

**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:

**H8210 - Calcareous 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	8210 - Calcareous 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. Countryside Council for Wales. 2008 CORE MANAGEMENT PLAN: Mynydd Llangatwg (Mynydd Llangattock) Site of Special Scientific Interest (SSSI), Siambre Ddu SSSI, Buckland Coach House and Ice House SSSI and Foxwood SSSI, which together comprise Usk Bat Sites Special Area of Conservation (SAC). Forster Brown, C. 2015. Chasmophytic Lower Plant Survey of Cadair Idris. Unpublished report to NRW. Guest, D. 2012. Assessing pressures and threats for article 17 reporting based on information in CCW's Actions Database. CCW HQ internal document. Hodgetts N. 2003 Bryophyte Survey of Pen y Gogarth/Great Ormes Head SSSI. CCW North East Region Report. CCW/NEA/1 Joint Nature Conservation Committee. 2007. Second Report by the UK under Article 17 on the implementation of the Habitats Directive from January 2001 to December 2006. Peterborough: JNCC. Available from: www.jncc.gov.uk/article17 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: H8210 - Calcareous rocky slopes with chasmophytic vegetation. Available from: http://jncc.defra.gov.uk/pdf/Article17Consult_20131010/H8210_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 D. P., Smith S. L. N., Blackstock T. H., Bosanquet S. D. S. & Stevens J. P. 2010. Grasslands of Wales. A survey of lowland species-rich grasslands, 1987-2004. University of Wales Press, Cardiff. Stevens, J., Sherry J. and A Turner. 2012. H8120 Calcareous 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 (<i>Capra hircus</i> L.) on the upland vegetation of Cwm Idwal NNR and the Tryfan area of Snowdonia, summer 2002.

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

CCW Science Report No: 567.

4. Range

4.1 Surface area (in km ²)			
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 (km ²) 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			

5. Area covered by habitat

5.1 Year or period	1987-2012			
5.2 Surface area (in km ²)	a) Minimum	b) Maximum	c) Best single value	2.7
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	2007-2018			
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 (km ²) b) Operator c) Unknown d) Method	No		
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

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

6.1 Condition of habitat	a) Area in good condition (km ²)	Minimum 1.6	Maximum 1.6
	b) Area in not-good condition (km ²)	Minimum 1.1	Maximum 1.1
	c) Area where condition is not known (km ²)	Minimum 0	Maximum 0
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			
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?		
6.7 Typical species Method used	No		
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
Mixed source air pollution, air-borne pollutants (J03)	H
Sports, tourism and leisure activities (F07)	M
Problematic native species (I04)	M
Threat	Ranking
Intensive grazing or overgrazing by livestock (A09)	H
Mixed source air pollution, air-borne pollutants (J03)	H
Sports, tourism and leisure activities (F07)	M
Problematic native species (I04)	M
Other invasive alien species (other than species of Union concern) (I02)	M
Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (L02)	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

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

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

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

Reduce impact of mixed source pollution (CJ01)

Reduce impact of outdoor sports, leisure and recreational activities (CF03)

Management of problematic native species (CI05)

Management, control or eradication of other invasive alien species (CI03)

Management of habitats (others than agriculture and forest) to slow, stop or reverse natural processes (CL01)

