EASTERN MOURNES SAC

UK0016615

CONSERVATION OBJECTIVES

Document Details

Title	*Eastern Mournes SAC Conservation Objectives*
Prepared By	*R. McKeown*
Approved By	*P. Corbett*
Date Effective From	*11/10/2017*
Version Number	*V2.1*
Next Review Date	Nov 2020
Contact	cdp@daera-ni.gov.uk

Revision History:

Version	Date	Summary of Changes	Initials
V1.0	June 2013	Internal working document	PC
V2.0	January 2015	Complete review	RMK
V2.0	01.04.2015	Effective date of Version 2.0	PC
V2.1	11.10.2017	Removed wording '*excluding recently burnt areas*' from bare peat target in all relevant Annex tables	PMC

1. INTRODUCTION

EU Member States have a clear responsibility under the Habitats and Birds Directives[1] to ensure that all habitats and species of Community Interest are maintained or restored to Favourable Conservation Status (FCS). Natura 2000 sites have a crucial role to play in achieving this overall objective since they are the most important core sites for these species and habitats. Each site must therefore be managed in a way that ensures it contributes as effectively as possible to helping the species and habitats for which it has been designated reach a favourable conservation status within the EU.

To ensure that each Natura 2000 site contributes fully to reaching this overall target of FCS, it is important to set clear conservation objectives for each individual site. These should define the desired state, within that particular site, of each of the species and habitat types for which the site was designated.

Once a site has been included in the Natura 2000 network, Member States are required to implement, on each site, the necessary conservation measures which correspond to the ecological requirements of the protected habitat types and species of Community Interest present, according to Article 6.1 of the Habitats Directive. They must also prevent any damaging activities that could significantly disturb those species and habitats (Article 6.2) and to protect the site from new potentially damaging plans and projects likely to have a significant effect on a Natura 2000 site (Article 6.3, 6.4).

Conservation measures can include both site-specific measures (i.e. management actions and/or management restrictions) and horizontal measures that apply to many Natura 2000 sites over a larger area (e.g. measures to reduce nitrate pollution or to regulate hunting or resource use).

In Northern Ireland, Natura 2000 sites are usually underpinned by the designation of an Area of Special Scientific Interest (ASSI) under the Environment (NI) Order 2002 (as amended).

[1] 92/43/EEC and 2009/147/EC (codified version of Directive 79/409/EEC as amended)

2. ROLE OF CONSERVATION OBJECTIVES

Conservation Objectives have a role in

- Conservation Planning and Management – guide management of sites, to maintain or restore the habitats and species in favourable condition

- Assessing Plans and Projects, as required under Article 6(3) of the Habitats Directive - Habitats Regulations Assessments (HRA) are required to assess proposed plans and projects in light of the site's conservation objectives.

- Monitoring and Reporting – Provide the basis for assessing the condition of a feature, the factors that affect it and the actions required.

3. DEFINITION OF FAVOURABLE CONSERVATION STATUS

Favourable Conservation Status is defined in Articles 1(e) and 1(i) of the Habitats Directive:

The conservation status of a natural habitat is the sum of the influences acting on it and its typical species that may affect its long-term natural distribution, structure and functions as well as the long term survival of its typical species. The conservation status of a natural habitat will be taken as favourable when:

- Its natural range and areas it covers within that range are stable or increasing, and
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- The conservation status of its typical species is favourable as defined in Article 1(i).

For species, favourable conservation status is defined in Article 1(i) as when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and;
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and;
- there is, and will probably continue to be, a sufficiently large habitat to maintain its population on a long term basis.

3.1 DEFINITION OF FAVOURABLE CONDITION

Favourable Condition is defined as "**the target condition for an interest feature in terms of the abundance, distribution and/or quality of that feature within the site"**.

The standards for favourable condition (Common Standards) have been developed by JNCC and are applied throughout the UK. Achieving Favourable Condition on individual sites will make an important contribution to achieving Favourable Conservation Status across the Natura 2000 network.

4. SITE INFORMATION

COUNTY: DOWN

GRID REFERENCE: IJ 330270

AREA: 7510 ha

5. SUMMARY SITE DESCRIPTION

The Eastern Mournes consists of a compact range of mountains forming the highest ground in Northern Ireland. They are situated in the south-east of the Province in County Down, just west of Newcastle. Within the Mountain range, 12 peaks extend to over 600m, with Slieve Donard rising to 852m. The area is important geologically representing the largest outcrop of Tertiary granites in the British Isles covering some 150 sq. km. The Eastern Mournes host three distinct granite types with associated mineralogies.

The Eastern Mournes SAC has a unique combination of upland habitats and associated vegetation communities including the largest extent of European dry heaths in Northern Ireland. This is mostly of the *Calluna/Erica cinerea* type, but includes *Ulex gallii/Erica cinerea* dry heath on the lower slopes. The dominance of *Erica cinerea* is a notable feature of the area and characteristic of dry heath in the oceanic climate of more western parts of the UK. The area supports a number of other vegetation communities including wet heaths and blanket bog, montane heaths and grasslands on the highest summits and plant communities associated with the cliffs and scree.

Further details of the site are contained in the ASSI Citation and Views About Management statement, which are available on the NIEA website (www.doeni.gov.uk/niea).

5.1 BOUNDARY RATIONALE

The boundary has been drawn to include all areas of dry, wet, upland and lowland heath communities together with associated semi-natural habitats in the Eastern Mourne region. The major valley of the White Water, a small river that runs from Deers Meadow south, divides the lower lying Western Mournes from the Eastern Mournes. The vegetation communities along the length of this valley are severely degraded such as areas adjacent to the Moyad Road that runs along the bottom of the valley. At the time of designation, the Western Mournes were seen as a separate entity from the Eastern Mournes. The heathland and blanket bog associated with the Western Mournes will be declared as an ASSI at a later date.

The boundary around the entire Eastern Mournes SAC is clearly defined as the edge of high quality, semi-natural heathland communities surrounded by severely degraded heathland communities, improved agricultural land and forestry. The boundaries are generally clearly defined as stone walls - marking a change in land ownership or along the edge of roads, rivers and streams; or fences - along the edge of forestry plantations and field boundaries. These forests have been planted on the lower slopes of the mountains and many of the fields have also been reclaimed from the lowland heath communities in recent years. The majority of boundaries are stock proof.

6. SAC SELECTION FEATURES

Feature type	Feature	Global Status	Size/ extent/ population
Habitat	European dry heaths	B	4680 ha
Habitat	Northern Atlantic wet heaths with *Erica tetralix*	B	889 ha
Habitat	Active blanket bogs	C	318 ha
Habitat	Alpine and boreal heaths	C	32.1 ha
Habitat	Siliceous alpine and boreal grasslands	C	32.1 ha
Habitat	Siliceous rocky slopes with chasmophytic vegetation	C	58.5 ha
Habitat	Siliceous scree of the montane to snow levels	C	17.7 ha

Table 1. List of SAC selection features. Those with global status A-C will be referred to in ANNEX I.

The global status is an expert judgement of the overall value of the site for the conservation of the relevant Annex I habitat. Sites have been graded A, B or C - in the UK these gradings have been interpreted as follows:

A - Sites holding outstanding examples of the habitat in a European context.

B - Sites holding excellent stands of the habitat, significantly above the threshold for SSSI/ASSI notification but of somewhat lower value than grade A sites.

C - Examples of the habitat which are of at least national interest (i.e. usually above the thresholdfor SSSI/ASSI notification on terrestrial sites) but not significantly above this. These habitats are not the primary reason for SACs being selected.

D - Habitat present but not of sufficient extent or quality to merit listing as SAC feature.

There is therefore a distinction between the principal features for which sites have been selected (those graded A or B) and those which are only of secondary interest (those graded C). This is a useful distinction but it is important to note that all three grades are qualifying SAC interest features.

Click here to go to the Natura 2000 Standard Data Form for Eastern Mournes SAC.

