



Blanket Bog

Blanket bog is one of the most extensive wildlife habitats present in Cumbria. However, despite this, it is a globally scarce habitat, confined to parts of the world with a cool humid climate, mainly on seaboard exposed to moisture-laden oceanic winds.

Current status

Blanket bog is a mantle of deep peat (> 0.5 m) which formed over gently undulating hills, on plateaux and in hollows in the uplands following widespread woodland clearance by Neolithic man, although at higher altitudes it may be a climax vegetation from a time when the climate was cool and wet. It is found in areas of high rainfall and humidity and develops over several thousand years as a result of the decay of vegetation in cool humid conditions.

Although extensive where it occurs, blanket bog is a globally scarce habitat and it is thought that 10 to 12% of the World's resource is in the UK (approximately 1.5 million hectares), much of which is in Scotland. The cool, wet climate of Cumbria provides the right climatic conditions and the shallow slopes of the Pennines are particularly suitable for its development. Over 31,000 hectares were recorded by the Cumbria Phase I survey (Kelly and Perry 1990). Extensive areas of blanket bog are found in the North Pennines, Border Uplands, Yorkshire Dales and Cumbria Fells and Dales Natural Areas.

Large areas of blanket bog, particularly in the Bewcastle Fells, have been drained and planted with conifers. It is estimated that 65% of the conifer plantations in Carlisle District are on blanket peat.

One National Nature Reserve supports blanket bog in Cumbria. 13 Sites of Special Scientific Interest are notified for their blanket bog. Blanket bog is listed in Annex 1 of the EC Habitats Directive and active examples are a priority habitat. In Cumbria, 6 SSSI fall within 2 candidate Special Areas of Conservation for this habitat. The breeding bird populations it supports are covered by the EC Birds Directive and 4 SSSI fall within one proposed Special Protection Area. A number of sites supporting this habitat are owned or managed by conservation organisations including English Nature.

Characteristic wildlife

The plant community which has developed on these bogs is characterised by the presence of *Sphagnum* bog mosses, hare's-tail cotton-grass, common cotton grass, heather, bilberry, crowberry, and mosses such as *Pleurozium schreberi*. In the far north-east of Cumbria blanket bogs have similarities

to raised bogs (see *lowland raised mires* habitat action plan) and species such as the bog moss *Sphagnum magellanicum* and cross-leaved heath are common. Elsewhere deer grass and purple moor-grass can be abundant. Inappropriate management, particularly heavy grazing and/or inappropriate burning, can lead to an absence of *Sphagnum* bog mosses and/or heather.

Blanket bog in the north Pennines supports internationally important numbers of moorland breeding birds, including golden plover, dunlin and merlin.

Key species

The following rare or threatened species are associated with blanket bogs in Cumbria. Species were selected on the basis that they are UK BAP Priority Species (marked P) or species of County importance in Cumbria. Where species of County importance are also UK BAP Species of Conservation Concern, they are marked C.

golden plover	<i>Pluvialis apricaria</i>	C
black grouse	<i>Tetrao tetrix</i>	P
lapwing	<i>Vanellus vanellus</i>	C
large heath	<i>Coenonympha tullia</i>	C
a cranefly	<i>Limonia (Malanolimonia) styliifer</i>	
narrow-bordered hawk-moth	<i>Hemaris tityus</i>	P
argent and sable	<i>Rheumaptera hastata</i>	P
sword grass moth	<i>Xylena exsoleta</i>	P
yellow marsh saxifrage	<i>Saxifraga hirculus</i>	P

Best management practice

Blanket bogs are typically managed as rough sheep pasture and, where heather is present, for grouse shooting. Grouse management frequently involves controlled rotational burning of strips of heather to produce an intimate mosaic of stands of different ages. Burning may also be carried out by graziers; however, they tend to burn much larger areas of vegetation. In the past peat extraction by hand for fuel has been a localised feature of blanket bogs, but this practice is uncommon today.

