

**Status of heavy metals in surface sediments of the western part of the Johor Straits
using a sediment quality guideline**

ABSTRACT

Cu, Zn, Ni and Pb concentrations in surface sediments collected from 10 stations in the western part of the Johor Straits were determined. Samples were acid digested and metal concentrations were determined by atomic absorption spectrometry (AAS). The obtained results showed that Zn had the highest concentration (111.7 ± 78.8 g/g) among the selected metals, followed by Pb (28.4 ± 30.0 g/g), Cu (21.8 ± 15.8 g/g) and Ni (16.4 ± 15.6 g/g). Sediments collected in stations near the Johor Causeway had higher metal concentrations than those from other stations. A station near the Johor Causeway had significantly higher metal concentrations than other stations. Metal concentrations also exceeded the limit set by a sediment quality guideline. This could be due to semi-static water flow and an anoxic environment in the area. A comparison with previous studies also revealed continuous increases in metal concentrations in sediments of the western part of the Johor Straits.

Keyword: Heavy metals; Sediments; Sediment quality guideline; Johor Straits