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:

H8110 - Siliceous scree of the montane to snow levels
(*Androsacetalia alpinae* and *Galeopsietalia ladani*)

NORTHERN IRELAND

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 (Northern Ireland information only)**
1.2 Habitat code	**8110 - Siliceous scree of the montane to snow levels (Androsacetalia alpinae**

2. Maps

2.1 Year or period	2013-2018
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	Cooper, A. & McCann, T. (2001). The Northern Ireland Countryside Survey 2000. Environment and Heritage Service, Belfast Cooper, A., McCann, T. and Rogers, D. (2009) Northern Ireland Countryside Survey 2007: Broad Habitat Change 1998-2007. Northern Ireland Environment Agency. Northern Ireland Environment Agency Research and Development Series No. 09/06. Belfast. 58 pp. McCann, T., Rogers, D. and Cooper, A. (2009) Northern Ireland Countryside Survey 2007: Field methods and technical manual. Northern Ireland Environment Agency. Northern Ireland Environment Agency, Research and Development Series No 09/07. Belfast. Murray, R., McCann, T. and Cooper, A. (1992). A Land Classification and Landscape Ecological Study of Northern Ireland. Department of the Environment NI and Department of Environmental Studies, University of Ulster, Coleraine. Rodwell, J.S. (1992). British Plant Communities. Volume 3, Grasslands and Montane Communities. Cambridge: Cambridge University Press NIEA. Internal Condition Assessment Reports (various sites and years). NIEA. Internal Survey Reports (various sites and years). Rodwell, J.S., Dring, J.C., Averis, A.B.V., Proctor, M.C.F., Malloch, A.J.C., Schaminee, J.H.J & Dargie, T.C.D. 1998. Review of Coverage of the National Vegetation Classification. Lancaster: Unit of Vegetation Science report to the Joint Nature Conservation Committee. Data on aerial Nitrogen deposition taken from Air Pollution Information System website - http://www.apis.ac.uk/

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

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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	2013-2018		
5.2 Surface area (in km²)	a) Minimum	b) Maximum	c) Best single value 1
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	Stable (0)		
5.7 Short-term trend Magnitude	a) Minimum	b) Maximum	c) Confidence interval
5.8 Short-term trend Method used	Based mainly on extrapolation from a limited amount of data		
5.9 Long-term trend Period	1994-2018		
5.10 Long-term trend Direction	Stable (0)		
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 0.435	Maximum 0.435
	b) Area in not-good condition (km²)	Minimum 0	Maximum 0
	c) Area where condition is not known (km²)	Minimum 0.565	Maximum 0.565
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	Stable (0)		

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6.5 Short-term trend of habitat area in good condition Method used	Based mainly on extrapolation from a limited amount of data	
6.6 Typical species	Has the list of typical species changed in comparison to the previous reporting period?	No
6.7 Typical species Method used		
6.8 Additional information		

7. Main pressures and threats

7.1 Characterisation of pressures/threats

Pressure	Ranking
Extensive grazing or undergrazing by livestock (A10)	H
Intensive grazing or overgrazing by livestock (A09)	M
Agricultural activities generating air pollution (A27)	M
Temperature changes (e.g. rise of temperature & extremes) due to climate change (N01)	M
Other invasive alien species (other then species of Union concern) (I02)	M
Burning for agriculture (A11)	M

Threat	Ranking
Extensive grazing or undergrazing by livestock (A10)	H
Intensive grazing or overgrazing by livestock (A09)	M
Agricultural activities generating air pollution (A27)	M
Temperature changes (e.g. rise of temperature & extremes) due to climate change (N01)	M
Other invasive alien species (other then species of Union concern) (I02)	M
Burning for agriculture (A11)	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	Medium-term results (within the next two reporting periods, 2019-2030)	
8.5 List of main conservation measures		

Reduce/eliminate air pollution from agricultural activities (CA12)
Adapt mowing, grazing and other equivalent agricultural activities (CA05)
Implement climate change adaptation measures (CN02)

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

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

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 0.435

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

Stable (0)

11.5 Short-term trend of habitat area in good condition within network Method used

Complete survey or a statistically robust estimate

11.6 Additional information

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12. Complementary information

