

D1.2 Blanket bog

Summary

This active ombrotrophic bog habitat is typical of thick peat on flat, gently sloping or undulating terrain in an Atlantic to Subatlantic climate where there is high and quite consistent precipitation, being especially extensive in the UK and Ireland, less so in Norway and with small outliers in France, Portugal and Spain. Being dependent on high water content, drainage of upland areas for water abstraction and afforestation poses a threat and, where used for extensive sheep grazing and grouse-rearing, it is vulnerable to excessive burning and disturbance. Atmospheric nitrogen deposition and, more recently, wind-farm development pose threats. Losses to peat cutting continue, particular in Ireland, where the habitat supplies power generation. Decline in extent and quality is almost universal, and conservation depends on careful catchment management in water supply, control of forestry and good pastoral management.

Synthesis

This habitat is assessed as Near Threatened (NT) because of a strong decline in quality over the last 50 years (criterion C/D1), though the provided quantitative data was limited. This trend is combined with a relatively small average decline in area.

Overall Category & Criteria			
EU 28		EU 28+	
Red List Category	Red List Criteria	Red List Category	Red List Criteria
Near Threatened	C/D1	Near Threatened	C/D1

Sub-habitat types that may require further examination

No sub-habitats have been distinguished for further analysis.

Habitat Type

Code and name

D1.2 Blanket bog



Blanket bog Diamond Hill Ireland (Photo: Joop Schaminée)



Blanket bog in Connemara, Western Ireland, seen from Errisbeg (Photo: Joop Schaminée).

Habitat description

This habitat comprises the rain-fed (ombrotrophic) main surfaces of blanket bog complexes (EUNIS-type X28) typical of thick peat, more than 1m deep and commonly 2-4m, on flat, gently sloping or undulating terrain in an Atlantic to Subatlantic climate where there is high and quite consistent precipitation (minimum of 1200 mm and 160 days of rain). It is most extensive in the United Kingdom, Ireland, the British

Isles and along the west-coast of Norway. Blanket bogs are predominantly treeless and the mire surface usually has less distinct surface patterning than D1.1 Raised bogs. However, irregular alternation of small pools, hollows and hummocks with distinct species assemblages can occur and blanket bogs can bear some resemblance to raised bogs especially on flat terrain. The peat-building element of the habitat is *Eriophorum vaginatum* and *Sphagna* with *Sphagnum capillifolium*, *S. magellanicum* and *S. fuscum* typical and often forming extensive carpets over undulating terrain. *Calluna vulgaris*, *Vaccinium myrtillus*, *V. vitis-idaea*, *Empetrum nigrum* and *Erica tetralix* provide a sub-shrub element on drier hummocks with large hypnoid mosses and *Racomitrium lanuginosum*. In flat areas, wet surface types become more characteristic with abundance of *S. papillosum*, *S. tenellum*, *S. compactum*, *S. magellanicum*, *S. rubellum* and *S. imbricatum*, accompanied by *Narthecium ossifragum*, *Trichophorum cespitosum* and *Eriophorum angustifolium*. Low-altitude Atlantic blanket bogs are characterized by abundance of *Molinia caerulea*, *Trichophorum cespitosum* and, in the extreme west where there is a strongly oceanic climate, even *Schoenus nigricans*.

Indicators of quality:

- upper layers of peat kept permanently wet by rain
- *Sphagnum* carpet extensive
- absence of artificial ditches or gullies or signs of burning
- no indications of erosion or drying
- absence of trees
- absence of alien species like *Rhododendron*

Characteristic species

Vascular plants: *Calluna vulgaris*, *Carex limosa*, *Deschampsia flexuosa*, *Drosera rotundifolia*, *Erica tetralix*, *Eriophorum vaginatum*, *E. angustifolium*, *Huperzia selago*, *Juncus bulbosus*, *Molinia caerulea*, *Narthecium ossifragum*, *Potentilla erecta*, *Rubus chamaemorus*, *Schoenus nigricans*, *Trichophorum cespitosum*, *Utricularia intermedia*, *Utricularia minor*, *Vaccinium uliginosum*, *V. vitis-idaea*, *Rhynchospora alba*, *Carex panicea*, *Myrica gale*, *Pedicularis sylvatica*, *Polygala serpyllifolia*, *Pinguicula lusitanica*.

