



Scottish Natural Heritage
Dualchas Nàdair na h-Alba

All of nature for all of Scotland
Nàdair air fad airson Alba air fad

BADANLOCH BOGS
Site of Special Scientific Interest

SITE MANAGEMENT STATEMENT

Site code: 115

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Purpose



This is a public statement prepared by SNH for owners and occupiers of the SSSI. It outlines the reasons it is designated as an SSSI and provides guidance on how its special natural features should be conserved or enhanced. This Statement does not affect or form part of the statutory notification and does not remove the need to apply for consent for operations requiring consent.

We welcome your views on this statement.

This statement is available in Gaelic on request.

Natural features of Badanloch Bogs SSSI	Condition of feature (and date monitored)	Other relevant designations
Blanket bog	Unfavourable, declining (May 2008)	Special Area of Conservation (SAC), Ramsar
Golden plover	Favourable, maintained (June 2004)	Special Protection Area (SPA)
Greenshank	Favourable, maintained (June 2004)	SPA

See Annex 1 for a list of natural features of overlapping Natura sites that are not notified features of Badanloch Bogs SSSI.

Description of the site

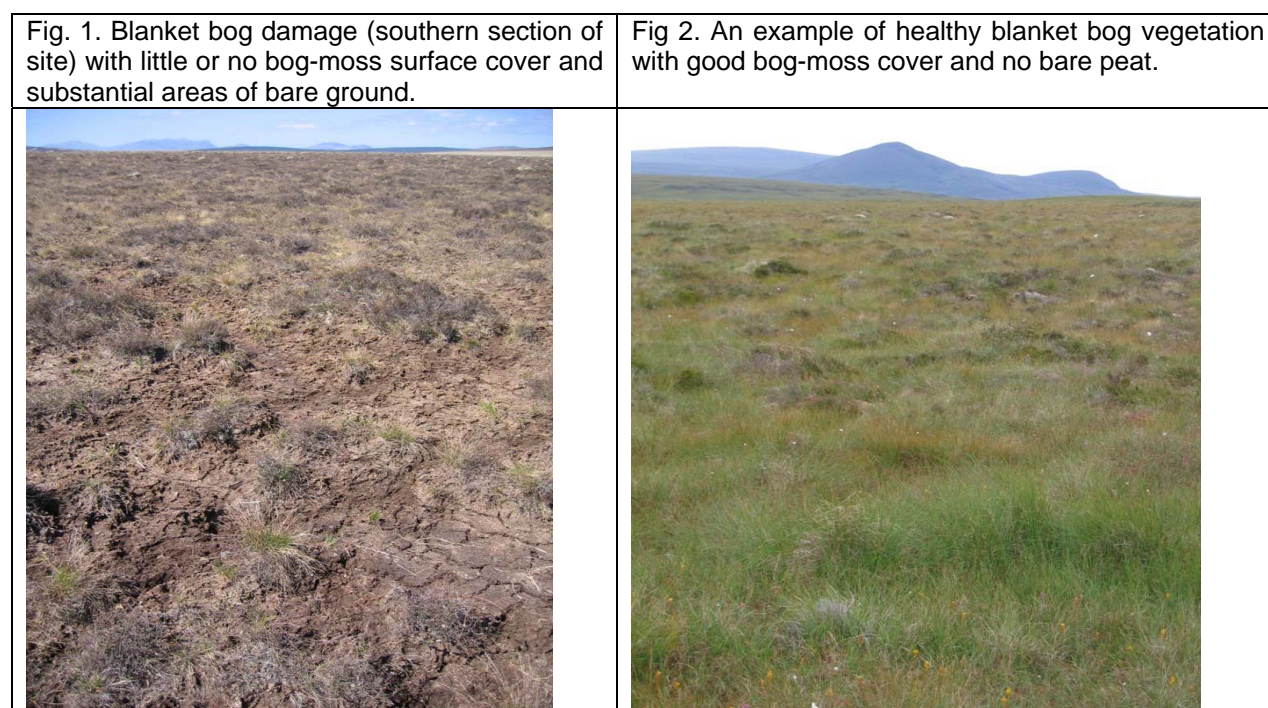
Badanloch Bogs Site of Special Scientific Interest (SSSI) is located between Kinbrace and Syre in central Sutherland. This is a two part site. The northern part lies to the south of the Kinbrace to Syre road, adjoining Rimsdale forest. The southern section lies 5km to the south-east, on the south side of the Helmsdale River. The site has been designated for its nationally important peatland habitat and breeding golden plover and greenshank. It forms an integral part of the internationally important blanket bogs of Caithness and Sutherland.

Badanloch Bogs SSSI also lies near the centre of one of the most extensive areas of blanket bog in the world and supports internationally important populations of upland birds and otters. These species naturally occur at low densities and require large areas of undisturbed land. The body of peat under the blanket bog is also a large store of carbon. Keeping this carbon locked up in the peat and continuing land management that maintains the peat-forming process makes an important contribution to reducing Scotland's carbon emissions, helping to combat climate change.

Blanket bog

The northern part of the site lies on a gently sloping spur and demonstrates an outstanding variety of surface pool and ridge patterns over a comparatively small area. The southern section lies on a river terrace and the peatland surface has a well-developed pattern of linear pools and ridges. Throughout, dubh loch systems and extensive carpets of bog mosses (*Sphagnum*) are widespread and this contrasts with the generally drier, more steeply sloping surrounding ground which rises towards the nearby hills.

The vegetation is characteristic of blanket bogs in this area and includes abundant deer-grass, heather, cotton-grass species and bog myrtle. The nationally scarce dwarf birch is also found here and is well represented throughout the site. The bog surface is rich in bog mosses, including nationally scarce species such as the hummock-forming *Sphagnum austinii*.



