Abstract

The paper describes the development of water quality based on selected pollution indicators in the source catchments of the Berounka River (Mže catchment, Radbuza catchment, Úhlava catchment and Úslava catchment of selected sub-catchments) on profiles located above the water quality monitoring profile Bukovec on the Berounka River from 1981 to 2019. Furthermore, the flow dependence during the monitored period and from it the predominant type of pollution in the given catchment is determined on the basis of the course of regression curves and the value of the coefficient of determination R^2. Based on the average annual concentrations, the evolution of the given pollution indicators on selected profiles is described for the longest possible monitoring period for which water quality data are available. Their evolution within a calendar year can be determined when the flow rate is exceeded. By means of mass transport, the actual amount of pollutants can be determined on the basis of the concentration and the flow rate. The specific mass transport then express the intensity of removal from an area of 1 km^2 for a given time interval, which has been chosen here as well as the pollutant loads for one year. The observed results are then converted into graphical output. Based on the data, it is possible to build up a longer-term picture of the water quality status and its development in the source catchments of the Berounka River over the last 40 years. The results showed the highest loadings in the late 1980s and early 1990s, with a decline in individual concentrations of indicators thereafter.

Keywords: Berounka, May, Úhlava, Radbuza, Úslava, changes in water quality, influence of agriculture, industry and settlements, dependence on discharge, mass transport, specific mass transport