Mosses: *Aulacomnium palustre*, *Campylopus atrovirens*, *Cladopodiella fluitans*, *Gymnocolea inflata*, *Leucobryum glaucum*, *Plagiothecium undulatum*, *Pleurozium schreberi*, *Racomitrium lanuginosum*, *Rhytidiadelphus loreus*, *Sphagnum papillosum*, *S. pulchrum*, *S. tenellum*, *S. compactum*, *S. cuspidatum*, *S. magellanicum*, *S. capillifolium*, *S. rubellum*, *S. fuscum*, *S. denticulatum*, *S. imbricatum*, *S. palustre*, *Warnstorffia fluitans* (syn. *Drepanocladus fluitans*)

Birds: *Calidris alpina*, *Circus cyaneus*, *Falco columbarius*, *Pluvialis apricaria*

Classification

This habitat may be equivalent to, or broader than, or narrower than the habitats or ecosystems in the following typologies.

EUNIS:

D1.2 Blanket bogs

Annex 1:

7130 Blanket bogs

EuroVegChecklist:

Caricion canescenti-fuscae Nordhagen ex Tx. 1937

Caricion lasiocarpae Vanden Berghen in Lebrun et al. 1949

Rhynchosporion albae Koch 1926 nom. ambig. propos.

Ericion tetralicis Schwickerath 1933

Oxycocco-Ericion tetralicis Nordhagen ex Tx. 1937

Sphagnion medii Kästner et Flössner 1933

Emerald:

D1.2 Blanket bogs

MAES-2:

Wetlands

IUCN:

4. Bogs, Marshes, Swamps, Fens, Peatlands

Does the habitat type present an outstanding example of typical characteristics of one or more biogeographic regions?

Yes

Regions

Atlantic

Justification

This active rain-fed (ombrotrophic) blanket bog habitat is typical of the wet, cool climate of the Atlantic to Subatlantic uplands and sub-montane zone.

Geographic occurrence and trends

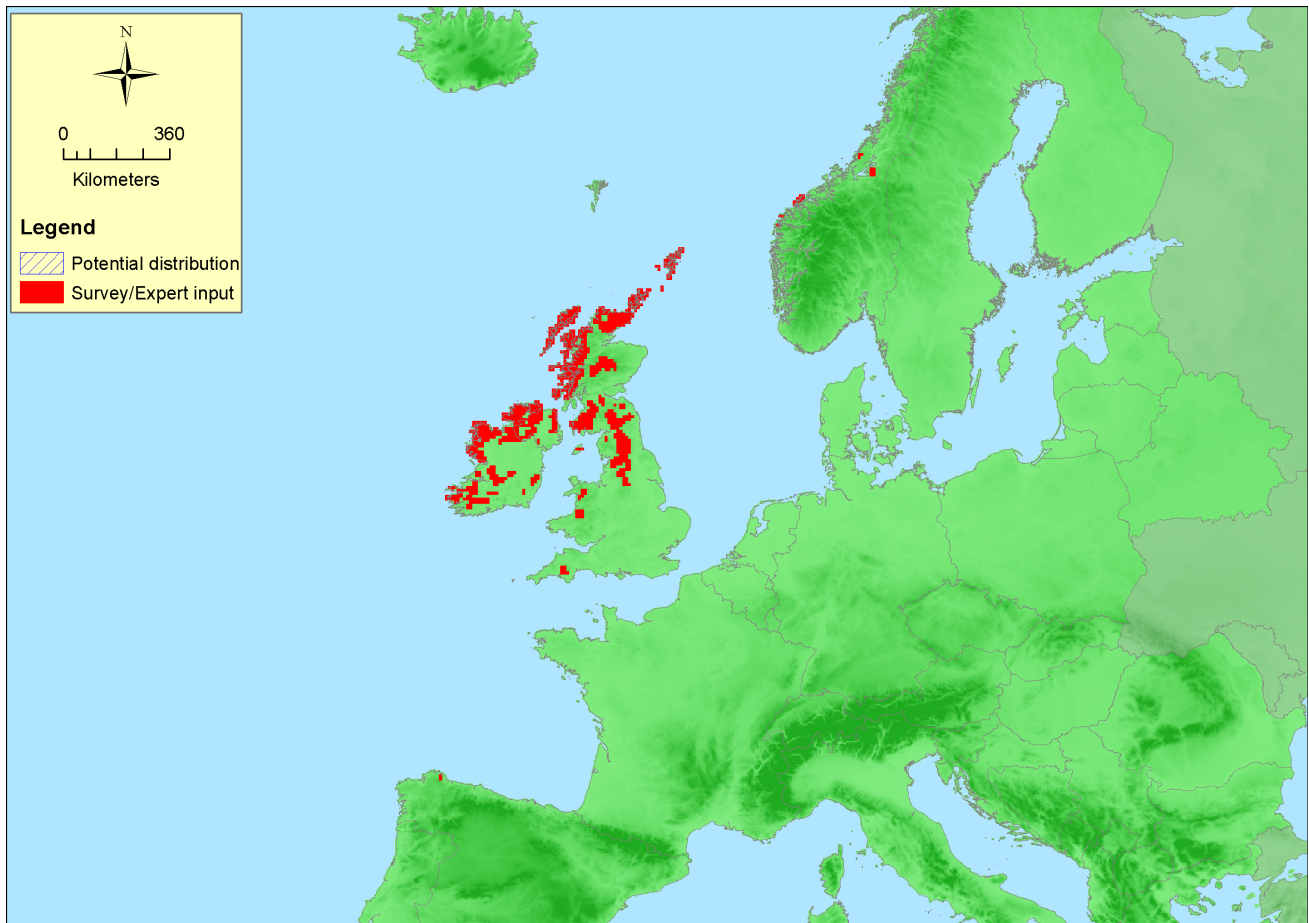
EU 28	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
<i>France</i>	France mainland: Present	0.05 Km ²	Stable	Stable
<i>Ireland</i>	Present	2305 Km ²	Decreasing	Decreasing
<i>Portugal</i>	Portugal Azores: Present	0.6 Km ²	Decreasing	Decreasing
<i>Spain</i>	Spain mainland: Present	196 Km ²	Decreasing	Decreasing
<i>UK</i>	Northern Island: Present United Kingdom: Present	21967 Km ²	Decreasing	Decreasing

