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:

H4080 - Sub-Arctic *Salix* spp. scrub

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	**4080 - Sub-Arctic Salix spp. scrub**

2. Maps

2.1 Year or period	1999-2007
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/H4080_SCOTLAND.pdf SNH SCM database, extract A2298772, 2017, processed and summarised in A2496115. Montane willow scrub 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. Most of these occurrences fill gaps within the existing range and thus do not alter it, but others which would extend the range are not considered credible. NB only a cursory examination of additional	

occurrences has been possible, and while many are credible, there are also errors. Any change in range would require 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 2003-2015. Within this period, persistence of the habitat has been confirmed in all the upland designated sites where it is a notified feature (SCM database, extract A2298772).

5. Area covered by habitat

5.1 Year or period	2007-007-		
5.2 Surface area (in km²)	a) Minimum 0.225	b) Maximum 0.225	c) Best single value 0.225
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	Uncertain (u)		
5.7 Short-term trend Magnitude	a) Minimum	b) Maximum	c) Confidence interval
5.8 Short-term trend Method used	Insufficient or no data available		
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 quantified evidence of change in extent in Scotland in the period, but this is uncertain. Within this period, no confirmed losses of extent have been recorded on sites where it is a notified feature (SCM database, extract A2298772). Anecdotally, loss of plants from scrub (and from occurrences of montane willow which do not form scrub) occur, but new occurrences are sometimes encountered, and several initiatives to augment or expand willow populations have taken place. However, the extent to which these initiatives have as yet resulted in the formation of the Annex 1 habitat is unclear. The balance between losses and gains, and therefore the trend recorded, is uncertain.		

6. Structure and functions

6.1 Condition of habitat	a) Area in good condition (km²)	Minimum 0	Maximum 0
	b) Area in not-good condition (km²)	Minimum 0.23	Maximum 0.23
	c) Area where condition is not known (km²)	Minimum 0	Maximum 0

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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	2005-2015
6.4 Short-term trend of habitat area in good condition Direction	Stable (0)
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 H4080 in Scotland. Assessment is based on the results of assessments carried out between 2005 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 H4080 on SACs considered to be in Favourable condition has remained at 0% from 2012 (based on assessments carried out between 2003 and 2010) to 2015. Forty-six per cent of H4080 is assessed as recovering, the same proportion as in 2012. A further 22% of the extent is now reported to be Unfavourable but recovering due to management, compared top 0.4% in 2012. Overall, 0.1ha was assessed as declining in condition (Unfavourable declining or Favourable declining), with 15.6ha recovered or recovering (Favourable recovered, Unfavourable recovering, Unfavourable recovering due to management), compared to 0.1ha and 11.4ha respectively for 2012, a slight improvement. As the proportion in Favourable condition has remained the same, no habitat has been reported as recovered, and there is only limited improvement in the results for the extent reported to be recovering versus the extent reported as declining, overall the judgement is that condition is stable.

7. Main pressures and threats

7.1 Characterisation of pressures/threats

Pressure	Ranking
Intensive grazing or overgrazing by livestock (A09)	H
Management of fishing stocks and game (G08)	H
Temperature changes (e.g. rise of temperature & extremes) due to climate change (N01)	M
Reduced fecundity / genetic depression (e.g. inbreeding or endogamy) (L05)	M
Mixed source air pollution, air-borne pollutants (J03)	H

Threat	Ranking
Intensive grazing or overgrazing by livestock (A09)	H
Management of fishing stocks and game (G08)	H
Temperature changes (e.g. rise of temperature & extremes) due to climate change (N01)	M
Reduced fecundity / genetic depression (e.g. inbreeding or endogamy) (L05)	M
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7.2 Sources of information	
7.3 Additional information	Grazing - sheep Deer grazing and trampling Reduced snowlie increasing exposure to herbivory? Small populations, unbalanced sex ratios. 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		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 hunting, recreational fishing and recreational or commercial harvesting or collection of plants (CG02)

Manage other native species (CS04)

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.For this habitat, the difficulty of achieving improvements is magnified by the palatability of montane willows and their occurrence in small, fragmented populations.

