

**European Community Directive
on the Conservation of Natural Habitats
and of Wild Fauna and Flora
(92/43/EEC)**

**Fourth Report by the United Kingdom
under Article 17**

on the implementation of the Directive
from January 2013 to December 2018

Supporting documentation for the
conservation status assessment for the habitat:

H4030 - European dry heaths

SCOTLAND

IMPORTANT NOTE - PLEASE READ

- The information in this document is a country-level contribution to the UK Report on the conservation status of this habitat, submitted to the European Commission as part of the 2019 UK Reporting under Article 17 of the EU Habitats Directive.
- The 2019 Article 17 UK Approach document provides details on how this supporting information was used to produce the UK Report.
- The UK Report on the conservation status of this habitat is provided in a separate document.
- The reporting fields and options used are aligned to those set out in the European Commission guidance.
- Explanatory notes (where provided) by the country are included at the end. These provide an audit trail of relevant supporting information.
- Some of the reporting fields have been left blank because either: (i) there was insufficient information to complete the field; (ii) completion of the field was not obligatory; and/or (iii) the field was only relevant at UK-level (sections 10 Future prospects and 11 Conclusions).
- For technical reasons, the country-level future trends for Range, Area covered by habitat and Structure and functions are only available in a separate spreadsheet that contains all the country-level supporting information.
- The country-level reporting information for all habitats and species is also available in spreadsheet format.

Visit the JNCC website, <https://jncc.gov.uk/article17>, for further information on UK Article 17 reporting.

Report on the main results of the surveillance under Article 17 for Annex I habitat types (Annex D)

NATIONAL LEVEL

1. General information

1.1 Member State	UK (Scotland information only)
1.2 Habitat code	4030 - European dry heaths

2. Maps

2.1 Year or period	1962-2016
2.3 Distribution map	Yes
2.3 Distribution map Method used	Complete survey or a statistically robust estimate
2.4 Additional maps	No

BIOGEOGRAPHICAL LEVEL

3. Biogeographical and marine regions

3.1 Biogeographical or marine region where the habitat occurs	Atlantic (ATL)
3.2 Sources of information	References within - http://jncc.defra.gov.uk/pdf/Article17Consult_20131010/H4030_UK.pdf SNH SCM database, extract A2298772, 2017, processed and summarised in A2495124. Subalpine dry dwarf-shrub heath feature type (JNCC, (2009), Common Standards Monitoring Guidance for Upland Habitats, Version July 2009 and previous versions) http://jncc.defra.gov.uk/page-2237

4. Range

4.1 Surface area (in km ²)	
4.2 Short-term trend Period	
4.3 Short-term trend Direction	Stable (0)
4.4 Short-term trend Magnitude	a) Minimum b) Maximum
4.5 Short-term trend Method used	
4.6 Long-term trend Period	
4.7 Long-term trend Direction	
4.8 Long-term trend Magnitude	a) Minimum b) Maximum
4.9 Long-term trend Method used	
4.10 Favourable reference range	a) Area (km ²) b) Operator c) Unknown No d) Method
4.11 Change and reason for change in surface area of range	Improved knowledge/more accurate data The change is mainly due to: Improved knowledge/more accurate data
4.12 Additional information	NB Range entries and comments are made on the basis of Distribution maps and assumptions as to how these will affect previous range maps, without having seen new range maps.1) Newly collated vegetation map information (HabMoS) has identified occurrences of this habitat which did not appear in previous Article 17 reporting distribution maps. As noted in previous reporting, it was considered that distribution mapping under-represented actual distribution, and new mapping information helps to correct this. Some of the new occurrences are

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outwith the currently-mapped range and will increase the surface area of the range around the edges and fill some gaps. NB only a cursory examination of additional occurrences has been possible, and while those checked are correct/credible, change in range must be regarded as tentative pending verification. 2) For the previously-reported occurrences of the habitat, there is no evidence of any actual change in range in Scotland in the period 2006-2017. Within this period, persistence of the habitat has been confirmed in all the upland designated sites where it is a notified feature that have been checked (SCM database, extract A2298772).

