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:

H6210 - Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*)

ENGLAND

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 (England information only)**
1.2 Habitat code	**6210 - Semi-natural dry grasslands and scrubland facies on calcareous substra**

2. Maps

2.1 Year or period	2013-2018
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	Janssen, J.A.M. and 48 others 2016 European Red List of habitats. Part 2. Terrestrial and freshwater habitats. European Union, Luxembourg. Hewins, E.J., Pinches, C., Arnold, J., Lush, M., Robertson, H. and Escott, S. 2005. The condition of lowland BAP priority grasslands: results from a sample survey of non-statutory stands in England. English Nature Research Reports 636. English Nature, Peterborough. Rodwell, J.S., Morgan, V., Jefferson, R.G. and Moss, D. 2007. The European context of British lowland grasslands. JNCC Report 394. Joint Nature Conservation Committee, Peterborough. Natural England and RSPB 2014 Climate Change Adaptation Manual: Evidence to support nature conservation in a changing climate. Natural England Commissioned Research Report no. 546. Bullock, J.M., Jefferson, R.G., Blackstock, T.H., Pakeman, R. J., Emmett, B. A., Pywell, R. J., Grime, J. P. and Silvertown, J. W. 2011. Chapter 6: Semi-natural grasslands. In: The UK National Ecosystem Assessment Technical Report. UK National Ecosystem Assessment, UNEP-WCMC, Cambridge. JNCC reporting data for H6210 submitted to EU for the 2013 Article 17 reporting round. Stevens, C.J., Smart, S.M., Henrys, P.A., Maskell, L.C., Walker, K.J., Preston, C.D., Crowe, A., Rowe, E.C., Gowing, D.J. & Emmett, B.A. 2011. Collation of evidence of nitrogen impacts on vegetation in relation to UK biodiversity objectives. JNCC Report, No.447. Interim year 1 results from Natural England sample survey of the condition of grassland Priority Habitats outside of designated sites (unpublished) Stroh, P.A., Pescott, O.L. & Mountford, J.O. (2017) Long-term changes in lowland calcareous grassland plots using Tephroseris integrifolia subsp. Integrifolia as an indicator species. Plant Ecology Walker, K.J., Stroh, P.A. & Ellis, R.W. (2018) Threatened Plants of Britain and Ireland. Botanical Society of Britain and Ireland Wheeler, B. & Wilson, P. (2014) The effectiveness of Higher Level Stewardship for maintaining and restoring species-rich grasslands:a resurvey of a sample of grasslands under HLS options HK6 and HK7. LM0443. Report to Defra. Wheeler, B. R. & Wilson, P.J. (2018) Interim Progress Report to Natural England on Year 1 of 2: the 2017 field survey results. Re-survey of a sample of priority

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

grasslands outside of SSSIs to determine impact and effectiveness of Environmental Stewardship agreements in delivering outcomes.

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	No change		
	The change is mainly due to:		
4.12 Additional information			

5. Area covered by habitat

5.1 Year or period	2013-2018			
5.2 Surface area (in km²)	a) Minimum	b) Maximum	c) Best single value	490
5.3 Type of estimate	Best estimate			
5.4 Surface area Method used	Complete survey or a statistically robust estimate			
5.5 Short-term trend Period	2007-2018			
5.6 Short-term trend Direction	Increasing (+)			
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	No change			
	The change is mainly due to:			
5.15 Additional information	The area of habitat has increased due to grassland recreation activity more than offsetting minor losses, but this is not necessarily captured reliably or reflected in habitat inventory estimates. Estimate on basis of AES option for grassland			

creation/restoration and overlap with LCG network area is 6000ha, but the area of actual re-creation relative to restoration will be less than this.

