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:

H6130 - *Calaminarian* grasslands of the *Violetalia calaminariae*

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	**6130 - Calaminarian grasslands of the Violetalia calaminariae**

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	Natural England CMSi condition data JNCC reporting data for H6130 submittted to EU for the 2013 Article 17 reporting round. RODWELL, J.R., MOSS, D., MORGAN, V. & JEFFERSON, R.G. 2007. The European Context of British Lowland Grasslands. JNCC Report SPALDING, A. 2005. The nature-conservation value of abandoned metalliferous mine sites in Cornwall. British Wildlife, 16: 175-183. Simkin, J. M. (2006) The vegetation and management of Calaminarian grassland in the North Pennines, England. PhD thesis. University of Newcastle. BAKER, A.J.M. & PROCTOR, J. 1990. The influence of cadmium, copper, lead and zinc on the distribution and evolution of metallophytes in the British Isles. Plant Systematics and Evolution, 173: 91-108. BARNATT, J. & PENNY, R. 2004. The Lead Legacy. Peak District National Park Authority SELLARS, B. & BAKER, A.J.M (1988) Review of metallophye vegetation and it's conservation. CSR Report No 797. Peterborough

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	

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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 2	b) Maximum 3	c) Best single value 2
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	Decreasing (-)		
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			

6. Structure and functions

6.1 Condition of habitat	a) Area in good condition (km²)	Minimum 0.85	Maximum 0.85
	b) Area in not-good condition (km²)	Minimum 0.81	Maximum 0.81
	c) Area where condition is not known (km²)	Minimum 1.23	Maximum 1.23
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	2007-2018		
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	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			

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6.8 Additional information

The SSSI condition data has been used to complete sections 6.1a and 6.1b for areas of the SSSI H6130 habitat in good or not good condition. In contrast data from surveys carried over a 20 year plus time period have been used to inform the area estimates given in section 5. Whilst 51% of the resource within SSSIs is determined to be in good condition, this falls to 39% within SACS. Analysis of the site based data reveals this is due to the unfavourable condition of certain key river shingle SACs where regular flooding of the contaminated river shingles is resulting in amelioration of surface toxicity resulting in the metallophyte vegetation being gradually replaced by coarse grasses and herbaceous species. More generally ecological succession is the main reason for unfavourable condition and is compounded by lack of grazing management. The condition of the area of habitat outside of SSSIs is unknown and at present there is no information available on condition of non-statutory sites with no immediate plans in place to plug this evidence gap. Research has shown that stripping off the surface soil to remove the less toxic soil material may increase metal toxicity (see Simkin 2006) and hence conserve the range of metallophyte species. Other less significant pressures include the prospect of re-working of spoil, land reclamation, stock feeding, atmospheric N deposition and possibly agricultural improvement by use of fertilisers.

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
Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (L01)	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

Threat	Ranking
Abandonment of grassland management (e.g. cessation of grazing or mowing) (A06)	H
Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (L01)	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

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

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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)

Reinstate appropriate agricultural practices to address abandonment, including mowing, grazing, burning or equivalent measures (CA04)

Adapt mowing, grazing and other equivalent agricultural activities (CA05)

Manage the use of natural fertilisers and chemicals in agricultural (plant and animal) production (CA09)

Other measures related to natural processes (CL04)

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

11. Natura 2000 (pSCIs, SCIs, SACs) coverage for Annex I habitat types

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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 1
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	Uncertain (u)
11.5 Short-term trend of habitat area in good condition within network Method used	Insufficient or no data available
11.6 Additional information	

