

## Landscape of fear – Foraging responses of beavers in the presence of wolves

### Background

In the last decades, Eurasian beavers (*Castor fiber*) have been recolonizing much of their former distribution range across Europe and are increasing in population size. Also wolves (*Canis lupus*), important predators of beavers, are recovering in Fennoscandia and the distribution range of beavers and wolves largely overlaps today. According to theory, the foraging behavior and area of a prey is affected in the presence of predators. Hence, in the presence in contrast to the absence of wolves, beavers should forage in the riparian zone closer to the lake/river shoreline, which might also be reflected in diet shift; a predator response that however has hardly been shown for beavers.

The Swedish forest landscape is due to forest management characterized by a deficiency in broad-leaved tree species. Beavers prefer aspen (*Populus tremula*) as winter food and cut both old-growth aspen trees and saplings. This might cause severe conflicts with nature conservation measures that rely on the presence and long-term recruitment of aspen (such as the reintroduction of the white-backed woodpecker [*Dendrocopos leucotus*]). Wolves present in aspen-dominated riparian zones might result in the avoidance of such habitats by beavers and hence in the “protection” of aspen.

### Primary questions

1. To which extent is the foraging behavior and area of beavers affected by the presence of wolves?
2. Can such predator responses be used to mitigate nature conservation conflicts?

### Work plan and methods

1. Thorough literature study on predator-prey responses in the context of landscape of fear
2. Development of study design
3. Field experiments in different types of beaver systems by simulating wolf presence and combining different census techniques involving three different trophic levels (primary producers – deciduous trees, prey – beaver and predator – wolf). Preferably to be performed in June-August. Partly to be performed in collaboration with wildlife managers in Färnebofjärden National Park
4. Data analyses
5. Thesis compilation

### Extent

Preferably 60 credits, but 30 credits might also work.

### Contact

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