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:

H7230 - Alkaline fens

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	**7230 - Alkaline fens**

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/H7230_UK.pdf SNH SCM database, extract A2298772, 2017, processed and summarised in A2494335. Alkaline fen (upland, excluding alpine flushes) 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	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. Some of the new occurrences are outwith the currently-mapped range and would increase the surface area of the range around the edges and fill some gaps. However, some of the new occurrences are	

doubtful, principally because of the conversion used. There is sufficient doubt about the conformity of some occurrences with the definition of H7230 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, and while many are credible, there also appear to be some errors. 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 3.7	b) Maximum 3.7	c) Best single value 3.7
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 (km²) 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, small losses of extent have been recorded on two sites where H7230 is a notified feature (SCM database, extract A2298772). Some of this loss was attributed to deer trampling and may be reversible. Development of renewables infrastructure can threaten this habitat, but mitigation measures are available: however this is neither recorded nor quantified in any systematic form. Newly collated mapping suggests that the extent of the habitat is greater than that previously reported. This is likely, reflecting improved knowledge rather than actual expansion of the habitat, but there is sufficient doubt over some of the records that the new figure is in error and it is not used.		

6. Structure and functions

6.1 Condition of habitat	a) Area in good condition (km²)	Minimum 3.13076	Maximum 3.13076

	b) Area in not-good condition (km²)	Minimum 0.56923	Maximum 0.56923	
	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			
6.3 Short-term trend of habitat area in good condition Period	2004-2016			
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 H7230 in Scotland. Assessment is based on the results of fieldwork carried out between 2004 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 H7230 on SACs considered to be in Favourable condition has increased from 48% in 2012 (based on assessments carried out between 2002 and 2011) to 85% in 2016. Twelve per cent of H7230 is assessed as recovering, 2% more than in 2012. A further 1% of the extent is now reported to be Unfavourable but recovering due to management. Eight SSSI features not overlapping SACs are reported as Favourable and four as Unfavourable, but extent data is not available. Overall, 70ha was assessed as declining in condition (Unfavourable declining or Favourable declining), with 276ha recovered or recovering (Favourable recovered, Unfavourable recovering, Unfavourable recovering due to management), compared to 165ha and 218ha respectively for 2012. As the proportion in Favourable condition has increased markedly, 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.			

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
Management of fishing stocks and game (G08)	H
Burning for agriculture (A11)	M
Problematic native species (I04)	H
Other invasive alien species (other then species of Union concern) (I02)	M
Wind, wave and tidal power, including infrastructure (D01)	M
Hydropower (dams, weirs, run-off-the-river), including infrastructure (D02)	M
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	H

Mixed source air pollution, air-borne pollutants (J03)	H

Threat	Ranking
Mixed source air pollution, air-borne pollutants (J03)	H
Intensive grazing or overgrazing by livestock (A09)	H
Extensive grazing or undergrazing by livestock (A10)	M
Management of fishing stocks and game (G08)	H
Burning for agriculture (A11)	M
Problematic native species (I04)	H
Other invasive alien species (other then species of Union concern) (I02)	M
Wind, wave and tidal power, including infrastructure (D01)	M
Hydropower (dams, weirs, run-off-the-river), including infrastructure (D02)	M
Mixed source pollution to surface and ground waters (limnic and terrestrial) (J01)	H

7.2 Sources of information	
7.3 Additional information	Trampling and grazing by sheep and cattle Increasing sward height Deer grazing and trampling Also burning for game management (deer, grouse) but no code for this. Phragmites, bracken, gorse, tree colonisation Rhododendron, conifer Instances of turbine and associated infrastructure development leading to habitat loss often mitigated, but loss unquantified. Instances of run-of river schemes and associated infrastructure development leading to habitat loss often mitigated, loss unquantified. 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	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)
Management of hunting, recreational fishing and recreational or commercial harvesting or collection of plants (CG02)
Management, control or eradication of other invasive alien species (CI03)
Management of problematic native species (CI05)
Adapt/manage renewable energy installation, facilities and operation (CC03)

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 substantial improvements shown for Structure and function should continue, and the extent reported as recovering exceeds that reported as declining by more than three times. These are important improvements, and the trend is assessed as Very Positive. Despite this evidence of improvement, UK Article 17 approach requires that where Nitrogen deposition as a threat is ranked High, as in this case, Future trends for Structure and Function should be classed as Very negative. This is unsupported by the available empirical evidence used in this assessment, and disproportionate when viewed in the context of the significant improvement which has occurred under the current level of Critical Load exceedance. Therefore the trend has been changed to Positive to take account of CL exceedance.

