

Balcerzak, W.P., Rybicki, S.M. Assessment of Water Eutrophication Risk Exemplified by the Swinna Poreba Dam Reservoir. *Ochrona Srodowiska* 2011, Vol. 33, No. 4, pp. 67–69.

Abstract: A major risk inherent in dam reservoirs is eutrophication, which raises technological problems during treatment of the water taken in from the reservoir or drawn from the river downstream from the reservoir. Based on the data obtained for the basin of the dam reservoir under construction in Swinna Poreba, model computations were carried out to determine the content of phosphorus compounds for the water of the intended artificial lake. The calculated value of the predicted phosphorus content of the water stored in the reservoir averaged 131 mgP/m^3 , 98 mgP/m^3 and 68 mgP/m^3 in a dry year, average year and wet year, respectively. The results of those computations make it clear that the eutrophication risk for the water stored in the reservoir is high, and that, furthermore, the occurrence of hypertrophy has to be expected during dry years. Experience gained during operation of artificial reservoirs of a similar structure, which face the problem of discharging treated wastewater in amounts endangering the quality of the water stored in the reservoir, demonstrate that the safest solution to the problem is discharge of the wastewater downstream from the dam.

Keywords: Water quality control, phosphorus content, eutrophication, water quality modeling.