

Jancewicz, A., Dmitruk, U., Sosnicki, L., Tomczuk, U., Bartczak, A. Influence of Land Development in the Drainage Area on Bottom Sediment Quality in Some Dam Reservoirs. *Ochrona Srodowiska* 2012, Vol. 34, No. 4, pp. 29–34.

Abstract: Analysis of land development in the drainage areas of the Nielisz dam reservoir (rural drainage area) and Rybnik dam reservoir (urban drainage area) has revealed significant differences in the environmental and anthropogenic conditions between them, which are reflected in the pollution of bottom sediments. The bottom sediments in the two reservoirs differed in the values of main pollution parameters (organic substances, nutrients and macroelements), as well as in the concentrations of heavy metals and durable organic compounds. Except for total nitrogen, organic matter, calcium, magnesium, mercury, lindane and DDE, the highest concentrations of the pollutants being analyzed were measured in the Rybnik dam reservoir. In the Rybnik dam reservoir, bottom-sediment concentrations of anthropogenic pollutants such as PAHs and PCB were twice as high as in the Nielisz dam reservoir. The comparatively high accumulation of zinc, cadmium and lead seems to be attributable to the industrial activities in the drainage area of the Rybnik dam reservoir. Arsenic, copper and mercury, whose geometrical means of concentration were higher in the bottom sediments from the Nielisz dam reservoir, are regarded as pollutants associated with agricultural activities.

Keywords: Dam reservoir, bottom sediments, anthropogenic pressure, heavy metals, PAH, pesticides, PCB.