

Pawelek, J., Grenda, W. Effect of the Storage Reservoirs at the Rudawa River Intake on the Quality of the Municipal Water for Krakow. *Ochrona Srodowiska* 2011, Vol. 33, No. 4, pp. 63–66.

Abstract: One of the sources of municipal water for the city of Krakow is the Rudawa river. The quality of its water, however, raised operating problems in the treatment plant, specifically during floods or over periods of incidental contamination. To reduce water quality deterioration which is concomitant with those recurrent events, two storage reservoirs (of an area of 36.7 ha and a total volume of 981,000 m³) were constructed at the riverine water intake. Both have been in service since 1998. The aim of the study reported on in this paper was to assess the contribution of the storage reservoirs to the changes in some of the parameters describing the quality of the taken-in riverine water. This was achieved by scrutinizing the results of water quality analyses (turbidity, color, ammonia nitrogen, phosphates and chlorophyll *a*) performed in the time span of 2006 to 2010 at five sampling points along the pathway of the water from the intake, through the settling tanks and the two storage reservoirs (at their inflow and outflow), to the raw water well within the premises of the Rudawa Water Treatment Plant. The results of the study make it clear that the storage reservoirs have upgraded the quality of the water entering the treatment plant: the average values of turbidity and color, as well as those of ammonia nitrogen and phosphate concentrations, have been reduced. The favorable influence of the storage reservoirs is particularly distinct in the case of turbidity removal. Moreover, the water stored in the reservoirs is kept in reserve, to enable safe municipal supply during floods or incidental deterioration.

Keywords: Rudawa River, water quality, intake, storage reservoir, turbidity, color, ammonia nitrogen, phosphates, chlorophyll *a*.