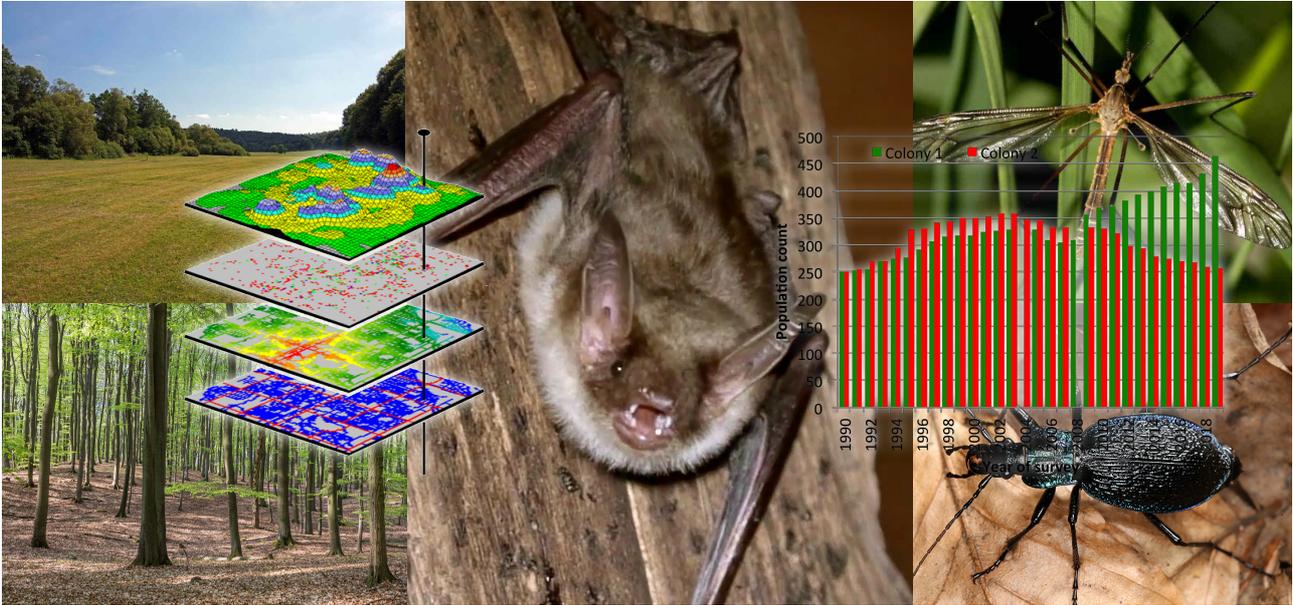


Master thesis project in Conservation Biology of Bats



Does habitat suitability drive population trends in Greater Mouse-eared Bats (*Myotis myotis*) ?

The Greater Mouse-eared Bat, a red listed (VU) species of national priority conservation concern is known to forage extensively for Carabid beetles in forests with open ground structure and closed canopy. However, they are also able to exploit seasonally very patchily accessible prey like Tipulidae (Diptera) on freshly mowed meadows.

Population trends of known maternity colonies of *Myotis myotis* are monitored since decades. While numbers were recovering after a depression in the eighties, reaching a plateau around the year 2000, in recent years some colonies show conspicuous population declines, while numbers in other colonies seem stable.

The purpose of this study is to highlight possible mechanisms on the landscape level, that might drive population trends. Effects to consider include area of suitable forests and mowed meadows available for foraging. Possible source-sink population flows between neighboring roosts should be considered into the analyses too.

The candidate will work with data provided by Bat Conservation Switzerland (Koordinationsstellen Fledermausschutz) and relate them to habitat suitability measures in a GIS environment. Innovative approaches to analyzing historic trends of land use change (e.g. Arealstatistik) and recent LiDAR data describing present landscape (forest) structures should help in understanding population fluctuations in this nocturnal predator. The study is linked to a larger project on bat commuting corridors. The results of the study are envisaged to be published in a scientific journal.

Prerequisites: interest in bat ecology, knowledgeable in GIS-techniques and R, experience in english writing.

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