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:

H6170 - Alpine and subalpine calcareous 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	**6170 - Alpine and subalpine calcareous grasslands**

2. Maps

2.1 Year or period	1962-2007
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/H6170_SCOTLAND.pdf SNH SCM database, extract A2298772, 2017, processed and summarised in A2496458. Calcareous grassland (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	No
	d) Method	
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 would increase the currently-mapped range. Some of these are credible (NC03), but one should be confirmed. NB only a cursory examination of additional occurrences has been	

possible, and 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).

5. Area covered by habitat

5.1 Year or period	2006-2017		
5.2 Surface area (in km²)	a) Minimum 6.8	b) Maximum 11.2	c) Best single value 6.8
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 significant change in extent in Scotland in the period. Within this period, small losses of extent have been recorded on three sites where it is a notified feature (SCM database, extract A2298772), with at least two of these apparently related to species composition change and potentially reversible. However, it is clear that significant but relatively small and sometimes reversible losses of extent due to species composition change, herbivore trampling, and trampling by walkers can occur within and outwith designated sites. However this is neither recorded nor quantified in any systematic form. While it is currently judged that extent is stable, it should be borne in mind that there are some signs of potential losses which are worthy of further investigation.		

6. Structure and functions

6.1 Condition of habitat	a) Area in good condition (km²)	Minimum 1.6	Maximum 1.6
	b) Area in not-good condition (km²)	Minimum 5.2	Maximum 5.2
	c) Area where condition is not known (km²)	Minimum 0	Maximum 4.4

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

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	2008-2016
6.4 Short-term trend of habitat area in good condition Direction	Decreasing (-)
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 H6170 in Scotland. Assessment is based on the results of assessments carried out between 2008 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 H6170 on SACs considered to be in Favourable condition has increased from 15% in 2012 (based on assessments carried out between 2004 and 2011) to 23% in 2016. Thirteen per cent of H6170 is assessed as recovering, a large increase from 2012 when only 1% was regarded as recovering, and 37% as declining, a large increase from 9% in 2016. A further 12% of the extent is now reported to be Unfavourable but recovering due to management, slightly greater than the 2012 figure of 10%. For SSSI features not overlapping SAC, one is reported to be Favourable and one Unfavourable, but extent data is not available. Overall, 252ha was assessed as declining in condition (Unfavourable declining or Favourable declining), with 230ha recovered or recovering (Favourable recovered, Unfavourable recovering, Unfavourable recovering due to management), compared to 59ha and 69ha respectively for 2012. While the proportion of H6170 in Favourable condition has increased by around half, and despite the increase in extent recorded as recovered or recovering, the substantial increase in extent declining in condition is very concerning. The vast majority of this increase is represented by two sites on Skye which had not been previously assessed and the increase may therefore represent an improvement in knowledge rather than a real deterioration in condition of H6170. However, the extent in Favourable condition remains below a quarter, and the extent reported top be declining exceeds that considered to be recovering, so overall condition is judged to be declining.

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
Problematic native species (I04)	M
Other invasive alien species (other then species of Union concern) (I02)	M
Mixed source air pollution, air-borne pollutants (J03)	H

Threat	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
Problematic native species (I04)	M
Other invasive alien species (other then species of Union concern) (I02)	M
Mixed source air pollution, air-borne pollutants (J03)	H

7.2 Sources of information

7.3 Additional information

Grazing and trampling - sheep
Undergrazing allowing encroachment.
Deer grazing and trampling
Bracken colonisation and juniper in one instance.
Cotoneaster
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)
Management of problematic native species (CI05)
Management, control or eradication of other invasive alien species (CI03)

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 largely been identified, implementation is patchy, and satisfactory methods are still experimental in some cases.