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

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

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 5.59
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 H7230 on SACs in Scotland. Assessment is based on the results of fieldwork carried out between 2004 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 H7230 on SACs considered to be in Favourable condition has increased from 48% in 2012 (based on assessments carried out between 2002 and 2011) to 85% in 2016. Twelve per cent of H7230 is assessed as recovering, 2% more than in 2012. A further 1% of the extent is now reported to be Unfavourable but recovering due to management. Overall, 70ha was assessed as declining in condition (Unfavourable declining or Favourable declining), with 276ha recovered or recovering (Favourable recovered, Unfavourable recovering, Unfavourable recovering due to management), compared to 165ha and 218ha respectively for 2012. As the proportion in Favourable condition has increased markedly, 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

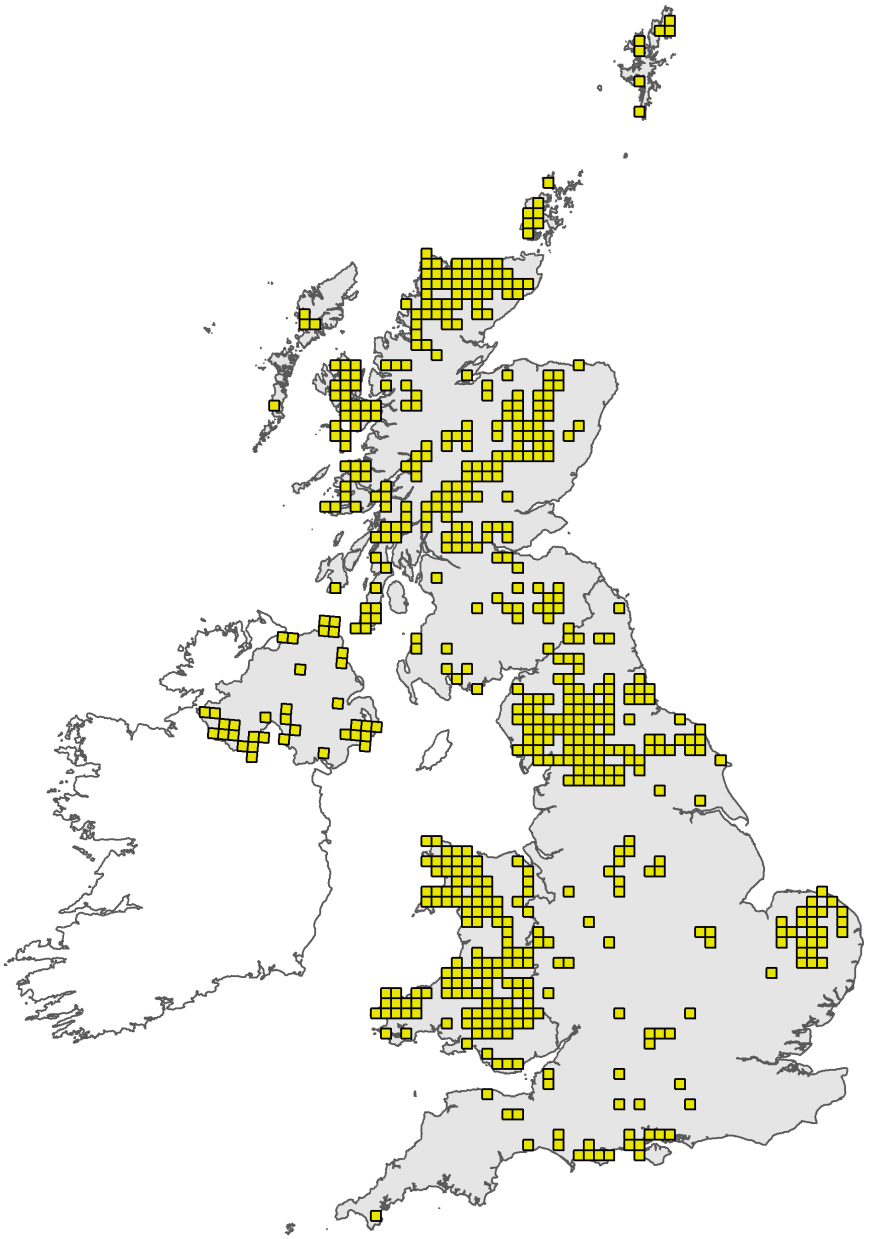

Figure 1: UK distribution map for H7230 - Alkaline fens. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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

