# 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:

## H8120 - Calcareous and calcshist screes of the montane to alpine levels (*Thlaspietea rotundifolii*)

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 | **8120 - Calcareous and calcshist screes of the montane to alpine levels (Thlaspi** |

### 2. Maps

| | |
|---|---|
| 2.1 Year or period | 1994-2012 |
| 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 | Averis, B. 2002. Vegetation survey of Mynydd Eglwyseg, Denbighshire, Wales 2000-2001. CCW Science Report 542.<br>Gray, D.A., 2003. NVC Survey of Mynydd Llangatwg and Mynydd Llangynidr. CCW Contract Science Report 605.<br>Evans, T.G. 2007. Flora of Monmouthshire: Watsonian vice-county 35.<br>Green, J.A. 1999. The Flowering Plants and Ferns of Denbighshire.<br>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, Oxford University Press.<br>Wade, A.E, Kay, Q.O.N., Ellis, R.G. & National Museum of Wales. 1994. Flora of Glamorgan.<br>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.<br>Guest, D. 2012. Assessing pressures and threats for article 17 reporting based on information in CCW's Actions Database. CCW HQ internal document.<br>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: http://jncc.defra.gov.uk/pdf/Article17/FCS2007-H8120-audit-Final.pdf[Accessed 15th May 2018]<br>NRW, 2013. Supporting documentation for the Third Report by the United Kingdom under Article 17 for Wales; Habitat H8120 - Calcareous and calcshist screes of the montane to alpine levels (Thlaspietea rotundifolii). JNCC. Available from: http://jncc.defra.gov.uk/pdf/Article17Consult_20131010/H8110_WALES.pdf [Accessed 15th May 2018]<br>Stevens, J., Sherry J. and Turner, A. 2012. H8120 Calcareous and Calcshist Screes of the Montane to Alpine Levels Inventory. |

### 4. Range

| | |
|---|---|
| 4.1 Surface area (in km²) | |
| 4.2 Short-term trend Period | |

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

| | | | |
|---|---|---|---|
| 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 | | | |
| 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 | 1994-2004 | | |
| 5.2 Surface area (in km²) | a) Minimum 0.34 | b) Maximum 0.6 | c) Best single value 0.47 |
| 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 | Maximum 0 |
| | b) Area in not-good condition (km²) | Minimum 0.272 | Maximum 0.272 |
| | c) Area where condition is not known (km²) | Minimum 0.071 | Maximum 0.328 |

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

| | |
|---|---|
| 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 |
| Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (L02) | M |

| Threat | Ranking |
|---|---|
| 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 |
| 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 |
| Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (L02) | 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 | | |

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

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 outdoor sports, leisure and recreational activities (CF03) |
| Management, control or eradication of other invasive alien species (CI03) |
| Management of problematic native species (CI05) |
| 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 0.272

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

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

| | |
|---|---|
| 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 | Based mainly on expert opinion with very limited data |
| 11.6 Additional information | |

## 12. Complementary information

| | |
|---|---|
| 12.1 Justification of % thresholds for trends | |
| 12.2 Other relevant information | |

