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:

H7140 - Transition mires and quaking bogs

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	**7140 - Transition mires and quaking bogs**

2. Maps

2.1 Year or period	1962-2006
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/H7130_SCOTLAND.pdf SNH SCM database, extract A2298772, 2017, processed and summarised in A2498676. Transition mire, ladder fen and quaking bog (upland) 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 km²)		
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 (km²) b) Operator c) Unknown d) Method	 No
4.11 Change and reason for change in surface area of range	No change The change is mainly due to:	
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. Some of the new occurrences are outwith the currently-mapped range and would increase the surface area of the range both around the edges and by filling in gaps. However,there is sufficient doubt about	

the conformity of many of these occurrences with the definition of H7140 that they should not be accepted without verification. The new records should not be used until verification has been carried out, and the previous distribution and range mapping should be used.NB only a cursory examination of additional occurrences has been possible. 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 km²)	a) Minimum 14.2	b) Maximum 14.2	c) Best single value 14.2
5.3 Type of estimate	Best estimate		
5.4 Surface area Method used	Based mainly on expert opinion with very limited data		
5.5 Short-term trend Period	2007-2017		
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 c) Unknown No d) Method		
5.14 Change and reason for change in surface area of range	No change The change is mainly due to:		
5.15 Additional information	Conclusions are based on absence of evidence of significant change in extent in Scotland in the period. Within this period, small losses of extent have been recorded on two sites where this is a notified feature (SCM database, extract A2298772), both to tree encroachment. Although these losses are not deemed of sufficient magnitude to affect the judgement that extent is stable, they are cause for concern.		

6. Structure and functions

6.1 Condition of habitat	a) Area in good condition (km²)	Minimum 14	Maximum 14
	b) Area in not-good condition (km²)	Minimum 0.2	Maximum 0.2
	c) Area where condition is not known (km²)	Minimum 0	Maximum 0
6.2 Condition of habitat Method used	Complete survey or a statistically robust estimate		

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6.3 Short-term trend of habitat area in good condition Period	2006-2016
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	Complete survey or a statistically robust estimate
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	Site Condition Monitoring provides a means of assessing the structure and function of H7140 in Scotland. Assessment is based on the results of fieldwork carried out between 2002 and 2015. 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 H7140 on SACs considered to be in Favourable condition has increased marginally from 97% in 2012 (based on assessments carried out between 2002 and 2011) to 98% in 2016. No H7140 is assessed as recovering, as in 2012, and 1% as Declining, compared to 3% in 2012. One per cent of the extent is now reported to be Unfavourable but recovering due to management, down from the 2012 figure of 2%, but the difference is accounted for by habitat that has now recovered. There are no SSSI features for this habitat that are not also SAC features. Overall, 15ha was assessed as declining in condition (Unfavourable declining or Favourable declining),the same as that recovered or recovering (Favourable recovered, Unfavourable recovering, Unfavourable recovering due to management), compared to 49ha and 35ha respectively for 2012. The proportion in Favourable condition has increased slightly, and the small extent reported to be declining is equal to that reported as Recovering. Therefore the overall judgement is that condition is improving slightly from a high base.

7. Main pressures and threats

7.1 Characterisation of pressures/threats

Pressure	Ranking
Intensive grazing or overgrazing by livestock (A09)	M
Problematic native species (I04)	H
Other invasive alien species (other then species of Union concern) (I02)	M
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	H
Mixed source air pollution, air-borne pollutants (J03)	M

Threat	Ranking
Intensive grazing or overgrazing by livestock (A09)	M
Problematic native species (I04)	H
Other invasive alien species (other then species of Union concern) (I02)	M
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	H
Mixed source air pollution, air-borne pollutants (J03)	M

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7.2 Sources of information	
7.3 Additional information	Trampling and grazing by sheep Tree and scrub encroachment Skunk cabbage Mainly lowland From N 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	Only inside 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)

Management of problematic native species (CI05)

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 more slowly.

