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:

H6150 - Siliceous alpine and boreal grasslands

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	**6150 - Siliceous alpine and boreal grasslands**

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/H6150_SCOTLAND.pdf SNH SCM database, extract A2298772, 2017, processed and summarised in A2496368. Alpine summit communities of moss, sedge and three-leaved rush 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 extend the range in the Hebrides. NB only a cursory	

examination of additional occurrences has been possible, and while some are credible, there are also appear 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 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). 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.

5. Area covered by habitat

5.1 Year or period	2006-006-		
5.2 Surface area (in km²)	a) Minimum 650	b) Maximum 750	c) Best single value 700
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	2006-2016		
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 change in extent in Scotland in the period. Within this period, no losses of extent have been recorded on sites where it is a notified feature (SCM database, extract A2298772), except for a very small loss which was expected to recover. However, small losses of extent due to herbivore trampling, vehicle use and trampling by walkers do occur within and outwith designated sites. The interaction of grazing and atmospheric nitrogen deposition in reducing cover of Racomitrium moss in favour of graminoids is fairly well understood and can resuls in loss of this habitat, and various strands of evidence suggest that loss in extent is likely to be occurring. However this has not been quantified.		

6. Structure and functions

6.1 Condition of habitat	a) Area in good condition (km²)	Minimum 125	Maximum 125
	b) Area in not-good condition (km²)	Minimum 194	Maximum 194

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

	c) Area where condition is not known (km²)	Minimum 331	Maximum 431	
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	2003-2016			
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	Site Condition Monitoring provides a means of assessing the structure and function of H6150 in Scotland. Assessment is based on the results of assessments carried out between 2003 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 H6150 on SACs considered to be in Favourable condition has increased from 25% in 2012 (based on assessments carried out between 2003 and 2010) to 39% in 2016. Thirty-six per cent of H6150 is assessed as recovering, a slight increase from 2012. A further 14% of the extent is now reported to be Unfavourable but recovering due to management, nearly five times the 2012 figure. Two SSSI features are also considere to be Unfavourable but extent data is not available. Overall, 397ha was assessed as declining in condition (Unfavourable declining or Favourable declining), with 16882ha recovered or recovering (Favourable recovered, Unfavourable recovering, Unfavourable recovering due to management), compared to 1055ha and 10193ha respectively for 2012, a substantial improvement. As the proportion in Favourable condition has increased by more than half, and the extent reported to be recovering significantly exceeds the extent reported as declining, overall condition is judged to be improving.			

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
Sports, tourism and leisure activities (F07)	M
Change of species distribution (natural newcomers) due to climate change (N08)	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
Sports, tourism and leisure activities (F07)	M
Change of species distribution (natural newcomers) due to climate change (N08)	M

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

7.2 Sources of information	
7.3 Additional information	Trampling and grazing by sheep Trampling and grazing by deer Trampling by walkers Warmer conditions facilitating expansion of grasses N deposition, interacting with grazing.

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)

Reduce impact of outdoor sports, leisure and recreational activities (CF03)

Reduce/eliminate air pollution from industrial, commercial, residential and recreational areas and activities (CF06)

Implement climate change adaptation measures (CN02)

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 improvements shown for Structure and function should continue, and the extent reported as recovering significantly exceeds that reported as declining. Given the relatively large extent still unfavourable, and the patchy nature of both pressures and application of conservation measures, it would be premature to consider improvements to be better than moderate. 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

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

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

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 319.71
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 H6150 in SACs in Scotland. Assessment is based on the results of assessments carried out between 2003 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 H6150 on SACs considered to be in Favourable condition has increased from 25% in 2012 (based on assessments carried out between 2003 and 2010) to 39% in 2016. Thirty-six per cent of H6150 is assessed as recovering, a slight increase from 2012. A further 14% of the extent is now reported to be Unfavourable but recovering due to management, nearly five times the 2012 figure. Overall, 397ha was assessed as declining in condition (Unfavourable declining or Favourable declining), with 16882ha recovered or recovering (Favourable recovered, Unfavourable recovering, Unfavourable recovering due to management), compared to 1055ha and 10193ha respectively for 2012, a substantial improvement. As the proportion in Favourable condition has increased by more than half, and the extent reported to be recovering significantly exceeds the extent reported as declining, overall condition is judged to be improving.

