

CALAMINARIAN GRASSLANDS

This priority habitat supports a unique range of wildflowers on heavy metal rich soils associated with the lead mining industry, or in similar natural situations.

UK Priority Habitats covered by this statement:

Calaminarian grasslands

Cumbria Biodiversity Action Plan habitats covered by this statement:

None

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Calaminarian grassland, Nenthead Mine © Stephen Hewitt

Description

This grassland is found on soils with high concentrations of heavy metals, such as lead. These conditions are most frequently found on mine spoil, though they may occasionally be found in natural situations, such as on shingle banks in rivers that have incorporated heavy metal-rich material.

High concentrations of heavy metals are toxic to many plants and this, combined with low nutrient levels and the dry nature of many spoil heaps, leads to sparse vegetation and a restricted range of species.

Typical plants that are adapted to these conditions are Wild Thyme, Spring Sandwort, Thrift, Moonwort, Common and Pyrenean Scurvygrass, Mountain Pansy, Alpine Penny-cress, and a range of lichens and mosses. Harebell, Bird's-foot-trefoil, Fairy Flax, eyebrights, Yarrow, Sheep's Fescue and Common Bent are also frequently found.

Often these species have evolved specific genetic types which enable them to grow in these conditions. Swards are often very open, with areas of bare spoil between individual plants.

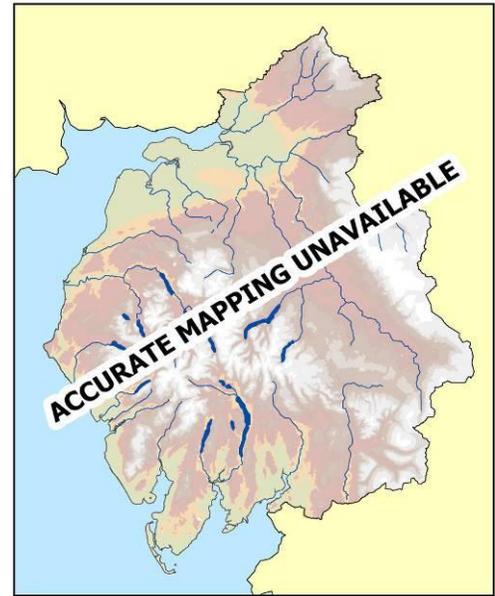
This habitat is of international importance being equivalent to the habitat listed in Annex I of the Habitats Directive.

Distribution and Extent

In Cumbria this habitat is almost exclusively confined to the former lead mines in the North Pennines around Alston, Nenthead and the surrounding fells. It is also found on shingle banks along rivers in this area.

This is a rare habitat in the UK, and, in England, is only otherwise known from the Mendips, Derbyshire Dales and Yorkshire Dales.

Calaminarian grassland areas in Cumbria include the Whitesike Mine and Flinty Fell SSSI and SAC on the roadside between Garrigill and Nenthead, and the one remaining tailings dam at Nenthead. There are also significant areas within Moorhouse and Cross Fell SSSI, especially in Moorhouse National Nature Reserve, and along the rivers of this area, especially on the South Tyne just south of Alston.



Distribution of calaminarian grassland in Cumbria

Conservation Issues

Mine spoil areas are under threat from derelict land reclamation which usually involves complete capping with imported topsoil to remove any possible impacts of the heavy metals on human health, especially where this habitat occurs in close proximity to people. This results in significant damage or complete habitat loss.

Similarly the reworking of spoil or any other mining activity in the North Pennines is likely to result in damage or habitat loss.

Although vegetation development is usually curtailed by the toxicity of the soils, this habitat may also decline through natural succession if coarse grassland and scrub develop once active disturbance ceases.

Planning Considerations

- Careful consideration is needed when schemes are put forward to reduce the potential health hazards of heavy metal rich mine spoil and tailings, to rework spoil or to carry out any other mining activity. Any potential to retain areas of this habitat and to ensure that full weight is given to the value of this habitat and its restricted distribution in Britain should be maximised.
- The open nature of this vegetation and extent of bare ground which can be present often means that it is viewed as waste land of no ecological significance, and therefore issues are not raised early enough in the planning process.
- Any development that may impact upon calaminarian grassland habitat would require an assessment of the likely effects on the habitat and, as necessary, appropriate protection and mitigation measures.
- Some of the best examples of calaminarian grassland are within SACs and SSSIs, however a significant amount of this habitat lies outside the statutory designation system, particularly the many smaller areas.

Enhancement Opportunities

- None apparent.

Key Species

There are no Key Species particularly associated with this UK Priority Habitat.

Further Information

[Calaminarian grasslands of the *Violetalia calaminariae*](#), JNCC

Contacts

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Current Action in Cumbria

- None