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:

H8220 - Siliceous rocky slopes with chasmophytic vegetation

WALES

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 (Wales information only)**
1.2 Habitat code	**8220 - Siliceous rocky slopes with chasmophytic vegetation**

2. Maps

2.1 Year or period	1987-2012
2.3 Distribution map	Yes
2.3 Distribution map Method used	Based mainly on extrapolation from a limited amount of data
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	Blackstock, T.H., Howe, E.A., Stevens, J.P., Burrows, C. R., and P.S Jones. 2010. Habitats of Wales. University of Wales Press, Cardiff. British Mountaineering Council (BMC). 2010. Winter climbing: conservation impact. Available from: https://www.thebmc.co.uk/winter-climbing-conservation-impact [Accessed 8th June 2018] Guest, D. 2012. Assessing pressures and threats for article 17 reporting based on information in CCW's Actions Database. CCW HQ internal document. Natural Resources Wales. 2013. Supporting documentation for the Third Report by the United Kingdom under Article 17 on the implementation of the Directive from January 2007 to December 2012 Conservation status assessment for Habitats: H8220 -Siliceous rocky slopes with Chasmophytic vegetation. Available from: http://jncc.defra.gov.uk/pdf/Article17Consult_20131010/H8220_WALES.pdf [Accessed 8th June 2018] Preston, C.D., Pearman, D.A., & Dines, T.D. 2002. New atlas of the British and Irish flora: an atlas of the vascular plants of Britain, Ireland, the Isle of Man and the Channel Islands. Oxford University Press, Oxford. Stevens, J., Sherry J. and A Turner. 2012. H8220 Siliceous Rocky Slopes with Chasmophytic Vegetation Inventory. Wales Audit Office. 2012. Annual Improvement Report Snowdonia National Park Authority. Wareham, D. 2003. The effects of the feral goat (Capra hircus L.) on the upland vegetation of Cwm Idwal NNR and the Tryfan area of Snowdonia, summer 2002. CCW Science Report No: 567.

4. Range

4.1 Surface area (in km²)		
4.2 Short-term trend Period		
4.3 Short-term trend Direction	Unknown (x)	
4.4 Short-term trend Magnitude	a) Minimum	b) Maximum
4.5 Short-term trend Method used		
4.6 Long-term trend Period		

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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	1979-1997		
5.2 Surface area (in km²)	a) Minimum	b) Maximum	c) Best single value 12
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 5.6 Short-term trend Direction	Unknown (x)		
5.7 Short-term trend Magnitude	a) Minimum	b) Maximum	c) Confidence interval
5.8 Short-term trend Method used	Insufficient or no data available		
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 0.64	Maximum 0.64
	b) Area in not-good condition (km²)	Minimum 3.05	Maximum 3.05
	c) Area where condition is not known (km²)	Minimum 8.31	Maximum 8.31
6.2 Condition of habitat Method used	Based mainly on expert opinion with very limited data		
6.3 Short-term trend of habitat area in good condition Period	2007-2018		

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6.4 Short-term trend of habitat area in good condition Direction	Unknown (x)
6.5 Short-term trend of habitat area in good condition Method used	Insufficient or no data available
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	

7. Main pressures and threats

7.1 Characterisation of pressures/threats

Pressure	Ranking
Intensive grazing or overgrazing by livestock (A09)	H
Sports, tourism and leisure activities (F07)	H
Mixed source air pollution, air-borne pollutants (J03)	H
Problematic native species (I04)	H
Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (L02)	H
Other invasive alien species (other then species of Union concern) (I02)	M

Threat	Ranking
Intensive grazing or overgrazing by livestock (A09)	H
Sports, tourism and leisure activities (F07)	H
Mixed source air pollution, air-borne pollutants (J03)	H
Problematic native species (I04)	H
Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (L02)	H
Other invasive alien species (other then species of Union concern) (I02)	M
Change of habitat location, size, and / or quality due to climate change (N05)	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, but none yet taken
8.2 Main purpose of the measures taken		
8.3 Location of the measures taken		
8.4 Response to the measures		
8.5 List of main conservation measures		

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Adapt mowing, grazing and other equivalent agricultural activities (CA05)
Management of problematic native species (CI05)
Reduce impact of outdoor sports, leisure and recreational activities (CF03)
Management, control or eradication of other invasive alien species (CI03)
Reduce impact of mixed source pollution (CJ01)

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

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 3.69
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	Unknown (x)