5. Area covered by habitat

5.1 Year or period	2007-007-		
5.2 Surface area (in km ²)	a) Minimum	b) Maximum	c) Best single value 4790
5.3 Type of estimate	Best estimate		
5.4 Surface area Method used	Based mainly on extrapolation from a limited amount of data		
5.5 Short-term trend Period	2007-2016		
5.6 Short-term trend Direction	Stable (0)		
5.7 Short-term trend Magnitude	a) Minimum	b) Maximum	c) Confidence interval
5.8 Short-term trend Method used	Based mainly on extrapolation from a limited amount of data		
5.9 Long-term trend Period			
5.10 Long-term trend Direction			
5.11 Long-term trend Magnitude	a) Minimum	b) Maximum	c) Confidence interval
5.12 Long-term trend Method used			
5.13 Favourable reference area	a) Area (km ²) b) Operator c) Unknown No d) Method		
5.14 Change and reason for change in surface area of range	Improved knowledge/more accurate data The change is mainly due to: Improved knowledge/more accurate data		
5.15 Additional information	Conclusions are based on absence of evidence of significant change in extent in Scotland in the period. Within this period, minor losses of extent to bracken and to grassland have been recorded on two upland designated sites and to scrub on one lowland site where it is a notified feature (SCM database, extract A2298772). Losses of extent to woodland planting and regeneration, scrub, bracken and renewables developments occur outwith designated sites; however this is neither recorded nor quantified in any systematic form. This is a significant omission likely to introduce error into reporting on extent.		

6. Structure and functions

6.1 Condition of habitat	a) Area in good condition (km ²)	Minimum 92	Maximum 92
	b) Area in not-good condition (km ²)	Minimum 409	Maximum 409
	c) Area where condition is not known (km ²)	Minimum 4289	Maximum 4289

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6.2 Condition of habitat Method used	Based mainly on extrapolation from a limited amount of data
6.3 Short-term trend of habitat area in good condition Period	2001-2016
6.4 Short-term trend of habitat area in good condition Direction	Increasing (+)
6.5 Short-term trend of habitat area in good condition Method used	Based mainly on extrapolation from a limited amount of data
6.6 Typical species	Has the list of typical species changed in comparison to the previous reporting period? No
6.7 Typical species Method used	
6.8 Additional information	<p>Site Condition Monitoring provides a means of assessing the structure and function of H4030 in Scotland. Assessment is based on the results of fieldwork carried out between 2001 and 2016. Results are recorded on the SNH SCM database, from which data was extracted to A2298772 on 23/05/2017. Within this period, the proportion of H4030 on SACs considered to be in Favourable condition has increased from 11% in 2012 (based on assessments carried out between 2001 and 2010) to 18% in 2016. Seven per cent of H4030 is assessed as recovering, a decrease from 2012, presumably partly accounted for by areas now considered to be Favourable recovered. A further 25% of the extent is now reported to be Unfavourable but recovering due to management, more than double the 2012 figure. 2016 results for SSSI are similar to those for SACs, although based on number of features rather than extent data which is not available. Overall, 4674ha was assessed as declining in condition (Unfavourable declining or Favourable declining), with 17530ha recovered or recovering (Favourable recovered, Unfavourable recovering, Unfavourable recovering due to management), compared to 4973ha and 10835ha respectively for 2012. As the proportion in Favourable condition has increased, and the extent reported to be recovering exceeds the extent reported as declining by more than three times, overall the judgement is that condition is improving.</p>

7. Main pressures and threats

7.1 Characterisation of pressures/threats

Pressure	Ranking
Intensive grazing or overgrazing by livestock (A09)	H
Extensive grazing or undergrazing by livestock (A10)	M
Burning for agriculture (A11)	H
Suppression of fire for agriculture (A12)	M
Management of fishing stocks and game (G08)	H
Conversion to forest from other land uses, or afforestation (excluding drainage) (B01)	M
Wind, wave and tidal power, including infrastructure (D01)	M
Hydropower (dams, weirs, run-off-the-river), including infrastructure (D02)	M
Problematic native species (I04)	M
Mixed source air pollution, air-borne pollutants (J03)	H
Threat	Ranking
Intensive grazing or overgrazing by livestock (A09)	H

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Extensive grazing or undergrazing by livestock (A10)	M
Burning for agriculture (A11)	H
Suppression of fire for agriculture (A12)	M
Management of fishing stocks and game (G08)	H
Conversion to forest from other land uses, or afforestation (excluding drainage) (B01)	H
Wind, wave and tidal power, including infrastructure (D01)	M
Hydropower (dams, weirs, run-off-the-river), including infrastructure (D02)	M
Problematic native species (I04)	M
Mixed source air pollution, air-borne pollutants (J03)	H