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, although there are some concerns. Although there has been an increase in the extent in Favourable condition, it remains low, and a greater extent is declining than is recovering, and therefore there is a deterioration in structure and function. Although there is evidence that this deterioration is slight to moderate, 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	
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 6.76
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	Decreasing (-)
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 H6170 on SACs in Scotland. Assessment is based on the results of assessments carried out between 2008 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 H6170 on SACs considered to be in Favourable condition has increased from 15% in 2012 (based on assessments carried out between 2004 and 2011) to 23% in 2016. Thirteen per cent of H6170 is assessed as recovering, a large increase from 2012 when only 1% was regarded as recovering, and 37% as declining, a large increase from 9% in 2016. A further 12% of the extent is now reported to be Unfavourable but recovering due to management, slightly greater than the 2012 figure of 10%. Overall, 252ha

was assessed as declining in condition (Unfavourable declining or Favourable declining), with 230ha recovered or recovering (Favourable recovered, Unfavourable recovering, Unfavourable recovering due to management), compared to 59ha and 69ha respectively for 2012. While the proportion of H6170 in Favourable condition has increased by around half, and despite the increase in extent recorded as recovered or recovering, the substantial increase in extent declining in condition is very concerning. The vast majority of this increase is represented by two sites on Skye which had not been previously assessed and the increase may therefore represent an improvement in knowledge rather than a real deterioration in condition of H6170. However, the extent in Favourable condition remains below a quarter, and the extent reported top be declining exceeds that considered to be recovering, so overall condition is judged to be declining.

12. Complementary information

12.1 Justification of % thresholds for trends

12.2 Other relevant information

Distribution Map

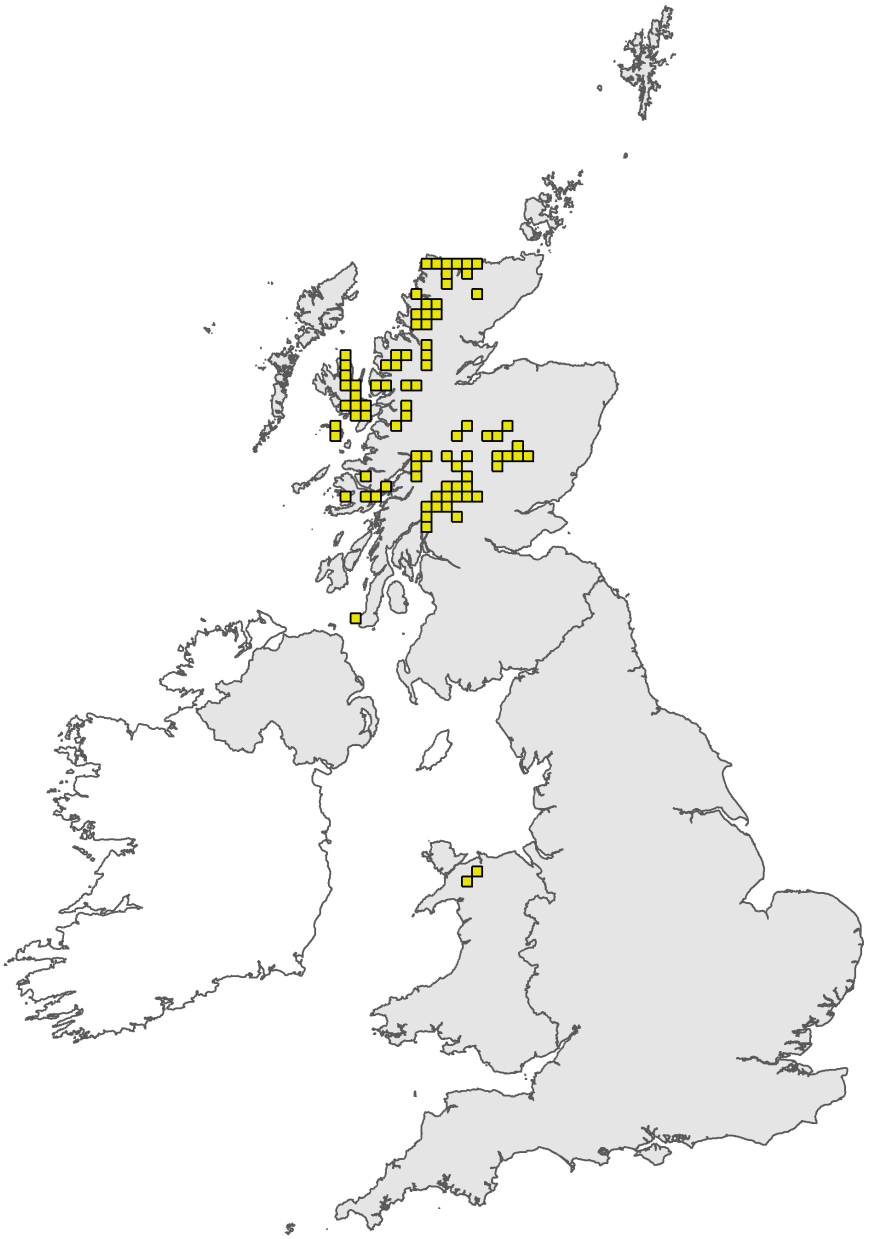

Figure 1: UK distribution map for H6170 - Alpine and subalpine calcareous grasslands. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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

