

## **MONADHLIATH SPECIAL AREA OF CONSERVATION (SAC)**

### **CONSERVATION ADVICE PACKAGE**



Image: Monadhliath SAC ©Anne Elliott/NatureScot

## Site Details

Site name:	Monadhliath
Map:	<a href="https://sitelink.nature.scot/site/8324">https://sitelink.nature.scot/site/8324</a>
Location:	Highlands and Islands
Site code:	UK0030210
Area (ha):	10,672.34
Date designated:	17 March 2005

## Qualifying features

Qualifying feature	SCM assessed condition	SCM visit date	UK overall Conservation Status
Blanket bog* [H7130]	Unfavourable No change	23 September 2004	Unfavourable-Bad-

### Notes:

Assessed condition refers to the condition of the SAC feature assessed at a site level as part of NatureScot's [Site Condition Monitoring \(SCM\)](#) programme.

Conservation status is the overall condition of the feature throughout its range within the UK as reported to the European Commission under Article 17 of the Habitats Directive in 2019.

\* Indicates a Habitats Directive Priority Habitat

## Overlapping Protected Areas

[Monadhliath Site of Special Scientific Interest \(SSSI\)](#),  
[River Spey Special Area of Conservation \(SAC\)](#)

## Key factors affecting the qualifying features

Blanket bog is upland vegetation on deep peat, typically containing cotton-grasses and sphagnum moss. It is found in areas of moderate to high rainfall and a low level of evapotranspiration, allowing peat to develop over large expanses of undulating ground. Blanket bogs are considered active when they are supporting a significant area of vegetation that is peat-forming. This is a Habitats Directive Priority habitat.

On Monadhliath SAC the blanket bog was considered to be in unfavourable condition in 2004 when it was last monitored, because the species composition was too poor, and there was too much bare ground. The site has many patches of eroding peat.

There is almost no artificial drainage on this site, and the blanket bog is not burnt.

Key management issues that are affecting this habitat include peat erosion, impacts from red deer (grazing/browsing and trampling), grazing by domestic stock, abiotic natural change, and climate change.

Further information about blanket bog can be found [here](#).

## Conservation Objectives for blanket bog

### **1. To ensure that the qualifying feature of Monadhliath SAC is in favourable condition and makes an appropriate contribution to achieving favourable conservation status**

Favourable Conservation Status (FCS) is considered at a European biogeographic level. When determining whether management measures may be required to ensure that the conservation objectives for this site are achieved, the focus should be on maintaining or restoring the contribution that this site makes to FCS.

When carrying out appraisals of plans and projects against these conservation objectives, it is not necessary to understand the status of the feature in other SACs in this biogeographic region. The purpose of the appraisal should be to understand whether the integrity of the site (see objective 2) would be maintained. If this is the case then its contribution to FCS across the Atlantic Biogeographic Region will continue to be met. Further details on how these appraisals should be carried out in relation to maintaining site integrity is provided by objective 2 (including parts a, b and c). If broader information on the feature is available then it should be used to provide context to the site-based appraisal.

Note that “appropriate” within this part of the conservation objectives is included to indicate that the contribution to FCS varies from site to site and feature to feature.

### **2. To ensure that the integrity of Monadhliath SAC is restored by meeting objectives 2a, 2b and 2c**

The aim at this SAC is to restore the blanket bog habitat to a favourable condition as a contribution to its wider conservation status. Therefore any impacts to the objectives shown in 2a, 2b, or 2c below must not persist so that they prevent the achievement of this overall aim.

When carrying out appraisals of plans or projects the focus should be on restoring site integrity, specifically by meeting the objectives outlined in 2a, 2b and 2c. If these are met then site integrity will be restored. Note that not all of these will be relevant for every activity being considered. Any impacts on the objectives shown in 2a, 2b or 2c below must not persist so that they prevent the restoration of site integrity. Temporary impacts on these objectives resulting from plans or projects can only be permitted where they do not prevent the ability of the feature to recover and there is certainty that the features will be able to quickly recover.

This objective recognises that the qualifying habitat is exposed to a wide range of drivers of change. Some of these are natural and are not a direct result of human influences. Such changes in the habitat’s extent, distribution or condition within the site which are brought about by natural processes, directly or indirectly, are normally considered compatible with the site’s conservation objectives. An assessment of whether a change is natural or anthropogenic, or a combination of both, will need to be looked at on a case by case basis

### **2a. Maintain the extent and distribution of blanket bog within the site**

Blanket bog typically covers very large areas, forming complex mosaics with other wetland habitats as well as heath and grass habitats in drier areas. There should be no measurable net reduction in the extent or distribution of the habitat on the site such that the area of blanket bog is maintained at approximately **5,763ha**.

### **2b. Restore the structure, function and supporting processes of the habitat**

The key issue for this site is to restore eroding peat. The blanket bog is eroding in many places, and the erosion is greater at higher altitudes on the site, until the conditions become too severe for peat formation and the blanket bog is replaced by alpine heath or grasslands. The causes of the erosion are not known for certain and are likely to be a mixture of historic high stocking levels, past burning, high red deer numbers, and natural erosion processes.

