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:

H6430 - Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels

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	**6430 - Hydrophilous tall herb fringe communities of plains and of the montan**

2. Maps

2.1 Year or period	1979-2017
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	Alex Turner 1996-1998 NVC Survey Glyders (no report). Averis, A., 2002. Vegetation survey of the eastern part of the Carneddau SSSI and cSAC, Conwy, Summer 2001. CCW Science Report 535. Averis A. and Averis, B, 2004. Vegetation survey of Rhinog Site of Special Scientific Interest, 2003. CCW Science Report 654. Averis, B and Averis, A., 2005. Vegetation survey of land to the north and south of Rhinog Site of Special Scientific Interest, north Wales May 2004. CCW Science Report 654. Hyder Environmental, 1997. Craig Cerrig Gleisiad a Fan Frynych NNR baseline Phase II vegetation survey 1996. Gray, D.A., 2003. NVC Survey of Mynydd Llangatwg and Mynydd Llangynidr. CCW Contract Science Report 605. Gray, D.A., 2004. A National Vegetation Survey (NVC) of the Brecon Beacons SSSI. CCW Science Report 667. Gray, D.A., 2002. NVC Survey of proposed extensions to Eryri cSAC (Glydeirau and Y Wyddfa). CCW Contract Science Report 517. Burn A.M. 1982. Upland Vegetation Survey, Site Report No.5: NE Carneddau. Burn A.M. 1983. Upland Vegetation Survey, Site Report No.14: Moel Hebog. Burn A.M. 1989. Upland Vegetation Survey, Site Report No.23: Eryri (Glydeiriau, Carneddau, Y Wyddfa & Cwm Dwythch). Burn A.M. 1987. Upland Vegetation Survey, Site Report No.35: Llantysilio Mountain. Burn A.M. 1983. Upland Vegetation Survey, Site Report No.15: Pen y Fan & Fforest Fawr. Day P. & Burn A.M. 1983. Upland Vegetation Survey, Site Report No.12: Mynydd Du (Black Mountain). Heaver D.J. & Burn A.M. 1988. Upland Vegetation Survey, Site Report No.26: Arenig Fawr. Heaver D.J. & Burn A.M. 1989. Upland Vegetation Survey, Site Report No.39: Moel Siabod, Cnicht & the Moelwyns. Jackson P.K. 1987. Upland Vegetation Survey, Site Report No.37: Moel-y-Ci. Jackson P.K. 1988. Upland Vegetation Survey, Site Report No.45: Cefn Du. Jackson P.K. 1987. Upland Vegetation Survey, Site Report No.29: Nantlle Ridge. Jackson P.K. & Yeo M. 1991. Upland Vegetation Survey, Site Report No.38: Cadair

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

Idris.
Prosser M.V. & Wallace H.L. 1996.Cwm Idwal NNR : NVC Survey 1995.
Turner J.E.C. & Burn A.M. 1987. Upland Vegetation Survey, Site Report No.34: Ruabon Mountain & Eglwyseg Rocks.
Turner J.C. & Burn A.M. 1986. Upland Vegetation Survey, Site Report No.24: The Berwyn NCR Site.
Turner J.E.C. 1986. Upland Vegetation Survey, Site Report No.25: Mynydd Mawr.
Yeo M. 1988. Upland Vegetation Survey, Site Report No.30: The Arans
Yeo M. 1988. Upland Vegetation Survey, Site Report No.43: Mynydd Ceiswyn-Craig Portas-Craig Maesglase area. Other SSSI citation in ISIS Craig-y-Llyn.
NRW. 2013. Supporting documentation for the Third Report by the United Kingdom under Article 17 for Wales; H6430 - Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels JNCC. Available from: http://jncc.defra.gov.uk/pdf/Article17Consult_20131010/H6430_WALES.pdf [Accessed 14 August 2018]
Natural England, RSPB. 2014. Climate Change Adaptation Manual.
Stevens J., Sherry, J. and A. Turner. 2012. H630 Hydrophilous Tall Herb Fringe Communities of Plains and of the Montane to Alpine Levels Inventory.
Turner A. 2012. Llyn Cowlyd - personal observation.