6.1 ASSI SELECTION FEATURES

Eastern Mournes ASSI

Feature type	Feature	Size/ extent/ population
Habitat	Dry Heath	4680 ha
Habitat	Wet Heath	889 ha
Habitat	Blanket Bog	318 ha
Habitat	Montane Heath	64.2 ha
Habitat	Inland Rock	76.2 ha
Habitat	Oligotrophic lakes	4ha
Species	Higher Plant Assemblage	
Species	Notable assemblage of alpine fungi	
Species	Notable invertebrate assemblages of specialist montane species.	
Earth Science	Tertiary Igneous series - Five sub-sites within the Eastern Mournes SAC • Eagle Rock – Inland outcrops and streams • Bloody River – Coastal and river cliffs • Diamond Rocks - Inland outcrops and streams • Lindsay's Leap - Inland outcrops and streams • Ben Crom - Inland outcrops and streams	
Earth Science	Pleistocene – glacial erosional series. This comprises the assemblage of features including – corries, ice-plucked slopes, ice-smoothed walls, tors, glacial troughs and trimlines, debris fans and cones, streamlined bedrock, ice-shattered debris fields, meltwater channels.	
Earth Science	Pleistocene – glacial depositional series. This comprises the assemblage of features including moraines, dissected valley and drift terraces, boulder fields.	

Table 2. List of ASSI features.

7. CONSERVATION OBJECTIVES

The *Conservation Objective* for this site is:

To maintain (or restore where appropriate) the

- European dry heaths
- Northern Atlantic wet heaths with *Erica tetralix*
- Active blanket bogs
- Alpine and boreal heaths
- Siliceous alpine and boreal grasslands
- Siliceous rocky slopes with chasmophytic vegetation
- Siliceous scree of the montane to snow levels

to favourable condition.

For each SAC feature, there are a number of component objectives which are outlined in the table below. These include a series of attributes, measures and targets which form the basis of *Condition Assessment*. The results of this will determine whether the feature is in favourable condition or not. The feature attributes and measures are found in the attached annex.

8. SAC SELECTION FEATURE OBJECTIVE REQUIREMENTS

Feature	Global Status	Component Objectives
European dry heath	B	Maintain the extent of existing European dry heath vegetation.
		Maintain and enhance the quality of the European dry heath community types.
		Seek to expand the extent of the dry heath communities into degraded areas of species poor, dry acid grassland.
		Maintain the diversity and quality of other habitats of conservation interest, especially where these exhibit natural transition to the dry heath.
		Seek nature conservation management over suitable areas immediately outside the SAC where there may be the potential for dry heath rehabilitation.
Northern Atlantic wet heath with *Erica tetralix*.	B	Maintain the extent of existing Northern Atlantic wet heath vegetation.
		Maintain and enhance the quality of the existing wet heathland.
		Seek to expand the extent of the wet heath communities into degraded areas of species poor, wet acid grassland.
		Maintain the diversity and quality of other habitats of conservation interest, especially where these exhibit natural transition to the Northern Atlantic wet heath.
		Seek nature conservation management over suitable areas immediately outside the SAC where there may be the potential for wet heath rehabilitation.
Active blanket bog	B	Maintain the extent of intact blanket bog and actively regenerating blanket bog vegetation.
		Maintain and enhance the quality of the blanket bog community types including the presence of notable species.
		Seek to expand the extent of actively regenerating blanket bog vegetation into degraded (non-active) areas of cutover bog.
		Maintain the diversity and quality of other habitats of conservation interest, especially where these exhibit natural transition to the blanket bog.
		Maintain the hydrology of the intact blanket bog peat mass.
		Seek nature conservation management over suitable areas immediately outside the SAC where there may be the potential for blanket bog rehabilitation.

Alpine and boreal heaths	C	Maintain the extent of existing alpine and boreal heath vegetation.
		Maintain and enhance the quality of the existing alpine and boreal heaths.
		Seek to expand the extent of the alpine and boreal heath communities into degraded areas of species poor acid grassland.
		Maintain the diversity and quality of other habitats of conservation interest, especially where these exhibit natural transition to the alpine and boreal heaths.
Siliceous alpine and boreal grasslands	C	Maintain the extent of existing siliceous alpine and boreal grasslands.
		Maintain and enhance the quality of the siliceous alpine and boreal grassland community types.
		Seek to expand the extent of the siliceous alpine and boreal grassland communities into degraded areas of species poor, dry acid grassland.
		Maintain the diversity and quality of other habitats of conservation interest, especially where these exhibit natural transition to the siliceous alpine and boreal grasslands.
Siliceous rocky slopes with chasmophytic vegetation	C	Maintain the existing acid rock chasmophytic Vegetation.
		Maintain the diversity and quality of other habitats of conservation interest, especially where these exhibit natural transition to the siliceous rocky slopes.
Siliceous scree of the montane to snow levels	C	Maintain the extent of existing siliceous scree (partially vegetated siliceous scree).
		Maintain and enhance the quality of the siliceous scree community types.
		Maintain the diversity and quality of other habitats of conservation interest, especially where these exhibit natural transition to the siliceous scree.

9. ASSI FEATURE OBJECTIVE REQUIREMENTS

Feature	Component Objective
Dry Heath	See SAC Selection Feature Objective Requirements table.
Wet Heath	See SAC Selection Feature Objective Requirements table.
Blanket Bog	See SAC Selection Feature Objective Requirements table.
Montane Heath	See SAC Selection Feature Objective Requirements table.
Inland Rock	See SAC Selection Feature Objective Requirements table.
Oligotrophic Lakes	Maintain the extent of oligotrophic lakes and ponds – i.e. Blue and Binnian Loughs.
	Maintain the open water area of the lakes.
	Maintain the water chemistry and water levels – i.e. water poor in plant nutrients and levels not to fluctuate outside normal limits.
	Maintain characteristic aquatic vegetation
Higher plant assemblage	Maintain viable populations, and enhance where practicable the species comprising the rare plant assemblage. (*Diphasiastrum alpinum, Salix herbace, Cryptogramma crispa, Phegopteris connectilis* *Carex bigelowii, Saxifraga stellaris*
Notable assemblage of alpine fungi	To be finalised.
Notable invertebrate assemblage	Ensure that the populations of notable invertebrates are maintained within the Eastern Mournes SAC.
Tertiary igneous rocks	Maintain the extent of exposure at each of the five sub-sites that display nationally important exposures of Tertiary igneous rocks and access to them subject to natural processes.
Pleistocene – glacial erosional series	Maintain the position in the landscape of these features including access opportunity, viewlines and physical character subject to natural processes
Pleistocene – glacial depositional series.	Maintain the extent and physical integrity of these features subject to natural processes

10. MANAGEMENT CONSIDERATIONS

Ownership

About 50% of the Eastern Mournes SAC (3,640 ha) is owned by Belfast Water Commissioners and this area of land is completely surrounded by the 'Mourne Wall' built between 1912 and 1920 to delimit their ownership. This area is often referred to as the high Eastern Mournes and acts as the catchment for the Ben Crom and Silent Valley Reservoirs. An additional eleven estates are located around the periphery of the high Eastern Mournes including the Annesley Estate, which is now the property of the National Trust. The remaining estates are privately owned and in multiple ownership with over 100 owners identified in the area in addition to a much greater number of graziers. Additional individuals also have shooting rights over the area.

The complex pattern of ownership and grazing rights together with the added complication of shooting rights makes a unified approach to site management more difficult.

11. MAIN THREATS, PRESSURES AND ACTIVITIES WITH IMPACTS ON THE SITE

Both on-site and off-site activities can potentially affect SAC/ASSI features. The list below is not exhaustive, but deals with the most likely factors that are either affecting Eastern Mournes, or could affect it in the future.

Although **European dry heaths, Northern Atlantic wet heaths with *Erica tetralix*, Active blanket bogs, Alpine and boreal heaths, Siliceous alpine and boreal grasslands, Siliceous rocky slopes with chasmophytic vegetation and Siliceous scree of the montane to snow levels** are the qualifying SAC features, factors affecting ASSI features are also considered.

NOTE - Carrying out any of the Notifiable Operations listed in the ASSI schedule could affect the site.

