical wet digestion and atomic absorption spectrometer (AAS) was performed. Data analysis software Spss 19 and one-way ANOVA (ANOVA) was performed. Results showed that the mean levels of lead, copper and cadmium in surface sediment samples collected from different stations to the 177.25, 33.08, 11.20 ppm on a dry weight basis, and the deep sediments of the 30.80, 14.60 and 7.98 ppm on a dry weight basis and aquatic buttercups Ranunculus fluitans water, respectively, 60.21, 10.26 and 16.24 ppm on a dry weight basis and water samples, respectively, 1.01, 0.01, 0.04 ppm is. Statistical comparison of the metals lead, copper and cadmium in deep sediments. Surface water and aquatic plants showed no significant differences. In this study, the mean maximum concentration of heavy metals in surface sediments and the water is minimal. The results showed that the metals lead and cadmium in water samples with standard World Health Organization (WHO) standard of America Environmental Protection Agency (EPA), have been higher.

Keywords: Pollution, Heavy metals, Aquatic plant, Sediments, Shoormast Lake.