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	1979-2012		
5.2 Surface area (in km²)	a) Minimum	b) Maximum	c) Best single value 0.65
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	2001-2018		
5.6 Short-term trend Direction	Uncertain (u)		
5.7 Short-term trend Magnitude	a) Minimum	b) Maximum	c) Confidence interval

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

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 0.014	Maximum 0.014
	b) Area in not-good condition (km²)	Minimum 0.32	Maximum 0.32
	c) Area where condition is not known (km²)	Minimum 0.33	Maximum 0.33
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	Uncertain (u)		
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
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 then species of Union concern) (I02)	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 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 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		Short-term results (within the current reporting period, 2013-2018)

8.5 List of main conservation measures

Stop mowing, grazing and other equivalent agricultural activities (CA06)
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)

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

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

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	0.25
	b) Maximum	0.37
	c) Best single value	
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

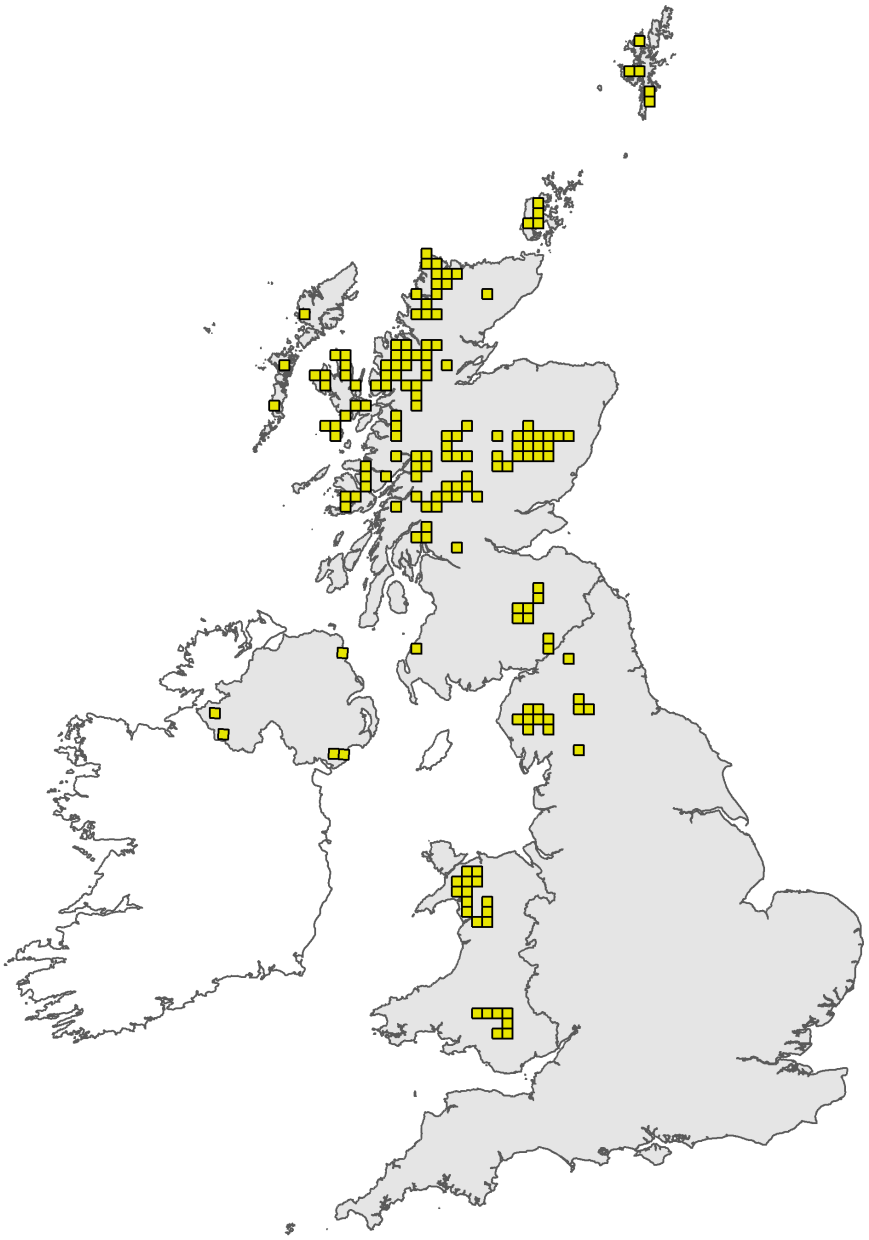

Figure 1: UK distribution map for H6430 - Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains 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