Grazing

Within the Eastern Mournes SAC, many of the mountain summits and lower slopes are heavily grazed by sheep. As a consequence, these heathland communities are degraded and in unfavourable condition. Overgrazing has been identified on all lower slopes outside NI Water Ownership. Within the Mourne Wall, the grazing pressure is somewhat lower, but overgrazing still does occur. The areas that have been most severely affected by over-grazing include the montane heaths and grasslands on the summits of Slieve Donard and Slieve Commedagh, along tracks and paths such as the Brandy Pad and on some of the lower slopes. NI Water has tried to exclude sheep grazing from all lands within the Mourne Wall in an attempt to prevent the bacteria *Cryptosporidium* from infecting the water

supply. However, they have not been able to maintain a no grazing policy due to illegal grazing by landowners.
Therefore, overgrazing is a consequence of a number of factors that are extremely difficult to control. These include grazing prescriptions which have been set too high for the Mourne region, illegal grazing (including winter grazing which is particularly damaging to Heather), lack of shepherding and the difficulties of monitoring sheep numbers over extensive areas of upland.
ACTION: Establish a sustainable stocking density within each management unit of the Eastern Mournes SAC and ensure that set grazing prescriptions are strictly adhered to. Continue careful monitoring of the heathland communities to establish if the set grazing prescriptions are permitting the heathland communities to recover towards favourable condition.

Burning

Burning of the vegetation has taken place occasionally, with some areas of past burning being identifiable. Excessive burning will lead to the deterioration of all heathland communities. Within the Eastern Mournes, burning should only be carried out in exceptional circumstances.

ACTION: Ensure that any burning within the SAC is carefully controlled and monitored.

Scrub/Bracken Encroachment

There are many small pockets of bracken associated with the lower slopes around the periphery of the Eastern Mournes SAC as well as localised pockets of bracken on some of the upper slopes. There is also some limited scrub development – mainly *Ulex europaeus* associated with areas of disturbance. Any further scrub or bracken encroachment into the heathland communities is undesirable.
ACTION: Monitor further scrub/bracken encroachment (where it occurs) and take remedial action if required. Remove any invasive exotic species, such as Rhododendron as a matter of urgency.

Water abstraction

Within the Mourne Wall, the land is managed by NI Water for the purpose of water abstraction and supply. With growing water requirements within the Belfast area, there is constant pressure to increase supply.
ACTION: Ensure that increased levels of water abstraction do not damage the heathland communities within the SAC. There may be a requirement to lay new water pipelines from the upper reservoirs down to Spelga Dam or Fofany Dam. If required, pipe laying should be carried out with the minimum disruption to the heathland communities.

Fly-tipping

There does not appear to be a serious dumping issue anywhere within the Eastern Mournes SAC.

ACTION: If any dumping does occur, remove all evidence immediately to prevent any further incidences.

Quarrying

Historically quarrying within the Eastern Mournes has been very small scale and a number of mineral rights are held by private and state organisations in the area. There is currently no quarrying within the Mourne Wall, but there are two small scale operations presently in operation at Thomas' Mountain and Trassey Track.

ACTION: There should be no quarrying within the Eastern Mournes SAC. The status of mineral rights within the site requires clarification in order to identify potential threats that they might have on the SAC features.

Land reclamation

Much of the lower *Ulex gallii* dry heaths have been lost to reclamation in recent years. The remaining *Ulex gallii* heath is an important component of the SAC. In addition some of the dry heaths further up-slope have also been reclaimed.

ACTION: Ensure that there is no further reclamation of the lowland or upland heaths anywhere within the SAC.

Recreation

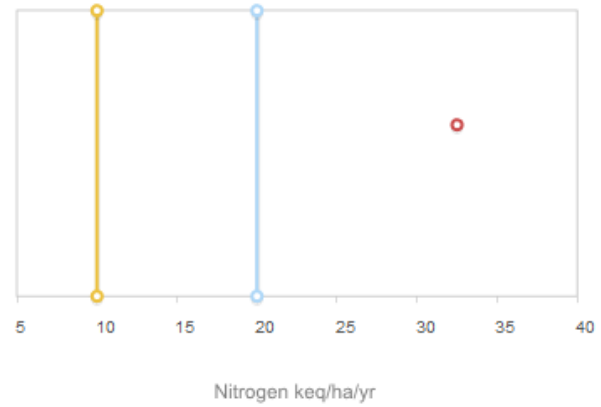
An increased interest in hill walking within the Northern Ireland population together with increased tourist activity in the Newcastle area, is beginning to put real pressure on the footpaths and surrounding vegetation within the Eastern Mournes. Ideally, a sustainable level of recreational activity should be established to ensure that there is no adverse affect on the heathland communities.

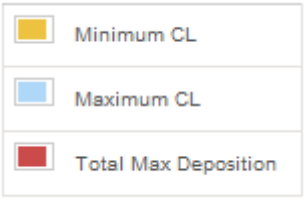
ACTION: Ensure that all precautions are taken to minimise the impact of hill walking on upland paths throughout the Mourne Mountains. Footpath maintenance is of paramount importance and there is also a need to develop and promote paths in areas that are not highly sensitive to disturbance.

Nitrogen Deposition

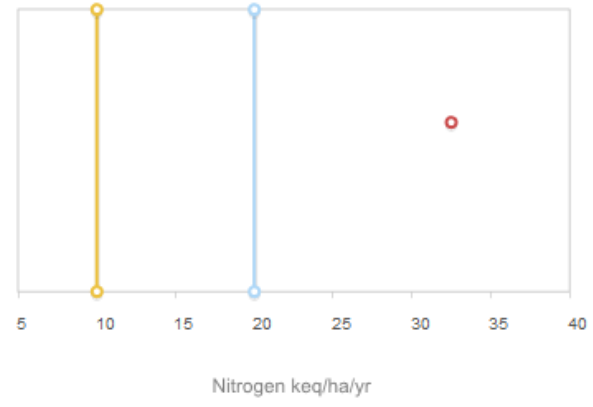
Excess nitrogen deposition can favour the growth of competitive plants and lead to changes in ecosystem structure or function and to a reduction in biodiversity. National scale studies show the potential adverse effects of excess nitrogen on natural and semi-natural habitats to be widespread across the UK. Lower and upper critical loads have been calculated for habitats and species present on Eastern Mournes SAC.

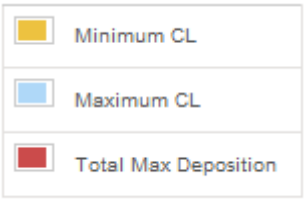
Feature: European dry heaths
Critical Load Class: Dry heaths
Critical Loads (kg N/ha/yr): 10-20
Nitrogen Deposition (kg N/ha/yr):
Maximum: 32.5 Minimum: 16.2 Average: 24.4



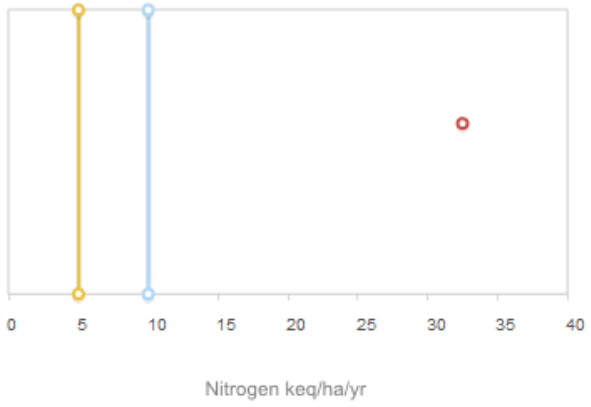


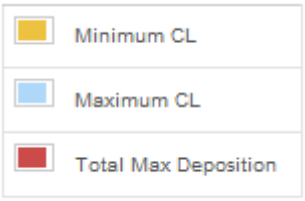
Feature: Northern Atlantic wet heaths with Erica tetralix
Critical Load Class: Northern wet heath: Erica tetralix dominated wet heath
Critical Loads (kg N/ha/yr): 10-20
Nitrogen Deposition (kg N/ha/yr):
Maximum: 32.5 Minimum: 16.2 Average: 24.4



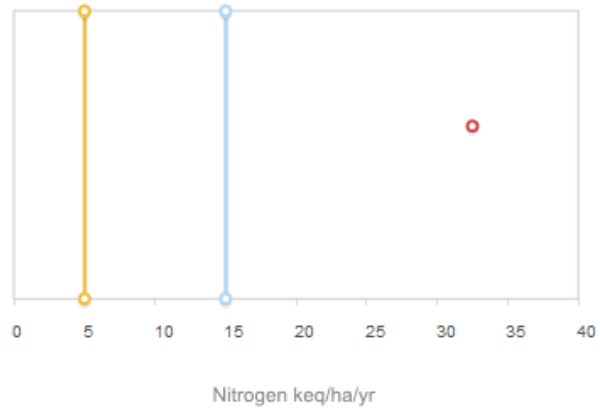


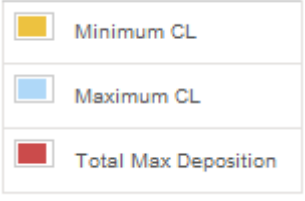
Feature: Blanket bogs (* if active bog)
Critical Load Class: Raised and blanket bogs
Critical Loads (kg N/ha/yr): 5-10
Nitrogen Deposition (kg N/ha/yr):
Maximum: 32.5 Minimum: 16.2 Average: 24.4



