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

Conservation status assessment for the habitat:

H7110 - Active raised bogs

UNITED KINGDOM

IMPORTANT NOTE - PLEASE READ

- The information in this document represents 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.

- It is based on supporting information provided by the geographically-relevant Statutory Nature Conservation Bodies, which is documented separately.

- The 2019 Article 17 UK Approach document provides details on how this supporting information contributed to the UK Report and the fields that were completed for each parameter.

- The reporting fields and options used are aligned to those set out in the European Commission guidance.

- Maps showing the distribution and range of the habitat are included (where available).

- Explanatory notes (where provided) are included at the end. These provide additional audit trail information to that included within the UK assessments. Further underpinning explanatory notes are available in the related country-level and/or UK offshore-level reports.

- Some of the reporting fields have been left blank because either: (i) there was insufficient information to complete the field; and/or (ii) completion of the field was not obligatory.

- The UK-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**
1.2 Habitat code	**7110 - Active raised bogs**

2. Maps

2.1 Year or period	1979-2018
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	England Natural England (2015) Hydrological Functioning IPENS SIPs Diack (2016) Review of SSSI series for Raised Bogs. Unpublished Natural England report Lindsay & Immirzi (1996) Lowland Raised Bog Inventory Scotland References within: http://jncc.defra.gov.uk/pdf/Article17Consult_20131010/H7110_SCOTLAND.pdf Wales Artz, R., Chapman, S., Potts, J., Wilson, D., Heinemeyer, A., Evans, C., Moxley, J. (2016) WP3: Emission factors applicable to UK Peatlands. Report to the Department of Energy and Climate Change. Averis, B. (2002). Vegetation survey of parts of the Migneint-Dduallt area, North Wales 2001. Countryside Council for Wales Contract Science Report No. 533, CCW, Bangor. Blackstock, T.H., Howe, E.A., Stevens, J.P., Burrows, C.R. & Jones, P.S. (2010). Habitats of Wales: a comprehensive field survey, 1979-1997. University of Wales Press, Cardiff. 229 pp. Daniels, J. (1996). The nature of the place: the importance of the Fenn's, Whixall, Bettisfield, Wem and Cadney Mosses complex. In: Fenn's and Whixall Mosses. Eds A.Q. Berry, F. Gale, J.L. Daniels & B. Allmark. Pp. 7 - 26. Clwyd County Council. Guest, D. (2012). Assessing N deposition as a pressure for Article 17 reporting on habitats. CCW HQ internal document. JNCC (2018). Nitrogen exceedance of Annex I habitats in SACs. Excel spreadsheet provided 29 May 2018. Jones, P.S., Birch, K.S. & Kay, L. (2018a). Art17_2018_H7110_Active_raised_bog_ExclCorsCaronSACMospolys_20180418. ArcGIS database, Natural Resources Wales. Jones, P.S. (2018a). H7110_S6 Structure and functions, Excel s/s. Natural Resources Wales. Jones, P.S. (2018b). Towards a National Action Plan for Welsh Peatlands. Written advice to Welsh Government, May 2018. Natural Resources Wales, Bangor. Jones, P.S., Bosanquet, S.D.S., Reed, D.K., Birch, K.S., Stevens, J. & Turner, A.J.

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4. Range

4.1 Surface area (in km²)	66878.27	
4.2 Short-term trend Period	2007-2018	
4.3 Short-term trend Direction	Stable (0)	
4.4 Short-term trend Magnitude	a) Minimum	b) Maximum

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4.5 Short-term trend Method used	Based mainly on extrapolation from a limited amount of data		
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 (km²)	66878.27	
	b) Operator		
	c) Unknown	No	
	d) Method	The FRR is approximately equal to the current range area. The FRR value has been updated to take account of improved information on the habitat range. The approach taken to set the FRR is explained in the 2007 and 2013 UK Article 17 habitat reports (see http://jncc.defra.gov.uk/page-4064 and http://jncc.defra.gov.uk/page-6563).	
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			

