

Assessment of Heavy Metal Concentrations in Tunas Caught from Lakshweep Islands, India

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Abstract : The toxic metal contamination and their biomagnification in marine fishes is a serious public health concern specially, in the coastal areas and the small islands. In the present study, concentration of toxic heavy metals like zinc (Zn), cadmium (Cd), lead (Pb), nickel (Ni), cobalt (Co), chromium (Cr) and mercury (Hg) were determined in the tissues of tunas (*T. albacores*) caught from the area near to Lakshdweep Islands. The heavy metals are one of the indicators for the marine water pollution. Geochemical weathering, industrialization, agriculture run off, fishing, shipping and oil spills are the major pollutants. The presence of heavy toxic metals in the near coastal water fishes at both western coast and eastern coast of India has been well established. The present study was conducted assuming that the distant island will not have the metals presence in a way it is at the near main land coast. However, our study shows that there is a significant amount of the toxic metals present in the tissues of tuna samples. The gill, lever and flash samples were collected in waters around Lakshdweep Islands. They were analyzed using ICP–AES for the toxic metals after microwave digestion. The concentrations of the toxic metals were found in all fish samples and the general trend of presence was in decreasing order as Zn > Al > Cd > Pb > Cr > Ni > Hg. The amount of metals was found to higher in fish having more weight.

Keywords : toxic metals, marine tuna fish, bioaccumulation, biomagnifications

Conference Title : ICESSE 2016 : International Conference on Environmental Systems Science and Engineering

Conference Location : New York, United States

Conference Dates : June 06-07, 2016