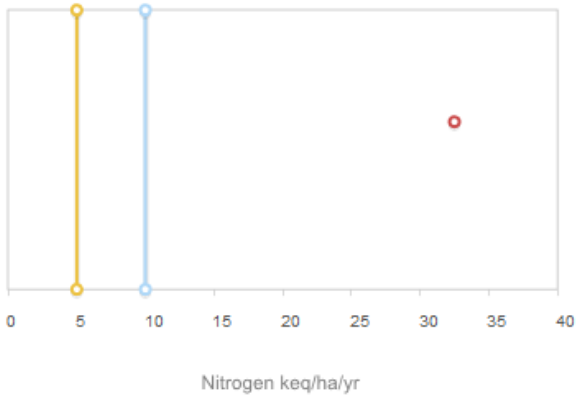


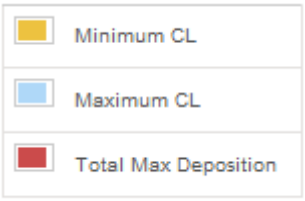
Feature: Alpine and Boreal heaths
Critical Load Class: Arctic, alpine and subalpine scrub habitats
Critical Loads (kg N/ha/yr): 5-15
Nitrogen Deposition (kg N/ha/yr):
Maximum: 32.5 Minimum: 16.2 Average: 24.4



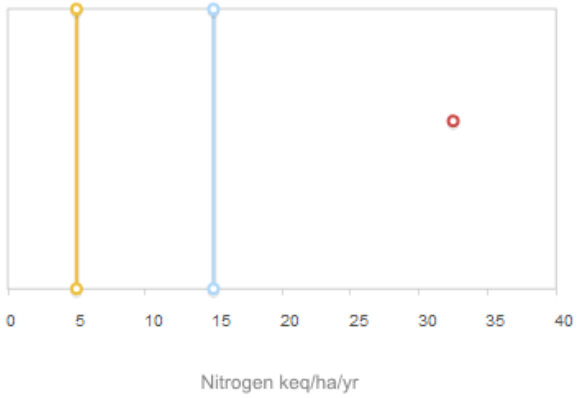


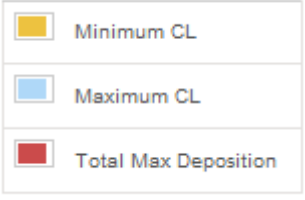
Feature: Siliceous alpine and boreal grasslands
Critical Load Class: Alpine and subalpine grasslands
Critical Loads (kg N/ha/yr): 5-10
Nitrogen Deposition (kg N/ha/yr):
Maximum: 32.5 Minimum: 16.2 Average: 24.4

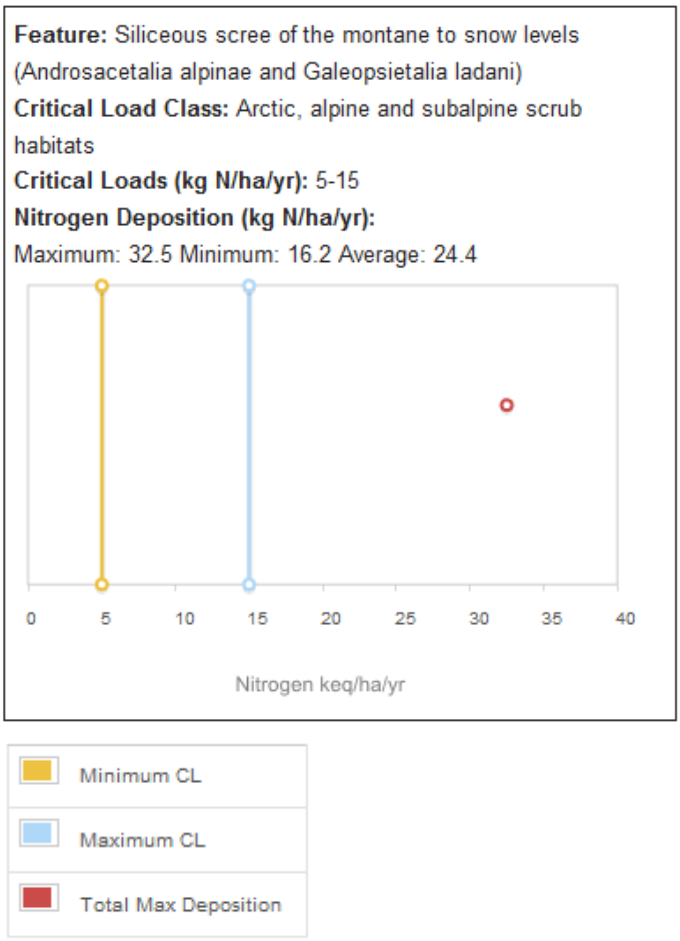




Feature: Siliceous rocky slopes with chasmophytic vegetation
Critical Load Class: Arctic, alpine and subalpine scrub habitats
Critical Loads (kg N/ha/yr): 5-15
Nitrogen Deposition (kg N/ha/yr):
Maximum: 32.5 Minimum: 16.2 Average: 24.4







(Source: Air Pollution Information System (APIS) website- www.apis.ac.uk)

ACTION: Seek to maintain or where necessary, restore concentrations and deposition of air pollutants to at or below the site-relevant critical load.

Changes to surrounding land use

Any changes in local land-use e.g. agricultural intensification, drainage works and development) may be detrimental to the SAC.

Action: Reduce the risk of surrounding agricultural intensification by encouraging the adjacent owner/occupiers to enter into agri-environment schemes. Use Habitats Regulations Assessments (HRAs), through the planning process, to minimise any development risks adjacent to the SAC.

Climate Change

Northern Ireland faces changes to its climate over the next century. Indications are that we will face hotter, drier summers, warmer winters and more frequent extreme weather events.

ACTION: When developing SAC management plans, the likely future impacts of climate change should be considered and appropriate changes made.

12. MONITORING

Monitoring of SACs takes place using two monitoring techniques.

Site Integrity Monitoring (SIM) is carried out to ensure compliance with the ASSI/ SAC Schedule. The most likely processes of change will either be picked up by SIM (e.g. dumping, burning, turf cutting, grazing etc.) or will be comparatively slow (e.g. gradual degradation of the habitat).

These longer-term changes will be picked up by monitoring of the feature via **Site Condition Assessment** - this is carried out on a rolling basis to pick up subtle changes in the condition of the feature.

The method for Site Condition Assessment was agreed by the relevant JNCC-led Lead Co-ordination Network although the methodology has been modified to reflect individual site attributes in Northern Ireland.

12.1 MONITORING SUMMARY

1. *Monitor the integrity of the site (SIM or Compliance Monitoring)*
Complete boundary survey to ensure that the fencing is still intact. Ensure that there has been no illegal grazing, dumping or burning carried out within the SAC boundary. This SIM should be carried out once a year.

2. Monitor the condition of the site (Condition Assessment)
Monitor the key attributes for each of the SAC selection features. This will detect if the features are in favourable condition or not. See Annex I.

The favourable condition table provided in Annex 1 is intended to supplement the conservation objectives only in relation to management of established and ongoing activities and future reporting requirements on monitoring condition of the site and its features. It does not by itself provide a comprehensive basis on which to assess plans and projects, but it does provide a basis to inform the scope and nature of any Habitats Regulations Assessment (HRA) that may be needed. It should be noted that completion of a HRA is a separate activity to condition monitoring, requiring consideration of issues specific to individual plans or projects.

13. REFERENCES

Cooper, A., McCann, T. and Rogers, D. (2009). Northern Ireland Countryside Survey 2007: Broad Habitat Change 1998-2007. Northern Ireland Environment Agency Research and Development Series No.09/06

Department of the Environment for Northern Ireland (2003). Northern Ireland Habitat Action Plan – Blanket Bog.

