

ROCK HABITATS

These priority habitats support specialised and characteristic flora and fauna. Cumbria has more than one third of the limestone pavement habitat in Britain.

UK Priority Habitats covered by this statement:

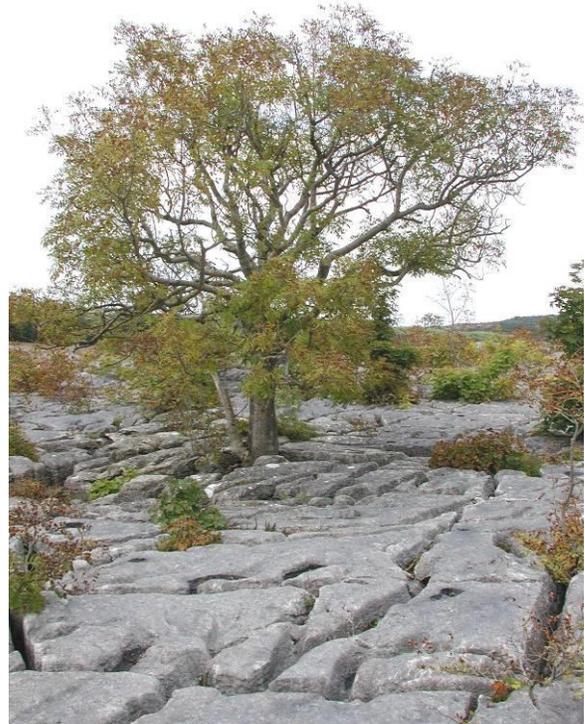
Limestone pavements
Inland rock outcrop and scree habitats

Cumbria Biodiversity Action Plan habitats covered by this statement:

Limestone pavement

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Limestone Pavement, Clawthorpe Fell © Cumbria CC

Description

This habitat can be divided into limestone pavements and other rock exposures.

Limestone pavements are areas of hard limestone exposed by the scouring action of ice during the last ice age. In Cumbria this limestone dates from the Carboniferous Period. Subsequently water has eroded the rock to form a complex of deep crevices, or grikes, interspersed with massive blocks, or clints, of worn limestone. In Cumbria limestone pavements fall roughly into two groups: low altitude, largely ungrazed, and hence wooded pavements; and higher altitude, generally grazed, open pavements. Both types support a rich and characteristic flora in their grikes with species of limestone woodland and grassland, and species characteristic of rock exposures. Characteristic species include Herb Robert and Dog's Mercury, together with ferns such as Maidenhair Spleenwort, Wall Rue, Male Fern and Hart's-tongue Fern.

Limestone pavements support a number of rare plants, including Rigid Buckler-fern, Downy Currant, Baneberry, Dark-red Helleborine, Pale St John's-wort, Angular Solomon's-seal, and Limestone Fern. One species of Whitebeam, *Sorbus lancestransis*, is endemic, that is the world distribution is restricted to the limestones around Morecambe Bay.

They also support a variety of rare or uncommon invertebrates, including the crane fly *Tipula alpina*, Narrow-mouthed Whorl Snail *Vertigo angustior* and Chrysalis Snail *Abida secale*.

Rock outcrops, ledges and screes support distinctive plant communities, which are determined by the rock type. Acid rocks tend to have fairly species-poor communities, though several uncommon species are associated with this habitat, including Oblong Woodsia (a fern), Hay-scented Buckler-fern

and several moss species. Base-rich rocks support a more varied flora with a large number of uncommon plants, including Mountain Avens and Alpine Cinquefoil.

Rock ledges can support lush patches of Greater Wood-rush, which on base-poor or acid soils is accompanied by Bilberry and ferns, whilst on more base-rich ledges Wood Crane's-bill, Water Avens, Wild Angelica and Lesser Meadow-rue are common.

Acid screes in Cumbria are characterised by Parsley Fern, whilst limestone scree and rubble may have Herb Robert, Limestone Fern, Brittle Bladder-fern and, occasionally, Dark-red Helleborine.

Rock outcrops, scree slopes and other rock formations support an invertebrate fauna which includes a number of uncommon species, including the whorl snail *Vertigo alpestris*, the money spider *Lepthyphantes whymperi* and the wolf spider *Pardosa trailli*. Ledges and outcrops provide nest sites for several bird species, including Golden Eagle, Peregrine Falcon, Ring Ouzel and Raven.