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

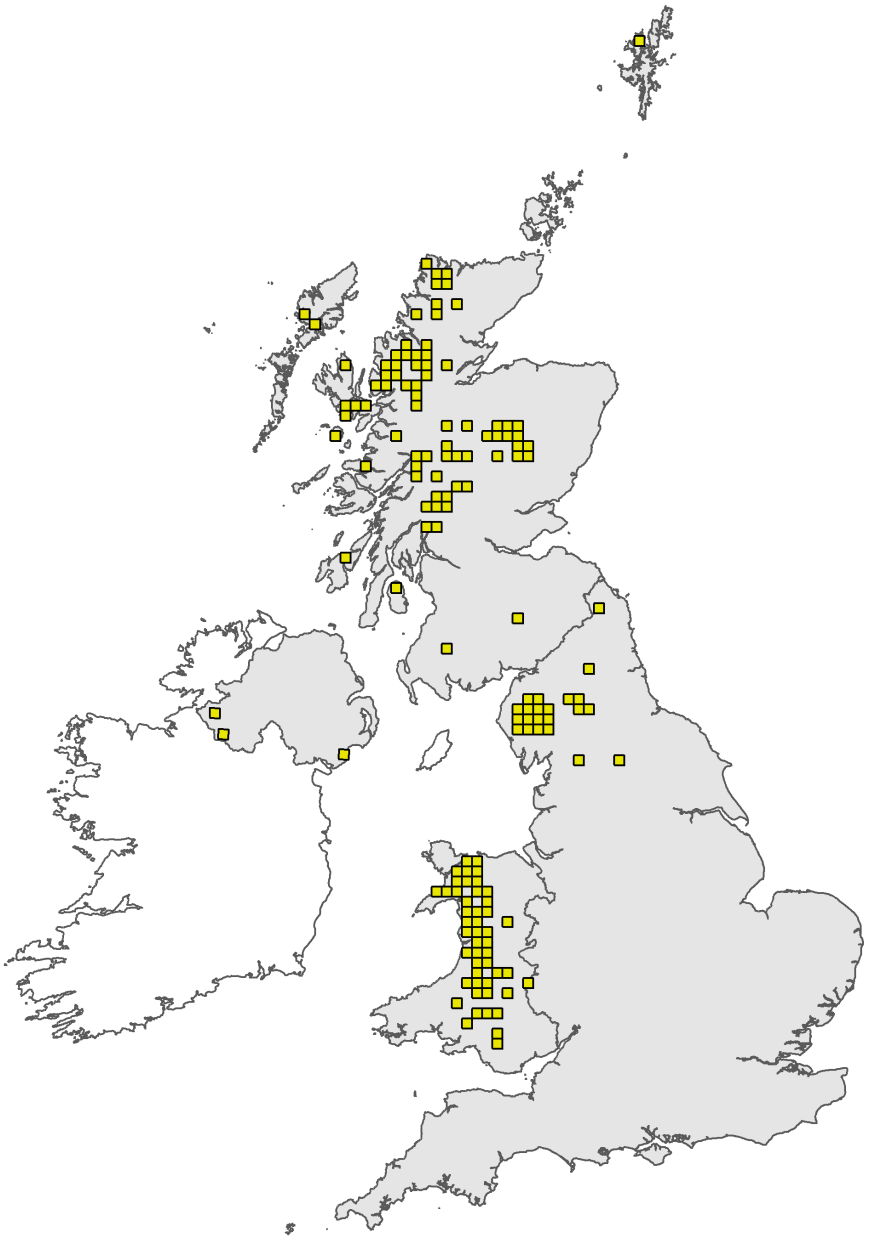

Figure 1: UK distribution map for H8220 - Siliceous rocky slopes with chasmophytic vegetation. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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