Department of the Environment for Northern Ireland (2003). Northern Ireland Habitat Action Plan – Upland Heathland.

Department of the Environment for Northern Ireland (2003). Northern Ireland Habitat Action Plan – Montane Heath.

European Commission (2000). Managing Natura 2000 Sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC.

European Commission (2001). Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.

European Commission (2014). Establishing conservation measures for Natura 2000 Sites.

Joint Nature Conservation Committee (JNCC) (2013). 3rd UK Habitats Directive Report.

ANNEX I

Feature 1 (SAC) - European dry heath (Status B)

(* = Primary attribute. One failure among primary attribute = unfavourable condition)

Attributes	Targets	Method of Assessment	Comments
* Area of dry heath	Maintain the extent of dry heath at 4680 ha. The dry heath communities include H10 - *Calluna vulgaris-Erica cinerea*, H12 - *Calluna vulgaris-Vaccinium myrtillus* and H8 *Calluna vulgaris-Ulex gallii* heath. The extent and distribution of each community to be maintained.	Visual estimate in 2x2 m plots and across the dry heath using a combination of aerial photographs, SIM and Condition Assessment structured walk.	Note that it may be possible to extend dry heath communities, provided this is into degraded areas and does not encroach into other habitats of scientific interest.
* Heath community diversity	Maintain the presence of the dry heath communities H7, H8, H10 etc. as established at base line survey.	Visual estimate in 2x2 m plots.	Repeat monitoring of plots using GPS should indicate whether dry heath communities have changed or been lost.
* Area of mosaic communities and associated semi-natural habitats	Maintain associated mosaic communities and semi-natural habitats.	Visual estimate in 2x2 m plots and across the ASSI using a combination of aerial photographs, SIM and Condition Assessment structured walk.	Repeat monitoring of plots using GPS should indicate whether mosaics and associated habitats have changed or been lost.

Dwarf-shrub height	Average ericoid height should be 15–35cm with at least 25% of the dry heath in the late mature/degenerate growth phase (greater than 35cm).	Visual estimate in 2x2 m plots.	On some areas of dry heath (especially on gentle slopes), the ericoid age structure will largely reflect recent burning patterns. However, in dry heath, burning should only be carried out occasionally under carefully controlled and monitored circumstances. A varied heather age structure is reflected in the height of heather.
* Bare peat, or ground covered by algal mats (% cover)	Bare peat etc. should occupy less than 2% of the dry heath surface overall.	Visual estimate in 2x2 m plots.	Bare peat (NOT exposed rock) or peat carpeted by *Polytrichum* spp., *Campylopus* spp. crust forming lichens or algal mats can occur as a consequence of constant burning and/or grazing. Bare peat here represents bare peat etc. within the dry vegetation rather than naturally eroded surfaces where exposed rock can form a natural part of the dry heath community.
* Ericaceous cover (% cover)	Dwarf-shrub cover should be greater than 75% over at least 75% of the dry heath community; and Mean dwarf-shrub cover should be greater than 75%	Visual estimate in 2x2 m plots.	
* Ericoid diversity	At least two species of dwarf-shrub at least present in 90% of plots.	Visual estimate in 2x2 m plots.	Ericoid (dwarf-shrub species) include *Calluna vulgaris*, *E. cinerea*, *Vaccinium myrtillis*, *Erica tetralix*, *Ulex gallii*, *Empetrum nigrum* and *Myrica gale*.
* Cover of *Ulex gallii* (% cover)	*Ulex gallii* cover should be less than 50% in plots within H8 stands.	Visual estimate in 2x2 m plots.	Mean percentage cover should be assessed for stands of H8 only – i.e. exclude plots in other heath communities from the calculations. Stands of H8 are generally restricted to the south-east of Northern Ireland.

* Cover of graminoids (% cover)	Total graminoid cover should be less than 33%.	Visual estimate in 2x2 m plots.	Include true grasses, sedges, and rushes in this assessment. *Nardus stricta, Deschampsia flexuosa*, *Juncus squarrosus* or other graminoids should not dominate over other species.
* Frequency and % cover of bryophytes and bushy lichens (esp *Cladonia* spp.) (DAFOR and % cover)	Bryophytes (excluding *Polytrichum* spp. and *Campylopus* spp. on bare ground) and/or Cladonia species should be at least frequent. At least frequent is equivalent to greater than 41% occurrence in recorded plots. Combined mean cover should be greater than 5%.	Visual estimate in 2x2 m plots.	Generally only bryophytes (mosses and liverworts) figure in this assessment, but occasionally bushy lichens can also be a prominent feature of the dry heath vegetation.
* Frequency and % cover of scrub/tree encroachment on dry heath communities (DAFOR and % cover)	Scrub/tree encroachment should be no more than occasional over the dry heath community. No more than occasional is equivalent to less than 40% occurrence in recoded plots. Mean cover should be less than 5%.	Visual estimate within a 10 m radius of plots and across the feature using a combination of aerial photographs and Condition Assessment structured walk.	Scrub encroachment should be checked using a combination of aerial photographs and Condition Assessment. Include invasive alien species in addition to *Betula pubescens, Prunus spinosa, Rubus* spp. Invasive exotic species such as *Rhododendron ponticum* should be removed immediately. Exclude *Ulex europaeus* (see below)
* Cover of Gorse	Gorse (*Ulex europaeus)* cover	Visual estimate in 2x2	Although a natural component of heath communities,

Ulex europaeus (% cover)	should be less than 5%. During repeat surveys, Gorse cover should not exceed that of the baseline survey.	m plots and across the feature using a combination of aerial photographs and Condition Assessment structured walk.	Gorse can become invasive under both low and high grazing pressures. It is important to assess whether the relative quantities present in the site are increasing.
* Cover of Bracken (*Pteridium aquilinum*) encroachment (% cover)	Bracken cover less than 10% in dense canopy. During repeat surveys, Bracken cover should not exceed that of the baseline survey.	Visual estimate in 2x2 m plots and across the feature using a combination of aerial photographs and Condition Assessment structured walk.	Although a natural component of heath communities, Bracken can become invasive under both low and high grazing pressures. It is important to assess whether the relative quantities present in the site are increasing.
* Frequency and cover of undesirable agricultural grasses and weeds (DAFOR and % cover)	None of the following should be more than rare: *Cirsium arvense, C. vulgare, Senecio jacobaea, Urtica dioica, Plantago major, Phleum pratense, Trifolium repens, Holcus lanatus* and *Lolium perenne* No more than rare is equivalent to less than 20% occurrence in recorded plots. Combined mean cover of agricultural grasses and weeds less than 1%.	Visual estimate in 2x2 m plot.	

* Management - Grazing (% cover)	Signs of moderate or heavy grazing should occupy less than 5% of the dry heath vegetation. The frequency of droppings, the extent of poaching, uprooting of dwarf shrubs and invasion by *Juncus squarrosus* etc. indicate moderate and heavy grazing where any one of the above is recorded as more than occasional.	Visual estimate in 2x2 m plots.	
* Management - Burning (% cover)	Signs of recent burning should occupy less than 5% of the dry heath vegetation. Recent burning is represented by areas burnt within the last two years.	Visual estimate in 2x2 m plots and across feature using a combination of aerial photographs, SIM and Condition Assessment structured walk.	
Frequency and cover of erosion features associated with human impacts. (DAFOR and % cover)	No gully erosion or bare rock associated with more concentrated human impacts (ATV tracks or recreational activities). Man induced/enhanced erosion should occupy less than 2% of the total area of dry heath other than very localised	Visual estimate in 2x2 m plots.	The extent of man induced erosion should be monitored using a combination of aerial photographs and Condition Assessment. Erosion is a natural feature of high mountain slopes. However, where natural erosion is exacerbated by human activity, mainly hill walking, the heath will not be in favourable condition, except where such erosion is very limited in nature.

	instances.		
Herb diversity	Herbs (excluding negative indicators) at least frequent. At least frequent is equivalent to greater than 41% occurrence in recorded plots.	Visual estimate in 2x2 m plots.	