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 2.7

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

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

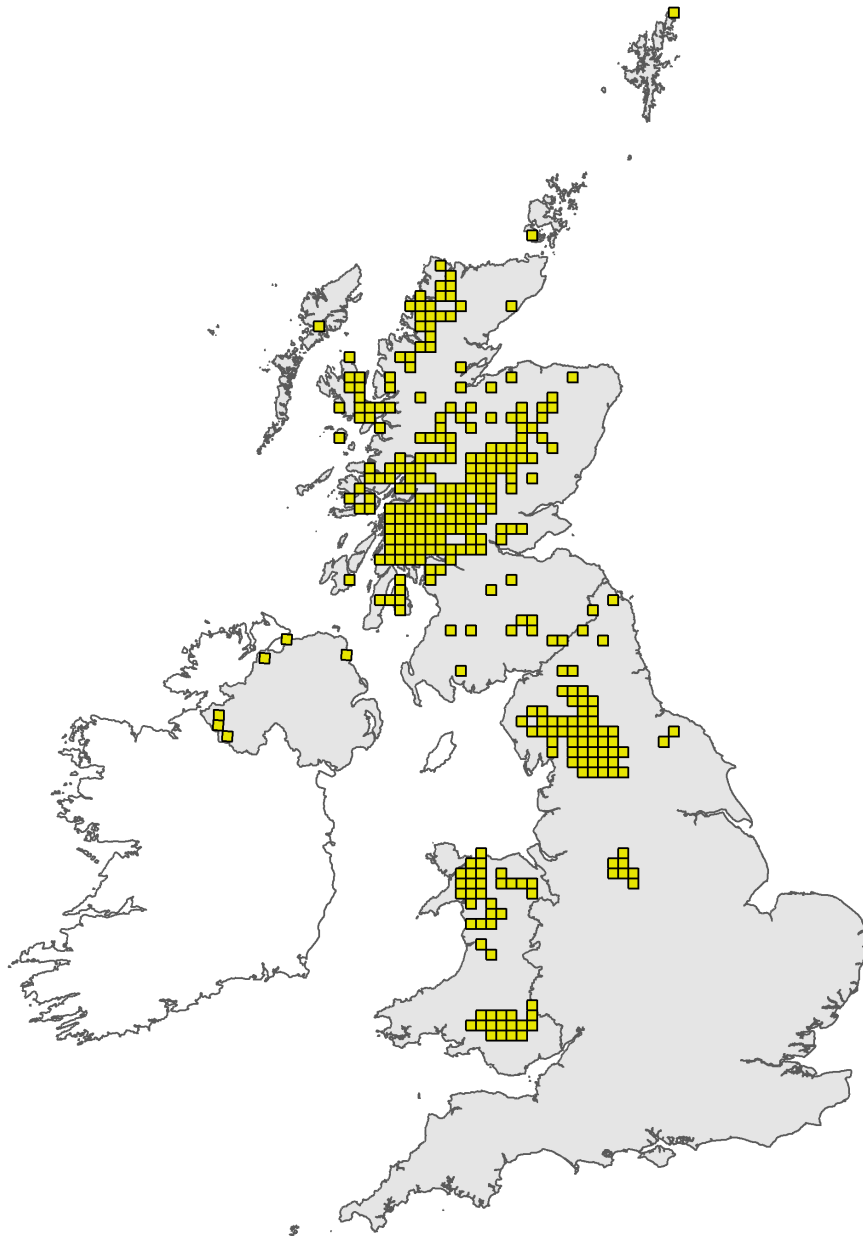


Figure 1: UK distribution map for H8210 - Calcareous rocky slopes with chasmophytic vegetation. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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