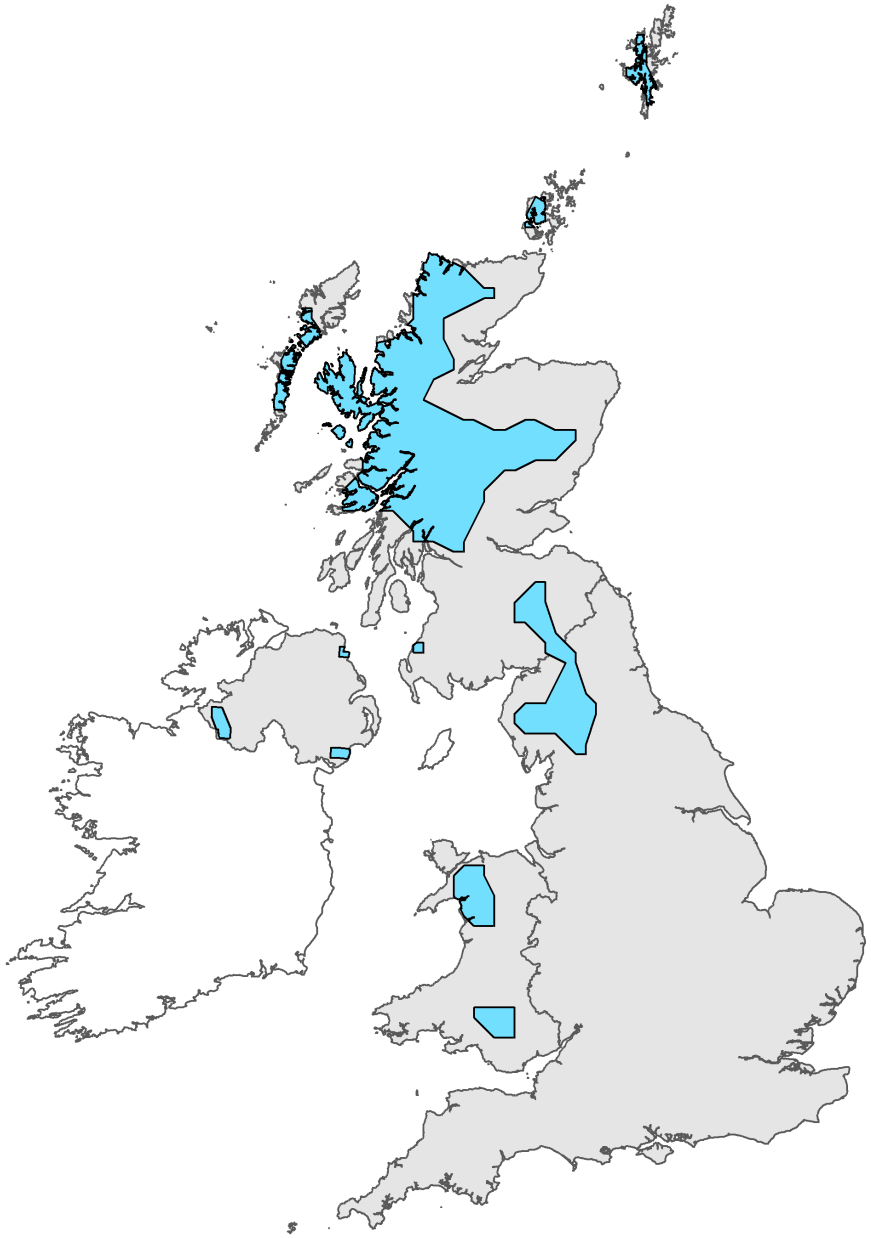

Figure 2: UK range map for H6430 - Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 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: 6430

