

Bachelor thesis summarizes available data about bat abundance in middle Europe, especially in the Czech republic. Populations of bats are usually dynamic, which is given by their high sensitivity to environmental changes. Many of these changes are man made, for instance landscape management, agricultural intensification or disturbing bats during hibernation. Impact of global warming on bat abundance and range distribution is also discussed, because it could explain the occurrence of mediterranean species *Hypsugo savii* in Moravia

In my thesis, I focus on possible causes of strong population decrease of *Rhinolophus hipposideros* in 70's in the middle Europe, which led to establishment of monitoring programmes accross Europe. Project „Monitoring bats in underground hibernacula“ has started in Czechoslovakia in 1969, and it has provided valuable and relevant data. I also compare methods for monitoring bats, because there isn't any effective universal method for censusing all species under all circumstances, due to their specific behavioral habits. Counting bats in underground hibernacula appears to be the most efficient, especially for species such as *Rhinolophus hipposideros*, *Myotis myotis* and *Plecotus* spp. Statistic methods are used to estimate colony size, Lincoln-Peterson method seems to be the most suitable in this matter.