Appraisal of Methods of Determination of Sediment Quantity Supplied to a Small Water Reservoir – Bogusław Michalec

Summary

The paper present the results of calculations of sediment quantity supplied to a small water reservoir at the locality of Zesławice. A detailed elaboration of physiographic parameters of the catchment of the Dłubnia River resulted in determination of the sediment yields by use of the Reniger-Dębski's, of Brański's as well as DR-USLE and MUSLE methods. It was found that in the years 1966 to 1983 the mean annual inflow into the reservoir at Zesławice was 32 750 Mg according to the Reniger-Dębski's method, 43 620 Mg according to the Brański's method, 17 020 Mg according to the DR-USLE method and 28 470 Mg according to the MUSLE method and according to measurements – 16 000 Mg. Calculations of suspended load transport using of the van Rijn's method was based on two measurements performed at flow 0.98 $m^3 \cdot s^{-1}$ and 1.51 $m^3 \cdot s^{-1}$. The results of calculations obtained by use of the applied methods were compared with the results of silting quantity measurements in the reservoir at Zesławice.