BANKFULL DISCHARGE DETERMINATION USING THE NEW INVERTEBRATE BANKFULL ASSESSMENT METHOD

Artur Radecki - Pawlik 1), Tomasz Skalski 2)

1) Agricultural University of Cracow, al. Mickiewicza 24-28, 30-059 Cracow, Poland, e-mail: rmradeck@cyf-kr.edu.pl

2) Institute of Zoology, Jagiellonian University, Ingardena 6, 30-060 Cracow, Poland

Key words: bankfull discharge, mountain stream, ground beetles, biomass, Polish Carpathian Mountains

Along the paper the new method called Invertebrate Bankfull Assessment method (IBA method) of determination of bankfull discharge is presented. The investigation of bankfull discharge using IBA were performed within one Polish Carpathian stream in the mountain region: the Ochotnica Stream. As an index of bankfull the existence of certain species of invertebrates was used which are present and resistant to specific water discharge conditions. The borders within a cross section of the mountain stream with a gravel bed were defined where characteristic invertebrates are present which are recognized as bankfull borders. Finally three invertebrates benches (IB-ms) were recognized which are characterized by very specific invertebrate species. Bankfull discharge was calculated up to this IB-ms and corelated using Canonical Correspondence Analysis with other values of bankfull calculated for a cross section using different bankfull.