Upland tree regeneration monitoring at Corrour Estate

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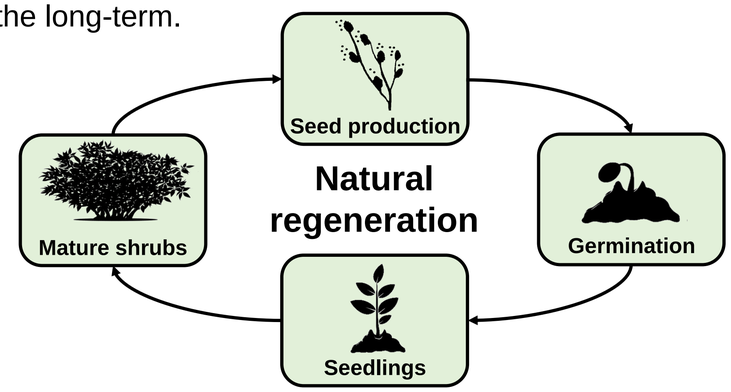
Background

Upland woodland and scrub at the **natural altitudinal treeline** is almost completely absent from Britain. Significant **habitat loss** has been linked to the introduction of hill sheep and increased red deer. Its restoration will enhance our natural heritage by delivering a more productive, structurally complex and biodiverse environment. **Natural regeneration** offers potential advantages over tree planting including spatial-temporal heterogeneity and cost-effectiveness in the long-term.



Objectives

To understand how **reduced red deer densities** affect **natural regeneration** of different tree species across a range of upland habitats.

Study site

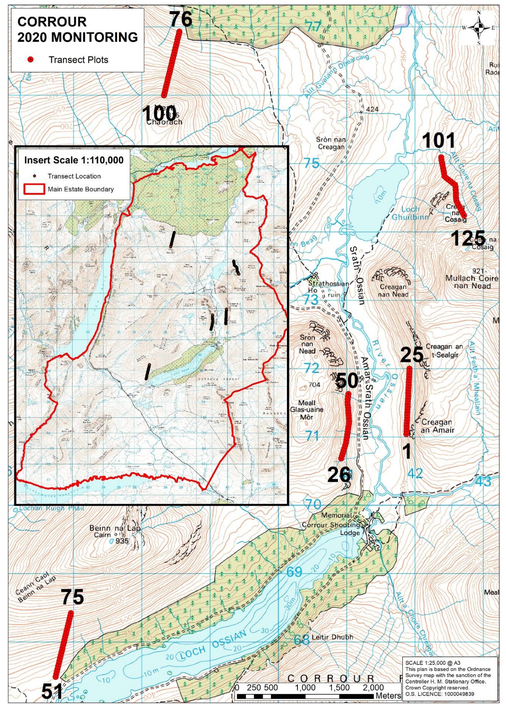
Corrour Estate extends over 23,000 ha in the Central Highlands. A key management objective is to **reduce grazing** to ensure favourable condition of habitats and allow **native woodland expansion**. Culling has lowered deer densities from 14.7 per km^2 in 2006 to 8 per km^2, with a target of <5 per km^2 within five years.

Methods

In 2020, **5 transects** each containing 25 circular 100 m^2 plots at altitudes of 410-739 m were set up.

Records were made of tree occurrence, growth attributes, browsing, vegetation height and associated vascular plant flora.

Monitoring will be repeated every 4 years to assess responses to variation in deer management.



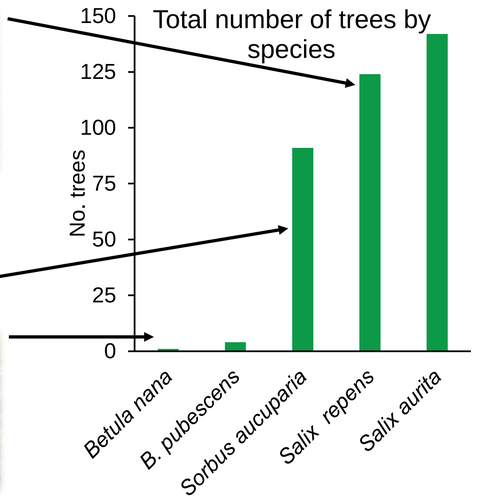
Other notable plant records

Lycopodium annotinum

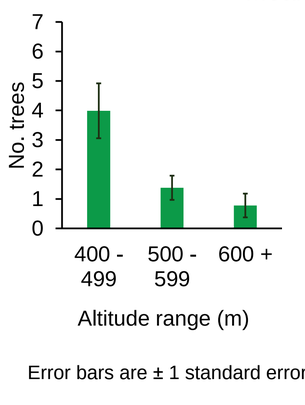
Arctostaphylos alpina

Pseudorchis albida

Results



362 trees were recorded, and their **distribution** was related to **habitat type**, **altitude** and proximity to existing **seed sources**.



Error bars are ± 1 standard error

Future woodland potential

The ***Salix aurita* scrub** form of *Betula pubescens-Molinia caerulea* woodland could expand across much of the study site if low enough grazing levels are maintained, along with a mosaic of *Quercus petraea-Betula pubescens-Dicranum majus* woodland in Strath Ossian.

Salix aurita