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:

H6230 - Species-rich *Nardus* grassland, on siliceous substrates in mountain areas (and submountain areas in continental Europe)

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	**6230 - Species-rich Nardus grasslands, on siliceous substrates in mountain are**

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/H6230_SCOTLAND.pdf SNH SCM database, extract A2298772, 2017, processed and summarised in A2434567. 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 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. As noted in previous reporting, it was considered that distribution mapping under-represented actual distribution, and new mapping information helps to correct this. Many new occurrences are outwith	

the currently-mapped range (eg in the Shetland Islands and the Hebrides) and would increase the surface area of the range. NB only a cursory examination of additional occurrences has been possible, and while many are credible, there also appear to be some 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). Within the lowlands 90% of the extent on designated sites has been assessed and confirmed as present within the last 12 years. 10% of the designated H6230 lowland grassland (1 site) has not been assessed within this time frame. 3) Note that there was an increase in range reported in 2013 as a consequence of inclusion of lowland data previously omitted erroneously.

5. Area covered by habitat

5.1 Year or period	1962-2016		
5.2 Surface area (in km²)	a) Minimum 46	b) Maximum 46	c) Best single value 46
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	2005-2016		
5.6 Short-term trend Direction	Stable (0)		
5.7 Short-term trend Magnitude	a) Minimum 0	b) Maximum 0	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			

6. Structure and functions

6.1 Condition of habitat	a) Area in good condition (km²)	Minimum 4.87	Maximum 4.87
	b) Area in not-good condition (km²)	Minimum 38.55	Maximum 38.55
	c) Area where condition is not known (km²)	Minimum 2.58	Maximum 2.58
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	2002-2016
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 H6230 in Scotland. Assessment is based mainly on the results of fieldwork carried out between 2006 and 2016, with one assessment from 2002. 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 H6230 on designated sites considered to be in Favourable condition has increased from 0% in 2012 (based on assessments carried out between 2002 and 2010) to 11% in 2016, with a further 14% assessed as recovering. 1428ha was reported as declining in condition (Unfavourable declining or Favourable declining), with 1061ha recovered or recovering (Favourable recovered, Unfavourable recovering, Unfavourable recovering due to management), compared to 1054ha and 948ha respectively for 2012. However these figures are not directly comparable, as the 2012 data do not include SSSI extent. For section 6.5, the options do not fit the data available - there is a significant amount of data, with some extrapolation, which would place it between a) and b).

7. Main pressures and threats

7.1 Characterisation of pressures/threats

Pressure	Ranking
Abandonment of grassland management (e.g. cessation of grazing or mowing) (A06)	M
Intensive grazing or overgrazing by livestock (A09)	H
Application of synthetic (mineral) fertilisers on agricultural land (A20)	H
Conversion to forest from other land uses, or afforestation (excluding drainage) (B01)	M
Sports, tourism and leisure activities (F07)	M
Management of fishing stocks and game (G08)	H
Problematic native species (I04)	H
Temperature changes (e.g. rise of temperature & extremes) due to climate change (N01)	M
Mixed source air pollution, air-borne pollutants (J03)	H

Threat	Ranking
Abandonment of grassland management (e.g. cessation of grazing or mowing) (A06)	M
Intensive grazing or overgrazing by livestock (A09)	H
Application of synthetic (mineral) fertilisers on agricultural land (A20)	H

Conversion to forest from other land uses, or afforestation (excluding drainage) (B01)	M
Sports, tourism and leisure activities (F07)	M
Management of fishing stocks and game (G08)	H
Problematic native species (I04)	H
Temperature changes (e.g. rise of temperature & extremes) due to climate change (N01)	H
Mixed source air pollution, air-borne pollutants (J03)	H

7.2 Sources of information

7.3 Additional information

Undergrazing
Overgrazing
Mainly lowland
Some instances of planting proposals, likely to increase under woodland expansion strategy
Few instances of vehicle or walker impact.
Deer grazing and trampling
Bracken and scrub (gorse, hawthorn in lowlands)
Species composition change at higher altitudes
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: Both inside and outside Natura 2000

8.4 Response to the measures: Short-term results (within the current reporting period, 2013-2018)

8.5 List of main conservation measures

Prevent conversion of natural and semi-natural habitats, and habitats of species into agricultural land (CA01)
Maintain existing extensive agricultural practices and agricultural landscape features (CA03)
Reinstate appropriate agricultural practices to address abandonment, including mowing, grazing, burning or equivalent measures (CA04)
Adapt mowing, grazing and other equivalent agricultural activities (CA05)
Other measures related to agricultural practices (CA16)
Reduce impact of outdoor sports, leisure and recreational activities (CF03)
Management of hunting, recreational fishing and recreational or commercial harvesting or collection of plants (CG02)
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 only over longer timescales. Although conservation measures have been identified, implementation is patchy. For this particular habitat, implementation can be problematic in that the level of grazing

required for this habitat is often higher than that which will allow other habitats to recover, and conflicting requirements within the same site may not be reconciled.