5. Area covered by habitat

5.1 Year or period	1979-2018		
5.2 Surface area (in km²)	a) Minimum	b) Maximum	c) Best single value 161.96
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	2007-2018		
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 (km²)		
	b) Operator	Much more than (>>)	
	c) Unknown	No	
	d) Method	The FRA is more than 10% above the current area. An FRA operator has been used as it is not clear what the exact area of the FRA is. The approach taken to set the FRA is explained in the 2007 and 2013 UK Article 17 habitat reports (see http://jncc.defra.gov.uk/page-4064 and http://jncc.defra.gov.uk/page-6563).	
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			

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6. Structure and functions

6.1 Condition of habitat	a) Area in good condition (km²)	Minimum 18.0653	Maximum 18.6653
	b) Area in not-good condition (km²)	Minimum 69.6096	Maximum 79.1096
	c) Area where condition is not known (km²)	Minimum 69.2651	Maximum 69.2651

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	2003-2018
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	

7. Main pressures and threats

7.1 Characterisation of pressures/threats

Pressure	Ranking
Abandonment of management/use of other agricultural and agroforestry systems (all except grassland) (A07)	M
Burning for agriculture (A11)	M
Agricultural activities generating air pollution (A27)	M
Drainage for use as agricultural land (A31)	H
Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (B27)	H
Peat extraction (C05)	M
Other invasive alien species (other then species of Union concern) (I02)	M
Problematic native species (I04)	M
Mixed source air pollution, air-borne pollutants (J03)	H

Threat	Ranking
Abandonment of management/use of other agricultural and agroforestry systems (all except grassland) (A07)	M
Burning for agriculture (A11)	M
Agricultural activities generating air pollution (A27)	M
Drainage for use as agricultural land (A31)	H
Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (B27)	H

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Peat extraction (C05)	M
Other invasive alien species (other then species of Union concern) (I02)	M
Problematic native species (I04)	M
Mixed source air pollution, air-borne pollutants (J03)	H
Increases or changes in precipitation due to climate change (N03)	M

7.2 Sources of information	
7.3 Additional information	J03: Mixed source air pollution, air-borne pollutants is ranked as a High ranked pressure and threat, due to the nutrient N critical load for the habitat being exceeded across >25% of the habitat area

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		

Reinstate appropriate agricultural practices to address abandonment, including mowing, grazing, burning or equivalent measures (CA04)

Reduce/eliminate air pollution from agricultural activities (CA12)

Manage drainage and irrigation operations and infrastructures in agriculture (CA15)

Adapt/manage exploitation of energy resources (CC02)

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

Management of problematic native species (CI05)

Reduce impact of mixed source pollution (CJ01)

Reduce impact of multi-purpose hydrological changes (CJ02)

Restore habitats impacted by multi-purpose hydrological changes (CJ03)

Implement climate change adaptation measures (CN02)

8.6 Additional information	

9. Future prospects

9.1 Future prospects of parameters	a) Range	Good
	b) Area	Poor
	c) Structure and functions	Bad
9.2 Additional information	Future trend of Range is Overall stable; Future trend of Area is Positive - increasing <=1% (one percent or less) per year on average; and Future trend of Structure and functions is Overall stable. The Future prospects for Structure and functions takes into account that at least	

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25% of the habitat area is expected to be in unfavourable (not good) condition in c.2030 due to nutrient N critical load exceedance, unless measures are taken to reduce N deposition impacts.

10. Conclusions

10.1. Range	Favourable (FV)
10.2. Area	Unfavourable - Bad (U2)
10.3. Specific structure and functions (incl. typical species)	Unfavourable - Bad (U2)
10.4. Future prospects	Unfavourable - Bad (U2)
10.5 Overall assessment of Conservation Status	Unfavourable - Bad (U2)
10.6 Overall trend in Conservation Status	Improving (+)

