

Rosinska, A. Contamination of the Warta River with Polychlorinated Biphenyls in the Area of Czestochowa. *Ochrona Srodowiska* 2010, Vol. 32, No. 1, pp. 15–20.

Abstract: The water and bottom sediments of the river Warta were analyzed for contamination with polychlorinated biphenyls (PCBs). Samples were collected at four sampling sites located along the river within the area of the city of Czestochowa and its immediate vicinity. For the analysis of PCBs, use was made of the solid phase extraction (SPE) method, and qualitative analysis was conducted using a Fisons GC 8000 gas chromatograph. PCBs were separated in a DB-5 column, whereas their detection and identification were performed by means of an MS 800 mass spectrometer with an EI ion source of an ionization energy of 70 eV. The findings of the study have substantiated the presence of polychlorinated biphenyls both in the bottom sediments and in the water of the river Warta within the area of Czestochowa. The results obtained have also revealed that the concentrations of PCBs in the bottom sediments tend to increase along the length of the river. This is an indication that potential sources of PCB contamination are located in the city. The sum of the PCB (28, 52, 101, 118, 138, 153 and 180) congeners in the riverine water ranged between 3.6 and 9.4 mg/m³. The extent of bottom sediment contamination in the river section of Czestochowa was not found to exceed the TEL value (<0.02 mg/kg), which demonstrates that the bottom sediments pose no hazard to aquatic organisms.

Keywords: River water, Warta River, bottom sediments, polychlorinated biphenyls (PCBs).