

# BLANKET BOG

## Nationally

The term blanket 'bog' strictly applies only to that portion of a blanket 'mire' which is exclusively rain-fed. Blanket bog is a globally restricted peatland habitat confined to cool, wet, typically oceanic climates. It is, however, one of the most extensive semi-natural habitats in the UK and ranges from Devon in the south to Shetland in the north. Peat depth is also very variable, with an average of 0.5 - 3 m being fairly typical, but depths in excess of 5 m not unusual. There is no agreed minimum depth of peat which can support blanket bog vegetation. It includes the EC Habitats Directive priority habitat 'active' blanket bog, the definition of active being given as 'still supporting a significant area of vegetation that is normally peat forming'.

Although most widespread in the wetter west and north, blanket bog also occurs in eastern upland areas. Blanket bog peat accumulates in response to the very slow rate at which plant material decomposes under conditions of waterlogging. It is not, however, confined to areas of poor drainage but can cloak whole landscapes, even developing on slopes of up to 30°. The period over which blanket peat has been accumulating and the depth it can attain are very variable and not necessarily related. Studies indicate that most blanket peat development began 5000-6000 years ago, but the range extends from 9000 - 1500 years ago.

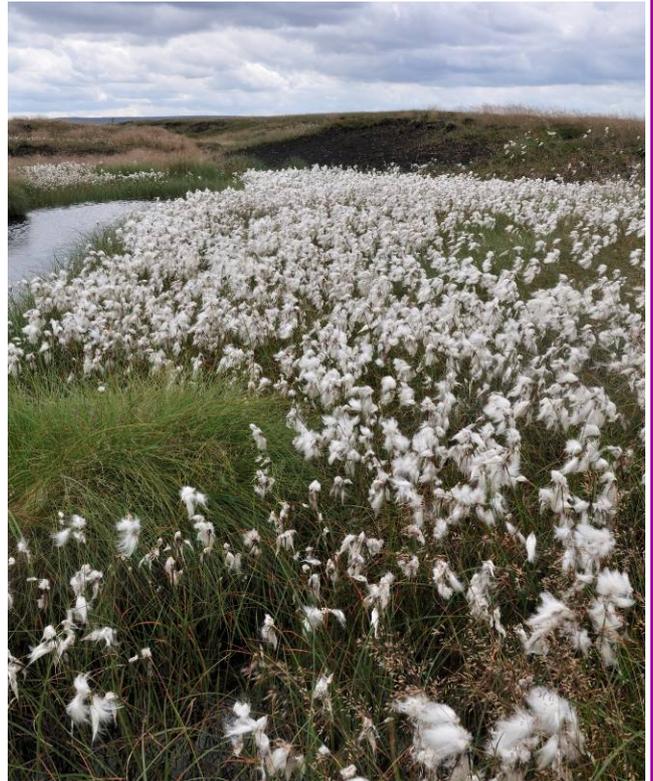
There is evidence to suggest that some areas of blanket bog began to form following clearance of the original forest cover by early man, but the relative significance of this activity and changing climate on the historical and contemporary extent of the resource has yet to be determined.

The UKBAP priority habitat description encompasses all areas of blanket bog supporting semi-natural blanket bog vegetation, whether or not it may be defined as 'active'. It excludes areas which no longer support such vegetation, except where the restoration of such areas is necessary for the protection and/or enhancement of adjacent bog.

The presence, extent and type of surface patterning is another important feature of blanket bogs. This can range from a relatively smooth surface, with the only irregularities being those created by vegetation features (e.g. *Eriophorum vaginatum* tussocks and *Sphagnum* hummocks) to the extreme patterning associated with suites of bog pools and the intervening ridges. As with floristic composition, there would appear to be a relationship between geographical location and the nature of the surface pattern. In general, the intensity and complexity of patterning increases towards the north and west. The range of erosion features associated with many areas of blanket bog is another aspect of this structural diversity and an as yet unknown extent of this appears to be natural in origin.

