Survey of heavy metals accumulation in (*Phragmites australis*) and sediments of Karoun river (Case Study: Ahvaz city)

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Received date: 2017/07/20
Reception date: 2018/03/04

Abstract

This study examines the accumulation of heavy metals (Ni, Pb, Cd) in the Karun river sediments and aquatic plant Phragmites (Phragmites australis), one of the dominant plants on the Karun River, explored. Sampling at six stations during a month (November 2016) of the plant was conducted straw and sediments. Soil and plant samples collected at stations and digestion read by Atomic Absorption Spectrophotometer were Jackson and EPA 3050. The obtained data analyzed by SPSS. The results showed that the highest concentration of Cadmium and Lead in sediments of straw and reed roots of station 4 were (2.81 ± 0.79) and (172 ± 8.80) (mg/kg) and Nickel metal concentration in leaves of cane at station 5 (2.72 ± 0.21) (mg / kg). Most of the stations with plant pollution were inside Ahvaz. The Sediments study of Karun River showed for Lead (73.50±1.90) (mg/kg) at station 6, Cadmium (2.11 ±.011) (mg/kg) at Station 5, and nickel (1.72 ± 0.14) (mg/kg) in the first station to have the highest concentrations. The largest volume of sediment pollution at stations outside the city of Ahvaz. The results showed that cadmium bioaccumulation factor in plant Phragmites highest bioaccumulation factor (1.29) at the root, nickel highest bioaccumulation factor (1.47) on the stem and Pb highest bioaccumulation factor (3.84) were at the root, plant their ability to shoot high for heavy metals and as plants remove heavy metals can be used. In this study, the correlation between the plants and the sediment was observed in all cases. Of the main reasons for the presence of heavy metals, log on industrial wastewater treatment, urban and agriculture is the Karun River.

Keywords: Heavy metals, *Phragmites australis*, Sediments, Karun River, Bioaccumulation.