



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

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Role of restoration



- Old, long-established habitats not re-creatable 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 (eg 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 brush



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