Ideally blanket bog should be grazed lightly. There is some debate as to whether controlled burning is detrimental to the nature conservation interest of

blanket bog; however it is certainly poor practice at altitudes greater than 500m. Below this level rotations should be in excess of 20-25 years. Drainage and peat extraction are damaging to blanket bogs.

Current issues

The main threats to blanket bogs are:

- continuing effects of past gripping (little new gripping now occurs);
- heavy grazing, causing loss of heather and other species and exacerbating erosion, particularly on areas of Common Land;
- over burning and accidental or uncontrolled fires;
- acidification from atmospheric deposition;
- damage to vegetation by inappropriate use of vehicles for sporting or agricultural uses;
- recreational pressure, including erosion and disturbance of birds, caused by off-road driving, motorbike scrambling, mountain bikes, horse riding and walking;
- development, such as wind farms, which can damage the vegetation and peatland hydrology;
- loss of ground nesting birds as a result of the decline of game keeping;
- persecution of raptors leading to a decline of some key species such as hen harrier;
- climate change, possibly leading to changes in climax vegetation, different rates of peat accumulation, and possibly greater plant productivity and agricultural potential;
- afforestation, especially the extensive conifer plantations in the Bewcastle Fells (little new afforestation is now occurring, but this could change if the market changes);
- the potential threat from commercial peat extraction for fuel or horticulture.

In terms of relative importance it is over-grazing (past and present) and the continued effects of past moor-gripping and forestry which have caused the most significant and widespread loss of blanket bog and decline of its biodiversity.

Current action

- The freehold rights to Moor House NNR are held by English Nature but even here the grazing pressures are uncontrolled because it is covered by common rights and part of the reserve has mineral rights held by others.

- Parts of Geltsdale and Glendue Fells have freehold or leasehold (shooting rights) held by the Royal Society for the Protection of Birds, although grazing pressures are not controlled by the leasehold rights (here there are tenant farmers). Some land is in an English Nature management agreement which holds sheep numbers at mid 1980 levels and another area is in a Ministry of Agriculture, Fisheries and Food Moorland Scheme agreement which has reduced sheep numbers.
- About 1,700 ha of land, which is predominantly blanket bog but includes other habitats, on Moor House and Cross Fell SSSI is under private agreements between landlords and tenant farmers to restrict grazing pressures. About 1,900 ha is under similar agreements on Appleby Fells SSSI. English Nature North Pennine Moorland and Allotment Wildlife Enhancement Scheme agreements cover some 7,000 ha on these two SSSIs, which encourage good burning practice and grip blocking as well as controlling grazing pressure. About 400 ha on Moor House and Cross Fell is in a Countryside Stewardship agreement which has reduced stock levels. About 2,200 ha of land on Moor House and Cross Fell SSSI has a Moorland Management Plan under the Northern Uplands Objective 5b Area Moorland Regeneration Project (NUMRP) which provides grant aid for farming and grouse shooting activities subject to environmental conditions. This land is covered by the other types of agreement specified above. A further 2,600 ha is in negotiation for this grant aid on Moor House and Cross Fell and Appleby Fells SSSIs; this land is also covered by existing agreements. Some of this grant aid goes towards blocking moor grips and providing winter housing for sheep to reduce grazing pressures.
- Some areas of blanket bog are within Lake District Environmentally Sensitive Area scheme agreements which restrict grazing pressures.
- Grouse moor owners and keepers continue to control predators of ground nesting birds (particularly foxes and carrion crows) despite over-grazing causing a decline in grouse moor viability. Illegal persecution of raptors is frowned upon by the majority of estate owners. BASC, the national representative body for shooters, only supports legal methods of predator control and has been working with the Raptor Working Group to help resolve conflicts between raptors and some game species.
- The Border Mires Committee, led by Forest Enterprise, covers all the areas owned by FE in the Bewcastle Fells area. The conservation of the SSSIs and other areas is covered by a general agreement called the Border Mires Management Plan. Butterburn Flow is managed by Northumberland Wildlife Trust under an agreement with Forest Enterprise. Substantial parts of Kielder Mires SSSI are subject to detailed management plans and Forest Design Plans agreed between FE and English Nature. These provide for some significant conifer removal and drain blocking to restore areas of blanket mire. Negotiations have also taken place between English Nature and Tilhill Economic Forestry to remove conifers on parts of Kielder Mires SSSI and between EN, RAF and FE at Spadeadam Mires SSSI to block drainage ditches and remove conifers. Substantial areas are now being restored (including 37 ha of cleared plantation at the latter site).
- MAFF continues to pursue a policy of environmental cross-compliance on semi-natural vegetation in the Less Favoured Area which aims to address significant current over-grazing.