EU 28 +	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
<i>Norway</i>	Norway Mainland: Present	450 Km ²	Unknown	Unknown

Extent of Occurrence, Area of Occupancy and habitat area

	Extent of Occurrence (EOO)	Area of Occupancy (AOO)	Current estimated Total Area	Comment
EU 28	675500 Km ²	962	24469 Km ²	
EU 28+	1032150 Km ²	987	24919 Km ²	

Distribution map



The habitat is restricted to northwestern part of the Atlantic biogeographic region with the largest areas reported from Ireland, United Kingdom and southeastern Norway, less extensive occurrences in the Atlantic parts of Spain, Portugal and France. The map is possibly complete, but occurrences in France (Brittany) and Northern Spain are unclear. Data sources: BOHN.

How much of the current distribution of the habitat type lies within the EU 28?

95% compared with EU28+ but blanket bog is a widespread habitat through the circumpolar region.

Trends in quantity

Except in France, there is a current decrease in quantity. Over recent historic time, losses have been greatest in Spain and Portugal which are outliers to the main distribution area. In the UK, which has the bulk of the current extent, losses vary, with 1% per year in England, 15% over 80 years in Wales, slight loss in Northern Ireland and no evidence of change in Scotland. In Ireland losses over long historic and recent time have been substantial but of uncertain extent. Everywhere, decrease is like to continue.

- Average current trend in quantity (extent)

EU 28: Decreasing

EU 28+: Decreasing

- Does the habitat type have a small natural range following regression?

No

Justification

The EOO is substantial but there are continuing losses towards the margins of the range.

- Does the habitat have a small natural range by reason of its intrinsically restricted area?

No

Justification

The EOO is substantial but there are continuing losses towards the margins of the range.

Trends in quality

Except in France, the quality of the habitat continues to decline.

- Average current trend in quality
EU 28: Decreasing
EU 28+: Decreasing

Pressures and threats

Mechanical removal of peat, too much or too little grazing, atmospheric N deposition, drainage and fires are reported.

List of pressures and threats

Agriculture

- Intensive grazing
- Non intensive grazing

Mining, extraction of materials and energy production

- Peat extraction

Pollution

- Nitrogen-input

Natural System modifications

- Burning down
- Modification of hydrographic functioning, general

Conservation and management

Control of peat removal, of drainage for water abstraction and tree-planting, of grazing, and good management for grouse-rearing are essential for conservation of this habitat.

