

# Peatland Restoration

## - Impacts on Insect Assemblages

### Preliminary findings

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## Background

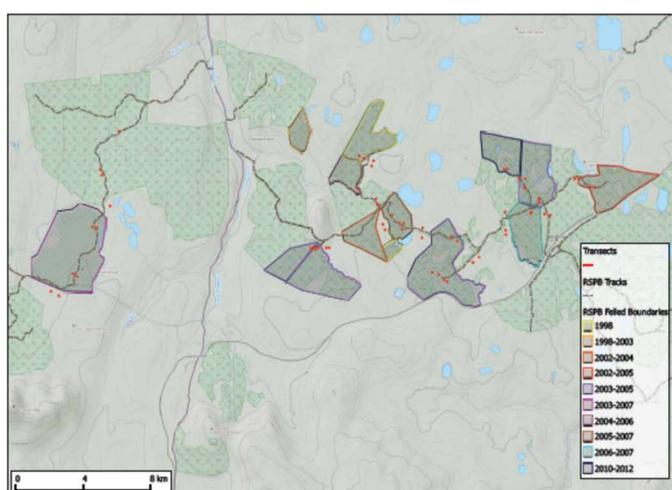
1. Effectiveness of peatland restoration on biodiversity other than vegetation has been neglected
2. Insects at **different trophic levels** are good indicators of habitat quality as they **respond to different features** of the habitat
3. Characteristic insect assemblages in peatlands depend strongly on **structural and compositional complexity of the vegetation**
4. **Auchenorrhyncha**, as phytophagous species, are especially sensitive to vegetation **composition**
5. **Coleoptera & Heteroptera** (as mainly carnivorous species) may be more affected by **structural complexity**



## The Experiment

Located at Forsinard Flows Nature Reserve, Sutherland

- **3 treatments** (see map):
  - **Degraded** – plantation (15 transects)
  - **Restored** – felled (15 transects)
  - **Target** – pristine bog (30 transects)
- Insect sampling via sweep net and suction sampler
- Vegetation sampling (composition and structure)
- Environmental variables (pH, moisture)



## What we have found so far!

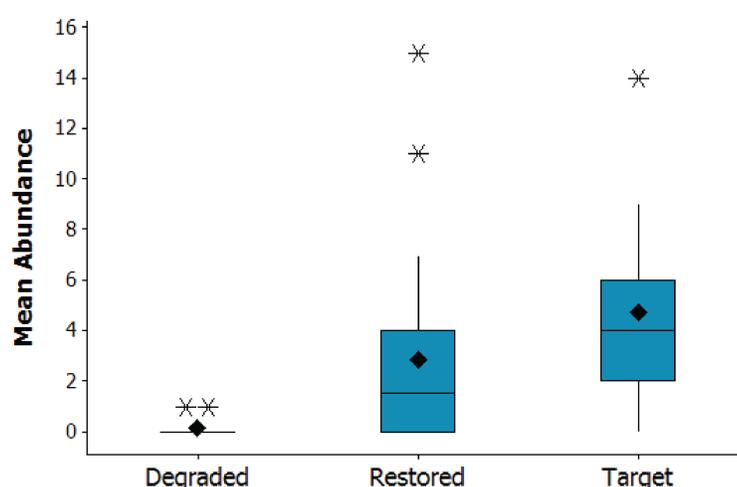
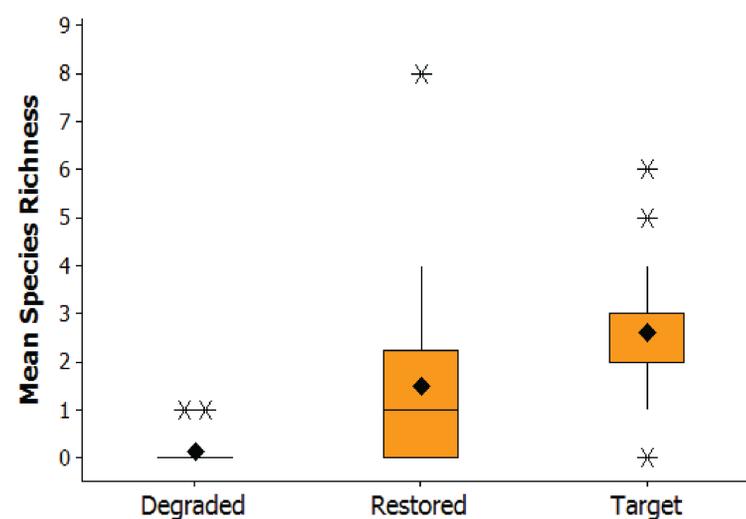


*Planaphrodes bifasciata*, a species commonly found in upland and boggy areas across the UK, host plant may be grasses in the Poaceae.



*Ulopa reticulata* feeds predominantly on heather and is widespread and often common on heathland.

- Very few specimens found on the forest floor.
- Mean abundance ( $P = 0.099$ ) and species richness ( $P = 0.039$ ) higher in bog than in restored.
- Some species (e.g. *Planaphrodes bifasciatus*, *Ulopa reticulata*) are far more characteristic of bog sites than restored sites.



## What comes next?

- Further study into Heteroptera and Coleoptera groups
- Investigate community responses, how species assemblages of the different groups respond to treatments, taking into account rare and specialised species
- Analyse vegetational and environmental data as possible explanatory variables

## Acknowledgements

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