TEAL LOUGH SAC
UK0016608

CONSERVATION OBJECTIVES

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V1.0	June 2013	Internal working document	PC
V2.0	Nov 2014	Complete review	RMK
V2.0	01.04.2015	Effective date of Version 2	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 Directive79/409/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: TYRONE, LONDONDERRY

GRID REFERENCE: IH737880

AREA: 198.22 ha

5. SUMMARY SITE DESCRIPTION

Teal Lough Bog lies to the north-west of Cookstown beyond Lough Fea at an elevation of 220m. It is bisected by the county boundary, which runs through Teal Lough itself. This is one of the largest and least disturbed upland blanket peat and raised bog habitats in Northern Ireland. The features of interest are all hydrologically linked; being four actively developing upland raised bogs surrounded by active blanket peat with an oligotrophic lake to the north.

The pool and hummock complexes display rich bryophyte communities (including *Sphagnum imbricatum* and *Mylia taylorii*), a limited but notable range of upland invertebrates (including *Salda muelleri* and *Agabus arcticus*) and a vascular flora uncommon in Northern Ireland (*Drosera intermedia* and *Utricularia minor*). The underlying Pleistocene sand and gravel fluvioglacial outwash series, together with the ridge series, are important, being related to a major deglaciation phase of the South Sperrins.

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 SAC is comprised of the major part of two ASSIs: Teal Lough and Slaghtfreeden Bogs ASSI designated in 1987 and Teal Lough Part II designated in 1995. The original ASSI boundary included the minimum area of highest conservation value, excluding the partially disturbed bog to the south. Teal Lough Part II included this previously excluded cut-over but regenerating area as well as the base-poor lake to the north because of their hydrological links with the main Teal Lough bogs.

Two separate parcels of bog lying within the edge of Davagh Forest were included within the original ASSI but are not included in the SAC because the adverse impacts of adjacent trees has adversely affected these bog areas. However, these two ASSI areas excluded from the SAC will be subject to the same objectives and management as the rest of the SAC, and may undergo restoration in the future once the trees are felled.

The SAC boundary encompasses a single hydrological unit bounded by Tullybrick Road to the east. The rest of the boundary follows several topographical features, particularly associated with the hydrology of the site e.g. streams and esker bases, as well as some man-made features such as ditches and tracks. It is all well fenced.

6. SAC SELECTION FEATURES

Feature Type	Feature	Global Status	Size/ extent/ population
Habitat	**Active blanket bog**	**B**	**155.5 ha**
Habitat	Northern Atlantic wet heaths with *Erica tetralix*	D	9.5 ha
Habitat	Natural dystrophic lakes and ponds	D	1.45 ha
Habitat	Depressions on peat substrates of the Rhynchosporion	D	0.1 ha
Habitat	European dry heaths	D	26.0 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 Teal Lough SAC.

6.1 ASSI SELECTION FEATURES

Teal Lough ASSI

Feature Type	Feature	Size/extent/ population
Habitat	Blanket Bog	155.5 ha
Species	Invertebrate Assemblage	
Earth Science	Pleistocene glacial depositional series – underlies the entire Teal Lough SAC peatland complex	

Table 2. List of ASSI features.

7. CONSERVATION OBJECTIVES

The *Conservation Objective* for this site is:

To maintain (or restore where appropriate) the Active Blanket Bog 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
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 associated with the blanket bog, 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.

9. ASSI FEATURE OBJECTIVE REQUIREMENTS

Feature	Component Objective
Blanket Bog	See SAC Selection Feature Objective Requirements table.
Invertebrate Assemblage	To be finalised.
Pleistocene glacial depositional series	Maintain extent of the sand and gravel series.
	No disturbance of the sand and gravel series.

10. MANAGEMENT CONSIDERATIONS

Ownership

Most of the area is owned by Forest Service, with the remaining area owned by 3 private landowners.

Part of the SAC area (85.14ha), including the 40ha of Teal Lough Forest Nature Reserve, is currently managed by Ulster Wildlife as a Nature Reserve, to which UW members have access by arrangement. The county boundary acts as the northern edge of this Reserve, which is important for nesting teal and black headed gulls and winter visitors such as Greylag Geese.

Adjoining Land Use

The main adjoining land-use outside the SAC is afforestation and degraded blanket bog/wet grasslands that are more intensively grazed by cattle and in some instances sheep. There are also surrounding areas of severely degraded peatland complexes as a consequence of drainage and mechanised peat extraction.

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 Teal Lough, or could affect it in the future. Although Active Blanket Bog is the qualifying SAC feature, factors affecting ASSI features are also considered

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

Mineral extraction

Any removal of minerals, e.g. peat or sand, from the site will destroy that part of the site and may have consequential effects on the rest of the area due to its fragile, integrated structure and hydrology.

ACTION: No extraction of minerals from the SAC.

Burning

Excessive burning will reduce the cover of *Sphagnum* mosses and Ericaceous species, increasing the proportion of *Trichophorum cespitosum* and grasses. Structural diversity may also be reduced. Blanket bog should not be burnt.

ACTION : No burning within the SAC

Reclamation of heathland

This always causes permanent damage to the ecology and hydrology of the bog, because of the drainage, cultivation, fertilising, liming, re-seeding and management changes involved. The obtrusive bright green rectangles of re-seeded grassland are a common adjunct to heathland landscapes throughout the country, and unless very intensively managed these revert to poor quality, rush-dominated land with little agricultural or ecological interest.

ACTION:- Ensure there are no reclamation works within the SAC through liaison and management agreements with owner/occupiers. Maintain any existing blockages of drains.