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

12. Complementary information

12.1 Justification of % thresholds for trends

12.2 Other relevant information

Distribution Map

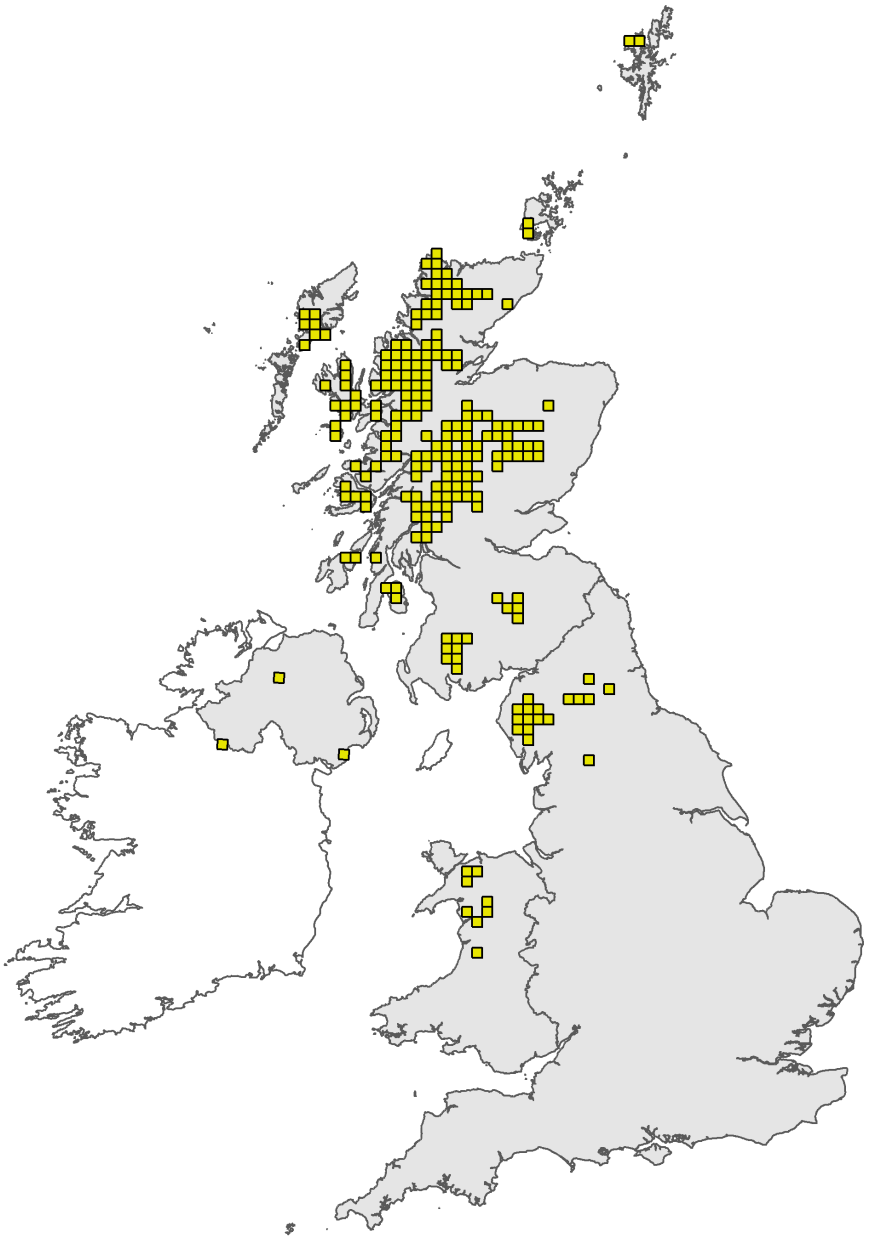

Figure 1: UK distribution map for H6150 - Siliceous alpine and boreal grasslands. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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