Blanket bogs support a very wide range of terrestrial and aquatic vertebrates and invertebrates. As with plant species, some of these are widespread and common, some are much more local; and quite a number are of international interest for either their rarity or for the densities of their breeding populations on blanket bogs, for example red-throated diver *Gavia stellata* and Eurasian golden plover *Pluvialis apricaria*. Studies of the invertebrate fauna of blanket bogs are extremely patchy and merit collation and synthesis. Blanket bogs also fulfil an important role as repositories of archaeological and palaeoecological material and have functional values as agricultural rough grazing, sporting estate and water catchments. In the context of climate change the role of blanket bogs as a carbon store is also now considered significant.

The extensive nature of blanket bog is such that certain other habitats, although distinctive, are probably most appropriately considered as integral components of the wider blanket bog assemblage of habitats for management purposes. This would include some areas classed as 'intermediate bog' (i.e. sharing features of both raised and blanket bog) together with examples of spring, flush and poor fen, a range of oligotrophic water bodies whose catchment is largely or entirely blanket bog, and those relatively small areas of heath and grassland which occur on better drained slopes and by the many streams and rivers which drain areas dominated by blanket bog. Not only are all such areas in hydrological connection with the surrounding peat mass, they frequently contribute to the overall habitat requirements of the peatland fauna.



*Cotton-grass on blanket bog* © PDNPA

**Extent in UK:  
2,208,533 ha**

## In the Peak District

Blanket bog is a special habitat that has developed where cool, wet climatic conditions have favoured water-logging of the ground and accumulation of plant remains as deep peat. Strictly speaking the term blanket bog applies only to that part of the blanket mire which is rain-fed. However the definition here encompasses raised bogs, bog pools and basin bogs occurring within the expanses of blanket bog.

The blanket bogs or mires of the Peak District are part of a UK resource which is globally restricted and hence of international importance for nature conservation. It is one of the most extensive semi-natural habitats in the UK, which supports around 10 – 15 % of the global resource. A large part of the blanket bog and associated moorland vegetation communities are found on the higher ground in the northern part of the Dark Peak, and parts of the South West Peak. The balance between grazing and grouse moor management, as the two major land uses, has been an important influence on blanket bogs in the Peak District. Amongst the examples of good sites are Howden Moor, the Eastern Moors Estate (raised bog), Warslow Moors Estate, Alport Castles (basin bog) and Saddleworth Moor South.



*Sphagnum* © Karen Shelley-Jones

There is no comprehensive national data set on trends in the extent of blanket bog across the UK; however, serious declines, perhaps 27% between the 1940s and 1980s, have occurred in Scotland principally due to afforestation. This has not been such an issue in the Peak District. Instead it is the quality of the habitat that has suffered significantly (mainly historically) with a decline in species diversity as a result of air pollution, overgrazing, inappropriate or accidental burning, peat extraction and past drainage. Wildfires and air pollution in particular have contributed to the poor condition. Hares-tail cotton-grass is often overwhelmingly dominant but the bog building *Sphagnum* mosses are scarce. At their worst these impacts have led to substantial areas of eroding moor especially in the Dark Peak Natural Area where several square kilometres may be degraded or bare of vegetation. It is worth noting however that in part some erosion may be a natural process reflecting the great age (9000 years) of the Peak District peats.

Although in the Peak District the characteristic plants of the bogs, like cloudberry, are few, there are a number of rare species such as Labrador tea, and bog rosemary. The flushes on the margins of the bog are botanically richer including bog asphodel, sundew and a variety of sedges. Invertebrate interest is less well understood but includes a large population of craneflies, at least locally, which are an important food source for moorland birds. Together with the lower and intimately linked heather moorland the vast blanket bogs of the Peak District support a breeding bird community of international importance. About 2% of the British population of golden plover breed here, mainly on the bog, whilst merlin and short-eared owl hunt over the moor. Other characteristic birds include red grouse, curlew, snipe and dunlin, with the latter breeding around the bog pools.



*Golden plover* © Paul Hobson

The moorland streams associated with the fringes of the blanket bogs can be important for water voles. Mountain hares, the only English population, also frequent blanket bog vegetation.