The predominant requirement for blanket bog is to be actively forming peat, a process that relies on peat-forming species having suitable conditions to maintain growth including a high water table. Blanket bog that is degraded through damage or drying is likely to resume active peat-forming function following suitable restoration. A covering of 'active' peat-forming vegetation will protect the peat surface and will be more resilient to climate change.

Maintaining appropriate hydrology for blanket bog is critical. Most of the drainage gullies at Monadhliath are due to erosion and gully blocking would be beneficial. There are very few man-made drains on this site, but where they exist, blocking drains is also beneficial for raising the water table.

This site is grazed by red deer and in places, with domestic stock. Deer and stock can impact blanket bog via grazing or trampling, by removing vegetation, by breaking up the surface of the peat or helping to prevent bare peat from re-vegetating. There has been a concentrated effort to reduce red deer numbers via the Monadhliath Deer Management Group and this effort needs to be maintained to keep deer numbers at a level where they do not damage the blanket bog. The site is also grazed by sheep but the numbers have significantly reduced from the 1970s and 1980s, and some parts of the site are not stocked with sheep at the current time. This grazing level will benefit the species composition as well as peat erosion over the long term.

Burning should be avoided, but where it is considered necessary e.g. for wild fire control, agreed good practice should be adhered to, as set out in the Muirburn Code.

Outdoor recreation causes some erosion on this site but most walkers use the same routes, typically to the hills over 3000 feet, so the area which is affected is generally small and contained.

The various impacts on blanket bog are often combined and can make the habitat more vulnerable to more frequent and intense weather events. Wind and heavy rainfall can have dramatic impacts on peat, resulting in erosion or even landslips. Drought dries the peat out and promotes oxidation. It is likely that climate change will impact on blanket bog by increasing the magnitude of rainfall events, the length and severity of droughts and reducing snow cover, all of which are likely to lead to increased peat erosion. Nitrogen deposition may also negatively affect peat especially if it affects the growth of sphagnum moss. Repairing the peat will help it to be more resilient to exceptional events.

### **2c. Restore the distribution and viability of typical species of the habitat**

On Monadhliath SAC the extensive Heather-Cottongrass *Calluna vulgaris-Eriophorum vaginatum* blanket mire community grades into Crowberry-Blaeberry *Empetrum nigrum*-

*Vaccinium* heath with increasing altitude.

Typical species include the important peat-forming species, such as bog-mosses *Sphagnum* species and cotton grasses *Eriophorum* species, together with heather *Calluna vulgaris* and other ericaceous species and forbs such as bog asphodel *Narthecium ossifragum* and the carnivorous sundews *Drosera* species.

Other indicator species include:

<i>Carex bigelowii</i>	stiff sedge
<i>Erica</i> species.	heaths
<i>Empetrum nigrum</i>	crowberry
Non-crustose lichens	(lichens)
Pleurocarpous mosses	(mosses)
<i>Racomitrium lanuginosum</i>	woolly hair moss
<i>Rubus chamaemorus</i>	cloud berry
<i>Trichophorum germanicum</i>	deer grass
<i>Vaccinium</i> species	blaeberry etc.

The blanket bog on this site also typically has mountain hare *Lepus timidus*, dunlin *Calidris alpina*, golden plover *Pluvialis apricaria*, meadow pipit *Anthus pratensis*, and red deer *Cervus elaphus*. Dotterel *Charadrius morinellus* is a feature of Monadhliath SSSI, as is black mountain moth *Glacies coracina*. Mountain bog sedge *Carex rariflora* is a rare species which occurs on the site.

Species composition is considered poor at the site. Conservation measures should aim to restore conditions suitable for these species. All characteristic bog species rely on a high water table, and are likely to benefit from measures to improve the bog's hydrological integrity. Healthy bog vegetation can withstand light to moderate grazing by livestock and/or wild herbivores, sufficient to maintain a diverse open structure but without causing surface damage/erosion or loss of more grazing-sensitive species.

## Conservation Measures

Monadhliath is notified as a Site of Special Scientific Interest and management changes described on the list of Operations Requiring Consent must have prior consent from SNH (NatureScot).

## Current and recommended management for blanket bog

Issue	Measure	Responsible party
Peat restoration	Restore native vegetation to eroding peat by re-profiling of hags and gullies, re-vegetating eroding peat and similar works.	Land managers Deer management group
Deer	Maintain deer numbers at a low level where the blanket bog is not impacted. Monitor deer numbers and set culls accordingly. Deliver via deer management group.	Land managers Deer management group
Stock Grazing	Maintain stock grazing at a light level which does not impact on the blanket bog from grazing or trampling.	Land managers
Hydrology	Maintain a natural hydrology, and restore	Land managers,

	areas of the site where the hydrology is not natural, for example by gully and drain blocking.	Deer management group
Habitat damage	Avoid activities such as ATV use that can damage the habitat and lead to an increase in exposed bare peat.	Land managers, Local authority, NatureScot
Muirburn	Burning should be avoided, and the blanket bog on this site is not generally burnt. If burning is considered essential e.g. for wild fire control, agreed good practice should be adhered to, as set out in the Muirburn Code.	Land managers

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