

Northern Ireland Priority Habitat Guide: Upland heathland

What is Upland heathland?

Upland heathland occurs widely on mineral soils and thin peats (less than 0.5m deep) throughout uplands in Northern Ireland. It is found above the upper edge of agricultural land (generally around 200m, although in the west this may be as low as 120m) and below the alpine or montane zone (at about 600m). In most of Northern Ireland it is largely found on steeper slopes with deep peats and Blanket bog occurring on more gentle upland slopes.

Upland heathland is characterised by the presence of dwarf shrubs such as Heather, Cross-leaved Heath, Bell Heather and Bilberry. High quality Upland heathland is usually structurally diverse consisting of a layer of heathers at varying heights and structures representing different stages of growth. Blanket bog, fens and flushes, grassland, bracken, scattered scrub, gorse, trees and woodland, freshwater and rock habitats frequently form intimate mosaics with heathland vegetation in upland situations.

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

| Northern Ireland Priority Habitat type: Upland heathland | | |
|--|------------------------|--|
| Habitat Directive Annex 1 habitats (SAC feature) | ASSI features | NI priority species |
| H4010 Northern Atlantic wet heaths with <i>Erica tetralix</i> H4030 European dry heaths | Wet heath Dry heath | Hen Harrier, Red Grouse, Cuckoo, Skylark, Irish Hare, Argent and Sable Moth, Juniper |



Definition

Upland heathland in Northern Ireland is defined as:

- Vegetation containing dwarf shrub cover of at least 25% (including species such as Heather *Calluna vulgaris*, Cross-leaved Heath *Erica tetralix*, Bell Heather *E. cinerea* and Bilberry *Vaccinium myrtillus*). Note: where vegetation is dominated by heathland species but dwarf shrub cover is less than 25%, consider managing as upland heath as this may indicate degraded upland heathland.
- Peat depth of less than 0.5 m.
- Located above the upper edge of agricultural land (generally around 200m, although in the west this may be as low as 120m) and below the alpine or montane zone (at about 600m).

Upland heathland can be easily confused with Blanket bog and Lowland heathland both of which frequently occur in close proximity to Upland heathland and also contain substantial amounts of dwarf shrubs.

Blanket bog occurs at the same altitudes but has peat depth greater than 0.5 m, has more peat forming species (bog mosses and cotton-grasses and is confined to more gentle slopes).

Lowland heath occurs below the upper edge of agricultural land and below 300m (and often has Western Gorse present).

Montane heath also contains dwarf shrubs but contains species such as dwarf willow, *Salix herbacea* and occurs above the natural level of tree development generally above 600m and is restricted to the tops of our highest most exposed mountains (Mournes, Cuilcagh and Dart-Sawel).

At lower levels the habitat can grade into Purple moor-grass and rush pasture which has lower cover of dwarf shrubs and a wider range of associated flowering plants.

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 Upland heathland such as pools, water courses, upland flushes, fens and swamps, and small areas of Blanket bog and rock and scree and acidic grassland.

Where are they found?

Upland heathland is found in all upland areas particularly prevalent in the Antrim Hills, Sperrin Mountains, Mourne Mountains, Ring of Gullion and the scarp slopes of western Fermanagh. In wetter areas it becomes more restricted to steeper slopes.

DAERA hold priority habitat and species data on the NIEA Natural Environment Map Viewer. See <https://apps.d.aera-ni.gov.uk/nedmapviewer/> (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?

Upland heathland supports a wide range of plants and animals many of which are largely restricted to this habitat or shared with Blanket bog. Priority species include Hen Harrier, Red Grouse with Irish Hare, Skylark and, locally, the Argent and Sable Moth.

The variety and abundance of flowering plants within semi-natural habitats provide good sources of pollen and nectar for many of our pollinating insects such as bumblebees, hoverflies, butterflies and moths. For further information on habitat management for pollinators, refer to the All-Ireland Pollinator Plan resources: www.pollinators.ie.

Pressures & Threats

- Grazing – high stocking levels of sheep, and to a lesser extent cattle, currently have the most significant impact on Heather and other dwarf shrubs and affect the condition of Upland heathland.
- Agricultural improvement – conversion to grassland occurs through ploughing, reseeding, liming and fertiliser application, particularly at lower elevations.
- Forestry – in addition to the direct physical impacts of existing plantations on Upland heathland, the aerial application of fertilisers can result in drift onto adjacent areas of heath and mature trees can act as an invasive seed source.
- Burning / flailing– small-scale prescribed burning / flailing can be beneficial for maintaining the quality of the habitat, however, large-scale and too frequent management reduces the quality of Upland heathland by causing a simplification of the vegetation structure, loss of lower plant assemblages and erosion of peat.
- Planning developments – quarries, wind farms and communication masts, together with their associated infrastructure, are increasingly being proposed on areas of Upland heathland and can cause direct habitat loss and disturbance to wildlife.
- Invasive species – encroachment by Bracken *Pteridium aquilinum* can lead to a loss of Upland heathland. This is a localised but increasing problem in some upland areas. This is prevalent in the Mourne AONB and the Antrim Coast and Glens AONB.
- Recreation- many popular walking routes traverse areas of Upland heathland which can be very sensitive to such pressure. Heather is particularly sensitive to trampling.
- Erosion – although some loss of habitat may be due to natural processes, Upland heathland on steep slopes, especially those in the Mourne Mountains, are being lost through the erosion of the shallow peat soils due to overgrazing and recreational activities.
- Nutrient enrichment – acidification and nitrogen enrichment caused by atmospheric deposition could potentially lead to vegetation changes.
- 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 Upland heathland

These important heathlands should be protected and maintained where they occur, and should be restored where their condition has declined. Some of our most important heathland sites are protected through National and International legislation. In the wider countryside, heathlands are protected from development and increased agricultural productivity through planning policies and legislation such as the Environmental Impact Assessment Regulations.