Frequency -
1-20% = Rare
21-40% = Occasional
41- 60% = Frequent
> 60% = Constant

ANNEX 1

Feature 2 (SAC) - Northern Atlantic wet heath with *Erica tetralix* (Status B)

(* = Primary attribute. One failure among primary attribute = unfavourable condition)

Attributes	Targets	Method of Assessment	Comments
* Area of wet heath	Maintain the extent of wet heath at 889 ha. The wet heath community is M15 – *Scirpus cespitosus-Erica tetralix* wet heath.	Visual estimate in 2x2 m plots and across the wet heath using a combination of aerial photographs, SIM and Condition Assessment structured walk.	Any loss of wet heath, or fragmentation of this habitat is unacceptable. Note that it may be possible to extend wet heath communities, provided this is into degraded areas and does not encroach into other habitats of scientific interest.
* Heath community diversity	Maintain the presence of the wet heath community M15 as established at base line survey.	Visual estimate in 2x2 m plots.	Repeat monitoring of plots using GPS should indicate whether wet heath communities have changed or been lost.
* Area of mosaic communities and associated semi-natural habitats	Maintain associated mosaic communities and semi-natural habitats.	Visual estimate in 2x2 m plots and across the ASSI using a combination of aerial photographs, SIM and Condition Assessment structured walk.	Repeat monitoring of plots using GPS should indicate whether mosaics and associated habitats have changed or been lost.

Dwarf-shrub height	Average ericoid height should be 15–35cm with at least 25% of the wet heath in the late mature/degenerate growth phase (greater than 35cm).	Visual estimate in 2x2 m plots.	On some areas of wet heath (especially on gentle slopes), the ericoid age structure will largely reflect recent burning patterns. However, in wet heath, burning should only be carried out in exceptional circumstances. Heather height reflects the age structure of the Heather.
* Bare peat, or ground covered by algal mats (% cover)	Bare peat etc. should occupy less than 2% of the wet heath surface overall.	Visual estimate in 2x2 m plots.	Bare peat or peat carpeted by *Polytrichum* spp., *Campylopus* spp. crust forming lichens or algal mats can occur as a consequence of excessive burning and/or grazing. Bare peat here represents bare peat etc. within the wet heath vegetation.
* Ericaceous cover (% cover)	Dwarf-shrub cover should be maintained between 50–75%	Visual estimate in 2x2 m plots.	Although dominated by dwarf shrubs, the sward should be composed of a variety of higher plants and bryophytes.
* Ericoid diversity	At least two species of dwarf-shrub at least present in 90% of plots.	Visual estimate in 2x2 m plots.	Ericoid (dwarf-shrub species) include *Calluna vulgaris*, *Erica tetralix*, *Empetrum nigrum* and *Myrica gale*.
* Cover of graminoids (% cover)	Total graminoid cover should be less than 50%.	Visual estimate in 2x2 m plots.	Include true grasses, sedges, and rushes in this assessment. *Molionia caerulea, Trichophorum cespitosum, Deschampsia flexuosa*, *Juncus squarrosus* or other graminoids should not dominate over other species. Localised *Schoenus nigricans* flushes should not be included in this habitat assessment.
* Bryophyte cover and frequency of *Sphagnum* mosses (%	Mean bryophyte cover (excluding *Polytrichum* spp. and *Campylopus* spp. on	Visual estimate in 2x2 m plots.	Bryophytes should include a range of pleurocarpus species forming patches below, or in more open swards beneath the dwarf-shrubs as well as

cover and DAFOR)	bare ground) should be at least 25%. *Sphagnum* moss species should be at least frequent throughout the moss layer. At least frequent is equivalent to greater than 41% occurrence in recorded plots.		*Sphagnum* moss species.
* Frequency and % cover of scrub/tree encroachment on wet heath communities (DAFOR and % cover)	Scrub/tree encroachment should be no more than rare over the wet heath community. Mean cover should be less than 2%. No more than rare is equivalent to less than 20% occurrence in recorded plots.	Visual estimate within a 10 m radius of plots and across the feature using a combination of aerial photographs and Condition Assessment structured walk.	Scrub encroachment should be checked using a combination of aerial photographs and Condition Assessment. Invasive exotic species such as *Rhododendron ponticum* should be removed immediately.
* Frequency and cover of undesirable agricultural grasses and weeds (DAFOR and % cover)	None of the following should be more than rare: *Cirsium arvense, C. vulgare, Senecio jacobaea, Urtica dioica, Plantago major, Phleum pratense, Trifolium repens, Holcus lanatus* and *Lolium perenne*.	Visual estimate in 2x2 m plot.	

	No more than rare is equivalent to less than 20% occurrence in recorded plots. Combined mean cover of agricultural grasses and weeds less than 1%.		
* Management - Grazing (% cover)	Signs of moderate or heavy grazing should occupy less than 5% of the wet heath vegetation. The frequency of droppings, the extent of poaching, uprooting of dwarf shrubs and invasion by *Juncus squarrosus* etc. indicate moderate and heavy grazing where any one of the above is recorded as more than occasional.	Visual estimate in 2x2 m plots.	
* Management - Burning (% cover)	Signs of recent burning should occupy less than 5% of the wet heath vegetation. Recent burning is represented by areas burnt within the last two years.	Visual estimate in 2x2 m plots and across the feature using a combination of aerial photographs, SIM and Condition Assessment structured walk.	

Frequency and cover of erosion features associated with human impacts (DAFOR and % cover)	No gully erosion, bare peat or rock associated with more concentrated human impacts (ATV tracks or recreational activities). Man induced/enhanced erosion should occupy less than 2% of the total area of wet heath other than very localised instances.	Visual estimate in 2x2 m plots.	The extent of man induced erosion should be monitored using a combination of aerial photographs and Condition Assessment. Erosion is a natural feature of high mountain slopes. However, where natural erosion is exacerbated by human activity, mainly hill walking, the heath will not be in favourable condition, except where such erosion is very limited in nature.
Herb diversity	Herbs (excluding negative indicators) at least frequent. At least frequent is equivalent to greater than 41% occurrence in recorded plots.	Visual estimate in 2x2 m plots.	Wet heaths tend to be dominated by dwarf-shrubs and graminoids; however, some herbs should be present in most plots (albeit at a low cover).

Frequency -
1-20% = Rare
21-40% = Occasional
41- 60% = Frequent
> 60% = Constant

ANNEX 1

Feature 3 (SAC) - Active blanket bog (Status C)

(* = Primary attribute. One failure among primary attribute = unfavourable condition)

Attributes	Targets	Method of Assessment	Comments
* Area of blanket bog and upland raised mire (ha)	Maintain the extent of the intact bog surface at 318 ha. The blanket bog communities include M17 – *Scirpus cespitosus* *Eriophorum vaginatum* blanket mire, M18 – *Sphagnum papillosum* raised and blanket mire and M19 *Calluna vulgaris* - *Eriophorum vaginatum* blanket mire.	Visual estimate in 2x2 m plots and across the blanket bog using a combination of aerial photographs, SIM and Condition Assessment structured walk.	The blanket bog communities include M17 – *Scirpus cespitosus Eriophorum vaginatum* blanket mire, M18 – *Sphagnum papillosum* raised and blanket mire and M19 *Calluna vulgaris* - *Eriophorum vaginatum* blanket mire.
* Area of mosaic communities and associated habitats	Maintain associated mosaic communities and habitats (wet heath, dry heath, upland fen, etc)	Visual estimate across the SAC using a combination of aerial photographs, SIM and Condition Assessment structured walk.	Repeat monitoring using condition assessment, SIM, and aerial photographs should indicate whether mosaics and associated habitats have changed or been lost.
* Pool/hummock system extent and complexity	The extent and complexity of pool and hummock systems at least maintained.	The extent of pool and hummock systems should be	The extent of pool and hummock systems should be monitored using a combination of aerial photographs and Condition Assessment.

