

Rybak, J., Pasternak, G. Analysis of Water Quality in the Area of Wrocław's Aquiferous Layers with Macroinvertebrates as Bioindicators. *Ochrona Srodowiska* 2010, Vol. 32, No. 2, pp. 27–34.

Abstract: For the purpose of this study, seven biotic systems were chosen to assess the quality of wet pond water within the aquifer of Wrocław and in the bordering old Olawa river basin: BMWP-PL, ASPT, BBI, FBI, TBI, CBS and EPT. They all entail zoobenthic communities, whose composition changes with increasing pollution of the aquatic environment. The results obtained were compared with the values of some physicochemical parameters of the water, which enabled the applicability of the biotic systems to be evaluated. The water within the area under study was also analyzed for biodiversity. For this purpose calculations were performed to determine the domination and frequency of particular species and families at the sampling sites, as well as to establish the values of the Hurlbert and Margalef biodiversity indices. Both physicochemical and biological parameters make it clear that water quality in the area of the aquiferous layers is generally poor: species of comparatively high resistance to water pollutants were found to occur even at sampling sites characterized by great biodiversity. Water quality in all of the wet ponds examined has been classified either as acceptable or in some instances even as unacceptable. The results obtained support the applicability of the BMWP-PL index and recommend its use on a larger scale in Poland.

Keywords: Bioindication, macrozoobenthos, aquiferous layer, water pollution, biotic index, biodiversity.