



UK Biodiversity Action Plan Priority Habitat Descriptions

Calaminarian Grasslands

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Calaminarian Grasslands

Correspondence with existing habitats

- UK BAP broad habitat: Inland rock
- Phase 1: I1.2 Scree *pp*; I2.2 Spoil *pp*
- NVC: OV37 and other un-described types, i.e. not fully covered by NVC
- Annex I: synonymous with H6130 Calaminarian grasslands of the *Violetalia calaminariae* (see <http://www.jncc.gov.uk/ProtectedSites/SACselection/habitat.asp?FeatureIntCode=H6130>)

Description

Calaminarian grasslands include a range of semi-natural and anthropogenic sparsely vegetated habitats on substrates characterised by high levels of heavy metals such as lead, chromium and copper, or other unusual minerals. These are associated with outcrops of serpentine and river gravels rich in heavy metals, as well as with artificial mine workings and spoil heaps. Seral succession is slowed or arrested by the toxicity of the substrate. Open-structured plant communities, sometimes known as 'Calaminarian grasslands', typically occur, composed of ruderal/metallophyte species of lichens, bryophytes and vascular plants, such as spring sandwort *Minuartia verna*, alpine pennycress *Thlaspi arvense*, and genetically adapted races of species such as thrift *Armeria maritima* and bladder campion *Silene maritima*. Notable species include *Epipactis youngiana*, *Asplenium septentrionale*, *Ditrichum cornubicum*, *Marsupella profunda*, *Cephaloziella nicholsonii* and *Ditrichum plumbicola*. In northern parts of the UK there are local populations of boreal species which characterise these habitat conditions in Scandinavia, such as Scottish sandwort *Arenaria norvegica* and the endemic Shetland mouse-ear *Cerastium nigrescens*.

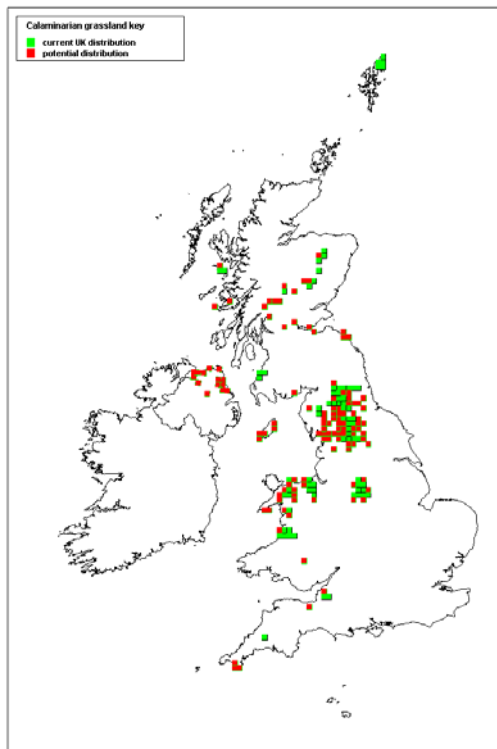
Vegetation on metalliferous substrates is found in three distinct settings in the UK:

- Near-natural substrates;
- Mine spoil, in situations where naturally occurring metalliferous outcrops have been quarried away;
- Metalliferous river gravels, sometimes derived from washed-out mine workings. In many localities the metalliferous outcrops which would have been the natural habitat for the species referred to above have been quarried away but the mine spoil still provides suitable habitat.

Although this habitat occurs widely across the north and west of the UK, its extent is restricted because of the limited occurrence of suitable rock types. Near-natural examples are highly localised on outcrops and scree of serpentine and related rock types, mostly in the Scottish Highlands and Islands. Metalliferous mine spoil and river gravels are more widespread, but still local, in certain urban and post-industrial areas, particularly in parts of England and Wales. A map of known and potential distribution of the Annex I type 6130 is given below.

No comprehensive data are available on the UK extent, but estimates are given in the table below: This is based mainly on NVC and Phase 1 surveys undertaken over the last 15–20 years, but accurate survey data are lacking for many areas. A total of 326ha is thought to occur in SACs. Forms referable to the *Festuca ovina*-*Minuartia verna* community (OV37) are estimated to cover less than 100ha in Britain (David Stevens, pers. comm.). In Scotland, most of the resource appears to occur within SSSIs (Dave Horsfield, pers. comm.).

H6130 Calaminarian grasslands of the *Violetalia calaminariae*



Map 1: UK distribution of Annex I type 6130 Calaminarian grasslands of the *Violetalia calaminariae*. Current distribution shown in green (from Rodwell and others, 2007: The European Context of British Lowland Grasslands. JNCC Report in press). The potential distribution shown in red is an amalgamation of the distributions of indicator species *Minuartia verna*, *Thlaspi caerulescens*, *Lychnis alpina*, *Cerastium nigrescens* (Preston and others, 2002) and *Ditrichum plumbicola* (Hill and others, 1992).

Extent of H6130 Calaminarian grasslands of the *Violetalia calaminariae* in the UK:

| | Area (ha) | Reliability of measure/estimate |
|------------------|-----------|---|
| England | <200 | Estimate based on areas on SACs and expert opinion |
| Scotland | <200 | Estimate based on areas on SACs and expert opinion |
| Wales | 50 | Estimate based on areas on SACs & Stevens & others. (2002) (areas of OV37 in Wales) |
| Northern Ireland | absent | – |
| Total UK extent | <450 | Estimate calculated from different data sources, incomplete inventory data & expert opinion |

References:

Hill, M.O., Preston, C.D. & Smith, A.J.E. (1992) *Atlas of the bryophytes of Britain and Ireland*. Colchester: Harley Books.

Northumberland County Council. Calaminarian Grassland Habitat Action Plan. In: *Working for wildlife; the Northumberland Biodiversity Action Plan*.

Preston, C.D., Pearman, D.A. & Dines, T.D. (2002) *New Atlas of the British Flora*. Oxford University Press.

Rodwell, J.R., Moss, D., Morgan, V. & Jefferson, R.G. (2007) The European Context of British Lowland Grasslands. JNCC Report.