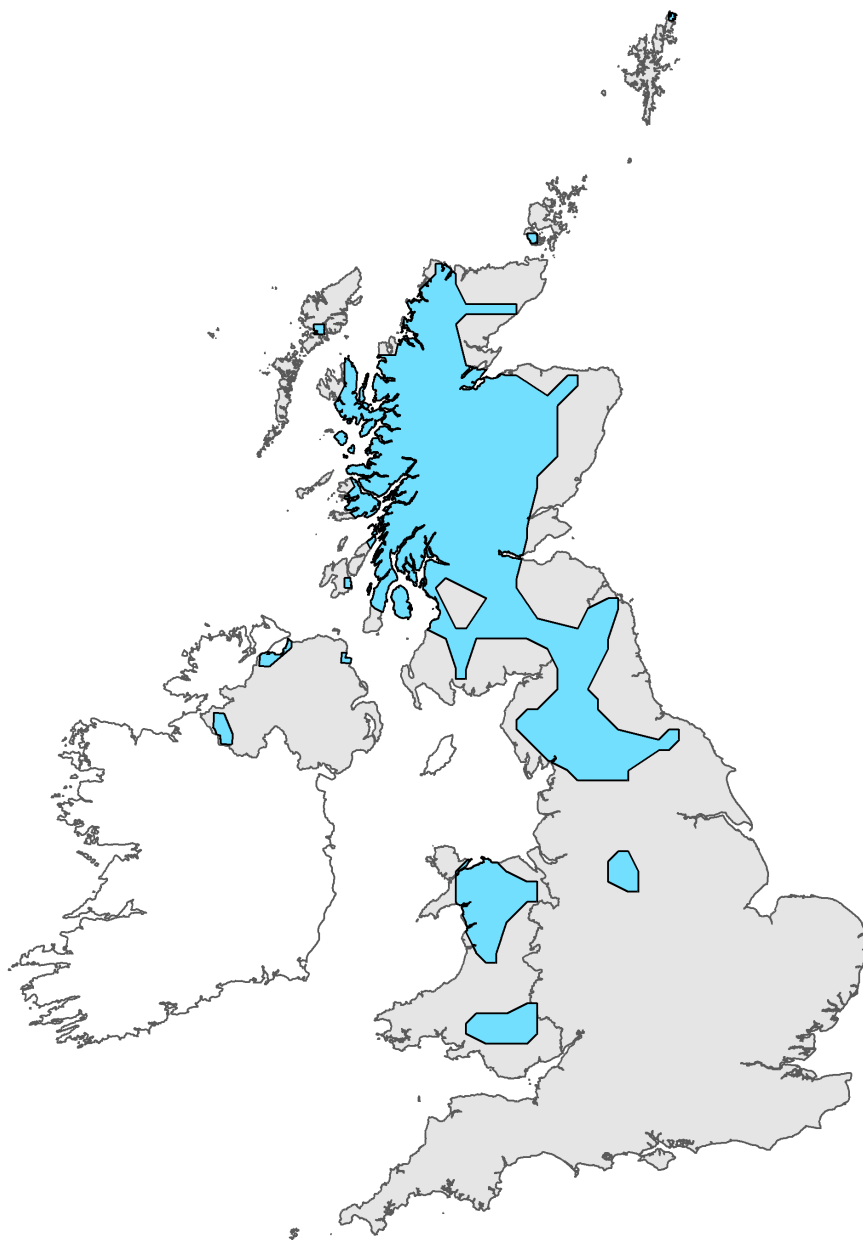


Figure 2: UK range map for H8210 - Calcareous rocky slopes with chasmophytic vegetation. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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: 8210

Field label	Note
2.3 Distribution map; Method used	H8210 has been mapped on the basis of key species occurring on basic cliff and rocky slopes in the uplands and on a list of species associated with OV39 <i>Asplenium trichomanes</i> - <i>A. ruta-muraria</i> community on basic cliffs and rocky slopes in the lowlands. Distribution of H8210 has been derived from a number of data sources. In the uplands Atlas 10km square records (Preston et al 2002) for <i>Poa alpina</i> , <i>P. glauca</i> , <i>Lloydia serotina</i> , <i>Cerastium alpinum</i> , <i>Draba incana</i> , <i>Woodsia ilvensis</i> , <i>Woodsia alpina</i> , <i>Polystichum lonchitis</i> , <i>Asplenium viride</i> , <i>Saxifraga nivalis</i> , <i>S. cespitosa</i> and <i>Arabis petraea</i> , but not <i>Cystopteris fragilis</i> or <i>Sedum rosea</i> have been included. In the lowlands the Great Orme 10km square was included in 2007 on the grounds of the presence of <i>Asplenium viride</i> this was not considered sufficient for its inclusion in the list in 2012 therefore species records from several data sources were searched to find a list of constant and preferential species for OV39 including <i>Asplenium trichomanes</i> , <i>A. ruta-muraria</i> , <i>Porella platyphylla</i> , <i>Neckera crispa</i> , <i>Ceterach officinarum</i> , <i>A. adiantum-nigrum</i> , <i>Homalothecium sericeum</i> , <i>Trichostomum crispulum</i> , <i>Arenaria serpyllifolia</i> , <i>Koeleria macrantha</i> . On the basis of this data the 10km square has been included but the site requires further survey to confirm the presence of the habitat. The species records were sourced from a number of surveys; Bryophyte Survey of Pen y Gogarth/Great Orme's Head (Hodgetts. 2003), the Lowland Grassland Survey 1987-2004 (Stevens et al 2010); NBN BSBI and BBS records for Pen y Gogarth SSSI. A new GIS inventory in the form of 10km square data has been produced from these upland and lowland sources (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. Hodgetts listed those species found on cliffs and crags on the Great Orme, but other species data collated from Atlas data, NBN etc. could refer equally well to limestone pavement and scree. Assessment of the habitat on the Great Orme needs to separate the more maritime examples which are likely to be referable to the H1230 Vegetated sea cliffs of the Atlantic and Baltic coasts and confirm the extent of H8210. Other potential lowland sites also need to be investigated.