12. Complementary information

12.1 Justification of % thresholds for trends	
12.2 Other relevant information	

Distribution Map

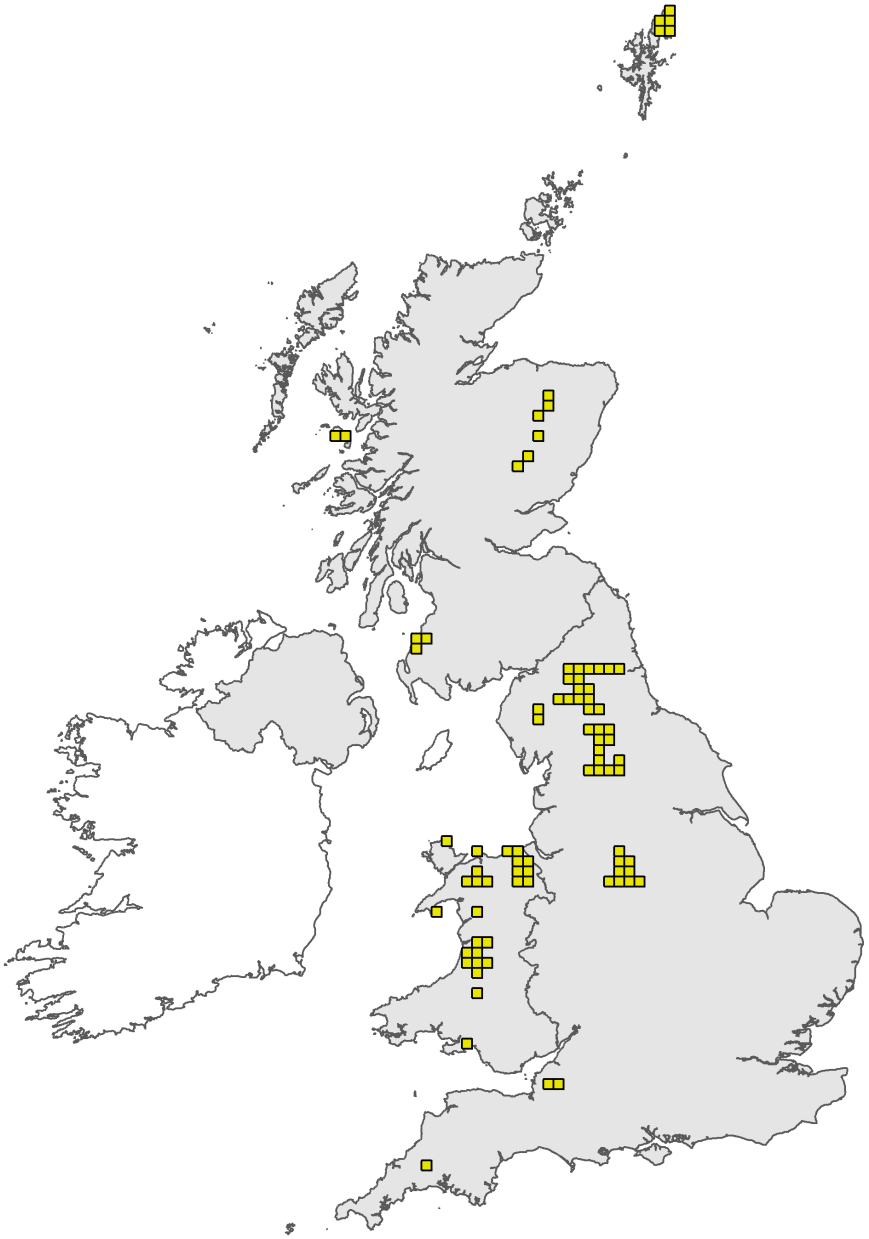

Figure 1: UK distribution map for H6130 - *Calaminarian* grasslands of the *Violetalia calaminariae*. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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

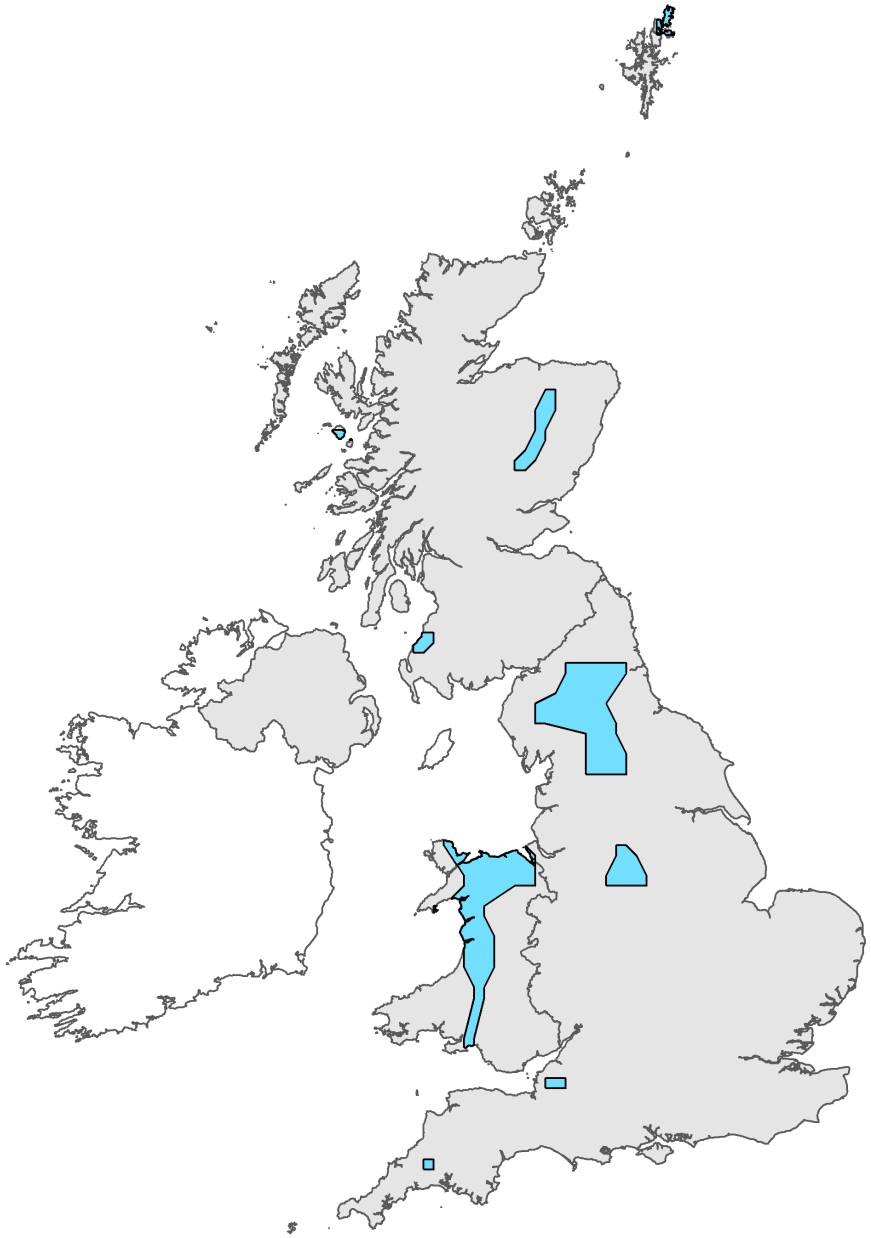

Figure 2: UK range map for H6130 - *Calaminarian* grasslands of the *Violetalia calaminariae*. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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: 6130 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 Calaminarian Priority Habitat which comprises the NVC type OV37. The data are not deemed to be fully represenatative of the resource as a whole (i.e including resource outside of SSSIs) - see also section 6.8 - additional information. 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