

Contamination and Ecological Assessment of Heavy Metals (Hg, Cd, Pb, Ni, V, Cu) in Surface Sediments of Chabahar Bay

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Abstract

The aim of this study was to measure the concentration of heavy metals (Hg, Cd, Cu, Pb, Ni and V) in marine sediments as well as to determine the potential harmful effects of these heavy metals using Combined Pollution Index (CPI) and Potential Ecological Risk Index (PERI) at seven stations in Chabahar Bay. From each station, 3 samples of surface sediments (0-5 cm) were collected using Van Veen Grab and samples were extracted and analyzed according to the standard methods. The concentration levels of measured heavy metals were in the order of V>Ni>Pb>Cu>Cd>Hg. Contamination assessment based on CPI shows that the sediment samples in the study area were heavily contaminated with the CPI>1 except for Pozm Station. The potential ecological risk indices of Pb, Cu, Ni, were lower than 40, which indicated slight potential ecological risk of all stations. The results showed that the ecological risk level of heavy metals in the sediments of Chabahr Bay were low to very high.

Keywords: *Heavy metals, Ecological risk, Sediments, Chabahar Bay, Oman Sea.*
