

F4.2 Dry heath

Summary

This dry heath of ericoid and genistoid sub-shrubs, grasses and herbs is characteristic of the mild, moist climate of the Atlantic region of Europe occurring on siliceous soils, often podsolised but rarely or never waterlogged. This habitat has its main distribution in Atlantic Europe, a region of oceanic climate with high precipitation and a low continentality, with some extensions towards interior areas of the continent in some siliceous mountains and on sandy plains. It has been traditionally maintained by grazing, brush-cutting and burning within wide landscapes in mosaics with other wetter heaths and grasslands. Almost everywhere the habitat is under threat from a decline in traditional management and land-use change, particularly afforestation. Legal protection also need extensive agricultural practises to maintain the habitat in good condition.

Synthesis

Recent losses in quality over the last 50 years indicate a category Near Threatened (NT), based on data with important gaps for Spain. At the same time a substantial decline in quantity occurred (-20%), but not large enough to meet the Near Threatened threshold. However, long-term trends indicate a much larger decline over 250 years, leading to the conclusion Vulnerable (VU) for criterion A3.

Overall Category & Criteria			
EU 28		EU 28+	
Red List Category	Red List Criteria	Red List Category	Red List Criteria
Vulnerable	A3	Vulnerable	A3

Sub-habitat types that may require further examination

There are distinctive dry heath types throughout the range, characteristic of regional and local environmental conditions, and these may be differently threatened. One specific type with a likely higher degree of threat is coastal dry heath.

Habitat Type

Code and name

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Dry coastal heathland dominated by *Ulex gallii* subsp. *humilis* and *Erica cinerea*, Isle of Ouessant, France (Photo: Frédéric Bioret).



Calluna vulgaris heath in mosaic with lichen-rich drift vegetation, Hoge Veluwe National Park, Netherlands (Photo: John Janssen).

Habitat description

Heaths dominated by sub-shrubs of the genera *Erica*, *Calluna*, *Vaccinium* and *Daboecia*, with some species of woody, often spiny, legumes of the genera *Ulex* and *Genista*, grasses and other ligneous plants, occurring on siliceous soils, often podsolised but rarely or never waterlogged. This habitat has its main distribution in Atlantic Europe, a region of oceanic climate with high precipitation and a low continentality, with some extensions towards interior areas of the continent in some siliceous mountains and on sandy plains. To the north, where it extends to the western coasts of Norway, it behaves like a thermophilic unit under the warming effect of the Gulf Stream and, in the south, like a montane high moisture-demanding vegetation. Its optimum, in terms of floristic richness, is probably related with glacial refugia and is in SW Atlantic Europe, particularly in the northern and western Iberian Peninsula, areas from which the habitat has extended outwards. From NW Morocco, where it is found in the rainy areas of the western Rif, its range encompasses western and northern Iberia, western France, British Isles, Belgium, The Netherlands, NW Germany, Denmark, and SW Sweden, with some important occurrences in the inner Central European siliceous mountain systems. These heaths are transitional to subalpine and boreal heathlands of the Vaccinio-Piceetea (type F2.2a), common in northern Scotland and Scandinavia, while in the south there are transitions to the Mediterranean siliceous scrubs of the Cisto-Lavanduletea. In Central Europe (Czech Republic, Hungary) several pannonic species are associated with this habitat.

In most situations out of its primary stations, this habitat is associated with a particular well-defined and intense disturbance regime. Since early times (probably since the Neolithic), mowing, burning and grazing have been the main practices carried out by humans on heathlands and nowadays rural abandonment and the relaxation of such activities have triggered secondary succession and led to its disappearance in many locations. Many of the areas formerly and nowadays still covered by heaths are secondary stands resultong from such human interventions. Primary stations of this habitat type are most probably linked to the coastal cliffs of Atlantic SW Europe, where shallow soils in the rocky habitats provide the adequate conditions for preventing succession and even an adequate refuge for survival during Pleistocenic ice ages. Dry heaths form dense sub-scrubs in which dominance is dependent on the type of management: high fire frequency combined with grazing leads to the dominance of graminoids, even to a sort of grassland with small heaths; regular mowing without grazing leads to the dominance of heathers, gorses and ferns (particularly *Pteridium aquilinum*), in a treatment much oriented to obtaining large quantities of vegetative material for cattle bedding and for manuring. The model of management is particular for each of the regions involved and adapted to the natural conditions and to the associations present in those places.

In the vast range through which dry heaths develop, there can be quartzic coastal non-dune sands with *Calluna vulgaris* and *Empetrum nigrum* in northern Europe, mesophile or xerophile heaths on siliceous, podsolic soils in moist Atlantic and sub-Atlantic climates of plains and low mountains of Southern, Western, Central and Northern Europe and true coastal heaths occurring on maritime cliff tops where they survive under the strong wind conditions, low salt spray and low temperature oscillation regime determined by the proximity to the sea, originating typical prostrate maritime formations.