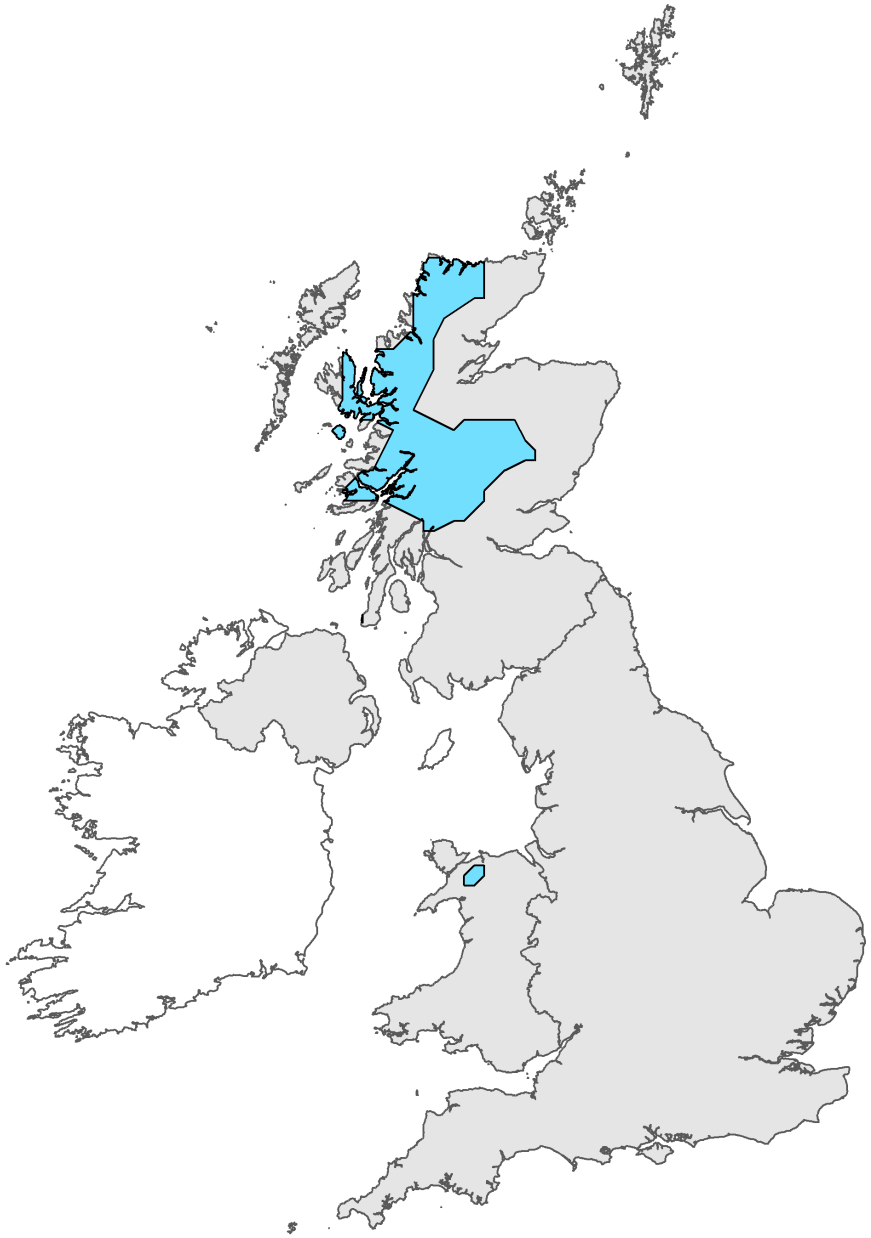

Figure 2: UK range map for H6170 - Alpine and subalpine calcareous grasslands. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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.