7.2 Sources of information

7.3 Additional information

Grazing and trampling - sheep, cattle
Undergrazing allowing encroachment of native trees and shrubs. more commonly an issue with Lowland rather than Upland heath. Some colonisation by non-native Sitka and Rhododendron.
Also burning for game management (grouse, deer) but no code for this.
Not active suppression but small number of instances where lack of burning is a negative pressure. Not restricted to agriculture, also applies to game management (grouse, deer) but no code for this
Deer grazing and trampling
Some instances of planting and planting proposals, likely to increase under woodland expansion strategy
Some instances of turbine and associated infrastructure development leading to habitat loss, but this is unquantified.
Some instances of run-of river schemes and associated infrastructure development leading to habitat loss, but this is unquantified.
Bracken/scrub/tree colonisation. In Lowland wet heath in particular, scrub colonisation often related to abandonment of grazing management.
From nitrogen deposition assessment

8. Conservation measures

8.1 Status of measures

- a) Are measures needed? Yes
- b) Indicate the status of measures Measures identified and taken

8.2 Main purpose of the measures taken

Restore the habitat of the species (related to 'Habitat for the species')

8.3 Location of the measures taken

Both inside and outside Natura 2000

8.4 Response to the measures

Medium-term results (within the next two reporting periods, 2019-2030)

8.5 List of main conservation measures

Adapt mowing, grazing and other equivalent agricultural activities (CA05)
Prevent conversion of (semi-) natural habitats into forests and of (semi-)natural forests into intensive forest plantation (CB01)
Adapt/manage renewable energy installation, facilities and operation (CC03)
Reduce impact of hydropower operation and infrastructure (CC04)

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Management of hunting, recreational fishing and recreational or commercial harvesting or collection of plants (CG02)

Management of problematic native species (CI05)

Management, control or eradication of other invasive alien species (CI03)

8.6 Additional information

Conservation measures are generally implemented through designation of protected areas, voluntary and statutory procedures (Deer Act), agri-environment schemes (SRDP). While some results are achievable in the short term, some attributes will recover only over longer timescales. Although conservation measures have been identified, implementation is patchy.

9. Future prospects

9.1 Future prospects of parameters

- a) Range
- b) Area
- c) Structure and functions

9.2 Additional information

Range is considered likely to remain stable. Area is considered likely to remain stable. The modest improvements shown for Structure and function should continue, and the extent reported as recovering significantly exceeds that reported as declining, but given the relatively large extent still unfavourable or at risk, and the patchy nature of both pressures and application of conservation measures, it would be premature to consider improvements to be better than slight. Despite this evidence of improvement, the Future trend for Structure and Function must be classed as Very negative, as Nitrogen deposition is a High rank threat (for details see the UK Article 17 Approach document). The current assessment found empirical evidence of actual effects of N deposition on the ground in Scotland to be lacking.

10. Conclusions

10.1. Range

10.2. Area

10.3. Specific structure and functions (incl. typical species)

10.4. Future prospects

10.5 Overall assessment of Conservation Status

10.6 Overall trend in Conservation Status

10.7 Change and reasons for change in conservation status and conservation status trend

a) Overall assessment of conservation status

No change

The change is mainly due to:

b) Overall trend in conservation status

No change

The change is mainly due to:

10.8 Additional information

11. Natura 2000 (pSCIs, SCIs, SACs) coverage for Annex I habitat types

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11.1 Surface area of the habitat type inside the pSCIs, SCIs and SACs network (in km² in biogeographical/marine region)

- a) Minimum
- b) Maximum
- c) Best single value 501.1

11.2 Type of estimate

Best estimate

11.3 Surface area of the habitat type inside the network Method used

Based mainly on extrapolation from a limited amount of data

11.4 Short-term trend of habitat area in good condition within the network Direction

Increasing (+)