Distribution and Extent

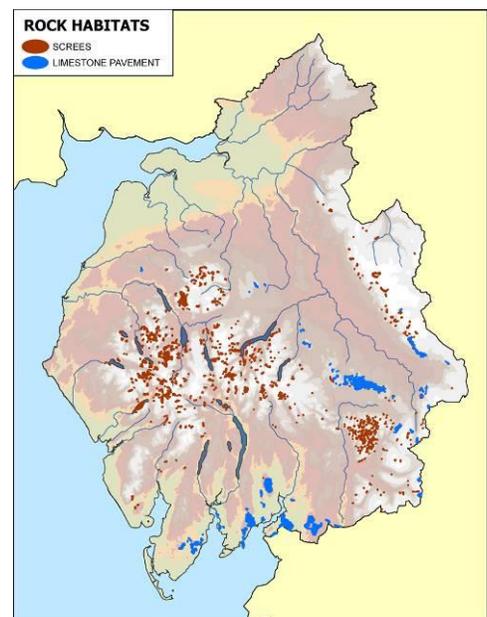
Limestone pavement is localised in its distribution. In Cumbria, limestone pavement is most extensive in a ring around Morecambe Bay and on the limestone fells between Shap and Kirkby Stephen. Smaller areas are found on the high western edge of the Pennines and there are a few isolated areas on the northern edge of the Lake District. Cumbria contains 36% of all limestone pavements in Britain.

Rock ledges, outcrops and screes are found throughout the county, and are very abundant within the Lake District and, to a lesser extent, the Pennines. The habitat is uncommon in lowland areas. This habitat has not been fully mapped.

Conservation Issues

Limestone pavements cannot be recreated and are irreparably damaged by any removal or disturbance of stone from them. Occasional removal of stone from limestone pavements to supply decorative rockery stone may still occur, and there are some extant planning permissions that may include limestone pavement stone removal. Overgrazing, mainly on upland limestone pavements, or scrubbing over, largely of lowland pavements, can threaten the nature conservation interests, as can the lack of management of some wooded pavements.

Heavy grazing restricts many plant species of rock ledges and outcrops to the most inaccessible parts of cliffs and outcrops. Under lighter grazing regimes there would be far lusher growth than is generally seen at present. 'Gardening' of ledges (the removal of vegetation) by rock climbers can reduce the biodiversity interest of this habitat. Gill scrambling can also lead to loss of vegetation and biodiversity interest. Theft of eggs from the nests of birds of prey is also an ongoing conservation issue.



Distribution of screes and limestone pavement in Cumbria (provided for illustrative purposes only)

Planning Considerations

- Whilst it is not possible to add to this priority habitat it can be enhanced through better management.
- Any development that may impact upon these rock habitats would require an assessment of the likely effects on the habitat and, as necessary, appropriate protection and mitigation measures.
- Most limestone pavement in Cumbria is covered by Limestone Pavement Orders. It is illegal to disturb or remove limestone pavement, or even loose rock (including stone walls), within Limestone Pavement Order sites.
- Quarrying can impact upon rock outcrops, screes and ledges, and new roads, tracks or pipelines may also result in the loss of important areas of this habitat.
- The majority of limestone pavement is designated as Sites of Special Scientific Interest and Special Areas of Conservation and, of the remaining sites, many are County Wildlife Sites.
- Other rock exposures are integral to many upland SACs and SSSIs, though many areas of rock ledge, outcrop and scree, including areas with rare plants, are outside the SSSI system.

Enhancement Opportunities

- There are limited opportunities for enhancing this habitat within the planning system, however any opportunity to reduce grazing of ledges would be beneficial.

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:

Pyramidal Bugle	Glaucous Meadow-grass	Oblong Woodsia
Northern Hawk's-beard	Holly Fern	Wall Mason Bee
a hawkweed <i>Hieracium subgracilentipes</i>	Downy Willow	Golden Eagle
Juniper	Killarney Fern	Peregrine Falcon
Alpine Catchfly	Spiked Speedwell	Ring Ouzel

Further information

[Limestone Pavement Action Group](#)

[Cumbria Wildlife Trust, Limestone Pavement Info.](#)

Contacts

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Current Action in Cumbria

- None.