12.1 Justification of % thresholds for trends

12.2 Other relevant information

Distribution Map

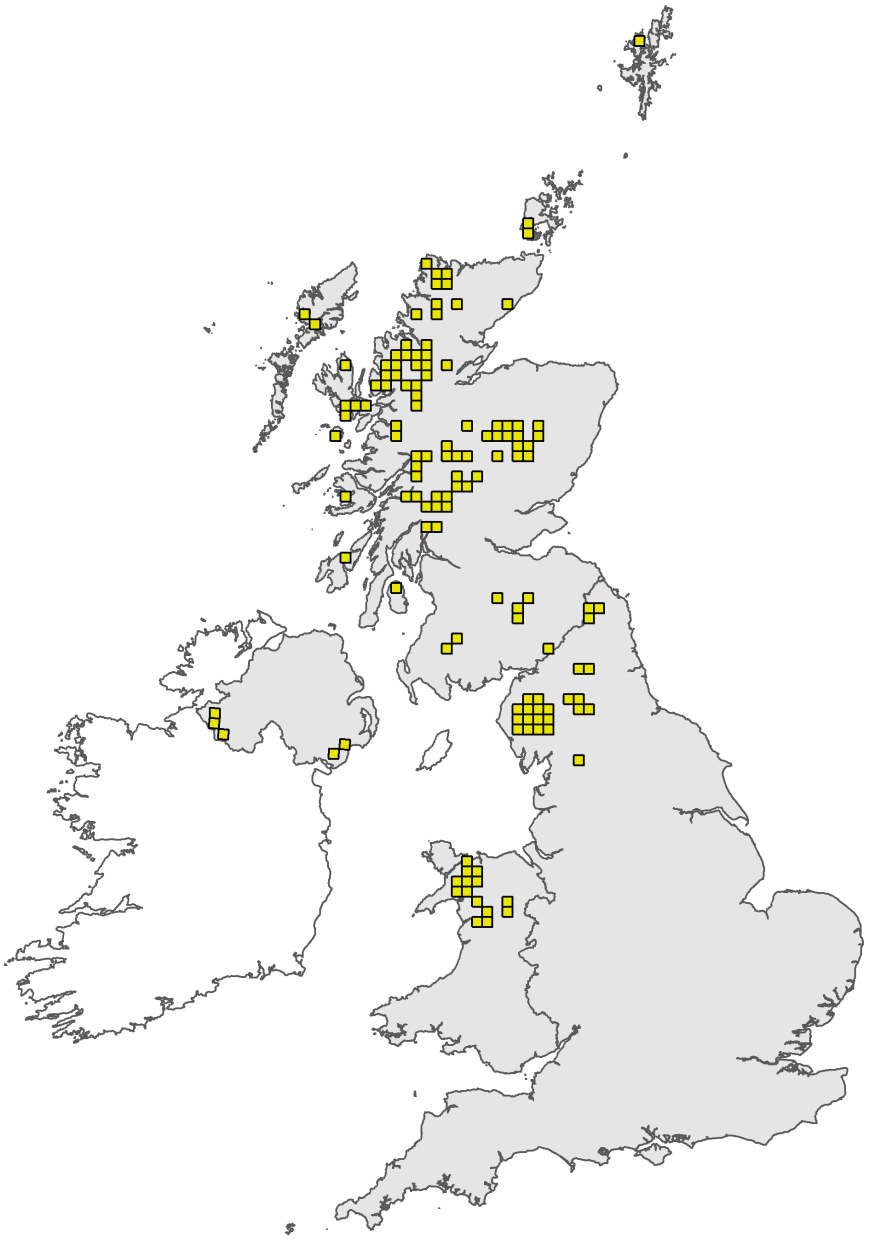

Figure 1: UK distribution map for H8110 - Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). 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