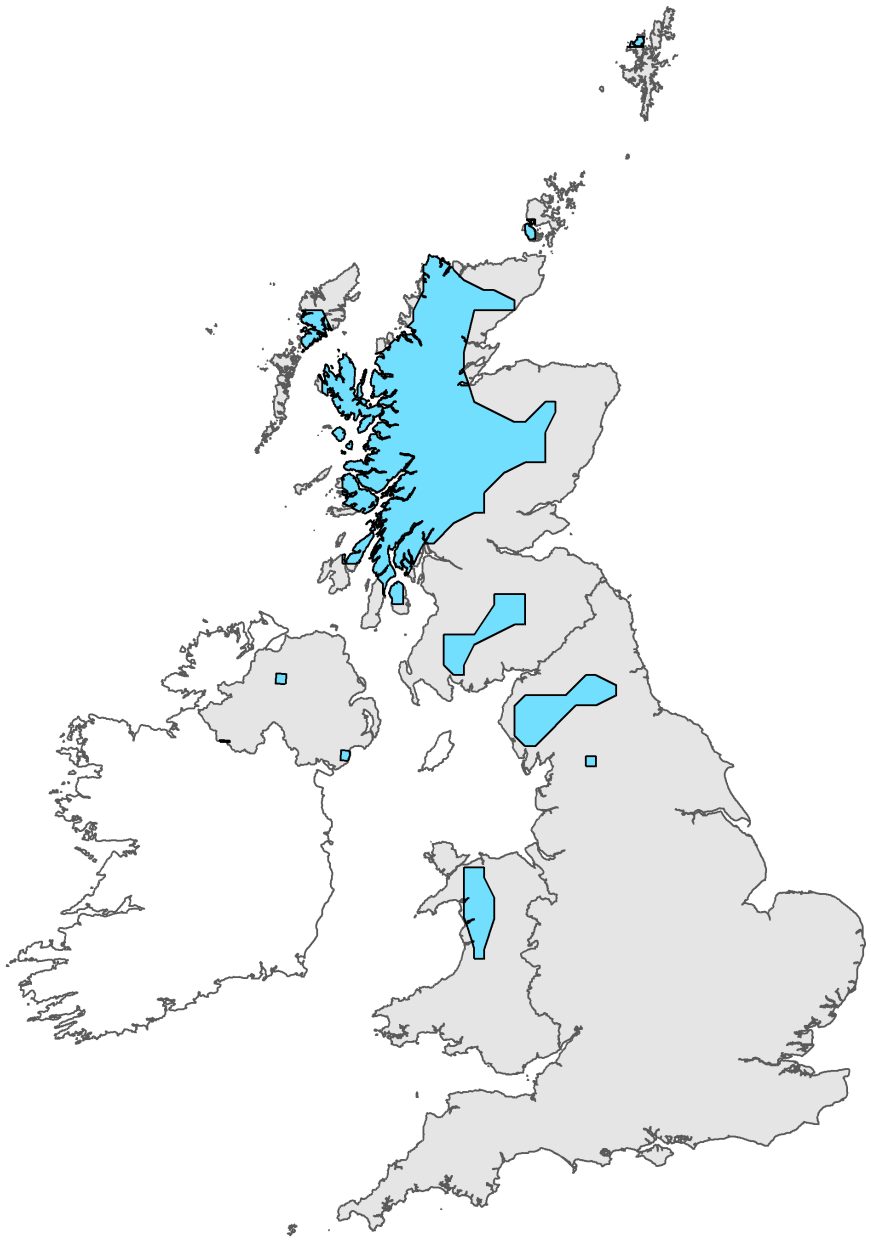

Figure 2: UK range map for H6150 - Siliceous alpine and boreal grasslands. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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.