11.5 Short-term trend of habitat area in good condition within network Method used

Complete survey or a statistically robust estimate

11.6 Additional information

Site Condition Monitoring provides a means of assessing the structure and function of H4030 on SACs in Scotland. Assessment is based on the results of fieldwork carried out between 2001 and 2016. Results are recorded on the SNH SCM database, from which data was extracted to A2298772 on 23/05/2017. Within this period, the proportion of H4030 on SACs considered to be in Favourable condition has increased from 11% in 2012 (based on assessments carried out between 2001 and 2010) to 18% in 2016. Seven per cent of H4030 is assessed as recovering, a decrease from 2012, presumably partly accounted for by areas now considered to be Favourable recovered. A further 25% of the extent is now reported to be Unfavourable but recovering due to management, more than double the 2012 figure. Overall, 4674ha was assessed as declining in condition (Unfavourable declining or Favourable declining), with 17530ha recovered or recovering (Favourable recovered, Unfavourable recovering, Unfavourable recovering due to management), compared to 4973ha and 10835ha respectively for 2012. As the proportion in Favourable condition has increased, and the extent reported to be recovering exceeds the extent reported as declining by more than three times, overall the judgement is that condition is improving.

12. Complementary information

12.1 Justification of % thresholds for trends

12.2 Other relevant information

Distribution Map

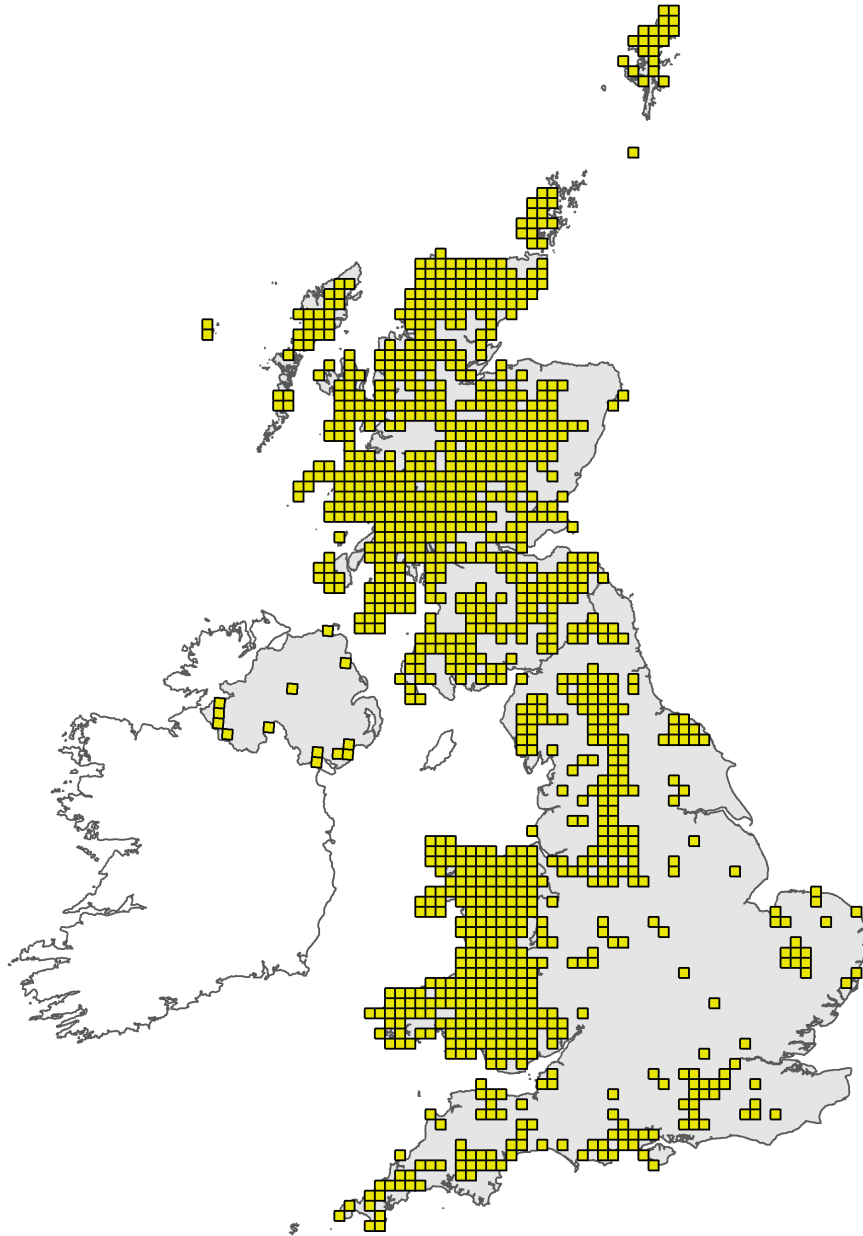


Figure 1: UK distribution map for H4030 - European dry heaths. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

The 10km grid square distribution map is based on available habitat records which are considered to be representative of the distribution within the current reporting period. For further details see the 2019 Article17 UK Approach document.

