Northern Ireland Priority Habitat Guide: Blanket bog

What is Blanket bog?

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 Northern Ireland, the UK and the Republic of Ireland.

Blanket bog peat accumulates in response to the very slow rate at which plant material decomposes under conditions of waterlogging. It is not only confined to areas of poor drainage and frequently cloaks entire landscapes, even developing on slopes of up to 30°. Although most widespread in the wetter west and north, it also occurs in eastern upland areas such as the Mourne Mountains.

Table 1: Linking EFS Habitat types with Annex 1 features, ASSI features and NI Priority Habitats and Species

Northern Ireland Priority Habitat type: Blanket bog		
Habitat Directive Annex 1 habitats (SAC feature)	**ASSI features**	**NI priority species**
H7130 Blanket bogs, H7150 Depressions on peat substrates of the *Rhynchosporion,* H7140 Transition mire and quaking bog	Blanket bog	Hen Harrier, Red Grouse, Golden Plover, Curlew, Cuckoo, Skylark

Definition

Blanket bog in Northern Ireland is defined as:

- Peatland covering extensive areas in the uplands (and at lower altitudes in the north and west) including hill slopes, valley bottoms and summits.
- Peat depth normally greater than 0.5 m.
- Vegetation generally dominated by peat-forming plants, particularly bog mosses *Sphagnum* species and Cotton-grass *Eriophorum* species with a limited range of other characteristic species including Heather *Calluna vulgaris*, Cross-leaved Heath *Erica tetralix*, Deer Grass T*richophorum cespitosum* and Purple-moor Grass *Molinia caerulea.*

Blanket bog can be easily confused with Upland heathland which frequently occurs in close proximity to Blanket bog and also contains substantial amounts of dwarf shrubs. It can be distinguished by peat depth (less than 0.5 m) and less dominant peat forming species (bog moss and cotton-grasses) and it generally occurs on steeper slopes.

Appendix 1 contains a list of indicator species and Appendix 2 contains a list of relevant National Vegetation Classification plant communities.

A wide range of other upland vegetation types can be found locally within Blanket bog such as pools, water courses, upland flushes, fens and swamps, and areas of thinner peat soils and rock and screes (where the habitat intergrades with Upland heathland).

Where are they found?

Blanket bog forms when plant material slowly decomposes due to water-logging. It is found generally on gentle slopes in areas where the climate is wet and cool throughout the year and can cloak entire landscapes. Although most widespread in the wetter areas of the west and north, it also occurs in eastern upland areas such as the Mourne Mountains. The most extensive tracts of Blanket bog tend to occur at altitudes in excess of 200m and are concentrated on the Antrim Plateau, the Sperrin Mountains and in County Fermanagh. In the north and west, where annual rainfall is higher than in central and eastern regions, a number of Blanket bogs occur in the altitude range 150m to 200m.

DAERA hold priority habitat and species data on the NIEA Natural Environment Map Viewer. See NIEA Natural Environment Map Viewer (daera-ni.gov.uk) (and link to video tutorial). Note that the Map Viewer indicates areas which hold NIEA records of habitat / species data, but does not infer the complete coverage of these environmental assets in Northern Ireland.

Why are they important to wildlife?

Blanket bog supports a wide range of plants and animals many of which are largely restricted to this habitat. It is particularly important for a number of Northern Ireland priority species including Hen Harrier, Red Grouse, Golden Plover, and Cloudberry with Irish Hare, Curlew, Cuckoo and Skylark and the Carabid Beetle *Carabus clathratus*. Some species such as Yellow Marsh Saxifrage and Marsh Honey Fungus are restricted to, or mainly found in, flushed areas within Blanket bog.

