

MONTIAGHS MOSS SAC
UK0030214

CONSERVATION OBJECTIVES

Document Details

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V1	June 2013	Internal working document	PC
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1. INTRODUCTION

EU Member States have a clear responsibility under the Habitats and Birds Directives¹ 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: ANTRIM

GRID REFERENCE: IJ 091654

AREA: 151.28 ha

5. SUMMARY SITE DESCRIPTION

Montiaghs Moss is a cutover lowland raised bog, consisting of an intricate mosaic of peat ramparts, trenches, pools and drains, interspersed with grassland, alder and willow carr and tall hedgerows. These habitats support a wide range of plants and animals, including many rarities.

The area is particularly notable as one of the longest established colonies of the Marsh Fritillary butterfly *Euphydryas aurinia* in NI. The species was first recorded in 1983 and has been recorded annually since 1990 (except for 1997). It is believed that the colony here represents a metapopulation, with a comparatively large core permanent population. 89 webs were counted in 1999.

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 is very complex, and reflects the small-scale pattern of past hand-cutting, with piece-meal reclamation interspersed throughout the area. Around the edges of the site some of the deeper peats have been reclaimed for intensive agriculture, and these have been excluded. In the longer-term, restoring semi-

natural vegetation to these areas (which form part of the wider hydrological unit) would be beneficial.

The boundary includes the core peatland area, with all associated semi-natural vegetation (acid grassland, heath, birch and willow scrub, hay meadows, etc), but excludes improved agricultural land. Many of the rare plants occur within the drains, so a significant part of the network of drains has also been included. Pale Moss to the north was excluded, as it was deemed to be too far away from the core area to justify inclusion (several intervening fields to the north of the road have been reclaimed), in addition to parts of it becoming rank and invaded by scrub.

6. SAC SELECTION FEATURES

Feature type	Feature	Global Status	Size/ extent/ pop~
Species	Marsh Fritillary Butterfly <i>Euphydryas aurinia</i>	B	89 webs recorded in Aug/Sept 1999
Habitat	Transition mires and quaking bogs	D	1.51
Habitat	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caenuleae)	D	4.54
Habitat	Northern Atlantic wet heaths with <i>Erica tetralix</i>	D	25

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 threshold for 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 Montiaghs Moss SAC.

6.1 ASSI SELECTION FEATURES

Montiaghs Moss ASSI

Feature Type	Feature	Size/ extent/ pop~
Species	Marsh Fritillary <i>Euphydryas aurinia</i>	
Species	Higher Plant Assemblage	6 A, B, C D species
Species	Dragonfly Assemblage	13 breeding species
Species	Invertebrate Assemblage (Coleoptera and Heteroptera)	

Table 2. List of ASSI features.

7. CONSERVATION OBJECTIVES

The *Conservation Objective* for this site is:

To maintain (or restore where appropriate) the Marsh Fritillary Butterfly *Euphydryas aurinia* 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 Objective
Marsh Fritillary Butterfly <i>Euphydryas aurinia</i>	B	To maintain (and if feasible enhance) population numbers and distribution.
		To maintain (and if feasible enhance) the extent and quality of suitable Marsh Fritillary breeding habitat, particularly suitable rosettes of the larval food plant <i>Succisa pratensis</i>

9. ASSI FEATURE OBJECTIVE REQUIREMENTS

Feature	Component Objective
Marsh Fritillary <i>Euphydryas aurinia</i>	See SAC Selection Feature Objective Requirements table.
Higher Plant Assemblage	To maintain (and if feasible enhance) the populations of notable species, including their abundance and distribution: i.e. <i>Spiranthes romanzoffiana</i> , <i>Hydrocharis morsus-ranae</i> , <i>Lemna gibba</i> , <i>Spirodela polyrhiza</i> , <i>Thalictrum flavum</i> and <i>Cicuta virosa</i> .
Dragonfly Assemblage	To maintain (and if feasible enhance) the diversity of the Dragonfly populations, including their abundance and distribution (13 species recorded).
Invertebrate Assemblage	To maintain (and if feasible enhance) the diversity of the Coleoptera and Heteroptera populations, including their abundance and distribution.

10. MANAGEMENT CONSIDERATIONS

Ownership

Montiaghs Moss has been an ASSI since 1997. Given the fact that most of the land is unsuitable for normal agricultural activities, yet requires positive management to maintain the interest features, NIEA has pursued an active policy of acquisition since then. Currently, NIEA owns land within the ASSI.

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 Montiaghs Moss, or could affect it in the future. Although Marsh Fritillary Butterfly *Euphydryas aurinia* 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.