6. Structure and functions

6.1 Condition of habitat	a) Area in good condition (km²)	Minimum 127.4	Maximum 127.4	
	b) Area in not-good condition (km²)	Minimum 184.4	Maximum 184.4	
	c) Area where condition is not known (km²)	Minimum 178.2	Maximum 178.2	
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	2007-2018			
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	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	The data in sections 6.1a to 6.1c is based on data on the Lowland Calcareous Grassland (LCG) Prority habitat and the Upland Calcareous Grassland (UCG) Priority habitat, for which H6210 is a subset. (H6210 = NVC types CG1 - CG9 inclusive so excludes CG10). Note this differs from the area given in 5.2 which is based on overall assessment of resource from Blackstock et al paper. In each case figures considered most accurate been used. The figures show that looking across lowland and upland types 40% are in good condition and 60% are not in good condition on SSSIs. Stands falling into the lowland enclosed types are generally in better condition with 45% in good condition in contrast to just 20% of stands in unenclosed upland situations. This accords closely with around 38% in good condition and 62% in not good condition for the specific habitat H6210 in SACs. There is a recorded 25869 ha of LCG and UCG outside of SSSIs of which c. 62% is under an A-E scheme agreement and 38% is not under A-E agreement. Whilst prescence of and A-E scheme agreement provides reassurance of grassland protection per se, internal scheme monitoring from a random sample of grasslands in the main maintenance and restoration options has indicated relatively modest improvements in condition 25% of grasslands with 64% showing no change and 11% declining (Wheeler & Wilson, 2014). Sub optimal performance of the scheme in improving grass condition was attributed to poor targeting of options in the early days of Higher Level Stewardship and a lack of tailored interventionist, restoration techniques (i.e. green hay introduction, seed introduction) without which recovery is unlikley within a 10 year agreement term in many instances (ie. when sites are isolated and opportunity for charater species to colonise is limited). However a 2017 survey of 87 Lowland Calcareous Grassland found that stands under agri-environment scheme agreement were in better condition than those outside, with better condition having been sustained between 2002 and 2017 (Wheeler & Wilson, 2017). Furthermore a significant decline in the condition was observed in stands that had been in an agri-environment scheme in 2002/3 but had subsequently left by 2017. Overall a third of stands surveyed in 2017 were found to have too high a cover of trees and scrubs indicating likely managemet neglect/abandonment. Note that the			

figures given in section 6.2 are based on data from the LCG Priority habitat - although this habitat type is broader in scope than H6210, it is considered to be representative of its condition.

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)	H
Extensive grazing or undergrazing by livestock (A10)	H
Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (L02)	H
Intensive grazing or overgrazing by livestock (A09)	M
Mowing or cutting of grasslands (A08)	M
Conversion from one type of agricultural land use to another (excluding drainage and burning) (A02)	M
Application of synthetic (mineral) fertilisers on agricultural land (A20)	M
Use of plant protection chemicals in agriculture (A21)	M
Mixed source air pollution, air-borne pollutants (J03)	M
Droughts and decreases in precipitation due to climate change (N02)	M
Increases or changes in precipitation due to climate change (N03)	M

Threat	Ranking
Abandonment of grassland management (e.g. cessation of grazing or mowing) (A06)	H
Extensive grazing or undergrazing by livestock (A10)	H
Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (L02)	H
Intensive grazing or overgrazing by livestock (A09)	M
Mowing or cutting of grasslands (A08)	M
Conversion from one type of agricultural land use to another (excluding drainage and burning) (A02)	M
Application of synthetic (mineral) fertilisers on agricultural land (A20)	M
Use of plant protection chemicals in agriculture (A21)	M
Mixed source air pollution, air-borne pollutants (J03)	M
Droughts and decreases in precipitation due to climate change (N02)	M
Increases or changes in precipitation due to climate change (N03)	M

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

7.2 Sources of information

7.3 Additional information

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		Maintain the current range, population and/or 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

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)
Adapt mowing, grazing and other equivalent agricultural activities (CA05)
Recreate Annex I agricultural habitats (CA07)
Reduce impact of mixed source pollution (CJ01)
Adopt climate change mitigation measures (CN01)
Implement climate change adaptation measures (CN02)
Manage the use of natural fertilisers and chemicals in agricultural (plant and animal) production (CA09)

8.6 Additional information

9. Future prospects

9.1 Future prospects of parameters

a) Range

b) Area

c) Structure and functions

9.2 Additional information

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

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

	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 301
11.2 Type of estimate	Best estimate
11.3 Surface area of the habitat type inside the network Method used	Complete survey or a statistically robust estimate
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	

