

## Differences in the distribution of genetic variants among neighbouring populations of mountain hares (*Lepus timidus*) in the Alps

**Topic:** The mountain hare (*Lepus timidus*) is a genuine Arctic species in its Alpine range, where it lives as glacial relict populations with high site fidelity at high elevations. Thus, it is considered to be particularly vulnerable to climate change by habitat loss and increasing habitat fragmentation. Non-invasive genetic samples (feces) have been sampled at various locations within and around the Swiss National Park (SNP) to study potential relationships and connectivity among populations. Samples have already been genotyped with nuclear microsatellites and a sex-specific marker. In this Master's thesis, the aim is to analyze these data with population genetic tools, i.e. to look into genetic variation in neighbouring populations to derive the degree of connectivity among populations. Furthermore, a time series from a genetic monitoring in the SNP (2014-2020) may be re-visited to follow up on the population trends in this intensively studied site and to help better understand the distribution of genetic variants among neighbouring populations around the SNP.

**Requirements:** You study biology or environmental science and have acquired knowledge in conservation genetics and data analysis. Experience in GIS-techniques and R-statistics are advantageous. You are used to work carefully and structured and have a good team spirit.

**Offers:** You will work in a team of conservation geneticists and wildlife biologists, which will provide support in conceptual, analytical and composing aspects of the MSc thesis. Felix Gugerli will supervise the thesis in cooperation with Kurt Bollmann and Maik Rehnus (external). Working place will be at the Swiss Federal Research Institute WSL in Birmensdorf/ZH.

**Contact:** Felix Gugerli, Eidgenössische Forschungsanstalt WSL, FE Biodiversität und Naturschutzbiologie, Zürcherstrasse 111, 8903 Birmensdorf, [felix.gugerli@wsl.ch](mailto:felix.gugerli@wsl.ch)

<https://www.wsl.ch/en/projects/population-ecology-of-the-mountain-hare.html>

