

**Barbusinski, K., Nocon, W. Heavy Metal Compounds in the Bottom Sediments of the River Klodnica (Upper Silesia). *Ochrona Srodowiska* 2011, Vol. 33, No. 1, pp. 13–17.**

**Abstract:** The paper reports on the changes in the concentrations of heavy metals (Zn, Pb, Cu, Ni, Cr, Cd, Mn, Fe) measured in the bottom sediments of the river Klodnica in 2004 and 2006. The study has produced the following findings. According to the LAWA classification, the values of the nickel and chromium content determined in the bottom sediments did not exceed the values measured in the geochemical background. The concentrations of lead, copper and zinc were indicative of moderate contamination, whereas the concentration of cadmium showed that the bottom sediments of the Klodnica were severely contaminated. The rise observed in the iron and manganese content of the bottom sediments was associated with the wastewater discharge from coal mines. This finding indicates that the problem of reducing the impact of mining operations on the quality of the river water has taken on a sense of urgency. In 2006, the cadmium content measured in the bottom sediments was higher than in 2004, which suggests an increased accumulation of this metal in the organisms of plants and animals. The results of the study make it clear that heavy metal concentrations in the bottom sediments of the Klodnica river should be monitored on a regular basis.

**Keywords:** Heavy metals, bottom sediments, Klodnica river, LAWA classification.