Grazing

Due to the topography, with frequent ditches and old peat cuttings, most of the area is dangerous for livestock. Many farmers are understandably reluctant to graze. As a result, there is a trend towards increasing rankness and scrub encroachment. NIEA is actively encouraging grazing on its own land, where this is feasible. Ponies and hardy varieties of cattle are preferable, in that they tend to consume rough and unpalatable material (such as *Molinia*) that more selective grazers avoid. Sheep should generally be avoided, as they graze selectively on *Succisa pratensis*. The optimum time for *Molinia* control is generally May, when the young growth is present and is marginally more palatable.

Undergrazing is the more likely threat to the interest features; however, it should be noted that the peat soils are fragile and liable to poaching, so over-grazing should also be avoided. It should be noted that Marsh Fritillary larvae generally require large rosettes of *Succisa*. These are normally only present in ungrazed or very lightly grazed situations, yet if such conditions persist, *Succisa* will eventually be eliminated by coarse grasses and scrub. Therefore, a balance between grazed and ungrazed areas should be maintained.

Woodland and Scrub Management – Encroachment, Control and Removal

Scrub is an essential element in the system, providing shelter from wind and elevated positions for resting. The spread of scrub may be partly the result of natural seral succession, as a result of the build-up of vegetation litter; however, it may also be the result of under-grazing, or long-term hydrological deterioration.

In practical terms, the spread of scrub will lead to the loss of suitable Marsh Fritillary breeding habitat. Until further research indicates what the most appropriate balance should be between scrub and grassland areas, it may be assumed that the current extent of scrub is favourable. Therefore, clearance of well-established stands of woodland and scrub should generally be avoided. However, where recent scrub encroachment has extended into *Succisa* grassland and where there is good reason to believe that good-quality marshy grassland can be restored, control should be initiated. In the absence of grazing, or where the

scrub has become too tall for grazing to eliminate, control by either hand or mechanical methods is the only feasible option.

Turbary

The area has been extensively cut for turf in the past. Much of the cutting was by hand, using the “puddling” method (i.e. excavating wet peat from open water pools). A limited amount of machine cutting has been undertaken recently.

Currently, there is little active cutting, resulting in the gradual terrestrialisation of open water pools. Although this is probably not a direct factor in the breeding success of the Marsh Fritillary, many of the other interest features depend upon the presence of a range of different pool types, and the loss of this pioneer stage would render the site unfavourable. It is recommended that some existing vegetated pools are re-excavated to provide open-water sites for colonisation by fen vegetation. Since it is unlikely that the work could be carried out by hand, mechanical digger is recommended.

There may also be opportunities to dig open water pools within some of the more extensive stands of monodominant *Molinia*. This would require careful planning to avoid areas that are currently used or that could potentially be used by Marsh Fritillary. However, creating more open water would assist in fire management and would benefit other invertebrates.

Burning

The area has been burnt in the past on a fairly regular basis, often as a precursor to peat cutting. Even since the ASSI has been declared, several large fires have been started. Although burning may control *Molinia* spread and scrub encroachment to a certain degree, indiscriminate and uncontrolled burning destroys both Marsh Fritillary habitat and larvae. As indicated above, additional areas of open water could help to control fires.

Drainage

There are several large drains around the edge of the area, and running through the centre (Navvies Drain). It is not thought that these are having a serious effect on the site, as ultimately water levels appear to be controlled by Lough Neagh. However, it would be useful if this could be confirmed by a hydrological survey. This survey could also assist in developing a plan for the manipulation of water levels within NIEA land – such action might be necessary to enhance wetland habitats, if these are shown to be drying out.

In addition, the future clearance of ditches should ideally take place in liaison with the relevant statutory bodies to ensure that the main features of nature conservation interest are taken into consideration and to prevent detrimental effects upon the whole site.

Eutrophication/Water Quality

The area outside the ASSI is generally in intensive agriculture. Therefore, the area is potentially at risk from eutrophication caused by agricultural run-off from within the catchment. Changes in the vegetation – e.g. increase in nutrient indicators - should be picked up by regular monitoring exercises.

ACTION: Farmers of the immediate catchment should be approached with details of the NI Countryside Management Scheme in the hope that they adopt nutrient management plans and good practice in slurry disposal.

Dumping

Both fly-tipping and more extensive infilling have taken place on the site from many of the roads that cross the ASSI. This has caused the loss of semi-natural habitat. Although the ASSI declaration has stopped infilling, fly-tipping is still a problem. This activity is unsightly and also has the potential for nutrient enrichment, depending upon the type of waste. Gates and fences have been used by NIEA to control the problem within its own property.