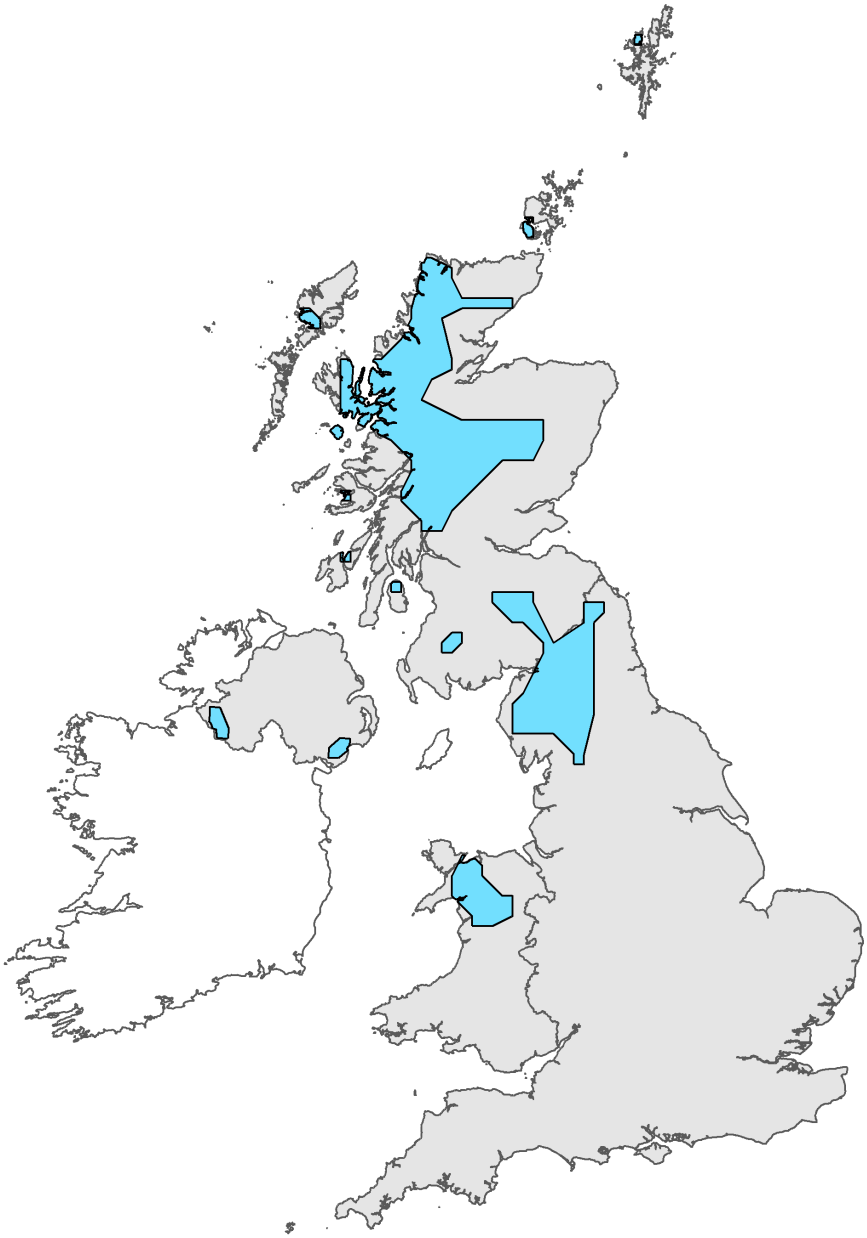

Figure 2: UK range map for H8110 - Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains 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: 8110

Field label	Note
2.2 Distribution map	Siliceous screes are made up of siliceous rocks that have been colonised by a range of pioneer species, such as brittle bladder-fern Cystopteris fragilis. It also provides shelter for species sensitive to frost, such as Wilson's filmy fern Hymenophyllum wilsonii, or to grazing, such as stone bramble Rubus saxatilis. The habitat type is characterised by two NVC types: U18 Cryptogramma crispa-Athyrium distentifolium (generally occurs above 600 m in the Scottish Highlands) and U21 Cryptogramma crispa-Deschampsia flexuosa (extends to lower altitudes in mild oceanic climates and has a less well developed montane flora). Other forms of siliceous scree are dominated by bryophytes and lichens and are not covered by the NVC. In places, such screes provide an important habitat for Atlantic bryophytes. This is a fairly widespread habitat in NI, occurring in upland areas on acidic rocks (Mournes, Sperrins and the sandstones of Co Fermanagh). However, it tends to be very species-poor here, and lacks most (if not all) of the characteristic higher plant species found in GB (e.g. Cryptogramma crispa Parsley Fern - only 3 known sites in NI and most are single plants). Two sites declared for the Annex 1 feature in NI - Eastern Mournes and Cuilcagh Mountain. In addition, there are at least 3 ASSIs which contain the feature - Big Dog Scarps and Lakes, Lough Navar Scarps and Lakes and the Western Mournes.
2.3 Distribution map; Method used	Information on the distribution of the habitat comes from surveys undertaken by NIEA, either in-house or through contract. During the reporting period, NIEA staff have visited SACs and ASSIs known to contain the habitat (e.g. Eastern Mournes and Cuilcagh Mountain SACs; Big Dog Scarps and Lakes, Lough Navar Scarps and Lakes and Western Mournes ASSIs). Coverage of the habitat in the wider countryside is more patchy, as the habitat often occurs in small stands on suitable rocks in the uplands.

