

# Wales Grassland and Heathland Ecosystem Group Priority Action

## Gwydir Calaminarian Mines

### Summary

Calaminarian grassland is very scarce in Wales, with an estimated area of only about 50 ha; this is out of a total of no more than 330 ha in the UK. The habitat occurs sporadically across Europe, with a core in central Germany. The vast majority of the Calaminarian grassland in Wales occurs on four SACs, one of which is Mwyngloddiau Fforest Gwydir/Gwydir Forest Mines. The examples of the habitat in the Gwydir Forest occur on metal-rich soils and rock associated with former mine workings. They represent more acid forms of the habitat, contrasting with those at Halkyn Mountain in Flintshire.

Calaminarian grassland is characterised by the presence of metallophyte higher and/or lower plant species. In the Gwydir Forest indicative species include the scarce alpine rock-cress *Thlaspi caerulescens*, the rare lead moss *Ditrichum plumbicola* (S42) and a metal-tolerant ecotype of sea campion *Silene uniflora*. In common with many other examples of the habitat, the stands do not correspond with any NVC communities.

The habitat is represented by the Annexe 1 habitat **Calaminarian grasslands of the *Violetalia calaminariae*** and the BAP priority habitat **Calaminarian grassland**.

Within the Gwydir Forest the Calaminarian grassland occurs mainly as small to medium-sized stands surrounded by coniferous woodland; in some cases it is found within agricultural land. Principal threats to the existing stands include conifer invasion, shading by trees, leaf litter deposition and off road vehicle activity. Some known stands were reclaimed prior to SAC notification. The habitat is also threatened by natural succession to closed grassland or scrub in the medium to long term, although stands on the most contaminated ground are likely to be resistant. However, there is high potential for re-establishment of the habitat wherever there is contaminated ground, for example on land currently under coniferous woodland or where closed grassland has developed either naturally or through reclamation. Re-establishment could build on work done in the north Pennines (Simkin & Smith 2006).

### Action required

Priorities for Calaminarian grassland in the Gwydir Forest include:

- Control of conifers and other trees to prevent or reverse invasion, shading and leaf litter deposition.
- Tackling off-road vehicle activity.
- Update surveys, e.g. of specialist lower plant taxa.
- Consider appropriate sites for habitat re-establishment.

### Species Interest

#### *Priority Section 42 species*

Lead moss                      *Ditrichum plumbicola*

The project has potential to benefit a range of S42 fauna, including:

Adder                              *Vipera berus*

Common lizard                *Zootoca vivipara*

Slow worm *Anguis fragilis*

Bat species (the forest supports several important bat roosts).

### **Other notable plant species**

Alpine rock-cress *Thlaspi caerulescens*

Forked spleenwort *Asplenium septentrionale*

Lanceolate spleenwort *Asplenium obovatum ssp. lanceolatum*

A liverwort *Cephaloziella stellulifera*

Metallophyte lichen community (including several nationally scarce species)

### **Reference**

Research Project on Management Methods for Calaminarian Grassland (2006). J.M.Simkin and R.S.Smith. English Nature Contract No. JW/29/02.