

# Fieldwork in the Forest: Transect of meadow to woodland

How to sample flora and fauna along a transect across meadow and woodland habitats



## Enquiry questions

What species and frequency of fauna and flora are found in meadow and woodland habitats?

Do changes in land use such as meadow and woodland have an impact on flora and fauna species and frequency?

How can a land owner manage areas for multiple aims of recreation, tourism, farming, forestry and habitat conservation?

## Fieldwork methods

To survey changes in flora and fauna in a meadow or woodland habitat a tape measure is used to define a transect line across the habitats. A quadrat is used to carry out systematic sampling of flora and fauna at regular points along the transect. Here is how to carry out a survey:

1. Create the transect line: two people wearing high visibility vests choose a location that has a meadow adjacent to a woodland habitat. Person A stands in the meadow holding a ranging pole and the end of the tape measure. Person B walks towards the woodland with the tape measure to the length required. Person B marks the end of the transect with another ranging pole.
2. If more than two people are surveying, Persons C and D walk along the transect and stop at regular intervals (e.g. every 5 metres) to sample flora and fauna using a variety of methods:
  - **Sampling with a quadrat:** place a metre squared quadrat on the ground. Identify the species of plants present and estimate their percentage cover within the quadrat. Record the species of animals present and count the number of individuals of each species within the quadrat.
  - **Sampling with a sweep net:** use a figure of eight sweeping action to collect fauna from the plants at knee height. Record the species of animals present and count the number of individuals of each species found in the sweep net.
  - **Sampling with a tree tap:** if a tree is on or within 1 metre of the transect put a white cloth under its branches. Tap the branches and catch any animals on the white sheet. Record the species of animals present and count the number of individuals of each species on the white sheet.
  - **Identify trees and measure height:** if a tree is on or within 1 metre of the transect identify the species of tree. Measure the height of the tree using a clinometer and tape measure as described in the 'Height of tree and light of woodland' method (see other resource sheet).

## Equipment

- Tape measure (30 metres)
- Ranging poles x 2
- Quadrat (1 square metre)
- Sweep net
- White sheet for tree tapping (up to 2 metres square)
- Invertebrate collecting pots with lids
- Magnifying glass
- Animal, plant and tree species identification resources
- Clinometer
- First Aid Kit
- Mobile phone or walkie talkie
- Risk assessment and emergency procedures

## Analysis and presentation

The data collected can be plotted on a kite diagram, with distance along the transect on the y axis and flora/fauna species on the x axis.

- A kite diagram is a graph that shows relative abundance of fauna and flora along a transect.
- From a kite diagram conclusions can be drawn about zonation and what might be causing the changes in distribution of species across habitats, for example abiotic factors.
- Abiotic factors are influenced by land use, therefore conclusions can be drawn about the impact of land use on fauna and flora and the role of conservation in land management and forestry.



### Images

- 1 equipment
- 2 transect measuring