Habitat code: 8210 Region code: ATL

Field label	Note
4.3 Short term trend; Direction	The current distribution of the habitat in Wales is relatively poorly understood and there is no routine surveillance/monitoring of most known examples. However, (re) creation of stands within currently unoccupied 10km squares is considered unlikely to have occurred within the last 12 years as is the loss of all existing stands from any given hectad. The range is therefore considered likely to have remained stable since 2007.
4.11 Change and reason for change in surface area of range	There has been no change to the 10km square data submitted in 2012
5.1 Year or period	The 2013 survey report states there has been no survey work covering areas of calcareous rocky slopes with chasmophytic vegetation since 2007. All data were collected before 2004 and re-interpreted in 2012 to produce the GIS Inventory. The habitat has been confirmed in the field only on those SACs, which have been monitored as part of the 2007-2012 SAC Monitoring round (Eryri, Brecon Beacons and Cadair Idris). Recent contracted survey of selected crags on Cadair Idris has not included re-mapping or new estimates of habitat area on this site.

5.4 Surface area; Method used	The Annex 1 habitat has not been mapped therefore no reliable figure for extent is available. Phase 1 Habitat Survey of Wales 1979 to 1997 (Blackstock et al. 2010) gives a figure for basic natural inland cliffs of 270 ha (40ha in the lowlands and 230 ha in the uplands). This total will include types which do not conform to the Annex 1 habitat description this figure can be viewed as a maximum extent. All survey data are based on vertical mapped projections which will inevitably under-estimate the actual extent of the resource.
5.5 Short term trend; Period	The short-term trend in habitat area was considered to be unknown in the 2013 report (NRW, 2013). This conclusion has not been re-examined in 2018.
6.1 Condition of habitat	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 four 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 individual sites, the overall SAC series and for Wales as a whole (see sections 5.4 and 11.1). In the absence of reliable estimates for the habitat on individual SACs the area figures provided in the N2K Standard Data Forms have been used to approximate the proportion of the total SAC resource on individual sites. These figures have then been scaled up to match the total estimated extent on SACs as provided in section 11.1. The condition of the remaining element outside SACs is unknown.
6.2 Condition of habitat; Method used	Assessment of structure and function within SACs is based on the results of common standards monitoring visits undertaken between 2007 and 2012. The list of positive indicator species compiled at each rock face for Eryri and Cadair Idris demonstrated that the vegetation composition was good and reflects the expected naturalness of the habitat within published NVC tables. In the Berwyn and South Clwyd Mountains SAC species composition is poor due to the lack of, <i>Asplenium trichomanes</i>, <i>A. ruta-muraria</i>, cushion forming moss and positive indicator species. 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, Cadair Idris and Berwyn and South Clwyd Mountains SACs where both vegetation structure and species composition are favourable. The area and condition of this habitat outside the SAC series is unknown.

