Flower-rich grassland and dwarf-shrub heathland restoration/creation

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Role of restoration

- Old, long-established habitats not recreatable usually.
- No substitute for Conservation of best sites.

BUT

- Habitat creation/enhancement very important due to large scale losses of flower-rich grassland and heathland.
Key factors to consider

- Soils – rock type, soil depth, soil types:
  - pH – heathland <4.0
  - Macro-nutrient levels – especially P
- Rush pasture management – improve floristics and structure
- Hydrology – natural drainage, flooding?
- History of site changes – is it reversible (agricultural improvement, forestry)?
- Future management – hay, grazing and stock type, control of invasive spp eg tree establishment in heathland, rushes?
How to reduce nutrients
• Crop ryegrass (silage), adding N, but no P
• Wait – 12-15 years

How to change pH for heathland
• Add sulphur – take care – difficult material
Choosing a New Community

- Must suit soils - pH, nutrients, wetness
- Find local template for guidance
- Use locally native species
Grassland Establishment methods

- Natural colonisation - unlikely to work
- Add seed
  - green hay
  - seed hand collected
  - machine collect
  - bought seed – locally native?
  - broadleaved plants only?
- Yellow rattle first?
Ground Preparation heath or grassland

- Are the existing species desirable or not?
- Will they have a seed bank (e.g. rushes), or recover from rootstock if disturbed?
- Need bare ground – 30-50% bare
  - Herbicide, scarify
  - Cut, rake, clear arisings, scarify/rotovate/disc harrow
  - remove litter
Sowing Rates

Whole mixes

• 40, 30, 20, 15 or 10kg/ha?
  – Grass 50-80% of mix if bought, much more flowers in field sites often
  – At lower rates, can afford more wildflowers,
  – Broadleaved only – 0.5 to 1gms/m²

• Allow for chaff if collected seed

• Yellow rattle – 0.5-2.5kgs/ha (target 100-200 plants/m²)

• 1:2 or 1:3 ratio for donor to receptor green hay or heather brash
Diversifying a pasture

More flowery after herbiciding, cutting, harrowing, hand seeding

Diversifying an upland hay meadow

Rye-grass dominated disc harrowed after hay cut seeded by hand
A Small Meadow

First year – lots of annuals 1999

Patchy establishment at first

2017 – orchids and good mixture