# Heavy metals pollution and related indices in touristy urban Eynak Wetland, Rasht city

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**Abstract**

The release of heavy metals in the environment due to industrialization and urbanization has caused great problems around the world. This pollution causes serious concerns due to their carcinogenicity, inseparability and biological accumulation. Eynak Wetland is one of the most attractive natural attractions in the province of Guilan, Rasht. So, investigation on the concentration of heavy metals is necessary for its good management. Sampling of Eynak wetland sediment and water was carried out of 12 sampling stations in summer 2019. Samples were acid-digested and metals were determined through ICP-OES. To determine the contamination, the indices Igeo, Cf, PLI and Cdeg were used. In water samples, concentration of manganese in all stations and iron at stations 3B and B4 are higher than the standards of the Environmental Protection Agency for drinking and farming. The other metals in water samples of the wetland are less than standard. In sediment samples, the average concentrations of arsenic, cobalt, copper, zinc and lead in some stations were higher than global sediment standards. Iron, manganese and nickel concentrations were lower in comparison with global sediments. Concentration of the elements in the wetland sediments indicates that copper, lead and zinc in the sediments of the Eynak wetland, especially the third part of the wetland, is above the global average. Station C3 has higher concentration of metals and is introduced as the most polluted station that can be due to proximity to industrial workshops and repair shops, industrial and urban wastewater discharges to the wetland.

**Keywords:** Heavy metals, Eynak wetland, Sediment.