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

Genuine change

The change is mainly due to: Genuine change

10.8 Additional information

Conclusion on Range reached because: (i) the short-term trend direction in Range surface area is stable; and (ii) the current Range surface area is approximately equal to the Favourable Reference Range.
Conclusion on Area covered by habitat reached because: (i) the short-term trend direction in Area is stable; and (ii) the current Area is more than 10% below the Favourable Reference Area.
Conclusion on Structure and functions reached because habitat condition data indicates that more than 25% of the habitat is in unfavourable (not good) condition.
Conclusion on Future prospects reached because: (i) the Future prospects for Range are good; (ii) the Future prospects for Area covered by habitat are poor; and (iii) the Future prospects for Structure and functions are bad.
Overall assessment of Conservation Status is Unfavourable-bad because one or more of the conclusions is Unfavourable-bad.
Overall trend in Conservation Status is based on the combination of the short-term trends for Range - stable, Area covered by habitat - stable, and Structure and functions - increasing.
The Overall trend in Conservation Status has changed between 2013 and 2019 because the Area trend has changed from decreasing to stable, the Structure and functions trend has changed from decreasing to increasing, and because of the removal of the Future prospects trend from the 2019 method used to assess Overall trend.

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

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 83.2371

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11.2 Type of estimate	Best estimate
11.3 Surface area of the habitat type inside the network Method used	Complete survey or a statistically robust estimate
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	Based mainly on extrapolation from a limited amount of data
11.6 Additional information	

12. Complementary information

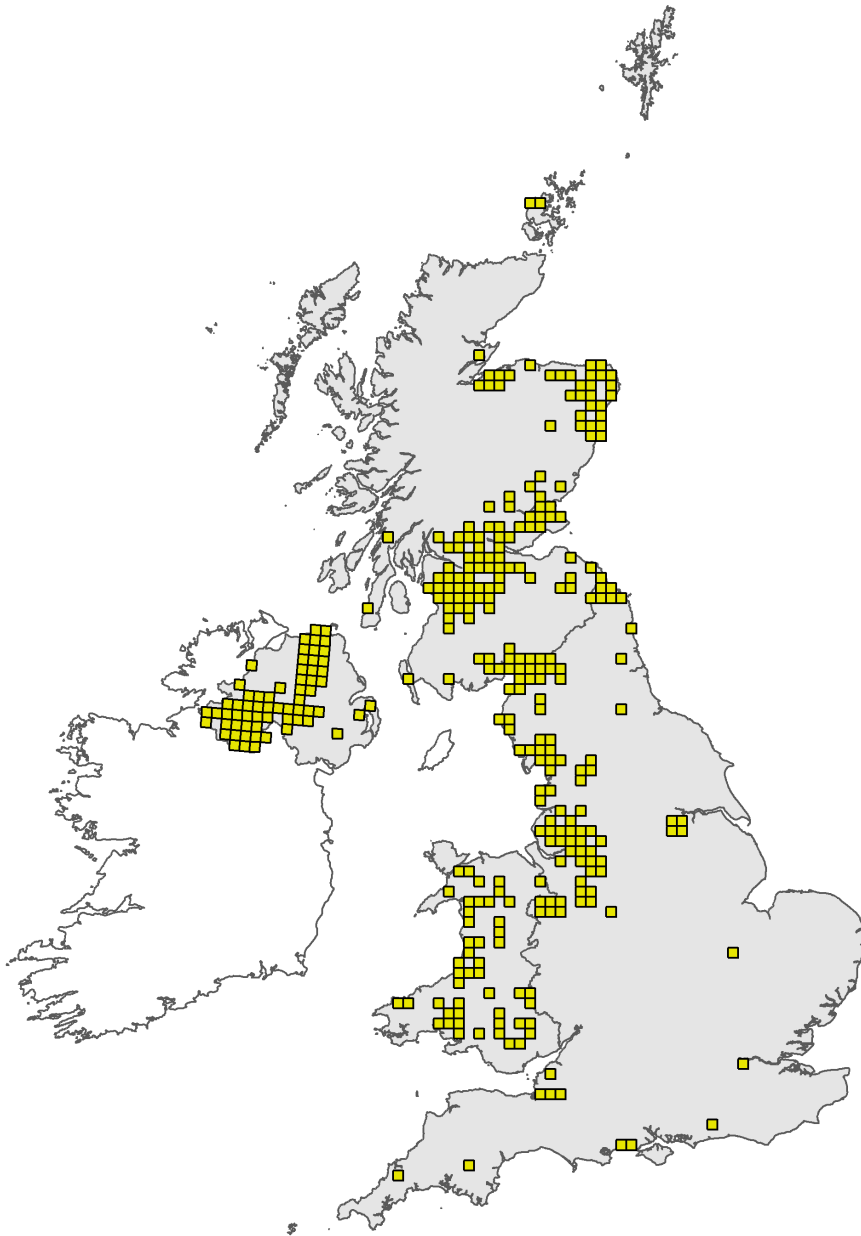|	
12.1 Justification of % thresholds for trends	
12.2 Other relevant information	