Indicators of good quality:

- dense scrubs with many herbaceous plants: ferns, grasses, etc, without having a clear dominance of one particular species, nor heathers neither gorses or grasses.
- evenness in the species populations, especially characteristic fauna, depending on microclimate and horizontal and vertical structure
- presence of rare and/or threatened species
- Absence of exotic species
- Absence of nitrophilous species
- Absence of trees and tall shrubs invading with lack of management

- Presence of lichens and/or bryophytes
- Presence of old *Calluna* shrubs with cycles of regeneration
- Signs of traditional management including a low frequency fire, mowing, grazing, etc.

Characteristic species:

Vascular plants: *Agrostis curtisii*, *Allium ericetorum*, *Avenula lodunensis*, *Avenula sulcata*, *Calluna vulgaris*, *Carex asturica*, *Cistus psilosepalus*, *Cistus salviifolius*, *Cytisus lotoides*, *Daboecia cantabrica*, *Drosophyllum lusitanicum*, *Empetrum nigrum*, *Erica andevalensis*, *Erica australis* subsp. *australis*, *Erica australis* subsp. *aragonensis*, *Erica cinerea*, *Erica ciliaris*, *Erica mackaiana*, *Erica scoparia*, *Erica umbellata*, *Erica vagans*, *Erythronium dens-canis*, *Genista anglica*, *Genista germanica*, *Genista pilosa*, *Genista triacanthos*, *Genista tridens*, *Halimium alyssoides*, *Halimium ocymoides*, *Halimium umbellatum*, *Hypericum linariifolium*, *Lavandula viridis*, *Lithodora prostrata*, *Luzula lactea*, *Pedicularis lusitanica*, *Polygala microphylla*, *Pseudarrehnatherum longifolium*, *Pteridium aquilinum*, *Pterospartum tridentatum* subsp. *cantabricum*, *Pterospartum tridentatum* subsp. *lasianthum*, *Pterospartum tridentatum* subsp. *tridentatum*, *Satureja salzmanii*, *Scorzonera humilis*, *Serratula tinctoria*, *Simethis matthiazii*, *Stauracanthus boivinii*, *Stauracanthus vicentinus*, *Thymelaea coridifolia*, *Thymelaea dendrobryum*, *Thymus villosus*, *Tuberaria globulariifolia*, *Tuberaria lignosa*, *Tuberaria major*, *Ulex airiensis*, *Ulex europaeus*, *Ulex galli* subsp. *gallii*, *Ulex gallii* subsp. *breoganii*, *Ulex gallii* var. *humilis*, *Ulex jussiaei*, *Ulex micranthus*, *Ulex minor*, *Vaccinium myrtillus*, *Vaccinium vitis-idaea*, *Viola lactea*.

Bryophytes: *Hylocomium splendens*, *Pleurozium schreberi*, *Hypnum jutlandicum*

Lichens: *Cladonia* spp, *Cladina* spp, *Cetraria* spp.

Birds: *Caprimulgus europaeus*, *Sylvia undata*

Reptiles: *Coronella austriaca*, *Lacerta schreiberi*

Classification

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

EUNIS:

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EuroVegChecklist:

Daboecion cantabricae (Dupont ex Rivas-Mart. 1979) Rivas-Mart. et al. in Loidi et al.1997

Ericion cinereae Böcher 1940

Ericion umbellatae Br.-Bl. in Br.-Bl. et al. 1952

Stauracanthion boivinii (Rivas-Mart. 1979) Rivas-Mart., Fernández-González et Loidi 1999

Ulicion minoris Malcuit 1929

Genisto pilosae-Vaccinion Br.-Bl. 1926

Annex I:

2310 Dry sand heaths with *Calluna* and *Genista*

2320 Dry sand heaths with *Calluna* and *Empetrum nigrum*

4030 European dry heaths

4040* Dry Atlantic coastal heaths with *Erica vagans*

(a very small part overlaps with a part of 5140 *Cistus palhinhae formations on maritime wet heaths)

Emerald:

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MAES-2:

Heathland and shrub

IUCN:

3.4 Temperate shrubland

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

Yes

Regions

Atlantic

Justification

This habitat is highly characteristic of the Atlantic region with its mild, moist climate.