List of conservation and management needs

Measures related to agriculture and open habitats

- Maintaining grasslands and other open habitats

Measures related to wetland, freshwater and coastal habitats

- Restoring/Improving the hydrological regime

Measures related to hunting, taking and fishing and species management

- Specific single species or species group management measures

Measures related to special resource use

- Regulating/Management exploitation of natural resources on land

Conservation status

Annex I:

7130: ALP FV, ATL U2, MAC FV

When severely damaged, does the habitat retain the capacity to recover its typical character and functionality?

Substantial damage to hydrographic functioning and through peat removal make restoration very difficult and slow and continuing deposition of atmosphere nitrogen, and uncontrolled grazing and burning can undermine recovery.

Effort required

10 years	20 years	50+ years	200+ years
Through intervention	Through intervention	Through intervention	Naturally

Red List Assessment

Criterion A: Reduction in quantity

Criterion A	A1	A2a	A2b	A3
EU 28	-17 %	unknown %	unknown %	unknown %
EU 28+	-15 %	unknown %	unknown %	unknown %

Losses are relatively large in Ireland, England, the Azores and Norway, but stable trends in Scotland dominate the calculation, resulting in a relatively low average trends for EU28 and EU28+. With quite large uncertainty, average values are about -16% decline.

Criterion B: Restricted geographic distribution

Criterion B	B1				B2				B3
	EOO	a	b	c	AOO	a	b	c	
EU 28	>50000 Km ²	Unknown	Unknown	unknown	>50	Unknown	Unknown	unknown	unknown
EU 28+	>50000 Km ²	Unknown	Unknown	unknown	>50	Unknown	Unknown	unknown	unknown

The EOO is >50000 km² and the AOO is >50 grid cells.

Criterion C and D: Reduction in abiotic and/or biotic quality

Criteria C/D	C/D1		C/D2		C/D3	
	Extent affected	Relative severity	Extent affected	Relative severity	Extent affected	Relative severity
EU 28	27 %	75 %	unknown %	unknown %	unknown %	unknown %
EU 28+	27 %	75 %	unknown %	unknown %	unknown %	unknown %

Criterion C	C1		C2		C3	
	Extent affected	Relative severity	Extent affected	Relative severity	Extent affected	Relative severity
EU 28	unknown %	unknown %	unknown %	unknown %	unknown %	unknown %
EU 28+	unknown %	unknown %	unknown %	unknown %	unknown %	unknown %

Criterion D	D1		D2		D3	
	Extent affected	Relative severity	Extent affected	Relative severity	Extent affected	Relative severity
EU 28	unknown %	unknown%	unknown %	unknown%	unknown %	unknown%
EU 28+	unknown %	unknown%	unknown %	unknown%	unknown %	unknown%

It is not possible to calculate the average European trends, as most delivered data were not quantitative or even missing. However, the reported trends in Ireland (significant increasing level of degradation), and data from Wales (30% extent, 70% severity) indicate values meeting the thresholds for Near Threatened.

Criterion E: Quantitative analysis to evaluate risk of habitat collapse

Criterion E	Probability of collapse
EU 28	unknown
EU 28+	unknown

There is no quantitative analysis available that estimates the probability of collapse of this habitat type.

Overall assessment "Balance sheet" for EU 28 and EU 28+

	A1	A2a	A2b	A3	B1	B2	B3	C/D1	C/D2	C/D3	C1	C2	C3	D1	D2	D3	E
EU28	LC	DD	DD	DD	LC	LC	LC	NT	DD	DD	DD	DD	DD	DD	DD	DD	DD
EU28+	LC	DD	DD	DD	LC	LC	LC	NT	DD	DD	DD	DD	DD	DD	DD	DD	DD

Overall Category & Criteria			
EU 28		EU 28+	
Red List Category	Red List Criteria	Red List Category	Red List Criteria
Near Threatened	C/D1	Near Threatened	C/D1

Confidence in the assessment

Low (mainly based on uncertain or indirect information, inferred and suspected data values, and/or limited expert knowledge)

Assessors

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References

Lindgaard A & Henriksen S (eds) 2011. The 2011 Norwegian Red List for Ecosystems and Habitat Types. Norwegian Biodiversity Information Centre, Trondheim.

Martínez Cortizas A., Pontevedra Pombal X, Novóa Muñoz J.C., García-Rodeja E. 2000. Turberas de montaña

NW Península Ibérica . Edafologia, 7: 1-29.

Rodwell, J.S. (editor), 1991. *British Plant Communities*, Volume 2 *Mires and heaths*. Cambridge: Cambridge University Press.