



ECOLOGY & EVOLUTION
CONSERVATION BIOLOGY



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UNIVERSITÄT
BERN

1 PhD position

Conservation biologist/restoration ecologist

within our new research programme funded by the Swiss National Science Foundation:

Restoring grassland biodiversity: from degraded, species-poor to integral stable-state ecosystems

There have been rapid changes in land-use in the past decades in mountain agro-ecosystems, and they are still ongoing. Where land is accessible to farming machinery, grassland management has been massively intensified, causing a dramatic collapse of biodiversity. This project will experimentally investigate – full-block design with random allocation of treatment to field – the resilience of grassland to a relaxation of management intensity, i.e. how they progressively return to biodiversity-richer stable states. More specifically, we shall compare the biodiversity resilience of intensified grasslands situated in landscapes dominated either by high-intensity grasslands or by low-intensity grasslands. In particular, we expect the former to be much more difficult to restore than the latter and will look for tipping points that may guide future restoration projects.

The PhD candidate will collect baseline data (before interventions) and monitor subsequent biotic and abiotic environmental changes (following experimental manipulation) using a series of biodiversity metrics such as plant and invertebrate species richness, diversity indices, functional traits, community composition, in parallel to agricultural output metrics such as hay productivity and quality. The reliance on a full block design will enable avoiding the caveats and biases typically encountered in mere observational studies, notably those caused by unavoidable confounding environmental factors such as landscape naturalness. The ultimate objective of this research is to provide end-users, notably farmers and authorities, with easily implementable, evidence-based recommendations for future grassland restoration strategies that maximize the return on investment of the agricultural subsidies targeting biodiversity. The experiment will start in 2019 and is foreseen to run 3-7 years, with the PhD candidate engaged in its first phase.

The candidate must hold a MSc degree, show a strong interest in agro-ecology and master modern analytical techniques and statistical software. Knowledge of grassland indicator taxa would be advantageous though not prerequisite. English literacy is important, while knowledge of German and French would represent a real asset, notably for dealing with farmers.

Start: January or February 2019; duration: 3 years. Salary according to [SNSF rules](#). Note that the PhD student will be hosted in Sion during the field season (May to August) and that a driving licence is compulsory. Email your letter of motivation with CV, list of publications, summary of MSc thesis, as well as two references (name, institutional address, email and phone number) to jean-yves.humbert@iee.unibe.ch.

Application deadline: 14 November 2018. Interviews in Bern on 30 November 2018.

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