The blanket bogs are part of a moorland landscape that has been formed primarily by extensive stock grazing (especially sheep) and grouse moor management. In addition to their nature conservation interest they have a variety of socio-economic values. They are, for example, important for water supply, being a natural slow-release water storage body. The blanket peats are also of great archaeological interest, including mesolithic remains such as flint tools at the base of the peat; important pollen and fossil evidence of the past vegetation within the peat; and surface remains such as peat cuttings. Blanket bogs are a distinctive part of the landscape in the Peak District and an important part of the recreational resource, providing wide open spaces for upland walking.

**Extent in PD:**  
**20,838 ha**



*Mountain hare* © Paul Hobson

## Current Factors Affecting the Habitat & Habitat Condition



Comprehensive data for changes to the total UK resource are lacking, but studies in Scotland suggest a 21% reduction in the extent of blanket mire between the 1940s and the 1980s. The greatest single cause of this reduction (51%) is afforestation. Further losses of extent and condition can be attributed to drainage and heavy grazing, peat cutting and atmospheric pollution, resulting in significant habitat change in mid and south Wales and the Pennines. The central location of the Peak District has made this habitat perhaps uniquely susceptible to the impacts of atmospheric pollution from the surrounding large industrial conurbations of Manchester, Sheffield, Birmingham, Nottingham and Derby. Perhaps the most significant future threat to blanket bog comes in the form of climate change.

## Recent Work

In recent years a great deal of attention has been focused on blanket bogs, and the importance of peatlands for carbon and water storage. Gardeners are increasingly recognising the environmental damage of harvesting peat for compost, and therefore changing their buying habits. Large-scale blanket bog restoration projects have been underway, led by the Moors for the Future partnership with funding from the Heritage Lottery Fund and the EU LIFE+ fund.



Using coir rolls to block grips © PDNPA

Major landowners such as the National Trust, United Utilities, Yorkshire Water and the National Park Authority are also involved in this work.

Extensive areas of degraded peat are now beginning the gradual process of restoration through blocking of grips and gullies, stabilising bare slopes, planting of cotton-grass, and re-seeding with heather and sphagnum.



Geojute © Karen Shelley-Jones

## Associated BAP Species in the Peak District

Water vole	<i>Arvicola terrestris</i>
Mountain hare	<i>Lepus timidus</i>
Curlew	<i>Numenius arquata arquata</i>
Black grouse	<i>Tetrao tetrix britannicus</i>
Adder	<i>Vipera berus</i>
Common lizard	<i>Zootoca vivipara</i>

## Locally Significant Species in the Peak District

Golden plover	<i>Pluvialis apricaria</i>
Labrador tea	<i>Ledum palustre</i>
Bog rosemary	<i>Andromeda polifolia</i>
Cloudberry	<i>Rubus chamaemorus</i>
Bog asphodel	<i>Narthecium ossifragum</i>
Sundew	<i>Drosera</i> spp.

## NVC Communities

The principal vegetation types (and their associated sub-communities) included in this habitat are:

- M1** - *Sphagnum auriculatum* bog pool community
- M2** - *Sphagnum cuspidatum/recurvum* bog pool community
- M3** - *Eriophorum angustifolium* bog pool community
- M15** - *Scirpus cespitosus-Erica tetralix* wet heath
- M17** - *Scirpus cespitosus-Eriophorum vaginatum* blanket mire
- M18** - *Erica tetralix-Sphagnum papillosum* raised and blanket mire
- M19** - *Calluna vulgaris-Eriophorum vaginatum* blanket mire
- M20** - *Eriophorum vaginatum* blanket and raised mire
- M25** - *Molinia caerulea-Potentilla erecta* mire

Other communities, such as flush, fen and swamp types, also form an integral part of the blanket bog landscape, but are considered under the separate Upland Flushes, Fens and Swamps UKBAP priority habitat. Many of the typical blanket mire species, such as heather *Calluna vulgaris*, cross-leaved heath *Erica tetralix*, deer grass *Trichophorum cespitosum*, cotton grass *Eriophorum* species and several of the bog moss *Sphagnum* species, occur throughout much of the range of the habitat, although their relative proportions vary across the country.