# Distribution Map

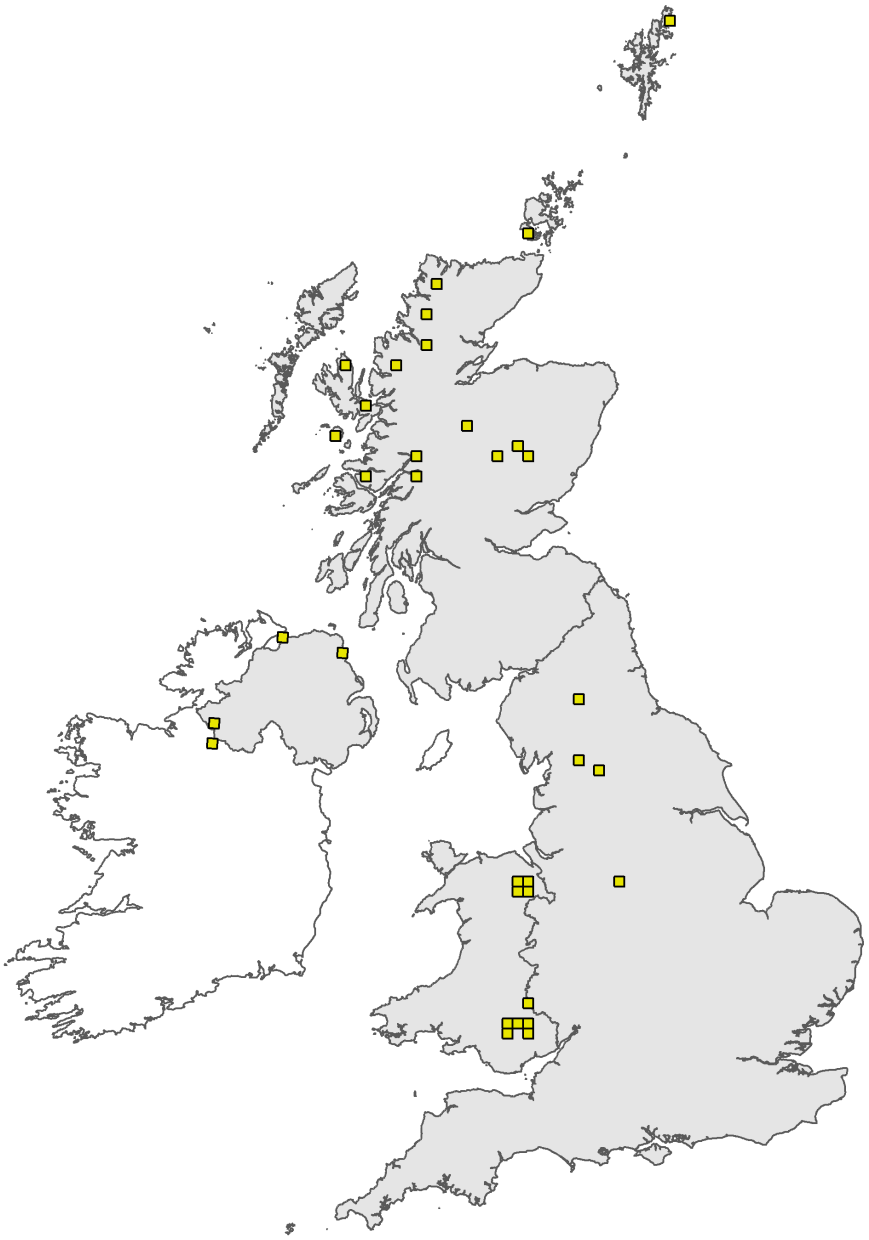

Figure 1: UK distribution map for H8120 - Calcareous and calcshist screes of the montane to alpine levels (*Thlaspietea rotundifolii*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains 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