Field label	Note
2.1 Year or period	There has been no survey work covering areas of hydrophilous tall herb fringe vegetation since 2007. All data were collected between 1979-2004 and re-interpreted in 2012 to produce a GIS Inventory. All the field data sources pre-date 2007. The continued presence of habitat has only been formally reconfirmed on those sites which have been visited as part of SAC monitoring in the 2007-2012 monitoring cycle. A small area of this community in the Brecon Beacons SAC was monitored in 2017, but no sites have been monitored in their entirety within the 2013-18 period.
2.3 Distribution map; Method used	H6430 has been mapped based on NVC and Phase 1 records for species-rich tall herb vegetation or on the presence of Sedum rosea within tall herb vegetation as described below. A range of data sources were used to determine the distribution of H6430 hydrophilous tall herb fringe community. For those upland SSSIs with an NVC survey (see published sources) the following data were collated; areas of U17 Luzula sylvatica-Geum rivale tall-herb community; uncategorised tall herb fringe communities with target notes which matched the Annex 1 description; uncategorised tall herb fringe communities with Sedum rosea. An additional SSSI Craig-y-Llyn was added following a review of SSSI citations. For non-designated sites and sites without NVC survey the Wales Field Unit Upland Vegetation Surveys 1979-89 (see published sources) were used to collate the following records; D1 Sedum rosea-Alchemilla glabra communities; records for Sedum rosea; uncategorised communities with species-rich vegetation on old red sandstone cliff in Mynydd Ddu. The data collated are a mixture of polygon and point records. A revised GIS-based inventory for the habitat was produced using all of these data sorces (Stevens, Sherry and Turner. 2012). Although further work is required to confirm the location and extent of the habitat, particularly where species records have been used, the underpinning survey provide a reasonably complete picture of the 10km2 distribution of the habitat in Wales.

Habitat code: 6430 Region code: ATL

Field label	Note
4.3 Short term trend; Direction	See 4.11
4.11 Change and reason for change in surface area of range	There has been no change to the reported 10km2 distribution since the 2013 report (NRW 2013). No information to confirm whether there have been real changes in range as much of the resource has not been resurveyed.
5.4 Surface area; Method used	Habitat extent was calculated using polygon and point data from the Upland NVC surveys and Upland Field Unit vegetation surveys. Polygon records sum to a total area of 42 hectares, with a mean polygon size of 0.68 (range 0.001 - 10.94) hectares. In addition to these polygons the presence of H6430 was noted or inferred at 34 other locations, assuming these stands are of a similar average size to the mapped habitat areas they amount to a further 23 hectares providing an estimated total extent of 65 ha. As with other habitats occupying cliff and steep slopes, habitat areas estimates based on the features mapped vertical projection are problematic, tending to under-estimate the total habitat area and bias against examples on the steepest slopes.
5.6 Short term trend; Direction	There is insufficient data available to make any judgement on the short-term trend in habitat area.

6.2 Condition of habitat; Method used	Very limited assessment of condition within SAC and no assessments outside SAC have been undertaken since the 2007 - 2012 period. This assessment is based on common standards monitoring visits undertaken between the 2007 and 2012 period. During these assessments, habitat within Cadair Idris SAC was recorded as in favourable condition; in Eryri SAC as unfavourable (recovering) and in Brecon Beacons SAC as unfavourable (unclassified). Habitat condition within Eryri SAC is likely to be continuing to improve due to management measures to reduce grazing pressure, however, based on the last two assessments, recovery is slow and the site is unlikely to have achieved favourable status. The results of common standards monitoring visits undertaken between 2007 and 2012 suggest that tall herb cover and vegetation height are the attributes most commonly failing and this is attributed to high grazing pressure. Even on Cadair Idris SAC where the existing mapped habitat is in favourable condition areas of potential habitat are currently limited by grazing pressure. The presence of invasive native and non-native species such as bracken, conifer seedlings and Epilobium brunescens is also recorded in a number of samples. Bare ground and lack of vegetation cover are noted in some samples as the result of access and human disturbance. Other relevant information Pressures on the habitat are the same as during the 2007 - 2012 period and are likely to remain high. Reduction of grazing on the least accessible ledges, control of invasive species and management of recreation pressure will aid habitat recovery but nitrogen deposition, climate change and overall grazing pressures still threaten recovery.

