Abstract

Water samplings in natural bathing waters is usually carried out before midday, (usually on Mondays), although the attendance of water bodies is not very high on weekdays. My Diploma Thesis deals with a research of the influence of number of swimgoers on the selected water quality indicators. I wanted to find out, whether the commonly used measurements contain a methodical mistake, or not. Water samples taken during low attendance can have different quality than water samples taken during a rush hour. People can either pollute water with body microorganisms, or raise sediments from the bottom, which makes organisms resuspend into a water column.

This research was carried out in Hostivař Water Reservoir, Prague. The results have shown that the number of swimgoers has only an insignificant influence on the selected water quality indicators – Enterococci and *Escherichia coli*. A significant increase in fecal pollution indicators was noticed after a heavy rain; the limits leveled off to original values in 2 days. None of the measures have noticed higher levels of pollution than the Czech laws permit.

The second part of my research was focused on appearence of cyanobacterium during day in depth 0 to 30 cm in Hostivař Water Reservoir. During two tested seasons the fibrous cyanobacterium predominated. Changes of appearance of cyanobacterium during the day are small and it is not possible to find out, if the found differences were caused by different appearance of cyanobacterium in individual samples, or by low repeatability of the method.

In conclusion, it seems that by carrying the water samples on weekday before midday, no significant risk factor is forgotten. Attendance of people statisticaly does not influence the selected indicators of water quality. The number of cyanobacterium changes slightly during the day, so if the filamentous cyanobacterium will still dominate in Hostivař Water Reservoir, the water samples carrying in afternoon hours could be admitted.