Context in relation to other plans:

UK Habitat Action Plans

The UK Biodiversity Group Tranche 2 Action Plans vol. 6 contains an action plan for blanket bog. The plan sets out the following national objectives and targets:

- Maintain the current extent and overall distribution of blanket mire currently in favourable condition.
- Improve the condition of those areas of blanket mire which are degraded but readily restored, so that the total area in, or approaching, favourable condition by 2005 is 340,000ha (i.e. around 30% of the total extent of restorable blanket mire).
- Introduce management regimes to improve to, and subsequently maintain in, favourable condition a further 280,000ha of degraded blanket mire by 2010.
- Introduce management regimes to improve the condition of a further 225,000ha of degraded blanket mire by 2015, resulting in a total of 845,000ha (i.e. around 75% of the total extent of restorable blanket mire) in, or approaching, favourable condition.

National Lead Agency

Scottish Natural Heritage

Local contactsEnglish Nature, Juniper House, Murley Moss
Business Park, Kendal LA9 7RL**Associated plans in the Cumbria BAP**The following Cumbria habitat action plans are of
relevance to blanket bog:

Phase I

- upland heathland
- limestone grassland
- lowland raised mire

Phase II

- black grouse
- farmland birds

References

Kelly, P G & Perry K A. 1990. *Wildlife Habitat in Cumbria. Nature Conservancy Council Research and Survey in Nature Conservation No.30.*

Objectives, targets and proposed actions for blanket bog in Cumbria**Broad Objective A****Ensure no further loss of blanket mire in Cumbria**

Operational Objective	Action Required	Suggested organisational involvement	Time-scale	Type
1 Create database of all blanket peat sites in Cumbria and categorise relative importance	<p>1 Use soil maps, remote sensing data and Phase 1 & 2 surveys to determine extent of blanket peat soils with and without semi-natural vegetation cover.</p> <p>Categorise as follows:</p> <p>i) peat soil, not semi-natural but restorable to bog;</p> <p>ii) Semi-natural, poor condition;</p> <p>iii) Semi-natural, good condition needing further work;</p> <p>iv) ditto, not needing further work.</p>	EN, CWT, NWW, LDNPA	S	RM
2 Ensure planning and legislative mechanisms protect existing blanket bog	<p>1 Identify as Wildlife Sites the most important areas for wildlife in the County outside of statutory sites, including areas of blanket bog, by 2006.</p> <p>2 Ensure no new forestry plantations damage or destroy blanket bog through Forest Design Plans & grant-aid.</p>	CWT	L	SS
		FC, FE	O	SS

Broad Objective A		Ensure no further loss of blanket mire in Cumbria		
Operational Objective	Action Required	Suggested organisational involvement	Time-scale	Type
3 Investigate effects and solutions relating to pollution and climate change	1 Collect data on effects of acidification and climate change on blanket bogs.	EA, MAFF, DETR, NW Climate Change Group	S	RM
	2 Raise awareness of effects and seek mitigation. (See also action under Land Management and Policy for the Wider Environment).	EA, MAFF, DETR, NW Climate Change Group, LAs	M	CP/SS