9. Future prospects

9.1 Future prospects of parameters	a) Range b) Area c) Structure and functions
9.2 Additional information	Although Range is considered likely to remain stable, the Favourable reference range is not known, and therefore it is not possible to determine their relationship and therefore Future prospects cannot be assessed. The Area trend is Uncertain, and the Structure and function trend is not improving - no habitat is reported to have recovered. Despite this evidence of stability, 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	

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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

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 0.23
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	Stable (0)
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 H4080 on SACs in Scotland. Assessment is based on the results of assessments carried out between 2005 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 H4080 on SACs considered to be in Favourable condition has remained at 0% from 2012 (based on assessments carried out between 2003 and 2010) to 2015. Forty-six per cent of H4080 is assessed as recovering, the same proportion as in 2012. A further 22% of the extent is now reported to be Unfavourable but recovering due to management, compared to 0.4% in 2012. Overall, 0.1ha was assessed as declining in condition (Unfavourable declining or Favourable declining), with 15.6ha recovered or recovering (Favourable recovered, Unfavourable recovering, Unfavourable recovering due to management), compared to 0.1ha and 11.4ha respectively for 2012, a slight improvement. As the proportion in Favourable condition has remained the same, no habitat has been reported as recovered, and there is only limited improvement in the results for the extent reported to be recovering versus the extent reported as declining, overall the judgement is that condition is stable.

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12. Complementary information

12.1 Justification of % thresholds for trends

12.2 Other relevant information

Distribution Map

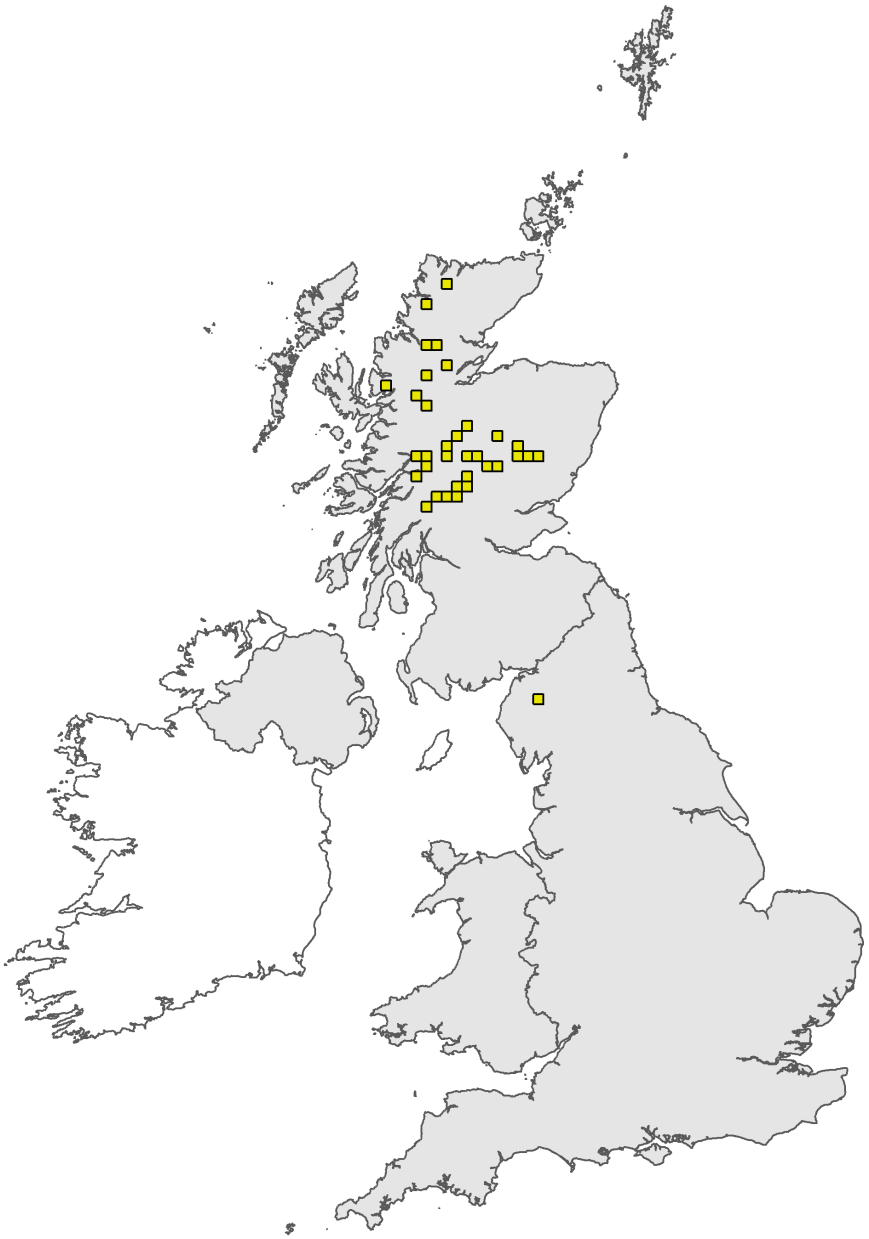

Figure 1: UK distribution map for H4080 - Sub-Arctic *Salix* spp. scrub. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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

