

Jablonska, M., Kostecki, M., Szopa, S., Lyko, A., Michalski, R. Speciation of Inorganic Arsenic and Chromium Forms in Selected Water Reservoirs of Upper Silesia. *Ochrona Srodowiska* 2012, Vol. 34, No. 3, pp. 25–32.

Abstract: Determined were the concentrations of selected inorganic arsenic and chromium ions in the water and bottom sediments of three Upper-Silesian dam reservoirs (Lake Plawniowickie, Lake Rybnickie and Lake Goczalkowickie). The lakes perform diverse functions and are characterized by a different degree of anthropogenic pressure. Speciation of arsenic and chromium was carried out using an HPLC chromatograph coupled with an ICP-MS detector. Quantitative and qualitative analyses of the speciation of inorganic chromium and arsenic forms in lake water and bottom sediments detected significant differences in the concentrations of these analytes at various states of oxidation. The concentrations of arsenic and chromium forms were found to range from limits of detection up to several tens mg/m³. The results of the study have revealed marked differences in the content of these forms of chromium and arsenic between the water samples and the bottom sediment samples, depending on the season of the year, extent of oxygenation and nature of the reservoir.

Keywords: Species analytics, HPLC-ICP-MS, arsenic, chromium, dam reservoirs.