7.1 Characterisation of pressures/ threats	Assessment of pressures and threats for the 2013 Article 17 report on H6430 in Wales (NRW, 2013) was based largely on an assessment of data held in NRW's 'Actions Database' (see below for details). Resources were not available to undertake a similar but updated analysis for this report and pressures and threats have simply been derived from the 2013 report by cross-matching the old reporting categories to the new codes. NRW's '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). The special sites (SSSI and SAC) account for 59% of the polygons mapped for the H6430 resource and 56% of the points mapped in Wales. Additional information on pressures was collated from the SAC Monitoring Reports. 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, showed stands receive an average of 19kg/N/ha/yr, with no areas receiving less than 7kg/N/ha/yr therefore the potential for impacts are significant Pressures: Two pressures were considered to have high impact on the habitat; A09 Grazing - this is specifically the problem of heavy grazing on the more accessible, often lower ledges. Grazing by feral goats is noted as an issue on some sites in Snowdonia; J03 Air pollution - nitrogen deposition is noted as an issue on 55% of sites within SSSIs. No critical load has been established for the community however the habitat is found within upland areas with high levels of nitrogen deposition. The sensitivity of individual species within the community is not known. Three pressures were considered to have a moderate impact; F07 Outdoor sports and leisure activities - erosion and disturbance can result from access to cliffs including climbing and ice climbing. I04 problematical native species - focussed on the spread of bracken on cliffs; I02 Invasive non-native species Epilobium brunescens is recorded from a number of sites as are non-native conifer seedlings Threats: Each of the pressures listed in 7.1 are regarded as being long-term and there is no reason to suppose they will not continue to be applicable and are therefore listed as threats. Over the medium to long-term the impacts of climate change are likely to be felt and to exacerbate some issues as indicated in the section narrative. A09 grazing issues are being resolved at sites where there is control over livestock numbers e.g. Cwm Idwal. However, the habitat occurs largely on upland commons where grazing control is difficult and it is likely that heavy grazing on the more accessible ledges will continue. F07 Recreational pressure is likely to at least remain the same and may increase but better management of access may reduce impacts. I04 Continued threat of bracken expansion especially as a result of climate change. I02 Continued threat to the spread of non-native conifers as no control mechanism identified. Rhododendron is not currently an issue but is a significant threat in to hydrophilous vegetation within the Eryri SAC due to the large seed source. 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 to these threats. N01, N02, N03, N06, N08 - The potential impacts of climate change on other aspects of this habitat are unclear and have been classed as low level for JNCC reporting purposes.

8.5 List of main conservation measures	CA06: Maintaining appropriate grazing through agreement. In most cases this refers to the need to reduce grazing or to remove grazing to allow vegetation to recover. Currently 46 % of the habitat polygons and 35 % of habitat points identified as qualifying features are under SSSI Land Agency Agreement. Agri-environment agreements cover 44% of habitat polygons and 26% of habitat points (note there will be overlap between areas under SSSI agreements and agri-environment agreements). There are no specific prescriptions for the management of hydrophilous tall herb or ledge vegetation within agri-environment. Grazing levels are therefore dictated by other habitats such as upland grassland and heathland which occur within the same management unit. The prescribed grazing levels are likely to be too high for hydrophilous tall herb communities. In Cwm Idwal, part of the Eryri SAC grazing has been excluded although some sheep trespass and grazing by goats occurs the hydrophilous vegetation is showing signs of recovery. CJ01: Monitoring and assessing the impacts of nitrogen deposition. CF03 Management of recreational activities including publicity/voluntary agreements to prevent damage by rock climbing and ice climbing. CI05: Management of bracken. CI03: Management of problematical or invasive non-native species e.g. conifers, rhododendron and feral goat.