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ABSTRACT

Title of Abstract : The Lead (Pb) Concentration in Oysters and the Un-Safe Health Risk in Communities around Coastal areas Balikpapan, East Kalimantan
Authors of Abstract : Bkti Ananda Febriani¹, Blego Sedionoto^{2*}, Ismail Fahmi Almahdi³
Affiliation : FKM UNMUL
Correspondence E-mail : blegosedionoto@fkm.unmul.ac.id

Background : Coastal pollution can originate from human activities that can contain heavy metals, one of which is lead. Lead can contaminate waters and accumulate in marine biota, potentially impacting public health.

Objective : This study aims to analyze lead concentrations in oysters on the coastal areas of Balikpapan against environmental quality standards and determine the level of health risk.

Research Methods/ Implementation Methods : The research was quantitative, using Environmental Health Assessment for analysis health risk levels. The study was conducted at three observation stations, measuring temperature, pH, DO, and salinity. The lead was analyzed using an Atomic Absorbed Spectrometer (AAS).

Results : The Lead concentrations in oysters at all observation stations exceeded environmental quality standards, with the highest concentration at station 1 at 4.167 mg/kg and the lowest at station 3 at 2.799 mg/kg. Oysters at stations 1 and 2 had an unsafe health risk level ($RQ > 1$). Based on the research results, it was concluded that environmental pollution due to lead accumulated in oysters at each research station and that there was a health risk for oysters at stations 1 and 2

Conclusion/Lesson Learned : Control measures such as coastal space control, waste management regulations, regular environmental monitoring, the implementation of environmentally friendly technologies to replace fossil fuels, the application of waste recycling principles, and comprehensive public health measures are needed to reduce the potential for lead heavy metal pollution in coastal waters.

Keyword : Lead Concentration; Oysters; Un-Safe Health Risk; Coastal Areas Balikpapan