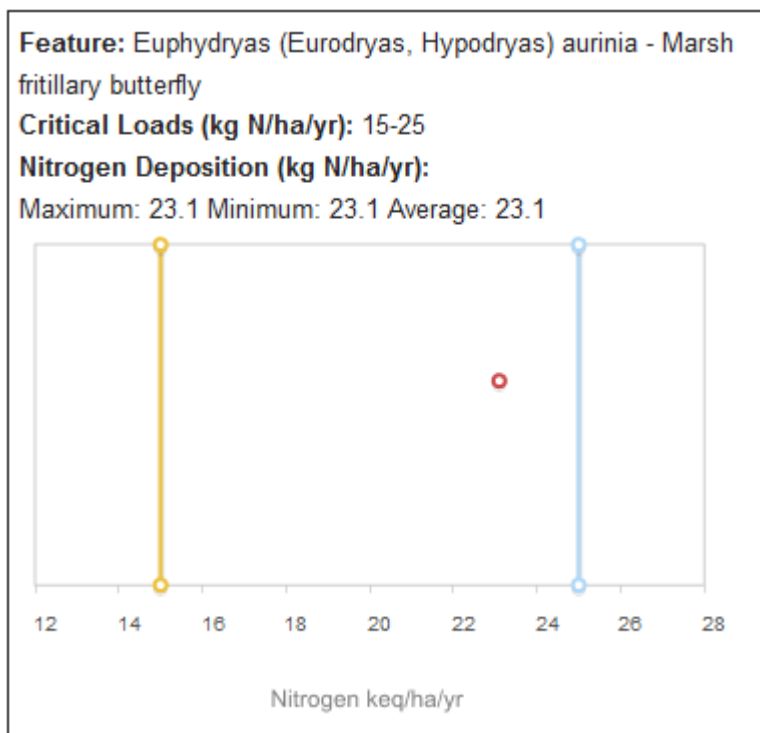
ACTION: Continue to monitor fly-tipping and initiate appropriate control measures (fencing, etc) as necessary.

Other activities (Agricultural reclamation/Cultivation/Application of fertiliser/Additions of manure/slurry/Supplementary feeding

Much of the site is unsuitable for normal agriculture without infilling and subsequent re-seeding. As a result, these activities are unlikely to take place and should be controlled by the ASSI declaration; there should be no reclamation or cultivation of land within the ASSI.

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 Montiaghs Moss SAC.



N.B. There is insufficient knowledge to make a judgment of the impact of excess nitrogen deposition on the Marsh Fritillary butterfly. If the habitat on which the species depends on this site (Moist and wet oligotrophic grasslands: *Molinia caerulea* meadows) exceeds the critical Nitrogen load, then there would be cause for concern.

(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. 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 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)

Check particularly for unauthorised burning (which has taken place in the recent past), and fly-tipping, which is an ongoing problem. Drains to be checked for signs of pollution. 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 I

Feature 1 (SAC) – Marsh Fritillary Butterfly *Eurodryas aurinia* (Status B)

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

Attribute	Measure	Targets	Comments
* Population Size	Number of larval webs present in at least one year in six	At least 80 larval webs should be present in at least one year in six (unless unfavourable meteorological conditions during the flight period occur more often)	Larval webs are a much more reliable measure of the “health” of the colony than flying adults Note: Figure for Wales is 200 webs per hectare

* Habitat Extent	Extent of suitable marshy grassland	Maintain the extent of suitable marshy grassland at 42 ha ¹ ¹ Estimated extent of acid marshy grassland is 18.0 ha, with an additional c. 24 ha occurring as part of a mosaic with other habitats – i.e. 42 ha in total	Definition of suitable marshy grassland - Stands of grassland where <i>Succisa pratensis</i> is present and scrub (>1 metre tall) covers no more than 10% of area Note: Figure for Wales is 10 hectares of suitable marshy grassland.
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	Extent of good marsh fritillary breeding habitat	<p>Maintain the extent of good marsh fritillary breeding habitat at 4.5 ha²</p> <p>² Estimated extent of fen meadow is 4.54 ha – this may not necessarily represent “good marsh fritillary breeding habitat” – some may be rank. On the other hand, some of the acid marshy grassland may be good habitat</p>	<p>Definition of good marsh fritillary breeding habitat - <i>Molinia</i>-dominated grassland where the vegetation height is within the range of 10 to 20 cm, and where <i>Succisa pratensis</i> is present within a 1 m radius of any point</p> <p>Note: Figure for Wales is 4 hectares of good marsh fritillary breeding habitat</p>
* Habitat Mosaic	Extent of other semi-natural habitats	<p>Maintain the extent of other semi-natural habitats which contribute to marsh fritillary breeding success (e.g. woodland and scrub (26.1 ha), wet heath, etc.) –</p> <p>No loss in extent of other semi-natural habitats</p>	<p>The comparatively large extent of the site, with the mosaic of different habitats is believed to contribute to the success of the colony on the site</p>