	Differentiation of *Sphagnum* species should be recorded with *S. cuspidatum* or *S. auriculatum* in the pools and *S. papillosum* and *S. capillifolium* forming the lawns and hummocks.	monitored using a combination of aerial photographs and SIM.	
Dwarf-shrub Height (cm)	Average ericoid height should be 15-30cm.	Visual estimate in 2x2 m plots.	On some areas of blanket bog, the dwarf-shrub height will largely reflect recent management patterns. However, on largely undisturbed sites with minimal or no grazing, dwarf shrubs should display no apparent growth forms with a fairly uniform height between 15-30cm.
* Bare Peat, or ground covered by algal mats (%)	Bare peat etc should occupy less than 2% of the intact blanket bog surface overall.	Visual estimate in 2x2 m plots.	Bare peat, or bare ground carpeted by *Polytrichum* spp., *Campylopus* spp. crust forming lichens or algal mats can occur as a consequence of peat cutting or excessive burning and/or grazing. Bare ground here represents bare peat etc. within the blanket bog vegetation rather than naturally eroded surfaces where bare ground forms a natural part of the erosion feature.
* *Sphagnum* cover/ abundance (% cover and frequency) Active Peat Formation (DAFOR)	*Sphagnum* moss species should have a minimum cover of 25% over at least 66% of the intact blanket bog surface. Thick, hummock forming species of sphagnum should be at least occasional.	Visual estimate in 2x2 m plots.	A constant *Sphagnum* moss cover is indicative of active peat formation and is dependent on the maintenance of a high water table. *Sphagnum* moss is therefore used to measure the hydrological integrity of the blanket bog surface.

	Species present should include a mixture of both thin species: - *S. capillifolium* and *S. tenellum* and the thick hummock forming species*:* - *S. papillosum* and *S. magellanicum* at least occasional over the surface.		
* Ericaceous Cover (%)	Ericoid cover frequent over the surface of the intact blanket bog. Dwarf-shrub cover greater than 33%. Less than 33% is only acceptable in wetter areas where *Narthecium ossifragum* or *Sphagnum* spp. are abundant and forming lawns.	Visual estimate in 2x2 m plots.	Ericoid (dwarf-shrub species) include *Calluna vulgaris*, *Erica tetralix*, *E. cinerea*, *Myrica gale*, *Vaccinium myrtillis and Empetrum nigrum*.
* Ericoid diversity (DAFOR)	At least two species of dwarf-shrub should be widespread and frequent. Where three or more species are present, but only one frequent and widespread, the abundance of the less abundant species may be combined and treated as if they are a single species.	Visual estimate in 2x2 m plots.	A mono-dominant sward of *Calluna vulgaris* may suggest that the surface of the intact bog is drying out – i.e. the water table is too low beneath the surface of the bog.
* Scrub/tree encroachment on any active peat surface	Scrub/tree encroachment should be no more than rare on the intact bog surface, or in	Visual estimate in 2x2 m plots.	Scrub encroachment should be checked using a combination of aerial photographs and Condition Assessment. Invasive exotic species such as

(DAFOR)	the actively regenerating cutover areas.		*Rhododendron ponticum* should be removed immediately.
* Erosion Features associated with human impacts (% and DAFOR)	No gully erosion or bare peat associated with more concentrated human impacts (eg drainage, peat extraction, ATV tracks or recreational activities). Man induced/enhanced erosion should occupy less than 2% of the total area of blanket bog other than very localised instances.	Visual estimate in 2x2 m plots.	The extent of man induced erosion should be monitored using a combination of aerial photographs and Condition Assessment. Erosion is a natural feature of blanket bog, particularly marginal fretting on breaks of slope. However, where natural erosion is exacerbated by human activity, the bog will not be in favourable condition, except where such erosion is very limited in nature.
* Graminoid Cover (%)	Total cover of graminoids should not exceed 50%, unless dominated by *Molinia caerulea* forming even swards over waterlogged areas with *Sphagnum* moss cover greater than 25%.	Visual estimate in 2x2 m plots.	Include true grasses, sedges, and rushes in this assessment. *Eriophorum vaginatum*, *Trichophorum cespitosum*, *Deschampsia flexuosa*, *Juncus squarrosus* or other graminoids (except *Molinia* in some instances) should not dominate over other species.
* Management – Peat extraction	No evidence of unconsented active peat extraction.	Visual estimate in 2x2 m plots.	In some instances areas of cut peat can re-vegetate with good blanket bog vegetation which meets the attributes for favourable condition.
* Management - Grazing (%)	Signs of moderate or heavy grazing by cattle or sheep should occupy less than 5% of the blanket bog vegetation within any grazing unit.	Visual estimate in 2x2 m plots.	The frequency of droppings, the extent of poaching and the presence of grazing induced *Calluna vulgaris* growth forms indicate moderate and heavy grazing where any one of the above is recorded as more than occasional.

Molinia caerulea Cover (%)	Where *Molinia caerulea* cover is greater than 50%, it should form an even (not tussocky) sward in waterlogged conditions with *Sphagnum* moss cover greater than 25%.	Visual estimate in 2x2 m plots.	*Molinia caerulea* only occurs as a natural component of the bog vegetation in the extreme west of Northern Ireland where the climate is generally warmer and wetter i.e. more oceanic.
Presence of rare or scarce species specific to the site.	*Sphagnum imbricatum* and *Sphagnum fuscum*, where they have been recorded, should remain at least present along the length of each of the w-walks. If these species are not recorded on any one visit, it does not automatically make the SAC unfavourable.	Visual estimate in 2x2 m plots.	

Frequency -
1-20% = Rare
21-40% = Occasional
41- 60% = Frequent
> 60% = Constant

ANNEX 1

Feature 4 (SAC) - Alpine and boreal heaths (Status C)

(* = Primary attribute. One failure among primary attribute = unfavourable condition)

Attributes	Targets	Method of Assessment	Comments
Area of montane heath (ha)	Maintain the extent of montane heath communities at a minimum of 32ha. These communities include H14 – *Calluna vulgaris-Racomitrium lanuginosum* heath and wind-pruned H10b - *Calluna vulgaris-Erica tetralix* heath (*Racomitrium* sub-community).	Visual estimate in 2x2 m plots and across the montane heath using a combination of aerial photographs, SIM and Condition Assessment structured walk.	Any loss or fragmentation of this habitat is unacceptable. It is probably not possible to extend montane heath communities beyond their current range at Cuilcagh – i.e. no obvious areas where the habitat has been lost through damaging activities. Difficult to measure exactly; summit ridge is c. 30 ha in extent, but includes significant area of eroding blanket bog. Some higher level heath communities on slopes below summit may also conform to the type.
Ericoid Height (cm)	Average ericoid height should be 5 –10 cm.	Visual estimate in 2x2 m plots.	Dwarf-shrubs should be low growing (usually prostrate or semi-prostrate.
Bare Peat, or ground covered by algal mats (% and DAFOR)	Patches of bare ground greater than 10cm across in sheltered areas should be more or less absent.	Visual estimate in 2x2 m plots.	Bare peat or peat carpeted by *Polytrichum* spp., *Campylopus* spp. crust forming lichens or algal mats can occur as a consequence of excessive grazing.
Ericaceous Cover (%)	Dwarf-shrub cover should be greater than 60%.	Visual estimate in 2x2 m plots.	The sward should be composed of a low growing (and usually prostrate or semi-prostrate) dwarf-shrub in combination with abundant mosses and lichens.
Mean Cover of dwarf-shrubs/ *Racomitrium*	The collective cover of dwarf-shrubs, *Racomitrium*	Visual estimate in 2x2 m plots.	Characteristic species include a dominance of dwarf-shrubs with mosses, mainly *Racomitrium lanuginosum,*

lanuginosum and robust lichens. (%)	*lanuginosum* and robust lichens should compose at least 90% of total vegetation cover.		and robust lichens. The low-growing dwarf-shrub mat is dominated by *Calluna vulgaris* with *Erica tetralix*, *E. cinerea*, *Vaccinium myrtillis*, *Empetrum nigrum*, *V. vitis-idea*, etc.
Racomitrium lanuginosum (DAFOR)	*Racomitrium lanuginosum* to be constant and forming patches below, or in more open swards beneath the dwarf-shrubs.	Visual estimate in 2x2 m plots.	*Racomitrium lanuginosum* should form a major part of the ground cover for the vegetation to be in favourable condition.
Fine-leaved grass/*Galium saxatile/Potentilla erecta* Cover (%)	The collective cover of fine-leaved grasses, *Galium saxatile* and *Potentilla erecta* should not exceed 10%.	Visual estimate in 2x2 m plots.	Grasses to include *Deschampsia flexuosa* and *Festuca ovina/vivipara*.
Management - Grazing (% cover)	Signs of moderate or heavy grazing should occupy less than 5% of the montane heath vegetation.	Visual estimate in 2x2 m plots.	The frequency of droppings, the extent of poaching, uprooting of dwarf shrubs and invasion by *Juncus squarrosus* etc. indicate moderate and heavy grazing where any one of the above is recorded as more than occasional.
Management - Burning (% cover)	Signs of recent burning should occupy less than 5% of the montane heath vegetation.	Visual estimate in 2x2 m plots and within wider vicinity of the plot; in addition, across feature using a combination of aerial photographs, SIM and Condition Assessment	Recent burning is represented by areas burnt within the last two years.

		structured walk.	
Erosion Features associated with human impacts (% and DAFOR)	No bare rock or bare peat associated with more concentrated human impacts (ATV tracks or recreational activities). Man induced/enhanced erosion should occupy less than 2% of the total area of montane heath, other than very localised instances.	Visual estimate in 2x2 m plots and within wider vicinity of the plot; in addition, across feature using a combination of aerial photographs, SIM and Condition Assessment structured walk.	Erosion is a natural feature of high mountain slopes. However, where natural erosion is exacerbated by human activity, mainly hill walking, the heath will not be in favourable condition, except where such erosion is very limited in nature.