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>Belgium</i>	Present	93 Km ²	Increasing	Increasing
<i>Bulgaria</i>	Present	2 Km ²	Increasing	Stable
<i>Croatia</i>	Present	2 Km ²	Decreasing	Stable
<i>Czech Republic</i>	Present	19 Km ²	Decreasing	Decreasing
<i>Denmark</i>	Present	238 Km ²	Decreasing	Decreasing
<i>Finland</i>	Finland mainland: Present	15 Km ²	Decreasing	Decreasing
<i>France</i>	France mainland: Present	1200 Km ²	Decreasing	Decreasing
<i>Germany</i>	Present	550 Km ²	Decreasing	Decreasing
<i>Hungary</i>	Present	0.5 Km ²	Decreasing	Decreasing
<i>Ireland</i>	Present	1094 Km ²	Decreasing	Increasing
<i>Italy</i>	Italy mainland: Present	221 Km ²	Decreasing	Decreasing
<i>Lithuania</i>	Present	10 Km ²	Decreasing	Decreasing
<i>Netherlands</i>	Present	258 Km ²	Stable	Decreasing
<i>Poland</i>	Present	128 Km ²	Decreasing	Decreasing
<i>Portugal</i>	Portugal mainland: Present	204 Km ²	Increasing	Unknown
<i>Romania</i>	Present	0.1 Km ²	Stable	Stable
<i>Slovakia</i>	Present	6.9 Km ²	Decreasing	Stable
<i>Slovenia</i>	Present	2 Km ²	Decreasing	Decreasing
<i>Spain</i>	Spain mainland: Present	11075 Km ²	Decreasing	Decreasing
<i>Sweden</i>	Present	132 Km ²	Decreasing	Decreasing

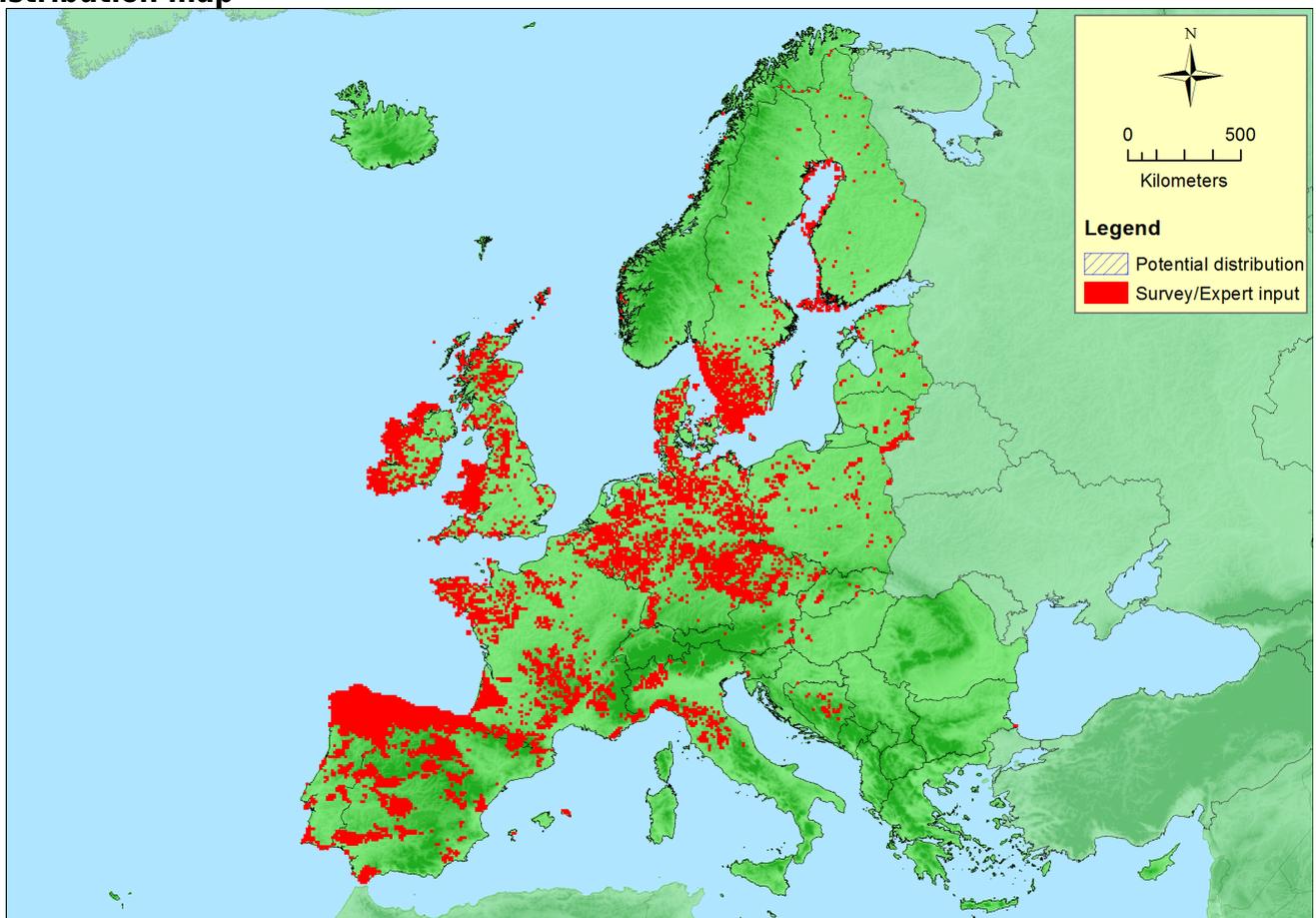
EU 28	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
UK	Northern Island: Present United Kingdom: Present	8935 Km ²	Decreasing	Decreasing