Habitat code: 8110 Region code: ATL

Field label	Note
4.1 Surface area	The current range of the habitat is naturally limited by environmental factors, in particular slope and geology. Although data on distribution is limited, no loss in range has been recorded in the habitat on SACs or ASSIs since the condition assessment programme was introduced in 2002. In addition, the habitat is a robust one that is difficult to destroy.
4.5 Short term trend; Method used	Although there is a scarcity of data on the habitat, expert opinion would suggest that the range is unlikely to have declined over the short term. No evidence of loss has been noted at SACs and ASSIs that contain the feature, and the habitat is a robust one that is difficult to destroy. Hence judgement is stable for short term range.
5.2 Surface area	The surface area of this habitat has been estimated very approximately at 100 ha. This is in the absence of any definitive data from outside the SAC and ASSI series.
5.4 Surface area; Method used	The habitat is regularly monitored on SACs and ASSIs, but there is virtually no data from outside the protected sites network. Hence reported as Based mainly on extrapolation from a limited amount of data
5.6 Short term trend; Direction	Regular monitoring of protected sites has not noted any decline in extent of siliceous scree, and the habitat is difficult to destry or remove. Hence reported as Stable, but Based mainly on extrapolation from a limited amount of data.
5.10 Long term trend; Direction	The overall extent of the habitat is not known. However, regular monitoring of protected sites has not noted any decline in extent of siliceous scree and the habitat is a robust one that is not easily destroyed or removed. Hence reported as Stable.

6.1 Condition of habitat	Results from SACs and ASSIs have shown the habitat to be in Favourable condition. In the wider countryside, the condition of the habitat is largely unknown.
6.2 Condition of habitat; Method used	Data based upon condition assessment of Eastern Mournes and Cuilcagh Mountain SACs which has been designated for the habitat, in addition to known occurrences of the habitat on ASSIs (e.g. Lough Navar Scarps and Lakes; Big Dog Scarps and Lakes). There are an unknown number of locations in the wider countryside. Hence Based mainly on extrapolation from a limited amount of data
7.1 Characterisation of pressures/ threats	Grazing - changes in grazing levels could affect the condition of scree in different ways. For example, overgrazing can reduce vegetation cover and lead to increased erosion. On the other hand, some areas of scree may become more vegetated in future years if grazing levels fall. This may not be of initial concern (as increases in valuable habitat from currently degraded scree may occur) but it will be important to monitor the effect of increased vegetation cover, and it may require the identification of those key areas of scree that should be kept open. Recreational activities can cause damage to vegetation and localised erosion and are likely to increase in the future. Invasive species - a number of species are, or could be invasive - for example non-native Cotoneaster. Uncontrolled burning in nearby habitats (e.g. dry heath) could spread to Siliceous scree, leading to damage of the skeletal soils, and poor opportunities for regeneration. Air pollution - based on an assessment of the exceedance of relevant critical loads, air pollution is considered to be a potentially significant threat to the future condition of this habitat - critical loads are exceeded at Eastern Mournes (Critical load 5-15kg/N/ha/yr, with a predicted average of 21.8 kg/N/ha/yr) and Cuilcagh Mountain (with a predicted average of 10.9 kg/N/ha/yr) and are predicted to remain above the lower limit in the future. Climate change - is considered to be a potential threat to the future condition of this habitat, especially in the long term. However, there is a high degree of uncertainty in defining future climate threats on habitats.
7.2 Sources of information	Threats and pressures assessed from the most recent Common Standards Monitoring of siliceous screes at protected sites (SACs and ASSIs), and expert judgement to assess pressures in the wider countryside. Threats based upon current pressures and expert judgement on future trends, particularly using information from the APIS website.
8.1 Status of measures	Recent monitoring of siliceous screes at Cuilcagh Mountain and Eastern Mournes SACs shows that the habitat here is in favourable condition. However, the habitat has not been well surveyed across NI, and it is likely that measures will be required across other sites where the habitat occurs. Management plans for both SACs are being prepared, and the Environmental Farming Scheme (EFS) should assist in ensuring favourable management for the habitat both within protected sites and the wider countryside. In addition, the Department is developing a road map to reduce atmospheric Nitrogen from agricultural sources, which may be a factor at some sites where the habitat occurs.
8.2 Main purpose of the measures taken	Measures aimed at reducing damaging impacts from current pressures - such as lack of management - and future threats. Hence this is reported as Maintain the structure and functions, including the status of typical species (related to 'Specific structure and functions').
8.3 Location of the measures taken	Measures are required both inside and outside SACs. Both Interreg and Rural Development Plan (RDP) funds are being used to develop Conservation Management Plans and to potentially implement management measures which will benefit the habitat at SACs which may contain the habitat. Several areas of the habitat across NI - both within designated sites and outside - may be entered into the Environment Farming Scheme (EFS), which aims to implement sympathetic management that should improve the condition of the habitat.