12. Complementary information

12.1 Justification of % thresholds for trends	
12.2 Other relevant information	

Distribution Map

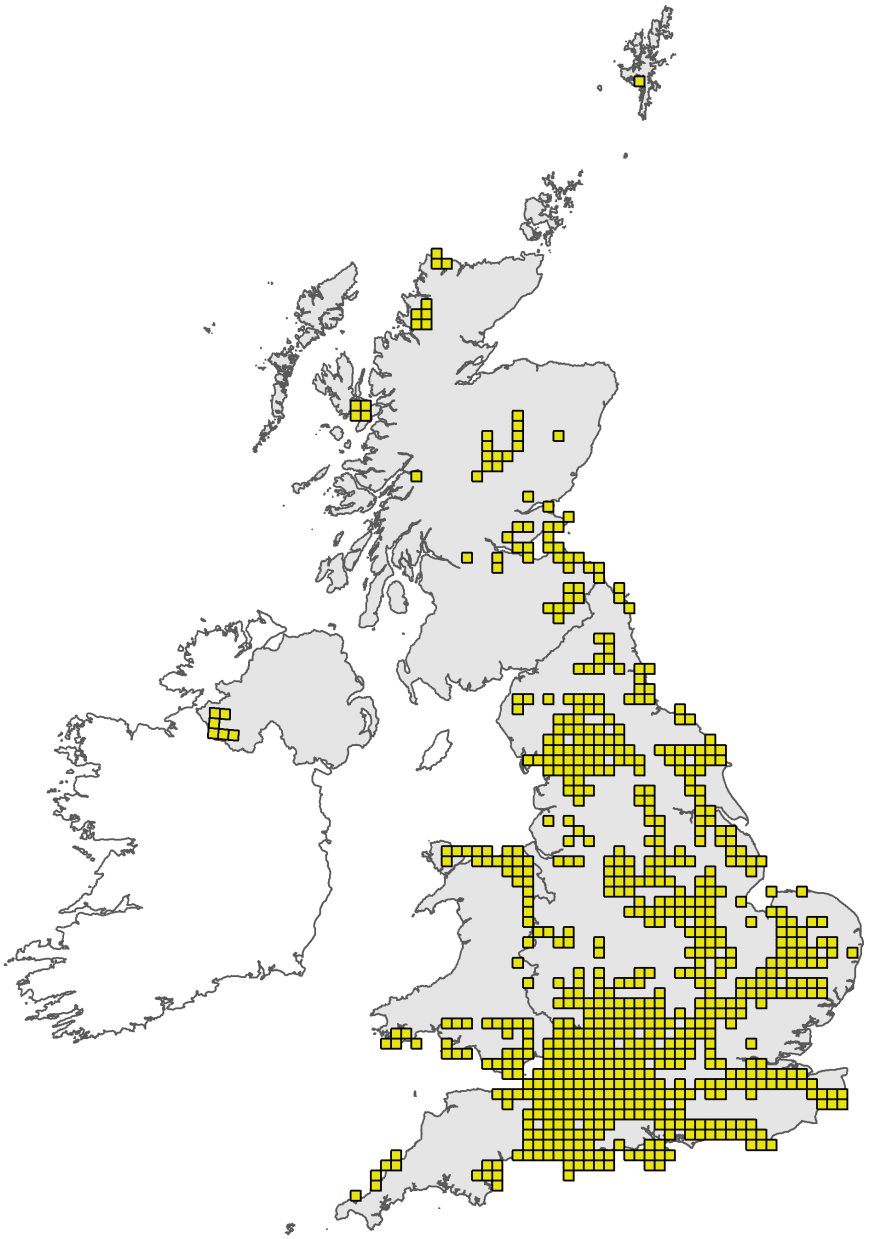

Figure 1: UK distribution map for H6210 - Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). 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