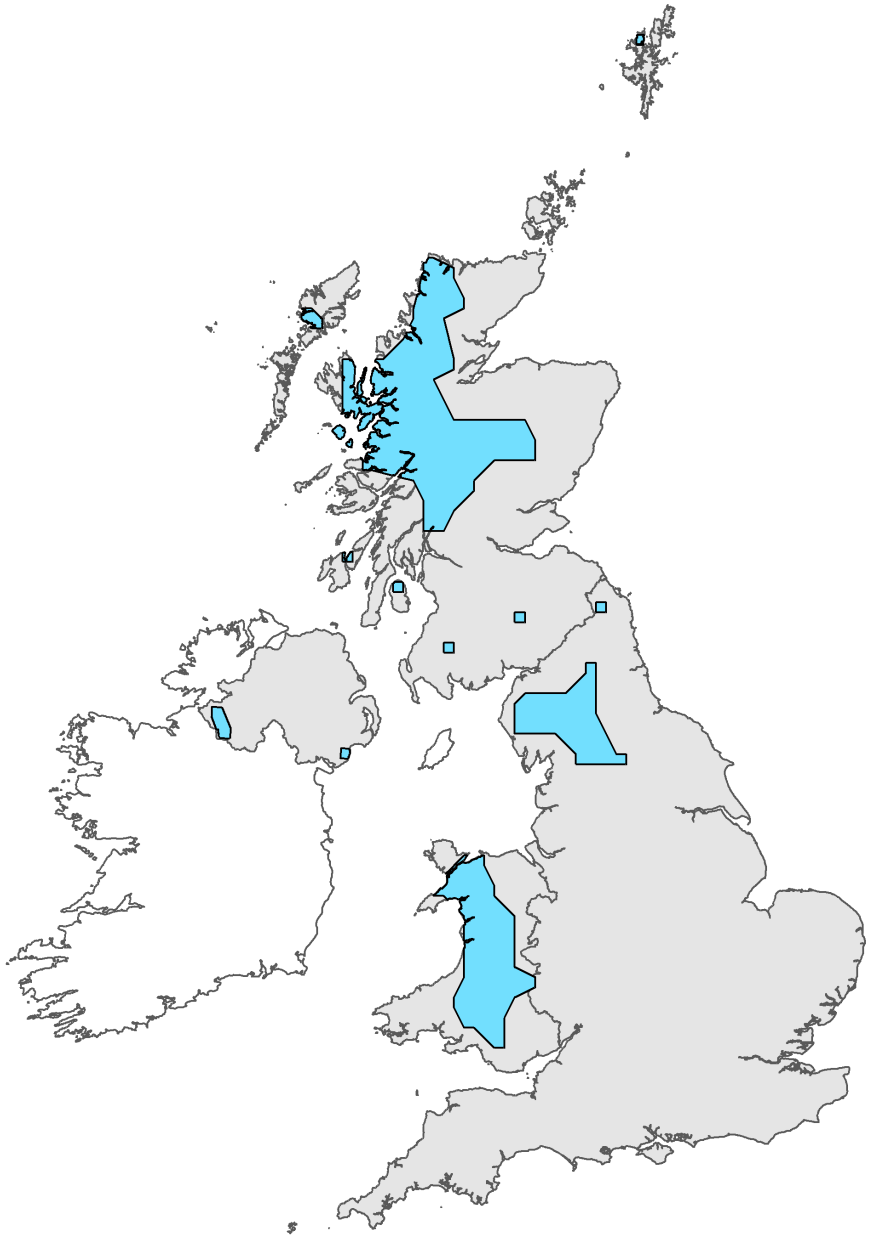

Figure 2: UK range map for H8220 - Siliceous rocky slopes with chasmophytic vegetation. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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: 8220

Field label	Note
2.3 Distribution map; Method used	The distribution of H8220 was predicted based on records for the following key species: Asplenium septentrionale, Asplenium trichomanes subsp. trichomanes and Cerastium arcticum. 10km square records for these species were derived from the atlas of the British and Irish flora (Preston et al 2002) and used to produce a 10km square GIS Inventory (Stevens, Sherry and Turner 2012). This is considered only a partial data set and further work is required to confirm the location and extent of the habitat. In particular little attention has been paid to the lowland examples.

Habitat code: 8220 Region code: ATL

Field label	Note
4.11 Change and reason for change in surface area of range	There has been no change to the 10km square records for this habitat since the 2013 report. Changes in surface area or range may actually have occurred since the last reporting period, but NRW has no system in place for monitoring or recording such changes.
5.4 Surface area; Method used	The Annex 1 habitat has not been specifically mapped and no reliable figure for extent is available. Phase 1 Habitat Survey of Wales 1979-1997 (Blackstock et al. 2010) gives a figure for acid/neutral natural inland cliffs of 1,200 ha (roughly 220 ha in the lowlands and 970 ha in the uplands). This vegetation will include types which do not conform to the Annex 1 habitat description and this figure can be viewed as a maximum extent (although in this context it is worth noting that the Phase I area measurements are based on a vertical projection and hence significantly under-represent these cliff and slope habitats).
5.6 Short term trend; Direction	No evidence is available with which to determine trend direction for surface area in the long or short term.
6.1 Condition of habitat	Assessment of structure and function within SACs is based on the results of common standards monitoring visits undertaken between 2007 and 2012. No information on species composition is available for siliceous chasmophytic vegetation in the SAC data. Grazing, scrub and bracken invasion, the presence of invasive non-native species and erosion due to livestock or human access all have a negative impact on the structure of the vegetation across the SAC series. However, there are sections of cliff in Eryri and Cadair Idris where SAC monitoring has shown that the vegetation structure is favourable.
6.2 Condition of habitat; Method used	Data on the extent of habitat in good and not good condition was derived from NRWs SAC monitoring programme. The condition of the habitat was assessed on the three SACs on which the habitat is a recognised (A-C grade) feature. Features assessed as being in favourable condition were considered to be entirely in 'good condition' and those assessed as being in unfavourable were considered to be in entirely in 'not good-condition'. Area estimates for this habitat are unreliable, with uncertainty and inconsistencies associated with figures for both individual sites and Wales as a whole (see sections 5.4 and 11.1).