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 improvements shown for Structure and function, from a high base, should continue, and the extent reported as declining is equal to that reported as recovering. Structure and function is considered to be still improving. Despite this evidence of improvement, the Future trend for Structure and Function must be classed as Negative, as Nitrogen deposition is a Medium 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

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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

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 14.19
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 H7140 on SACs in Scotland. Assessment is based on the results of fieldwork carried out between 2002 and 2015. 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 H7140 on SACs considered to be in Favourable condition has increased marginally from 97% in 2012 (based on assessments carried out between 2002 and 2011) to 98% in 2016. No H7140 is assessed as recovering, as in 2012, and 1% as Declining, compared to 3% in 2012. One per cent of the extent is now reported to be Unfavourable but recovering due to management, down from the 2012 figure of 2%, but the difference is accounted for by habitat that has now recovered. Overall, 15ha was assessed as declining in condition (Unfavourable declining or Favourable declining),the same as that recovered or recovering (Favourable recovered, Unfavourable recovering, Unfavourable recovering due to management), compared to 49ha and 35ha respectively for 2012. The proportion in Favourable condition has increased slightly, and the small extent reported to be declining is equal to that reported as Recovering. Therefore the overall judgement is that condition is improving slightly from a high base.

12. Complementary information

12.1 Justification of % thresholds for trends	
12.2 Other relevant information	

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Distribution Map

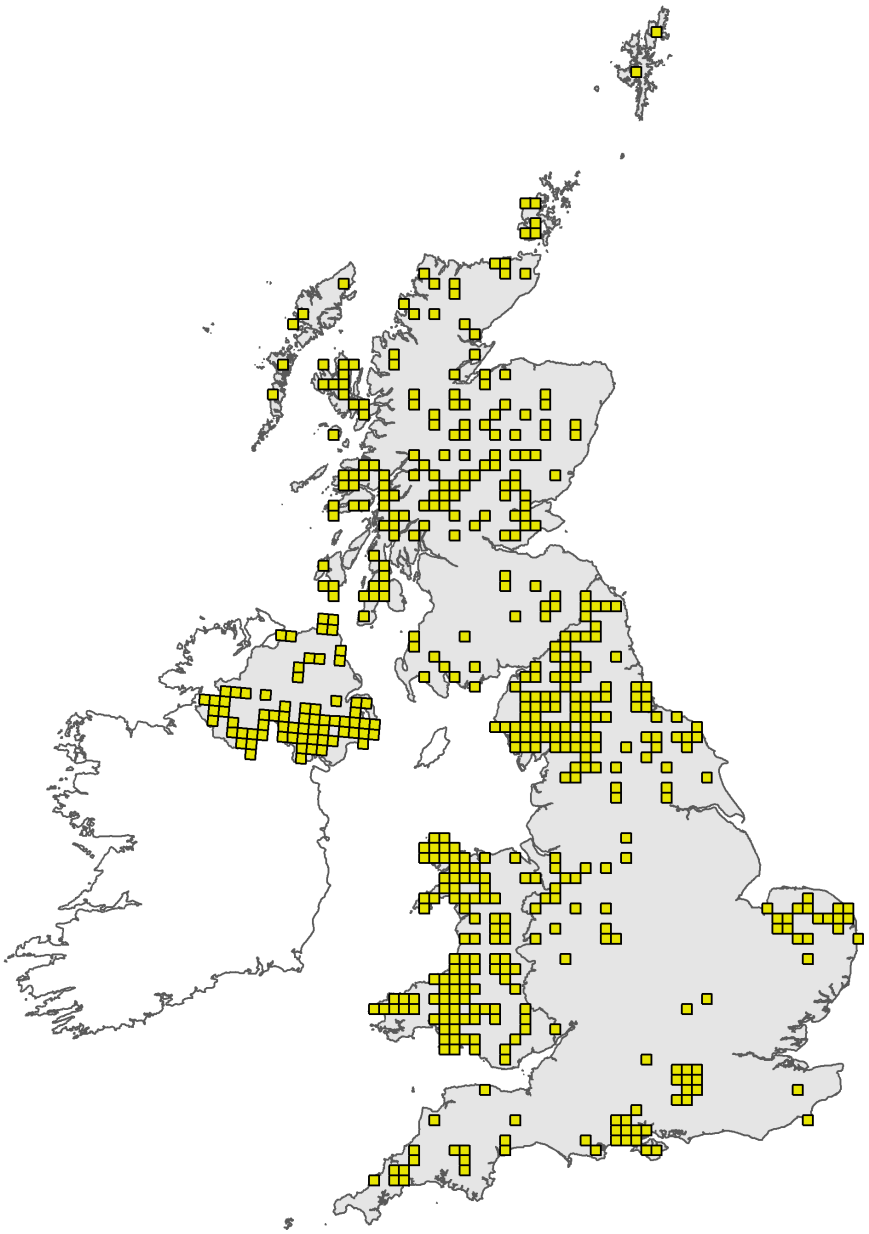

Figure 1: UK distribution map for H7140 - Transition mires and quaking bogs. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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