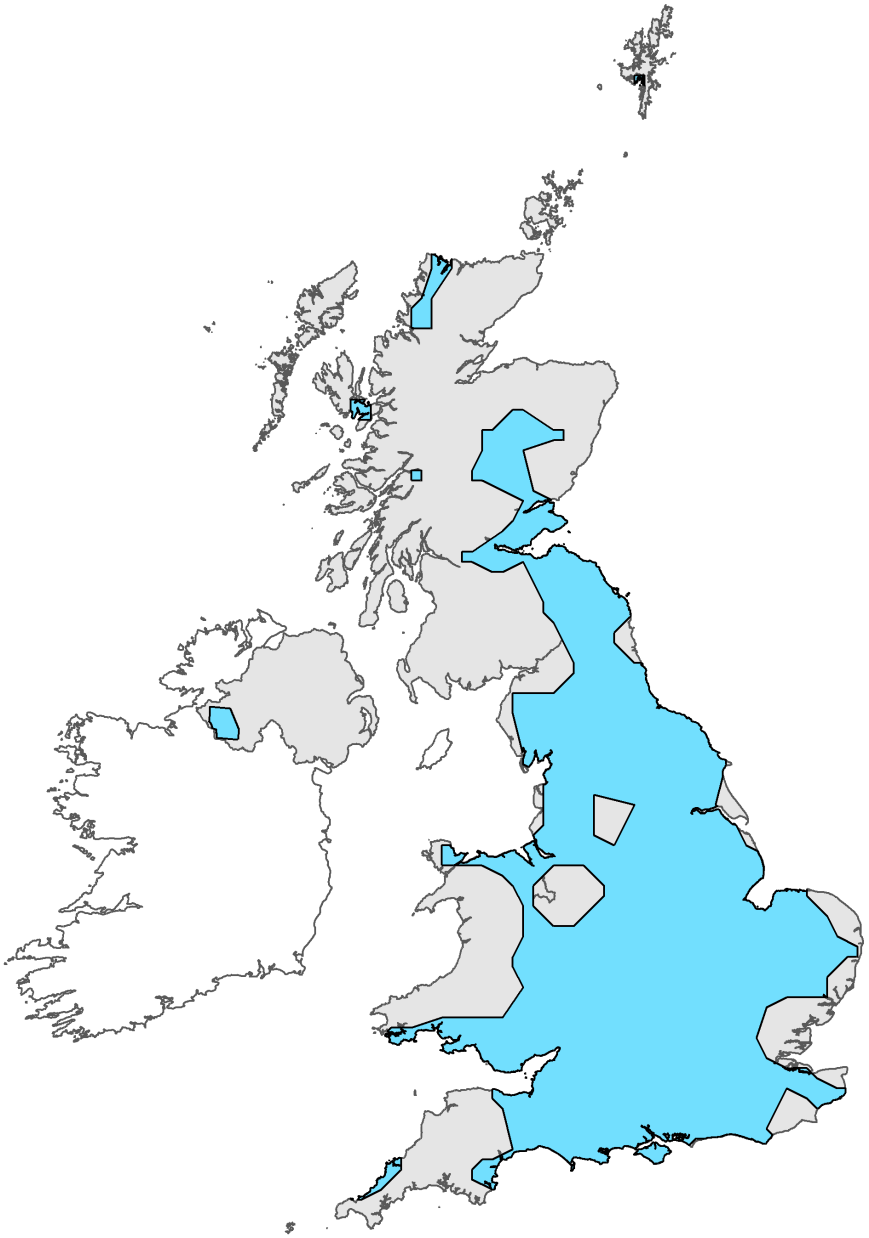

Figure 2: UK range map for H6210 - Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains 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.

Explanatory Notes

Habitat code: 6210 Region code: ATL

Field label	Note
3.2 Sources of information	The data and information that underpin the assesments in sections 4-11 are drawn from a variety of sources including the sources listed in section 3.2 plus expert opinion and external intelligence.The figures in section 6.1 are drawn from data on statutory sites only (SSSIs including SACs) based on the Lowland Calcareous Grassland Priority Habitat and the Upland Calcareous Grassland Priority habitat type equating to NVC types CG1 - CG9 inclusive. The data are not deemed to be fully representative of the resource as a whole (i.e including resource outside of SSSIs) - see also section 6.8 - additional information. An England-level sample survey of non-statutory sites is currently in progress. The interim findings have been used to provide commentary on the likely state of the lowland calcareous resource outside of protected areas. Data on habitat area within N2K sites is taken from CMSi. In addition, the following sources have been used to populate the sections on range (4) and habitat area including trends (5), pressures and threats (7) and conservation measures (8): i) Published documents as listed in section 3.2 ii) Expert opinion and informal 'specialist intelligence' including that derived from casework iii) Data from the previous 2013 Article 17 reporting round iv) Wide scale and geographic and site-based survey and monitoring data as listed in section 3.2