9. Future prospects

9.1 Future prospects of parameters	a) Range b) Area c) Structure and functions
9.2 Additional information	Actual range is considered likely to remain stable, although confirmation of some improvements to mapping would be very likely to increase the mapped range. Area is considered likely to remain stable, although again confirmation of some improvements to mapping would be very likely to increase the mapped extent. The modest improvements shown for Structure and function should continue, but there is also a concerning trend for the extent considered to be declining to increase. Given the large extent still unfavourable, and the patchy nature of both pressures and application of conservation measures, it would be premature to consider improvements, although real, to be better than slight/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

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 41.25

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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 the structure and function of H6230 within SACs in Scotland. Assessment is based on the results of fieldwork carried out between 2006 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 H6230 on SACs considered to be in Favourable condition has increased from 0% in 2012 (based on assessments carried out between 2002 and 2010) to 11% in 2016, with a further 14% assessed as recovering. 1374ha was reported as declining in condition (Unfavourable declining or Favourable declining), with 1024ha reported as recovered or recovering (Favourable recovered, Unfavourable recovering, Unfavourable recovering due to management) , compared to 1054ha and 948ha respectively for 2012. However these figures are not directly comparable, as some of the 2012 extent recorded as recovering is now classed as recovered. Therefore the condition of the habitat within SACs is considered to be improving, albeit a large proportion remains Unfavourable.