Broad Objective B		Ensure favourable condition of all sites		
Operational Objective	Action Required	Suggested organisational involvement	Time-scale	Type
I Promote appropriate management on SSSIs, Wildlife Sites & other areas of blanket bog supporting semi-natural vegetation in order to maintain the current extent and overall distribution of blanket bog currently in favourable condition	1 Seek improvements in grazing regimes through CAP reform, cross-compliance measures and agri-environment schemes.	MAFF, EN, FWAG, NUMRP, ECCP	M	SS
	2 Prevent/discourage new drainage activities and restore natural drainage patterns where drainage has taken place, through SSSI mechanism, owner/occupier (o/o) liaison and appropriate schemes such as WES, CSS etc.	MAFF, EN, CWT, FWAG, NUMRP, Moorland Assoc., ECCP	M	SS
	3 Restore areas affected by forestry by removing trees from areas of peat where restoration of hydrology is achievable.	FE, FC, EN, NWWW, ECCP	M	SS
	4 Encourage appropriate burning regimes through advice to o/o and incentive schemes such as WES or CSS.	MAFF, EN, CWT, FWAG, Moorland Assoc., ECCP, NWWW,	M	SS
	5 Discourage inappropriate use of vehicles for management purposes through advice to o/o and incentive schemes.	MAFF, EN, FWAG, CWT, Moorland Assoc., NWWW, ECCP	M	SS

Introduce management regimes to improve the condition of designated blanket bogs so that the total area in, or approaching, favourable condition is:

- by 2005: 30% of restorable area
- by 2010: 55% of restorable area
- by 2015: 75% of restorable area

Broad Objective B	Ensure favourable condition of all sites			
Operational Objective	Action Required	Suggested organisational involvement	Time-scale	Type
	6 Use planning legislation to prevent, where possible, inappropriate recreational uses.	CCC, DC, LDNPA, EN	O	SS
	7 Seek opportunities to work with moorland owners to resolve issues associated with raptors.	EN, RSPB, DETR, Moorland Assoc., NWW	O	SP
2 Foster increased awareness and understanding of the biodiversity of blanket bog and how it can be protected	1 Provide information and advice to land managers through Site Management Statements on SSSIs, North Pennines Wildlife leaflet and advice to managers of Wildlife Sites.	EN, CWT, FWAG, MAFF, NUMRP, Moorland Assoc., ECCP	O	CP
	2 Disseminate information to the general public through press releases and articles in newspapers and magazines.	EN, CWT, FWAG, MAFF, NUMRP, Moorland Assoc., ECCP	O	CP
3 Monitor changes in extent and quality of blanket bog in Cumbria so that an assessment can be made of the effectiveness of conservation action	1 Collate information on Cumbria from UK inventory being developed by SNH. By 2002.	EN	M	RM
	2 Devise a strategy for monitoring quality and extent of blanket bog within one year. By 2002.	EN, CWT	M	RM
	3 Implement the strategy within two years. By 2003.	EN, CWT	M	RM

Key to Tables

Suggested organisational involvement: Key Deliverers in bold type; Partners in plain type.

CA = Countryside Agency; CWT = Cumbria Wildlife Trust; DETR = Department of Environment, Transport and the Regions; EA = Environment Agency; ECCP = East Cumbria Countryside Project; EN = English Nature; FC = Forestry Commission; FE = Forest Enterprise; FWAG = Farming and Wildlife Advisory Group; LAs = Local Authorities; MAFF = Ministry of Agriculture, Fisheries and Food; NUMRP = Northern Uplands Moorland Regeneration Project; RSPB = Royal Society for the Protection of Birds.

Timescale: O=ongoing; S=short term (2000-2001); M=medium (2002-2005); L=long (2006-2010).

Type: Type of action; PL=Policy & Legislation; SS=Site Safeguard & Management; SP=Species Management and Protection (species plans only); A=Advisory; RM=Research & Monitoring; CP=Communications and Publicity.