10.1 Range	There is no empirical evidence of any changes in range for H8110 since 1988, nor any previous historical data on extent or changes. Although data on distribution of the habitat outside of the protected sites network is limited, no loss in range has been recorded in the habitat on SACs or ASSIs since the condition assessment programme was introduced in 2002. In addition, the current range of the habitat is naturally limited by environmental factors, particularly slope/landform and rock type. Range assessment for H8110 is therefore Favourable.
10.2 Area	There is no readily available quantitative evidence or information on any trend in area for H8110 since 1988. While there is some suggestion that there may be localised increases in area due to heavy grazing removing vegetation from stabilised slopes and promoting scree formation, expert opinion is that the extent of the habitat has remained stable at both NI and UK level since 1994. The extent and distribution of H8110 is dictated principally by a balance between specific geomorphological conditions creating the habitat; grazing which can both maintain and create new habitat; and the creation of soils and colonisation by vegetation that can lead to its loss. The habitat extent is only locally affected by human activities. There is no known trend in area since 1994 and the current area, patch size and distribution is both considered viable and likely to equate to favourable reference area.
10.3 Specific structure and functions	CSM data for the SACs and ASSIs that contain the habitat show that the habitat here is in favourable condition. However, there is no accurate estimate of the total area of the habitat in NI, so it is doubtful if these data can be judged to be representative of the overall NI resource. This suggests a judgement of Unknown for the structure and function parameter for H8110.
10.4 Future prospects	Given the poor information on the extent and condition of the habitat across NI, and the uncertain future impacts of air pollution and climate change, future prospects are predicted as Unknown.
10.5 Overall assessment of Conservation Status	Range and extent have been assessed as Favourable. Structure and function is Unknown. Future prospects are Unknown with climate change impacts currently unpredictable and atmospheric Nitrogen deposition still a threat. Hence an overall Unknown assessment.
11.1 Surface area of the habitat type inside the pSCIs, SCIs and SACs network	The habitat is represented at 2 SACs in NI - Cuilcagh Mountain and Eastern Mournes. Extent at these sites estimated at 43.5 ha.
11.3 Surface area of the habitat type inside the network; Method used	The habitat has been mapped at both SACs. Hence reported as Complete survey.
11.4 Short term trend of habitat area in good condition within the network; Direction	Assessment of stable based upon recent condition assessment data for the habitat on the SAC, which has not changed since the previous assessments. Again, it should be noted that the Condition Assessment methodology is generally not sensitive in detecting the impacts of atmospheric Nitrogen deposition on the habitat.
11.5 Short term trend of habitat area in good condition within the network; Method used	Assessment based upon recent condition assessment data from Cuilcagh Mountain and Eastern Mournes SACs. It should be noted, however, that the Condition Assessment methodology is generally not sensitive in detecting the impacts of atmospheric Nitrogen deposition.