7.1 Characterisation of pressures/ threats

Pressures: In the 2013 Article 17 report for Wales (NRW, 2013) the following pressures were identified as having a significant impact, on the basis of information collated in NRW's Actions Database and SAC monitoring reports: A09 over grazing - where cliffs are accessible SAC monitoring on Eryri and Berwyn and South Clwyd Mountain found areas where more than 50% of the vegetation was removed through grazing. Sheep were also noted on the cliffs of Craig Cerrig Gleisiad in the Brecon Beacons. However, monitoring suggests grazing is not a uniform problem and appears in 'hotspots' In Eryri it is noted that where habitat is accessible and grazing pressure is high, chasmophytic communities are most vulnerable to localised extinction. F07 Outdoor sports and leisure activities- impacts of cliff climbing and ice climbing are noted by SAC Monitoring. 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 - non-native cotoneaster and *Epilobium brunnescens* are recorded as present on Eryri and Berwyn and South Clwyd Mountains SACs. I04 problematic native species. J03 Mixed source air pollution was also identified as a significant pressure on the habitat, on the basis of an examination of the N deposition rates for the 5km squares in which the habitat occurs. The sensitivity to atmospheric nitrogen deposition of the characteristic species of ferns, bryophytes and lichens associated with the habitat is, however, not well understood. Recent observations of the habitat within Black Mountain SSSI showed a significant accumulation of cyanobacteria, which appeared to be swamping the characteristic bryophytes (S. Bosanquet, pers. comm. 2018). Similar accumulations of 'algal gunk' have been noted in other bryophyte-rich rock habitats across the UK and while a clear causal link cannot be established at present, the accumulation on this site and its negative impact on the characteristic flora may well be linked to the high levels of nutrient nitrogen deposition here. Method used to evaluate pressures: Pressures and threats were assessed in 2012 using the methodology described below. No new assessments have been made for the 2018 reporting round, although pressures reported in 2012 have been matched to the new 2018 reporting categories, where necessary using the supporting text to assist cross-matching where a one-to-one match between the old and new reporting codes does not exist. The data held in the 'Actions Database' were used to provide a basis for quantifying pressures/threats relating to the 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 19kg/N/ha/yr with no areas receiving less than 7kg/N/ha/yr therefore there is potential for significant impacts. Threats: A09 Over 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 rocky slopes will, at the least, remain the same but could continue to increase. I02 Invasive non-natives such as cotoneaster are a significant problem on limestone sites in the lowland, e.g. Great Orme and Gower coast; as the species has been found on the Berwyn and South Clwyd Mountains SAC there is a potential for it to spread rapidly. N05 the potential

impacts of climate change on this habitat are unclear but upland species at the southern edge of their distribution are likely to be most sensitive. Method used to evaluate threats: In 2012 threats were assessed on the basis that all listed pressures were both current and applicable to future scenarios.

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 & CL01 Maintaining appropriate grazing through agreement (no specific agreements for Chasmophytic vegetation 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-native species (e.g. cotoneaster). Includes management of feral goat population in Snowdonia e.g. strategic approach of North Wales Feral Goat Group. CF03 Management of recreational activities including publicity /voluntary agreements to prevent damage by rock climbing and ice climbing e.g. article about Cwm Idwal and ice climbing on BMC website http://www.thebmc.co.uk/winter-climbing-conservation-impact . Climbing restriction in sections of Llangattock Escarpment (Countryside Council for Wales 2008). CJ01 Monitor impact of nitrogen deposition but no specific action known.
9.1 Future prospects of parameters	9.1a Limited evidence is available on which to judge the likely trends in the range of this habitat in the medium to long term. However, losses or gains to the overall 10km square distribution and resultant range of the habitat are considered unlikely to occur within the next 12 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.
11.3 Surface area of the habitat type inside the network; Method used	The extent of this habitat on individual SACs is poorly understood, as a result of limited habitat specific survey work, poor definition of the habitat and in particular forms characterised by lower plants, its often close association with acid cliff communities and other open rock annex I types and the complications in calculating and reporting the extent of a habitat which are associated with vertical and near vertical slopes. The figure of 735.6 ha provided by the SAC data sheets is now considered to be a significant over-estimation of the resource, exceeding the total area of basic natural inland cliff provide by Habitat Survey Wales, for this reason it has not been used here. In the absence of new data the figure given here is the same as that provided in the 2013 Article 17 report. It is the total habitat extent figure for Wales and as such is a maximum figure over estimating the contribution from the SAC series.