



MSc Project: Detecting Rare Events in a Winter Soundscape

Färna Ecopark is located near Grimsö, Sweden, and consists of 2,822 ha of deciduous and mixed deciduous-coniferous forests of high natural value. Dominant tree species are silver birch (*Betula pendula*), aspen (*Populus tremula*), Norway spruce (*Abies picea*), and Scots pine (*Pinus sylvestris*). Increased use of forests managed for timber production, as well as the removal of fire events in this area, have resulted in an increasing proportion of conifers within the tree species composition, simplifying the forest structure. In an attempt to retain high structural diversity and therefore high biodiversity within the forest, sites were identified for active nature conservation management in 2005. Restoration treatments were applied shortly thereafter, which entailed the selective thinning of spruce trees to create more open areas, promoting the recruitment and development of deciduous species that have higher light requirements.

A bird monitoring study has been established within a subset of these treatments, totaling 25 plots. We have conducted avian point count surveys, while also continuously monitoring the plots with acoustic monitoring devices. We aim to acoustically detect “rare events” comprised primarily of mixed-species flocks. We may also capture vocalizations from large mammals, such as foxes, wolves or moose. We are seeking a highly motivated MSc student to work with the resulting acoustic dataset to (1) to quantify and characterize the events; (2) compare the acoustic alpha and beta diversity of treatment groups; and (3) draw conclusions about the success of the restoration treatments over a decade after the treatments were administered.

Desired qualifications: interest in soundscapes and/or bioacoustic monitoring; aural identification of European bird species a plus. If interested, the selected candidate will have the opportunity to learn acoustic analysis skills and contribute to future publications. Remote work is possible, start date is flexible.

**If interested, please
contact:**

Taylor Shaw

taylor.shaw@biologie.uni-freiburg.de

+49-(0)761-2032822

PhD Candidate, ConFoBi
Research Training Group

Geobotany, Faculty of
Biology

University of Freiburg, DE