Range Map

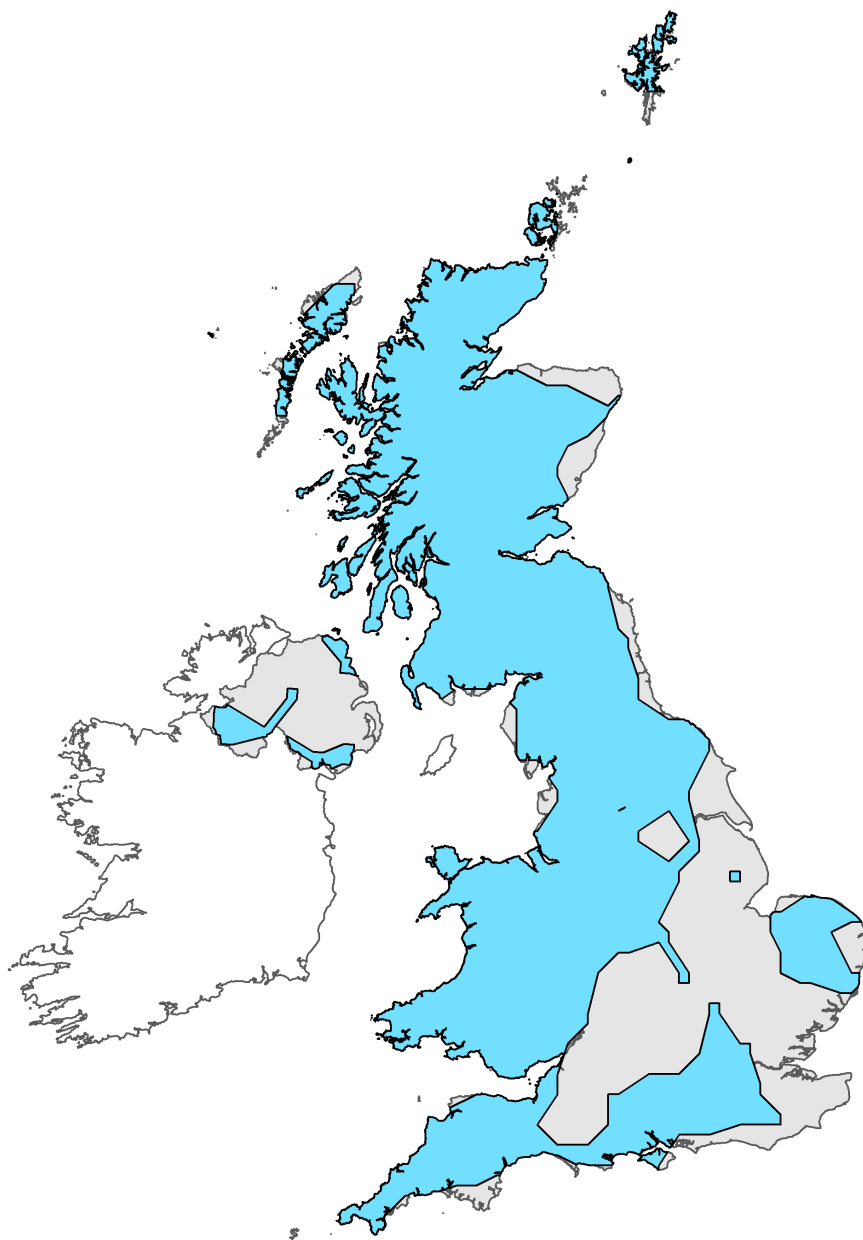


Figure 2: UK range map for H4030 - European dry heaths. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

The range map has been produced by applying a bespoke range mapping tool for Article 17 reporting (produced by JNCC) to the 10km grid square distribution map presented in Figure 1. The alpha value for this habitat was 25km. For further details see the 2019 Article 17 UK Approach document.