

Follow the light: Thinning and thinning roads as a potential bumblebee conveyors in the forest?

MSc project available at Southern Swedish Forest Research Centre (Alnarp) Spring-Summer 2022



Despite the counter impression given by the dominance of conifer, boreal forest is as important for pollinators as open habitats. Forest can act as shelter from wind; provide important habitats and foraging resources. Presence of forest is valued in the life cycles of many **bumblebees'** species because they can provide seasonally distinct resources and because edges may offer primary overwintering sites and nesting places. Forests can be seen as fundamental complementary habitats, supporting bumblebees in ways that are less readily apparent than flower rich open habitats but still essential. Therefore, the way we manage our forest can greatly influence bumble community and greater attention should be given to the management of forested habitats as they may play an important role in bumblebee life history.

Thinning is a management practice on young to middle-aged stands that aim at removing trees to improve the remaining forest and make an economical profit before stand harvest. The early harvest of some of the trees lead to the establishment of considerable **thinning roads across the stand** and implies the removal and the opening the canopy. These modification to the stands can potentially lead to an increase of light and temperature and the creation of new abiotic conditions which may influence the below communities of plants and fauna.

Project topic:

- We would like to investigate if thinning of Norway spruce stands have an impact on bumblebee abundance and community.
- Then we would like to study thinning roads and its potential as an attractive feature for bumblebee population.

There are several open options to do your MSc thesis within this project depending on your personal interest.

Work involved: Participate to the experimental protocol, set-up and empty traps, guided insect identification, probably canopy measurements in form of pictures or LAI. Guided statistical analyses.

The project will included an important part of fieldwork. The student must be willing to spend time in the field from May to August/September. The data collection will be in several sites across Sweden, and can include long days of work in a variety of weather conditions. Traveling costs and accommodation will be provided. A driving license is a must. Do not hesitate to contact us if you have any questions!

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