

## Heavy Metal Concentrations in Sediments of Sta. Maria River, Laguna

**Authors :** Francis Angelo A. Sta. Ana

**Abstract :** Heavy metal pollutants are a major environmental concern in built-up areas in the Philippines. It causes negative effects on aquatic organisms and human health. Heavy metals concentrations of chromium, mercury, lead, copper, arsenic, zinc, cadmium, and nickel were investigated in Sta. Maria river, in Laguna. A total of 16 sediment samples were collected from the river at four stations. Atomic absorption spectroscopy (AAS) was used for element detection. It is found that copper is associated with chromium based on statistical analysis using principal component analysis (PCA). Conduct of Sediment Quality Guideline (SQG) revealed that chromium has high toxicity due to values higher than Sediment Quality Guidelines Probable Effect Level (SQG's PEL). Copper, Nickel, and Pb fall on average toxicity while others are below PEL and effect range low (ERL).

**Keywords :** heavy metals, pollutants, sediment quality guidelines, atomic absorption spectroscopy

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