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>Bosnia and Herzegovina</i>	Present	12 Km ²	Increasing	Increasing
<i>Guernsey</i>	Present	Km ²	Unknown	Unknown
<i>Isle of Man</i>	Present	Km ²	Unknown	Unknown
<i>Jersey</i>	Present	Km ²	Unknown	Unknown
<i>Norway</i>	Norway Mainland: Present	1625 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	7530700 Km ²	8215	24185 Km ²	Based on existing data provided by EU member States
EU 28+	7530700 Km ²	8269	25822 Km ²	Insufficient data for an accurate calculation

Distribution map



This habitat is largely confined to the Atlantic region with more limited and localised occurrence further east. The map is complete for the EU, but data gaps exist for Norway. Data sources: Art17, EVA.

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

About 90%.

Trends in quantity

Although the habitat remains widespread in the Atlantic region and in many cases occurring in large areas, the general trend is decreasing.

- 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 larger than 50 000km².

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

No

Justification

The habitat is widespread in the Atlantic region and in many cases occurring in large areas.

Trends in quality

Almost everywhere a decrease in quality is recorded.

- Average current trend in quality

EU 28: Decreasing

EU 28+: Decreasing

Pressures and threats

The main threats are shrub encroachment due to abandonment or decrease of traditional uses such as mowing and grazing, intensification of agriculture and related nutrient enrichment, airborne pollution, plantation of exotic trees, and fire.

List of pressures and threats

Agriculture

Agricultural intensification

Abandonment / Lack of mowing

Abandonment of pastoral systems, lack of grazing

Fertilisation

Sylviculture, forestry

Artificial planting on open ground (non-native trees)

Pollution

Nitrogen-input

Conservation and management

Although protected areas and regulatory instruments allow this kind of heath to be protected, extensive agricultural practises are essential to maintain it in good condition.

List of conservation and management needs

Measures related to agriculture and open habitats

Other agriculture-related measures

Measures related to wetland, freshwater and coastal habitats

Restoring coastal areas

Conservation status

4030: ATL U2, BLS U1, BOR U2, CON U2, MED U1, PAN U2

2310: ATL U2, CON U1

2320: ATL U2, BOR U2, CON U2

4040: ATL:U1

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

This habitat can recover in about less than 10 years provided traditional management techniques are included.

Effort required

10 years
Through intervention

Red List Assessment

Criterion A: Reduction in quantity

Criterion A	A1	A2a	A2b	A3
EU 28	-20 %	unknown %	unknown %	>50 %
EU 28+	-20 %	unknown %	unknown %	>50 %

There has been very widespread decrease in extent in recent historic time across the EU28, with especially substantial losses (60-90%) in Germany, Finland, Sweden, Hungary, Czech Republic and Croatia. However, smaller losses have been reported from some countries covering largest area of the habitat, like Spain (-20%), UK (-10%) and France (-37%). Lacking data for Norway make a calculation of loss for EU28+ more uncertain. On average the trend over the last 50 years, using data from 21 countries, is a decline of -20% for EU28 and EU28+, ranging up to -24% if reported maximum values are used. Long term trends reported from some countries are more than 90% declines. Although there is incomplete data for the whole of Europe, it is estimated that on average the European trend is more than 50% decline over a long-term period.

Criterion B: Restricted geographic distribution

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

The habitat is widespread in EU28: EOO is larger than 50,000 km² and AOO is larger than than 50 km². Also the number of locations is relatively high.

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	40 %	52% %	unknown %	unknown %	unknown %	unknown %
EU 28+	40 %	52% %	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%

Large declines in quality affecting more than 80% of the extent occurred in Belgium, Germany, Denmark, Croatia, Netherlands, Slovenia and Finland. However, lower values have been reported for especially France and the UK, resulting in an average negative trend in quality of 40% extent with 52% severity. This results in a Near Threatened (NT) status. The used data covers about 48% of the area, and the main data gap on quality trends is for Spain, which covers about 50% of the area.

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	VU	LC	LC	LC	NT	DD	DD	DD	DD	DD	DD	DD	DD	DD
EU28+	LC	DD	DD	VU	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
Vulnerable	A3	Vulnerable	A3

Confidence in the assessment

Medium (evenly split between quantitative data/literature and uncertain data sources and assured expert knowledge)

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