THE FUNCTIONING OF DRAINAGE CANAL NEAR BARRAGE “BRZEG DOLNY” ON THE ODRA RIVER IN 1971–2009

Abstract

The paper analyses the amount of water flowing into the drainage canal in comparison to the levels of the Odra waters in the Brzeg Dolny – Wały cross section (upper water in the barrage). The results of the measurement of the flow intensity in the canal in 1971–2009 provided the basis for the evaluation.

The analysis led to the conclusion that with the same ordinate of damming in the barrage the average yearly flow in the canal in the Warzyna section decreased from 196 m$^3$·s$^{-1}$ to about 80 dm$^3$·s$^{-1}$ as the Odra’s riverbed and the area between the embankments became tighter. The flow into the canal changes in time and depends on the difference between water levels in the Odra and in the canal. The paper presents the dynamics of changes in the water flow into the canal in relation to 1 m of difference between the level of water in the Odra and the drainage canal. It was shown that in a similar location, ground and water conditions as well as similar damming levels, the value of the drained water can be estimated to be about 35–40 dm$^3$·s$^{-1}$·km$^{-1}$ for 1 meter of difference of the water level in the river and the canal.

Key words: barrage, damming, drainage canal, percolating water, water flow