Grazing

Under-grazing, or the cessation of grazing, results in vegetation change on heathland, with the prevalence of over-mature and degenerate *Calluna vulgaris*. Over-grazing leads to poaching, trampling and, at worst vegetation removal which can result in soil exposure and eventual erosion. Less dramatic change is in the range and proportions of plant species e.g. a decline in dwarf shrubs. The timing of grazing can also cause potential problems – winter sheep grazing is most likely to result in erosion effects, whilst autumn grazing can cause great damage to *Calluna vulgaris*.

ACTION: Liaise with local landowners and DARD to set grazing intensity for the SAC at an appropriate level. Ensure fencing is maintained.

Supplementary stock feeding

This can cause localised overgrazing and poaching damage and should ideally be avoided. If this not an option, it should be confined to less sensitive areas, e.g. tracks.

ACTION: Liase with local landowners to avoid using feeding areas within the SAC.

Application of fertiliser/slurry/manure

The whole site is very nutrient-poor and and so very vulnerable to nutrient enrichment. Eutrophication would be particularly damaging to the nutrient poor pool system and lake. As the hydrology of the whole site is linked any type of fertiliser application to a part of the SAC area will be affect other parts.

ACTION: Ensure there is no nutrient enrichment of any kind. Liase with local landowners to prevent the discharge of slurry onto the site.

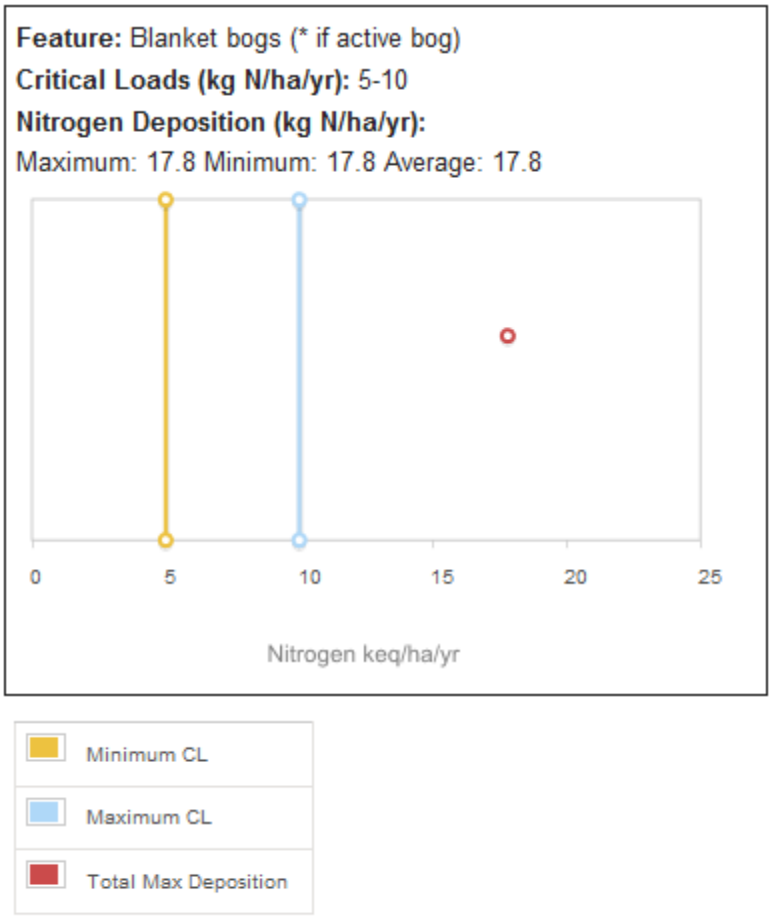
Afforestation

Trees cause hydrological and physiological changes to the peat and shading effects on heathland vegetation. Peatland subjected to afforestation has little potential to recover after tree harvesting, due both to the direct effect of the trees and the indirect effect of the operations involved.

ACTION: No tree planting within the SAC.

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 Teal Lough SAC.



(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.

Recreational activities

Regular use of any part of the area, by walking but especially by four-wheel drive vehicles, can cause local vegetation loss and structural damage to the peat which may lead to significant erosion, particularly on slopes. Wet moss hummocks are also vulnerable to more than occasional treading so over-use of the site should be avoided.

ACTION: Liase with local landowners to ensure minimal use of ATVs for checking and gathering livestock and no recreational use within the SAC. Maintain fences to prevent unauthorised vehicular access.

Fly-tipping

Due to the sites close proximity to a country road, there is always the threat of fly-tipping or the disposal of slurry onto part of the area, which could adversely affect its nutrient poor trophic status.

ACTION: Remove all waste materials in and around site regularly, and report any large-scale dumping to the local Council. Liase with local landowners in an effort to prevent dumping on or around the site.

Changes to surrounding land use

Any changes in local land-use e.g. drainage, road improvements, afforestation, agricultural intensification 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 on 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 bog and associated habitats through desiccation).

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 the fencing is still intact. Ensure there has been no moor gripping or other drainage activities, signs of excessive erosion, evidence of inappropriate grazing or burning, or unauthorised peat cutting, 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

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ANNEX 1

Feature 1 (SAC) – Active blanket bog (Status B)

(* = 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 196 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. Differentiation of *Sphagnum*	The extent of pool and hummock systems should be monitored using a	The extent of pool and hummock systems should be monitored using a combination of aerial photographs and Condition Assessment.

	species should be recorded with *S. cuspidatum* or *S. auriculatum* in the pools and *S. papillosum* and *S. capillifolium* forming the lawns and hummocks.	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