CALCAREOUS GRASSLAND

Flower-rich grasslands on poor limestone or base-rich soils which support some of our rarest butterflies.

UK Priority Habitats covered by this statement:

Lowland calcareous grassland
Upland calcareous grassland

Cumbria Biodiversity Action Plan habitats covered by this statement:

Calcareous grassland

Contents

Waitby Greengriggs © Stephen Hewitt

Description

Calcareous grasslands are found on shallow, well-drained soils derived from a variety of lime or base-rich rock types. In Cumbria this is mainly Carboniferous Limestone, but there are smaller areas of calcareous grassland associated with other base-rich sedimentary rocks such as some shales, sandstones, and basic igneous rocks, including base-rich veins in the Borrowdale Volcanic rocks of the central Lake District.

The most extensive type of calcareous grassland in Cumbria is dominated by Blue Moor-grass, whilst other types have abundant bent and fescue grasses.

Characteristic plants include Wild Thyme, Limestone Bedstraw, Salad Burnet, Bird's-foot-trefoil, Rock-rose, Fairy flax, Quaking Grass and Crested Hair-grass. Calcareous grassland can support a number of rare and uncommon species, including Teesdale Violet, Fly Orchid, Spiked Speedwell, Hoary Rock-rose, Spring Gentian and Alpine forget-me-not.

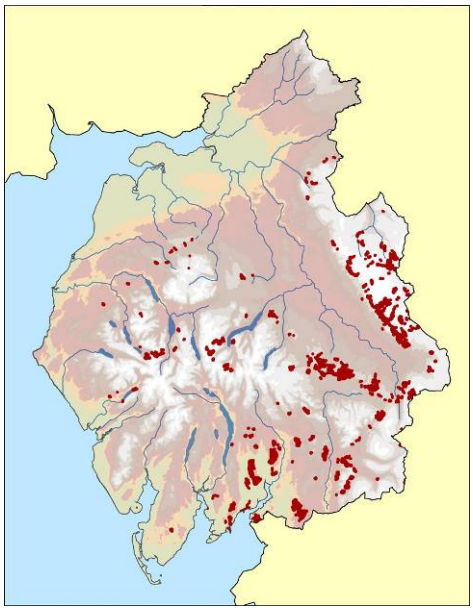
Calcareous grasslands also support a variety of invertebrates, including butterflies such as High Brown Fritillary, Small Blue, Scotch Argus, Pearl-bordered Fritillary and Duke of Burgundy Fritillary, the Wall Mason Bee and the hoverfly *Dorus profuges*. This grassland can also be important for waxcap fungi, Brown Hare and ground-nesting Skylark, Lapwing and Golden Plover.

This grassland is maintained by light levels of stock grazing to prevent coarse grasses and scrub from becoming established.

Distribution and Extent

In Cumbria, calcareous grasslands occur mainly on the Carboniferous Limestone around Morecambe Bay, the Orton Fells and on the western flanks of the Pennines, with smaller outcrops occurring in a discontinuous and narrow ring around the northern Lake District. They also occur as very small patches associated with more base-rich outcrops of the Borrowdale Volcanic rocks in the Lake District and along the narrow outcrop of the Coniston Limestone that forms the southern boundary to the Borrowdale Volcanics.

The most extensive calcareous grassland in Cumbria, a type dominated by Blue Moor-grass, is rare in the UK and is only found on the Carboniferous Limestone of the Morecambe Bay area, the Craven District of North Yorkshire and the borders of Cumbria, Durham and North Yorkshire. Particularly good examples of calcareous grassland can be found at Arnside Knott, Scout Scar near Kendal and Smardale Gill, Cumbria Wildlife Trust's reserve near Kirkby Stephen.



Distribution of calcareous grassland in Cumbria (provided for illustrative purposes only)

Conservation Issues

The main threat to calcareous grassland is agricultural intensification, particularly use of fertilisers and herbicides, and intensive winter stock feeding leading to localised soil enrichment.