Pressures & Threats

The quality and functioning of Blanket bog is dependent upon the following conditions: hydrology (any increase in water loss will destabilise the system); low nutrient levels and surface vegetation integrity, as destruction or alteration of the vegetation will have significant implications on the habitat. Factors which have led to the decline of Blanket bog include, but are not limited to:

- Peat cutting – the extraction of peat has negative impacts on both the vegetation and water levels and in severe cases can cause irreparable damage.
- Drainage – extensive tracts have been drained in an attempt to increase the stock carrying capacity of the land. Drains allow more rapid run-off of water and sediments thus contributing to flooding, erosion and can result in bog bursts.
- Grazing – high stocking levels of sheep, and to a lesser extent, cattle, have had the most significant impact on Blanket bog. Grazing can have a significant impact on *Sphagnum* bog mosses, Heather and other dwarf shrubs and can result in localised poaching and peat erosion. Drainage, burning, fencing and supplementary feeding all contribute to the problems associated with heavy grazing.
- Burning/flailing – these can result in simplification of the vegetation structure and the elimination of sensitive species, especially *Sphagnum* bog mosses.
- Agricultural improvement – drainage, fertiliser application and conversion to pasture have occurred frequently in the past and can be of local significance.
- Forestry – Afforestation on Blanket bog has a significant impact on Blanket bog vegetation. The hydrology of plantations adjacent to Blanket bog may also be impacted with a sharp increase in the rate of run-off from the catchment. Aerial application of fertilisers can result in drift, mature trees can act as an invasive seed source.
- Recreation – many popular walking routes traverse Blanket bog areas which are sensitive to pressure. Increased use of all-terrain vehicles can result in local disturbance.
- Erosion – although some loss of habitat may be due to natural processes, Blanket bog on some slopes in the Sperrin and Mourne Mountains are being lost through erosion of the shallow peat soils due to overgrazing and recreational activities.
- Planning developments – wind farms and communication masts are increasingly being proposed on areas of Blanket bog with long-term repercussions on the stability of the ecosystem.
- Nutrient enrichment – acidification and nitrogen enrichment caused by atmospheric deposition could potentially lead to vegetation changes including loss of *Sphagnum* mosses and a reduction in other bryophyte and lichen interest.
- Climate change – The vegetation communities occurring in bogs and heathlands are likely to be impacted from the prediction of higher temperature, increased rainfall and changed weather patterns.

Favourable management of Blanket bog

This important habitat should be protected and maintained where it occurs, and should be restored where its condition has declined. Some of our most important sites are protected through National and International legislation. In the wider countryside, blanket bog is protected from development and increased agricultural productivity through planning policies and legislation such as the Environmental Impact Assessment Regulations.

Optimal management provides for very light summer grazing by sheep which can maintain and enhance Blanket bog and the other priority habitats and species found within Blanket bog. Damage through drainage or peat-cutting should not be permitted.

In areas where the Blanket bog has been damaged, restoration of water levels may be required by blocking drains.

Trees should not be planted on this habitat. Encroaching scrub and tussock forming rushes should be controlled by cutting as these can spread at the expense of the priority habitat. Machinery should only be used where ground conditions permit.

In some areas specific management such as different grazing levels or other vegetation management may be required to establish correct grazing level, reduce fire risk, or address particular habitat and species needs.

How do we determine the "health" or condition of Blanket bog?

The conservation status can be determined by the condition of the habitat. Favourable condition is defined by setting targets or target ranges for a series of different attributes. These are components or characteristics of the vegetation that are relatively easy to measure, but which are reliable indicators of the "health" of the habitat.

Active Blanket bog is a term used for Blanket bog which is (or is capable of) forming peat. It generally equates to Blanket bog which is favourable condition.

NIEA has developed Rapid Condition Assessments for several broad habitat types (grassland, moorland, woodland, coastal and wetlands). These will be made available online in the future. In the interim copies can be requested by contacting NIEA by E-mail: NIEA.EFSHigher@daera-ni.gov.uk.

Identification and rapid assessment of Blanket bog habitats is undertaken using the generic moorland guide.