Frequency -
1-20% = Rare
21-40% = Occasional
41- 60% = Frequent
> 60% = Constant

ANNEX 1

Feature 5 (SAC) - Siliceous alpine and boreal grasslands (Status C)

(* = Primary attribute. One failure among primary attribute = unfavourable condition)

Attributes	Targets	Method of Assessment	Comments
* Area of siliceous alpine and boreal grassland	Maintain the extent of the siliceous alpine and boreal grassland communities at a minimum of 32 ha. This community includes U10 - *Carex bigelowii-Racomitrium lanuginosum* moss heath.	Visual estimate in 2x2 m plots and across the wet heath using a combination of aerial photographs, SIM and Condition Assessment structured walk.	The montane grasslands should be monitored using a combination of aerial photographs and condition assessment. Any loss or fragmentation of this habitat is unacceptable. It may be possible to extend siliceous alpine and boreal grassland communities into degraded areas without encroaching into other habitats of scientific interest.
* Height of graminoid/ bryophyte/Cladonia/ dwarf-shrub mat (cm)	The average depth of the vegetation mat should be greater than 5cm.	Visual estimate in 2x2 m plots.	Depth should be recorded by the vertical distance an object can be inserted into the vegetation mat until the ground is met. Exclude grass flower spikes from the depth measurement.
* Bare peat, or ground covered by algal mats (% cover)	Bare peat etc (excluding naturally exposed rock surfaces) should occupy less than 5% of the siliceous alpine and boreal grassland surface overall.	Visual estimate in 2x2 m plots.	This includes bare peat, but NOT exposed rock attributable to natural exposure effects. Bare ground can be attributed to excessive grazing.
* *Racomitrium lanuginosum* cover (%)	*Racomitrium lanuginosum* to be present with 100%	Visual estimate in 2x2 m plots.	*Racomitrium lanuginosum* must form a major part of the ground cover for the vegetation to be in

	Frequency and forming patches below, or in more open swards beneath the dwarf-shrubs.		favourable condition.
* Mean cover of graminoid/ bryophyte/Cladonia/dwarf-shrub mat (%)	The collective cover of characteristic species should be greater than 90%.	Visual estimate in 2x2 m plots.	Characteristic species include a dominance of mosses, mainly *Racomitrium lanuginosum* with *Carex bigelowii*, *C. pilulifera* robust lichens and dwarf- shrubs. The dwarf-shrubs which are prostrate include *Salix herbacea*, *Vaccinium myrtillis*, *V. vitis-idea*, *Calluna vulgaris* etc.
* Fine-leaved grass/*Galium saxatile/Potentilla erecta* cover (%)	The collective cover of fine-leaved grasses, *Galium saxatile* and *Potentilla erecta* should not exceed 10%.	Visual estimate in 2x2 m plots.	Grasses to include *Deschampsia flexuosa*, *Nardus stricta* and *Festuca ovina/vivipara*.
* Management - Grazing (% cover)	Signs of moderate or heavy grazing by sheep should occupy less than 5% of the siliceous alpine and boreal grassland vegetation within any grazing unit.	Visual estimate in 2x2 m plots.	The frequency of droppings, the extent of poaching, uprooting of dwarf shrubs, grazing of flower heads and shrubs and invasion by fine-leaved grasses etc. indicate moderate and heavy grazing.
* Frequency and cover of erosion features associated with human impacts (DAFOR and % cover)	No bare rock or peat associated with more concentrated human impacts (ATV tracks or recreational activities). Man induced/enhanced erosion should occupy less than 2% of	Visual estimate in 2x2 m plots.	The extent of man induced erosion should be monitored using a combination of aerial photographs and Condition Assessment. Erosion is a natural feature of high mountain slopes. However, where natural erosion is exacerbated by human activity, mainly hill walking, the montain grassland will not be in favourable condition,

	the total area of montane grassland other than very localised instances.		except where such erosion is very limited in nature.

Frequency -
1-20% = Rare
21-40% = Occasional
41- 60% = Frequent
> 60% = Constant

ANNEX 1

Feature 6 (SAC) - Siliceous rocky slopes with chasmophytic vegetation (Status C)

(* = Primary attribute. One failure among primary attribute = unfavourable condition)

Attributes	Targets	Method of Assessment	Comments
Area of siliceous rocky slopes	Maintain the extent of siliceous rocky slopes at 58.5 ha. These cliff face communities include U21 - (*Cryptogramma crispa-Deschampsia flexuosa* community).	Visual estimate in 2x2 m plots and across the siliceous rocky slopes using a combination of aerial photographs, SIM and Condition Assessment structured walk.	
Indicators of current grazing	Less than 50% of live leaves (forbs) or the shoots (dwarf-shrubs) should show signs of having been grazed or browsed.	Target assessed against visual estimate for as much of the feature as is visible while standing at a sample location.	
Non-native species	Less than 1% of vegetation cover should be made up of non-native species.	Target assessed against visual estimate for as much of the feature	

		as is visible while standing at a sample location.	
Cover of Bracken, tress and scrub	Less than 25% of the ground cover should be made up of bracken, trees and shrubs.	Target assessed against visual estimate for as much of the feature as is visible while standing at a sample location.	

Frequency -
1-20% = Rare
21-40% = Occasional
41- 60% = Frequent
> 60% = Constant

ANNEX 1

Feature 7 (SAC) - Siliceous scree of the montane to snow levels (Status C)

(* = Primary attribute. One failure among primary attribute = unfavourable condition)

Attributes	Targets	Method of Assessment	Comments
Area of siliceous scree	Maintain the extent of siliceous scree at 17.7 ha. The montane acid scree communities include U21 - (*Cryptogramma crispa-Deschampsia flexuosa* community).	Visual estimate in 2x2 m plots and across the siliceous scree using a combination of aerial photographs, SIM and Condition Assessment structured walk.	Note that it may be possible to extend siliceous scree communities, provided this is into degraded areas and does not encroach into other habitats of scientific interest.
Indicators of current grazing	At least 33% of ground cover should be free from overgrowth by vascular plants Less than 50% of live leaves (forbs) and/or the shoots (dwarf-shrubs) should show signs of having been grazed or browsed.	Targets assessed against visual estimate for as much of the feature as is visible while standing at a sample location.	
Non-native species	Less than 1% of vegetation cover should be made up of non-native species.	Target assessed against visual estimate for as	

		much of the feature as is visible while standing at a sample location.	
Cover of Bracken, tress and scrub	Less than 25% of the ground cover should be made up of bracken, trees and shrubs.	Target assessed against visual estimate for as much of the feature as is visible while standing at a sample location.	
Cover of agricultural weeds	Less than 1% of vegetation cover should consist of, collectively, *Cirsium arvense, Cirsium vulgare, Pteridium aquilinum,* large docks (excluding *Rumex acetosa*), *Rubus fruticosus, Senecio jacobaea, Urtica dioica*	Target assessed against visual estimate for as much of the feature as is visible while standing at a sample location.	
Physical structure — indicators of ground disturbance due to herbivore and human activity.	Less than 10% of the *ground* cover should be disturbed by human or animal paths, scree running, or vehicles.	Target assessed against visual estimate for as much of the feature as is visible while standing at a sample location.	The nature of the scree – i.e. large, block scree – more or less precludes recreational use, and appears to discourage most of the grazing animals.

Frequency -
1-20% = Rare
21-40% = Occasional
41- 60% = Frequent
> 60% = Constant