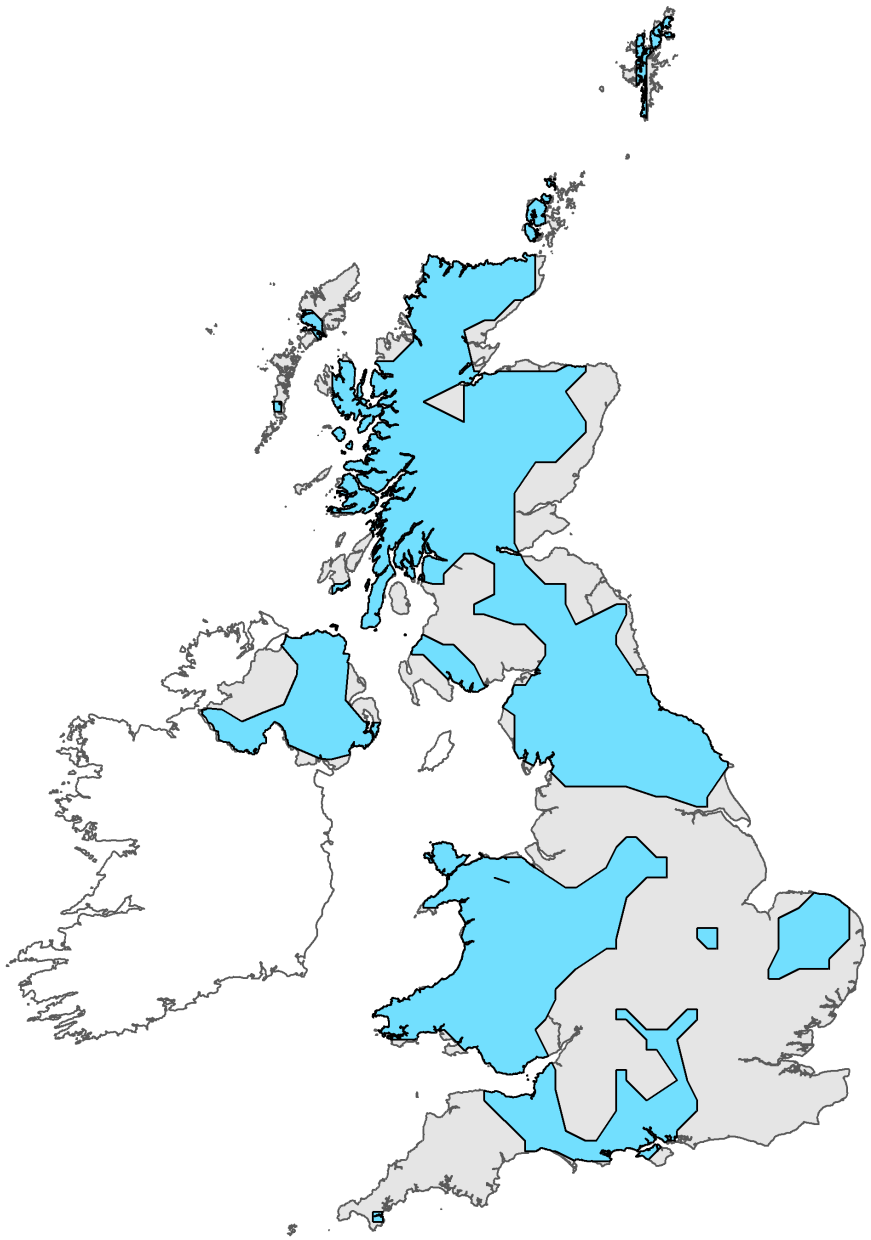

Figure 2: UK range map for H7230 - Alkaline fens. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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.