Inappropriate management, including overgrazing and undergrazing, or a lack of grazing which leads to scrub encroachment, can also result in the degradation or loss of this habitat. Indeed inappropriate management is one of the main factors leading to declines in butterfly populations dependent on this habitat.

Planning Considerations

- PPS9 states that local authorities should conserve important natural habitat types (priority habitats and habitats of principal importance in England), and identify opportunities to enhance and add to them.
- Any development that may impact upon calcareous grassland habitat, or its species interests, would require an assessment of the likely effects on the habitat/species and, as necessary, appropriate protection and mitigation measures.
- Developments on this habitat will lead to direct habitat loss and potential impacts upon dependent invertebrates, such as butterflies.
- Small scale loss, or removal of areas from grazing management, will contribute to habitat fragmentation and isolation.
- Care should be taken that landscaping schemes accompanying developments do not result in areas of calcareous grassland being planted with trees or shrubs, or being taken out of appropriate grazing management.
- Much of the calcareous grassland in Cumbria is designated as SAC and SSSI, but significant areas still remain outside SSSIs; many of these are designated as County Wildlife Sites.
- Any development that may have a significant effect, directly or indirectly, on a Special Area of Conservation would need to be assessed under the Habitats Regulations.

Enhancement Opportunities

- Limestone quarries, or other quarries with base-rich features, can incorporate calcareous grassland in restoration design, with no importation of topsoils and minimal seeding/natural regeneration. This is a cheaper restoration option as well as being more natural.
- Biodiversity Management and Enhancement Plans can be used for longer term developments, for the lifetime of the development.
- Planning conditions can be used to restore appropriate management to under-managed and unmanaged grassland, including scrub clearance and reintroduction of grazing.

Habitat Targets

- Habitat targets for Cumbria can be found in a separate document "Habitat Targets, Planning Considerations and Enhancement Opportunities" available from www.lakelandwildlife.co.uk or by clicking here

Key Species

The following Key Species could benefit from enhancement of this habitat, or be negatively impacted upon by inappropriate developments on or near this habitat:

Big Blue Pinkgill
Pink Waxcap
Date-coloured Waxcap
Rare Spring-sedge
Basil Thyme
Frog Orchid
eyebright species
Spring Gentian
Field Gentian
Juniper

Fly Orchid
Lesser Butterfly Orchid
Spiked Speedwell
High Brown Fritillary
Northern Brown Argus
Pearl-bordered Fritillary
Small Blue
Dingy Skipper
Duke of Burgundy
Grayling butterfly

Wall butterfly
Wall Mason Bee
a whorl snail *Vertigo genesii*
a whorl snail *Vertigo geyeri*
Curlew
Golden Plover
Grey partridge
Lapwing
Skylark
Song Thrush
Brown Hare

Further Information

UK BAP lowland calcareous grassland

UK BAP upland calcareous grassland

Habitats of principal importance in England Section 41 NERC Act list

Cumbria BAP calcareous grassland

Butterfly Conservation priority species factsheets

Butterfly Conservation habitat management advice

Butterfly Conservation Morecambe Bay High Brown Fritillary project

Buglife: habitat management advice: upland calcareous grassland

Natural England lowland grassland management handbook

Natural England upland management handbook

Environmental Stewardship and HLS handbook

Contacts

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- **Cumbria Wildlife Trust**, Tel: 01539 816300, mail@cumbriawildlifetrust.org.uk
- **Butterfly Conservation**, Tel: 01929 400209, info@butterfly-conservation.org, website: www.butterfly-conservation.org

Current Action in Cumbria

- Butterfly Conservation is coordinating a four-year project to ensure that the High Brown Fritillary thrives in its national stronghold, the Morecambe Bay Limestones.
- The Environmental Stewardship Scheme run by Natural England provides financial incentives to manage land in a way that is sympathetic to its nature conservation interest with specific calcareous grassland options.