Some of the attribute targets may vary due to on site conditions and geographic location.

- Purple Moor-grass *Molinia caerulea* may be more dominant in the north and west of Northern Ireland often due to high rainfall. The target for graminoid cover (sedges, grasses and rushes) is that it should not exceed 50%. However, this can be greater if the habitat is dominated by Purple Moorgrass *Molinia caerulea.* In these cases the habitat should form an even (not tussocky) sward.
- The target for dwarf-shrub cover for blanket bog is usually greater than 33%. However, in wetter areas where Bog Asphodel *Narthecium ossifragum* or Bog mosses *Sphagnum* spp. are abundant and forming lawns, a smaller dwarf shrub cover is acceptable.

Appendix 1: Blanket bog Indicator species

Note the high degree of overlap with Lowland raised bog.

Positive Indicators:

Calluna vulgaris	Heather
Cladonia spp.	Bushy Lichens
Drosera spp.	Sundews
Empetrum nigrum	Crowberry
Erica tetralix	Cross-leaved Heath
Eriophorum angustifolium	Common Cottongrass
Eriophorum vaginatum	Hare's-tail Cottongrass
Menyanthes trifoliata	Bogbean
Molinia caerulea	Purple Moor-grass
Myrica gale	Bog Myrtle
Narthecium ossifragum	Bog Asphodel
Potentilla erecta	Tormentil
Racomitrium lanuginosum	Woolly Hair Moss
Rhynchospora alba	White Beak-sedge
Sphagnum austinii	Austin's Bog-moss
Sphagnum capillifolium	Red Bog-moss
Sphagnum cuspidatum	Feathery Bog-moss
Sphagnum denticulatum	Cow-horn Bog-moss
Sphagnum fuscum	Rusty Bog-moss
Sphagnum magellanicum	Magellanic Bog-moss
Sphagnum papillosum	Papillose Bog-moss
Sphagnum tenellum	Soft Bog-moss
Trichophorum germanicum	Deer-grass
Vaccinium myrtillus	Bilberry
Vaccinium oxycoccos	Cranberry

Negative Indicators:

Trees	
Agricultural grasses	
Agricultural weeds	
Juncus effusus	Soft Rush

Appendix 2: National Vegetation Classification codes

Blanket bog in Northern Ireland encompasses a range of plant communities that broadly reflect a number of those communities described in the National Vegetation Classification (NVC) of Great Britain (Rodwell, 1991a) where descriptions and codes are given to associations of plants that are characteristic of particular environmental and management conditions.

In Northern Ireland, the six main NVC communities which make up Blanket bog are:

M1 - *Sphagnum auriculatum* bog-moss bog pool community

M2 - *Sphagnum cuspidatum/recurvum* bog-moss bog pool community

M3 - *Eriophorum angustifolium* Common Cottongrass bog pool community

M17 - *Trichophorum germanicum* Deergrass - *Eriophorum vaginatum* Hare's Tail Cottongrass blanket mire

M18 - *Erica tetralix* Cross-leaved Heath, *Sphagnum papillosum* moss raised and blanket mire

M19 - *Calluna vulgaris* Heather and *Eriophorum vaginatum* Hare's Tail Cottongrass blanket mire

A number of additional NVC communities are characteristic of the extensive areas of Blanket bog which have been subject to some disturbance such as drainage or peat-cutting. These include:

M15 - *Trichophorum germanicum* Deergrass - *Erica tetralix* Cross-leaved Heath, wet heath

M20 - *Eriophorum vaginatum* Hare's Tail Cottongrass blanket and raised mire

M25 - *Molinia caerulea* Purple Moor-grass – *Potentilla erecta* Tormentil mire

In addition a wide range of other NVC communities more usually associated with other upland, wetland and grassland priority habitats can be found locally within areas of predominately Blanket bog. These are particularly associated with rocks and screes, flushes and more heavily grazed or disturbed areas.