Distribution Map

Figure 1: UK distribution map for H7110 - Active raised bogs. 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.
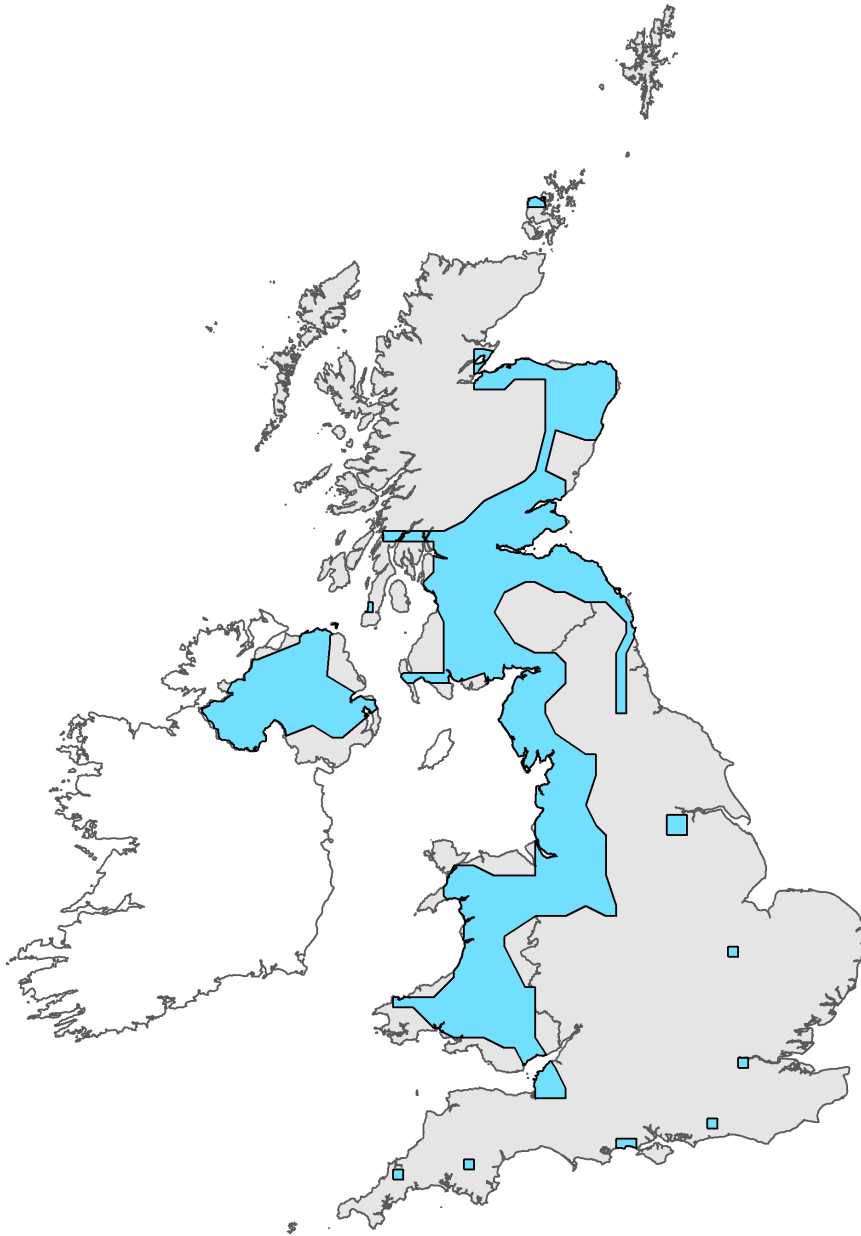
Range Map

Figure 2: UK range map for H7110 - Active raised bogs. 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.