7.1 Characterisation of pressures/ threats	Pressures: The data held in the 'Actions Database' were used to provide a basis for quantifying pressures/threats relating to the H8210 habitat. The 'Actions Database' provides information on pressures within the protected sites series; this was then matched to an expert judgement on the severity of these pressures/threats (at a generic level) to give an overall evaluation of the pressure/threat level (for more details see Guest, 2012). Additional information on pressures was drawn from SAC monitoring reports (2007-2012). The potential impacts of atmospheric nitrogen on this habitat are unclear and no generic critical load range has been agreed. Assessment of the 10km data for the habitat against the 2009 CEH moorland deposition data, shows an average of 17kg/N/ha/yr with no areas receiving less than 7kg/N/ha/yr therefore there is potential for significant impacts. Only one pressure was identified by the Actions Database as having a high impact; F07 Outdoor sports and leisure activities - impacts of cliff climbing and ice climbing. SAC Monitoring on Eryri, Cadair Idris and Brecon Beacons identifies the same pressures on the H8220 as on H8210; A09 Overgrazing, I04 invasive non-native species, I02 problematic native species and L02 natural succession. A09 Overgrazing - where cliffs are accessible SAC monitoring on Eryri found areas where more than 50% of the annual growth was removed through grazing. Sheep were also noted on the cliffs of Craig Cerrig Gleisiad in the Brecon Beacons. I04 problematic native species and L02 natural succession relate to the spread of bracken and scrub respectively. The invasion of bracken and scrub is not uniform and appears to be a problem in some compartments. I02 invasive non-native species -Epilobium brunnescens is recorded as present on Eryri and Cader Idris and conifer seedlings were found at the latter site. J03 Air pollution is likely to have a similar impact as on other rock and scree habitats with lichens, bryophyte and fern species being potentially vulnerable to nitrogen impacts.Total number of SSSI units with siliceous chasmophytic vegetation as a feature = 7. Threats: All of the pressures listed in above were considered to be ongoing with no reason to suppose they will not continue to be applicable over the next two reporting cycles. A09 Grazing remains a threat on accessible cliffs. Feral goats pose an additional threat in Eryri. A study in 2003 suggested that goats were not having a significant impact on the cliff vegetation (Wareham 2003), however grazing noted during the recent SAC monitoring could not be attributed to sheep alone. With decreasing sheep numbers goat populations may expand. J03 the impacts of nitrogen on vegetation may continue even with a decline in atmospheric deposition. L02 and I04 scrub and bracken control will remain an issue and may become an increasing threat if grazing pressures become too low. F07 Visitor pressure has continued to rise in recent years with an 18% increase in number walkers on the footpaths of Snowdon between 2009/10 and 2010/2011 (Wales Audit Office 2012). It is highly likely recreational pressure on siliceous rocky slopes will, at the least, remain the same but could continue to increase. I02 Invasive non-natives such as conifers and potentially rhododendron in Eryri pose a threat for the future. N05: the potential impacts of climate change on this habitat are unclear but upland species found in several Welsh vegetation stands at the southern edge of their distribution are likely to be most sensitive.
8.1 Status of measures	While the majority of the most important measures required to restore/maintain this habitat to FCS in Wales have been identified, the bulk have not yet been fully implemented.

8.5 List of main conservation measures	CA05 Maintaining appropriate grazing through agreement (no specific agreements for Chasmophytic but removal/reduction of grazing levels in areas such as Cwm Idwal will benefit the habitat) CI05 Management of problematic native species (e.g. bracken) CI03 Management of invasive non-natives (e.g. Epilobium brunescens) and feral goat population e.g. strategic approach of Feral Goat Group CF03 Management of recreational activities including publicity/voluntary agreements to prevent damage by rock climbing and ice climbing e.g. Cwm Idwal ice climbing (BMC, 2010). CJ01 Reduce deposition of nitrogen and other airborne pollutants on the habitat. Monitor impacts of nitrogen deposition to improve understanding of impacts and targeting measures.
9.1 Future prospects of parameters	9.1a - NRW currently lacks a specialist covering this habitat and as such we are unable to predict the likely trend in the range of this habitat over the next twelve years. 9.1b - NRW currently lacks a specialist covering this habitat and as such we are unable to predict the likely trend in the area of this habitat over the next twelve years. 9.1c - NRW currently lacks a specialist covering this habitat and as such we are unable to predict the likely trend in the structure and function of this habitat over the next twelve years.