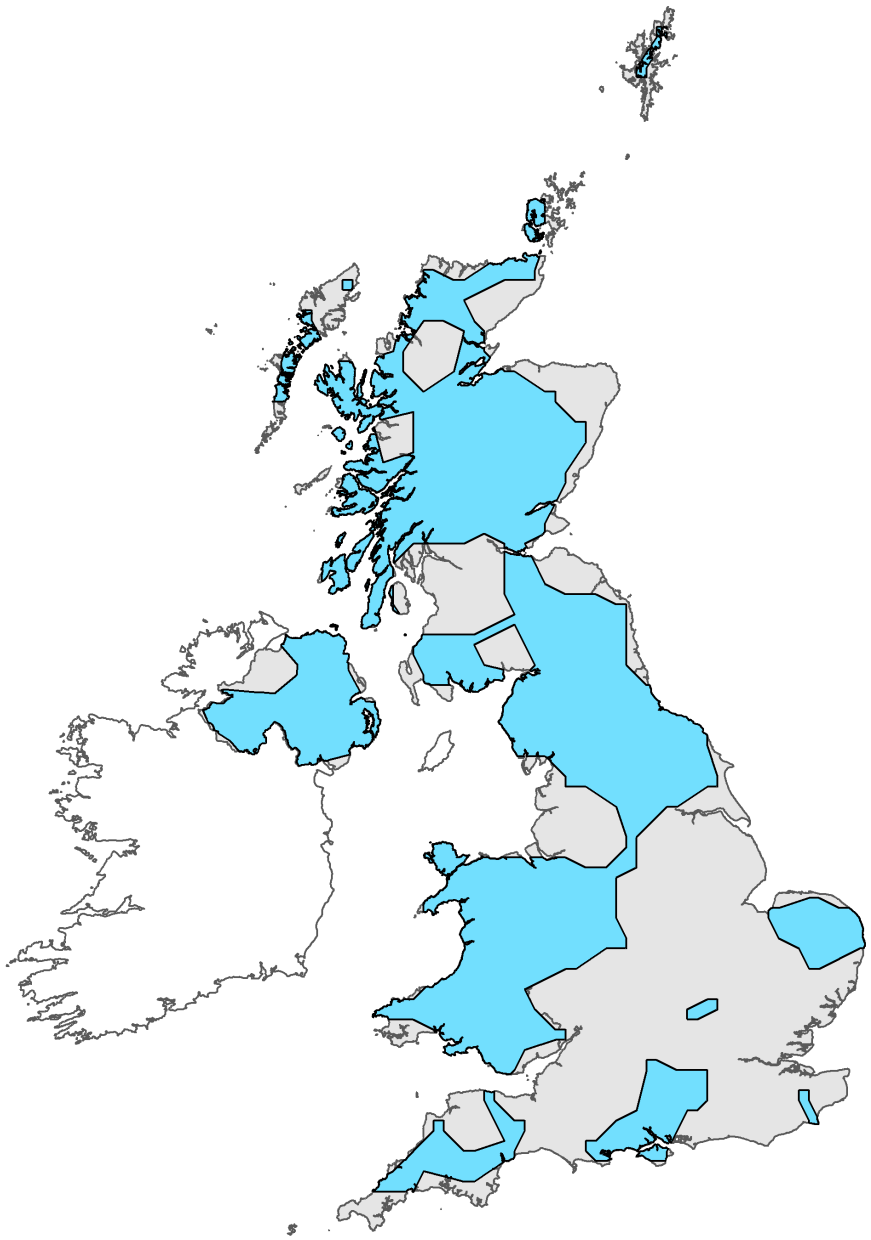

Figure 2: UK range map for H7140 - Transition mires and quaking bogs. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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.