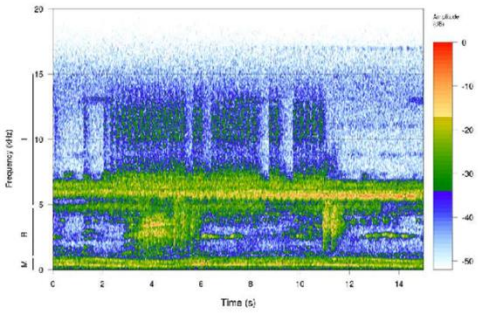
Master thesis project



Sounding landscapes: relationship between land use, plant diversity and soundscapes

There are increasing concerns that insects have drastically declined over the past decades, also in Switzerland (Widmer et al. 2021). A major reason for the insect decline is considered to be altered land use. In the farmland land use change has mostly occurred due to intensified management practices, such as the use of pesticides and fertilizers. We offer a MSc project that focuses on the impact of management intensity on plant diversity, arthropod diversity and the resulting soundscapes, which is that acoustic environment of a given place. The hypothesis is that the intensified management practices on meadows reduce the diversity of plants and arthropods, which then results in silent soundscapes.

To test this hypothesis, recording devices (acoustic loggers) will be placed on selected meadows differing in management intensity. The meadows are distributed in different areas of Switzerland, which are test sites of the Swiss monitoring program of farmland species and habitats (the plant diversity of the meadows is thus known; www.allema.ch). In addition to recording the soundscapes of the meadows, arthropods will be assessed, and the relationship between the soundscapes, plant and arthropod diversity will be analysed.

The results of the MSc-project are expected to be published in a peer-reviewed scientific journal. You should have a strong interest in global change ecology, be interested in doing field work, and working in a team. Also, you should have basic knowledge in statistics (R) and ideally own a driver's license (but it is not mandatory).

You should begin with your work at latest in April/May 2021. For application or additional information, please contact Dr. Eliane Meier (eliane.meier@agroscope.admin.ch) or PD Dr. Eva Knop (eva.knop@ieu.uzh.ch), www.knoplab.ch.

Widmer I, Mühlethaler R et al. (2021) Insektenvielfalt in der Schweiz: Bedeutung, Trends, Handlungsoptionen. Swiss Academies

Reports 16 (9). doi.org/10.5281/zenodo.5144739.