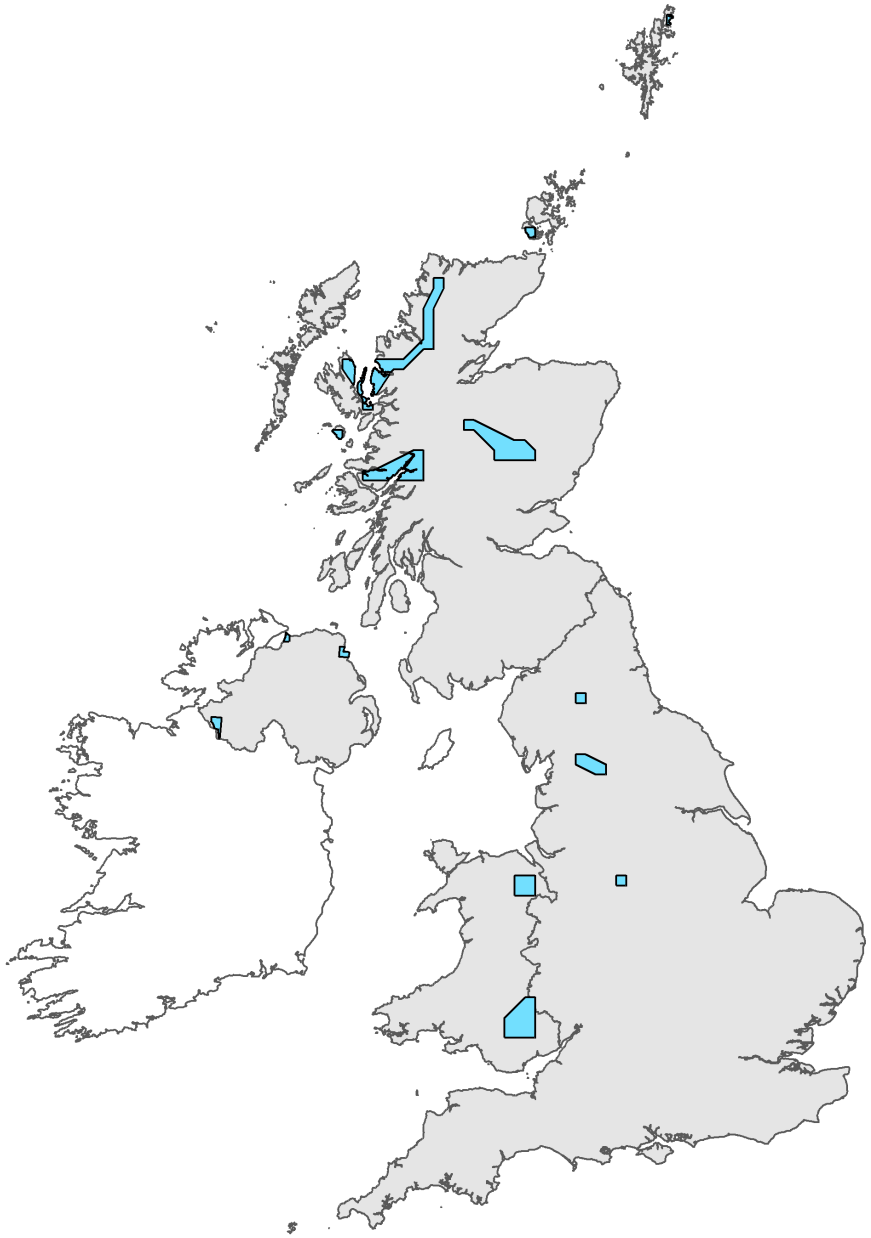

Figure 2: UK range map for H8120 - Calcareous and calcshist screes of the montane to alpine levels (*Thlaspietea rotundifolii*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains 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: 8120**

| Field label | Note |
|---|---|
| 2.1 Year or period | All data underpinning the 10km were collected between 1994 and 2004 and re-interpreted in 2012 to produce a GIS inventory. The continued presence of habitat has only been formally reconfirmed on those sites which have been visited as part of the 2007-2012 SAC monitoring cycle. |
| 2.3 Distribution map; Method used | The habitat distribution has been mapped on the basis of records of basic scree with Gymnocarpium robertianum. These records have been derived from two main data sources; Upland NVC surveys for Eglwyseg (Averis, 2002) and Mynydd Llangatwg/Llangynidr (Gray, 2003) and 10km atlas data for G. robertianum. The NVC surveys provide digital maps showing the distribution of scree and target notes identifying points where G. robertianum is found within calcareous scree. Records for G. robertianum were collated from the New Atlas of the British and Irish Flora (2002), these data were then checked against local floras to identify those 10 km squares where limestone fern occurs in scree. A revised GIS-based inventory for the habitat was produced using both of these data sources (Stevens, Sherry and Turner 2012). The datasets comprise polygon (mapped stands of scree with Gymnocarpium), point (localised records of Gymnocarpium in scree) and 10km grid square (unlocalised records) data. This is considered only a partial data set and further work is required to confirm the location and extent of the habitat, particularly where species records and 10km flora data have been used. |

**Habitat code: 8120 Region code: ATL**

| Field label | Note |
|---|---|
| 4.11 Change and reason for change in surface area of range | The distribution data submitted in 2013 has not been updated. 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. |
| 5.1 Year or period | The minimum area estimate is derived from survey data collected between 1994 and 2004 (Stevens, Sherry and Turner 2012). The maximum area figure is derived from the Habitat Survey of Wales, which ran between 1979 and 1997 (Blackstock et al 2010). |
| 5.2 Surface area | 27.2ha of habitat is mapped at Eglwyseg and Llangatwg. A further eight points are recorded covering an estimated 7.1ha based on mean patch size. A further three 10 km squares have been identified as supporting the habitat but the number of locations within each square is unknown so no extent figure can be estimated. A figure of 60ha of upland basic scree has been calculated form the Phase 1 dataset but the habitat definition may include a wider range of scree and rock communities than that of the Annex 1 habitat (Blackstock et al. 2010). It is therefore estimated that there is a minimum of 34.3ha with a potential upper limit of 60ha. The best estimate value represents the mid-point between these two figures. Note all measurements are made from vertical projections which will significantly underestimate the area of this habitat. |
| 5.4 Surface area; Method used | Habitat extent has been derived from polygon and point data from upland NVC surveys and 10km atlas data for Gymnocarpium robertianum (see 2.3 for details). The figure for Phase 1 basic scree was calculated from the Habitats of Wales (Blackstock et al. 2010). The best estimate value simply represents the mid-point between the estimate derived from the coarser but more comprehensive phase I survey and the more localised but higher resolution NVC surveys and point data. |