Land reclamation techniques such as use of fertilisers, drainage and reseeding, can result in habitat loss or damage and should be prevented.

Upland heathland is best managed by light, extensive grazing in the summer.

In some areas specific management such as different grazing levels, the timing of grazing and other vegetation management may be required to establish light grazing, reduce the risk of damaging fires or address particular habitat and species needs.

Organic and inorganic fertilisers should not be applied as this would reduce species-richness and diversity with a loss of nature conservation value.

Trees should not be planted on this heathland type and nor should it be used for supplementary feeding or storage areas.

How do we determine the “health” or condition of Upland heathland?

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.

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 Upland heathland habitats is undertaken using the generic moorland guide.

Some of the attributes targets may vary due to on site conditions, geographic location and in the case of upland heath the type of heath (wet or dry).

- Wet heaths are widespread, are commonly found in the wetter north and west, they occur on the lower slopes of hills and mountains that are either too dry or too steep for deep peat accumulation. They are dominated by Heather *Calluna vulgaris*, Cross-leaved Heath *Erica tetralix*, Deer Grass *Trichophorum cespitosum*, and Purple Moor-grass *Molinia caerulea*, and bog moss *Sphagnum* species.
- Dry heaths are found mostly at higher levels in the eastern Mourne and Slieve Gallion. They can be distinguished from wet heath by the presence of Bell Heather *Erica cinerea*, and the general absence of the bog moss *Sphagnum* species, Cross-leaved Heath *Erica tetralix*, Deer Grass *Trichophorum cespitosum* and Purple Moor-grass *Molinia caerulea*.
- The target for dwarf shrub cover for upland heath is usually 50-75%. However, a higher dwarf shrub cover is acceptable in dry heath and a cover of greater than 75% would indicate good condition.
- Wet heaths can also be highly variable, with some communities naturally supporting a dwarf shrub cover as low as 25% or as high as 90%. However, the target cover of 50 – 75% is typical of wet heaths in good condition.
- *Sphagnum* bog mosses are normally present in wet heath habitats and a cover of greater than 20% usually indicates good condition.

Appendix 1: Upland heathland Indicator species

Note the high degree of overlap with Upland heath and Blanket bog.

Positive Indicators:

| | |
|--------------------------------|--|
| <i>Calluna vulgaris</i> | Heather |
| <i>Carex binervis</i> | Green-ribbed Sedge |
| <i>Cladonia spp.</i> | Bushy Lichens |
| <i>Dicranum scoparium</i> | Broom Fork-moss |
| <i>Empetrum nigrum</i> | Crowberry |
| <i>Erica cinerea</i> | Bell Heather |
| <i>Erica tetralix</i> | Cross-leaved Heath |
| <i>Galium saxatile</i> | Heath Bedstraw |
| <i>Molinia caerulea</i> | Purple Moor-grass |
| <i>Narthecium ossifragum</i> | Bog Asphodel |
| <i>Potentilla erecta</i> | Tormentil |
| <i>Polygala serpyllifolia</i> | Thyme-leaved Milkwort / Heath Milkwort |
| <i>Racomitrium lanuginosum</i> | Woolly Hair-moss |
| <i>Sphagnum capillifolium</i> | Red Bog-moss |
| <i>Vaccinium myrtillus</i> | Bilberry |
| <i>Vaccinium vitis-idaea</i> | Cowberry |

Negative Indicators:

| | |
|----------------------------|-----------|
| Trees | |
| Agricultural grasses | |
| Agricultural weeds | |
| <i>Juncus effusus</i> | Soft Rush |
| <i>Pteridium aquilinum</i> | Bracken |
| <i>Ulex europaeus</i> | Gorse |

Appendix 2: National Vegetation Classification codes

Upland heathland in Northern Ireland encompass 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 four main NVC communities which make Upland heathland are:-

H10 - Heather *Calluna vulgaris* – Bell Heather *Erica cinerea* heath

H12 - Heather *Calluna vulgaris* – Bilberry *Vaccinium myrtillus* heath

H21 - Heather *Calluna vulgaris* – Bilberry *Vaccinium myrtillus* - Red Bog-moss *Sphagnum capillifolium* heath

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

In addition the following heathland communities may be present but a more closely associated with Lowland heathland:-

H8 - Heather *Calluna vulgaris* – Western Gorse *Ulex gallii* heath

M16 - Cross-leaved heath *Erica tetralix* – Compact Bog-moss *Sphagnum compactum* wet heath

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