

## **Abstract**

Stable isotopes analysis (SIA) is a convenient tool used in ecological and paleoecological investigations. The number of studies using SIA increases. However, the sources of variation in isotopic composition and isotopic signatures of animals (degree of enrichment of the biomass with heavier isotopes, compared to the concentration in the environment) are largely unexplored. In turn interpretation of this results may not always be reliable.

The objective of this project is to identify influence of selected abiotic and biotic factors on isotopic signatures of pelagic cladocerans. Cladocerans are key-stone species in freshwater pelagic environments, upon their presence and condition depends if the attempts to restore the lake by biomanipulation are successful or not.

We expect that the results of this study may reduce bias and may increase explanatory power of SIA when this analysis is applied to identification of ecological and geological processes in present and ancient ecosystems. If we found that the putative effects of examined factors on isotopic signatures of cladocerans are specific, this may facilitate use of SIA as a convenient tool for monitoring of populations and for identifying factors that affect condition of populations in nature.