| | |
|---|---|
| 6.1 Condition of habitat | SAC monitoring indicates that the calcareous scree on Berwyn and South Clwyd Mountains SAC (the only SAC in Wales on which is a recognised feature), is in unfavourable condition. There is no evidence on which to judge the condition of the remainder of the resource in Wales. |
| 6.2 Condition of habitat; Method used | Assessment of structure and function is based on the results of common standards monitoring visits to Berwyn and South Clwyd Mountains SAC, undertaken in 2009. This indicates a low diversity of typical limestone scree species (Geranium robertianum. Asplenium trichomanes, Neckera crispa and Tortella tortuosa), presence of species indicative of nutrient enrichment and disturbance (Cirsium sp., Rumex sp, Urtica dioica and Rubus fruticosus) and low cover of bracken, trees and shrubs. Non-native cotoneaster was found at 4 sample points and just less than half of all sample points showed signs of erosion/disturbance by people or livestock. The estimated extent of the habitat within the SAC is based on the mapped area of habitat at the site. The upper and lower estimates for extent of the habitat in unknown condition reflect the two different methods used to estimate the total area of habitat in Wales (see section 5.2), the minimum figure (7.1 ha) is most in line with the figure provided for the area in not good condition. |
| 6.4 Short term trend of habitat area in good condition; Direction | The habitat at Berywn and South Clwyd Mountains SAC was monitored in 2003 and 2009 and was found to be in unfavourable condition on both occasions. While this site represents a significant proportion of the known Welsh resource, we have no information on the condition or trend in condition of the habitat outside the N2K series. As such the short-term trend in the habitat condition must be considered uncertain. |
| 6.5 Short term trend of habitat area in good condition; Method used | See narrative against section 6.4. |

| | |
|---|---|
| 7.1 Characterisation of pressures/ threats | Pressures: Four pressures were identified in the Actions Database as having a high impact: A09 overgrazing - high grazing levels were identified in units with calcareous scree, sheep may avoid scree but some grazing occurs in more accessible areas. SAC Monitoring, based on one site which covers more than 50% of the resource, suggests grazing levels are low with less than 50% vegetation showing impacts of browsing. However the presence of species indicative of disturbance and nutrient enrichment, such as nettles, docks and thistles might indicate localised dunging and movement by grazing stock. Alternatively nitrogen deposition or an interaction between N deposition and grazing may account for the presence of negative indicator species; J03 mixed source air pollution - calcareous scree supports a range of fern, bryophytes and lichens; the sensitivity to of these species to N deposition is not known; I04 problematic native species and L02 habitat succession relate to the spread of bracken and scrub respectively. Whilst these are recorded as high pressures in the Actions Database both were identified as less significant by SAC monitoring so they have been re-scored as moderate pressures. F07 Outdoor sports and leisure activities - is identified as a moderate pressure and relates to access and erosion of scree. SAC monitoring found erosion along footpaths and in areas used for climbing access. I02 Invasive non-native species were not recorded in the Actions Database but SAC monitoring identified 4 sampling points where non-native cotoneaster was a problem. Data from NRWs Actions Database (extracted 2012) Pressure No of SSSI units impacted % of units impacted Impact Overall rating A09 2 40 H H L02 3 60 H M I04 3 60 H M J03 5 100 H H F07 1 20 M M Total number of SSSI units with calcareous scree as a feature = 5 Methods used to assess pressures: Data held in the 'Actions Database' were used to provide a basis for quantifying pressures/threats relating to the H8120 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). The special sites (SSSI and SAC) account for 100 % of the polygons mapped and 37% of the points mapped. Additional information on pressures was collated from the Berwyn and South Clwyd Mountains SAC monitoring data. 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 that squares within which the habitat has been recorded receive an average of 20kg/N/ha/yr with no areas receiving less than 14kg/N/ha/yr so the potential for impacts are significant. |
| 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. 97% calcareous scree polygons plus 25% of points were covered by SSSI land agency agreements until 2015. Grazing levels are not targeted specifically at scree as it comprises only part of a management unit therefore the overall grazing rate within agreements may not be appropriate. CI03 and CI05 management of problematic native species (e.g. bracken and scrub) and invasive non-native (e.g. cotoneaster). CF03 Management of footpaths and erosion control to protect fragile habitat e.g. Local Authority Management of Offa's Dyke Footpath through calcareous scree at Eglwyseg Escarpment. CJ01 Nitrogen emissions are currently controlled by a range of national regulations and local measures. However, further measures are required to bring deposition down to safe levels for the habitat as is a better understanding of the impacts of excess nitrogen on this vegetation. |

| | |
|---|---|
| 9.1 Future prospects of parameters | 9.1a Future prospects of range - 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 Future prospects of area - 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 Future prospects of structure and function - 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. |
| 11.1 Surface area of the habitat type inside the pSCIs, SCIs and SACs network | The area figure was produced by overlaying the H8120 GIS inventory (Stevens, Sherry and Turner. 2012) with SAC boundaries. The current data show an area of 25.53 ha plus 2 additional points with an estimated area of 1.7ha totalling 27.23 ha. |
| 11.4 Short term trend of habitat area in good condition within the network; Direction | SAC monitoring on the only welsh SAC on which the habitat is a recognised feature, identified it as being in unfavourable condition in both 2003 and 2009. While no more recent monitoring data is available for the feature recovery is considered unlikely. |