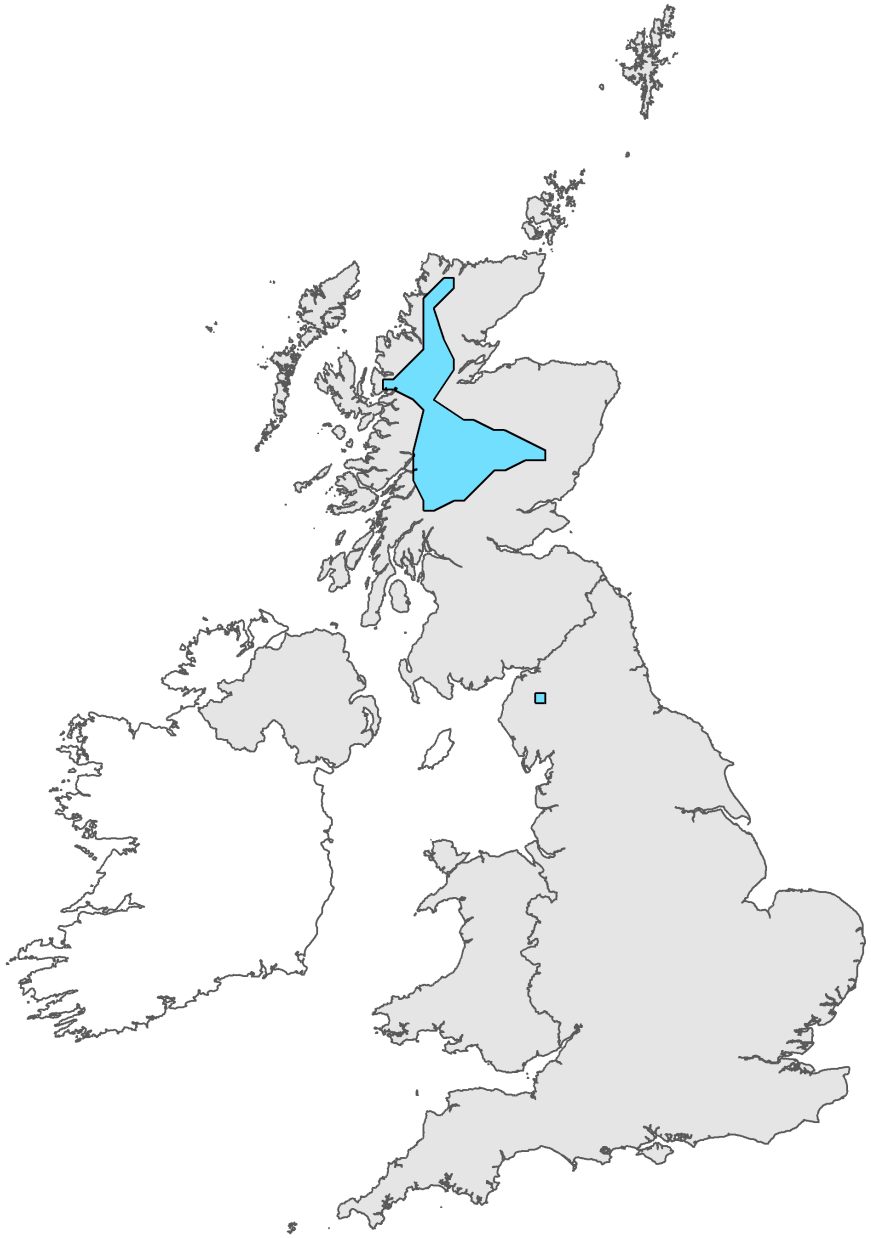

Figure 2: UK range map for H4080 - Sub-Arctic *Salix* spp. scrub. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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.