12. Complementary information

12.1 Justification of % thresholds for trends	
12.2 Other relevant information	

Distribution Map

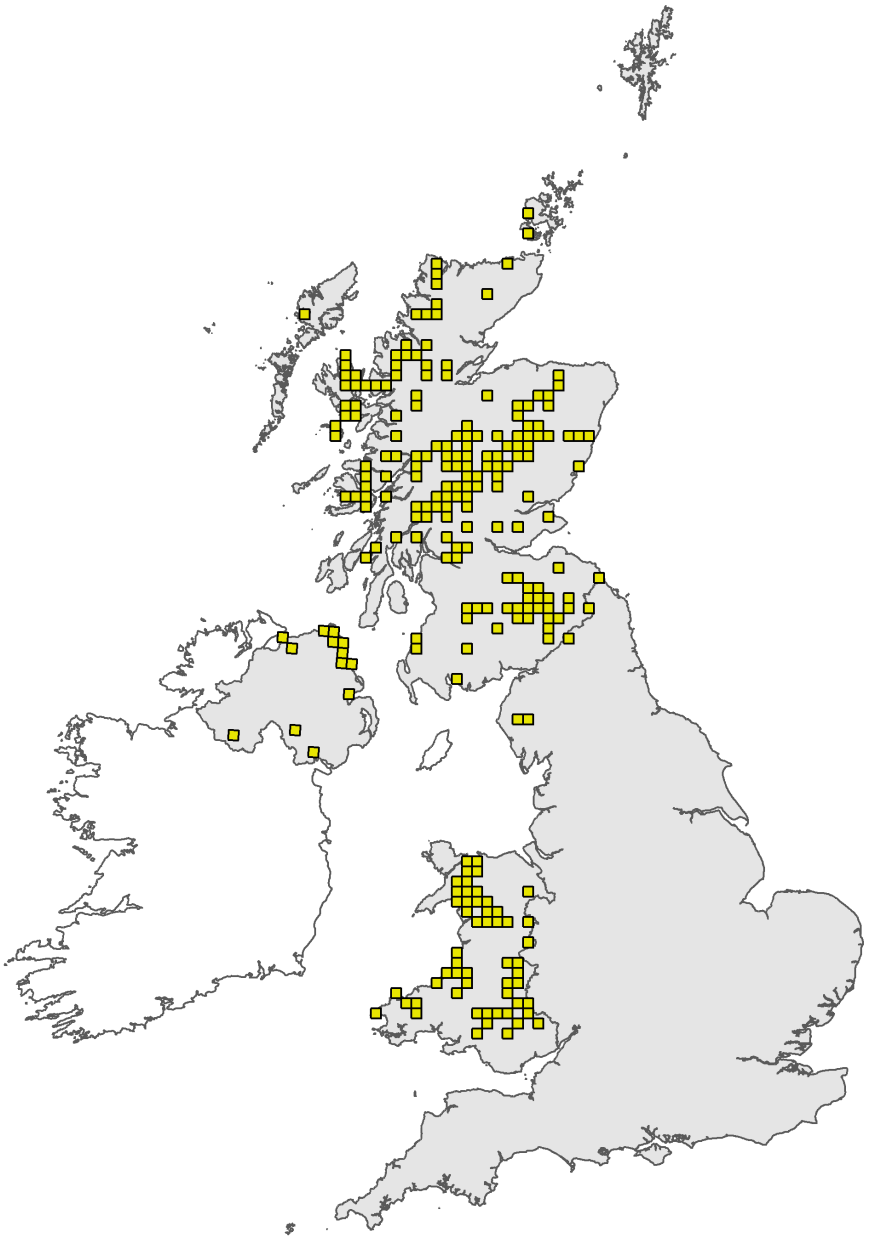

Figure 1: UK distribution map for H6230 - Species-rich *Nardus* grassland, on siliceous substrates in mountain areas (and submountain areas in continental Europe). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government 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

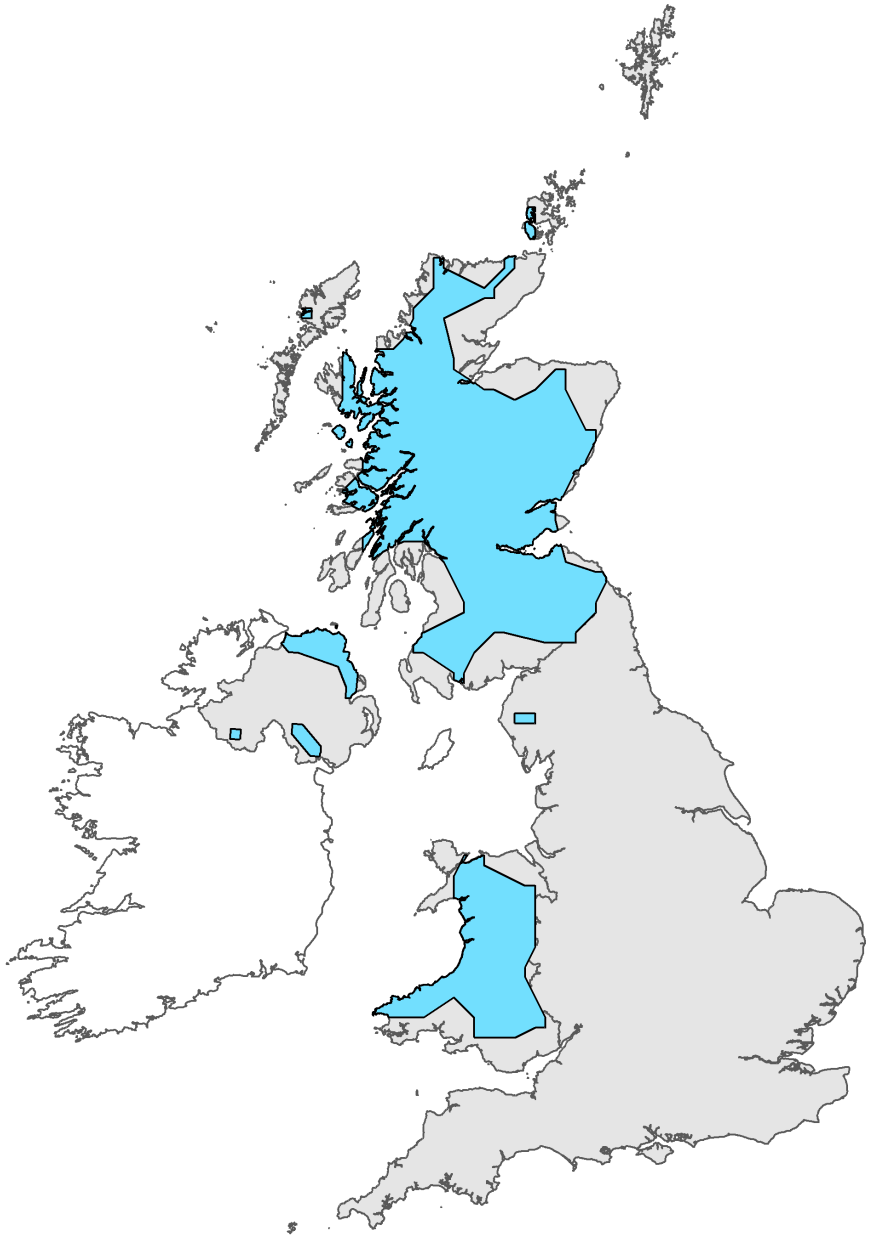

Figure 2: UK range map for H6230 - Species-rich *Nardus* grassland, on siliceous substrates in mountain areas (and submountain areas in continental Europe). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government 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.