The blanket bog was monitored in 2004 and 2008. On both occasions the overall extent of the bog, the characteristic peatland vegetation and the surface pattern of pools and hummocks has been maintained over much of the site and the northern section of the site in being managed in a way that maintains the blanket bog. However an extensive area of blanket bog vegetation in the southern section had lost most of its *Sphagnum* moss cover in 2004 and the vegetation had not recovered in 2008. The vegetation may be being prevented from recovery due to deer trampling pressure. The condition of this particular area is causing peat erosion due to the lack of bog-moss vegetation, which means that the area is no longer 'active' blanket bog. As a result, the peat is drying and cracking during the summer months (see Figure 1). This damage to the surface of the bog in the southern section of the site has led to the blanket bog feature on this site being assessed as in unfavourable condition in both 2004 and 2008.

Golden plover and greenshank

This site provides suitable habitat for breeding waders and both golden plover and greenshank breed here in significant numbers. Both species were monitored in 2004,

when their densities were well above the average density for the peatlands of Caithness and Sutherland. Both the golden plover and greenshank features were assessed as being in favourable condition.

Other interests

This site also provides habitat for internationally important populations of upland birds such as dunlin and wigeon as well as for otters which are found in the peatlands of Caithness and Sutherland.

Past and present management

The two sections of the SSSI form a component of one Estate which, although it does run some sheep, is primarily a sporting estate. Deer have unrestricted access across both parts of the site. Sheep only have access to the northern part of the site but tend not to use most of this area because of the wet ground. As the land is relatively low lying it is used little for stalking.

Muirburn has been used in the past to stimulate growth for grazing and may well have contributed to the loss of *Sphagnum* moss cover over the damaged area in the southern part of the site. Current trampling by deer in this area is exacerbating the problem. Careful management of deer in this vicinity is needed now to prevent the site from deteriorating further and to reduce trampling impacts to acceptable levels where the promotion of bog-moss growth can occur again. Some peat cutting has occurred in the past at the roadside at the northern section. ATVs are occasionally used for collecting deer carcasses or crossing to other areas.

The northern section is next to Rimsdale plantation. There is some risk of colonisation by self sown non-native conifer tree seedlings and a small risk of fire spreading from the forest to the blanket bog. The plantation also acts as a refuge for crows and foxes which are a potential threat to ground nesting birds. The plantation may also affect the hydrology of the peatland adjacent to the plantation. A public road follows the boundary of the northern part of the site. Private tracks allow easy access to the southern part of the site.

The entire site is currently covered by a Peatland Management Scheme (PMS) agreement, which provides an incentive for good conservation management. In the case of Badanloch Bogs SSSI, good conservation management consists mainly of allowing natural processes to continue with minimal intervention or disturbance. The PMS agreement covers agricultural and sporting management on the site and identifies areas in which stock and deer feeding can take place in a way that should reduce the impact of deer trampling upon the site. The PMS agreement for this site includes an agreement that no muirburn will take place. The number of sheep grazing the site is kept within agreed limits. The PMS agreement also encourages land managers to minimise use of ATVs, keeping to drier ground and avoiding sensitive wet areas rich in *Sphagnum* moss.

There are no specific facilities for visitors and the few people who visit the area generally stay on roads or tracks that lie adjacent to the site, rather than entering the site itself.

Objectives for Management (and key factors influencing the condition of natural features)

We wish to work with land managers to protect the site and to maintain and where necessary enhance its features of special interest. SNH aims to carry out site survey, monitoring and research as appropriate to increase our knowledge and understanding of the site and its natural features and monitor the effectiveness of the management agreement.

The EU Habitats and Birds Directives oblige Government to avoid, in SACs and SPAs, the deterioration of natural habitats and the habitats of species, as well as disturbance of the species for which the areas have been designated, where such disturbance could be significant in relation to the objectives of these Directives. The objectives below have been assessed against these requirements. All authorities proposing to carry out or permit to be carried out operations likely to have a significant effect on the European interests of this SSSI must assess those operations against the relevant Natura conservation objectives (which are listed on our website through the SNHi - SiteLink facility).

A list of Operations Requiring Consent forms part of the formal notification documents of the SSSI. These, and the discussions on land management involved in the issuing of formal consents, are intended to minimise the threat of any damage to the natural features.

1. To maintain the condition and extent of the peatland habitats.

Blanket bog depends on a continuous cover of special bog-moss vegetation (see fig. 2 above) which continues the peat-forming process and protects the underlying body of peat. Damage to the moss cover exposes the peat surface to erosion from extremes of weather (drying, frost, wind and water) and trampling from animals, which has occurred to part of this site.

To help restore this site so that the vital bog-moss cover begins to re-form, the trampling pressure from red deer will need to be reduced or totally removed from the southern part of the site. This can be achieved by implementing a Deer Management Plan. Such a plan should take into consideration local deer movements, size of hefts, feeding practices, and annual stalking requirements with a view to reducing localised trampling impacts to blanket bog vegetation. The key issue to address is deer tracking (i.e. movement of deer across the bog), rather than deer grazing. Deer fencing on open ground is another option, but one which is less desirable due to displacing deer trampling impacts to other areas and the risk of bird strike to grouse and other moorland birds. Aesthetically, a deer fence is also likely to be a less attractive option for bog management as the part of the SSSI requiring management lies in full view of Badanloch Lodge used by owners and guests of the estate.

Some grazing of peatland habitats is beneficial, but sheep and deer stocks should be maintained at levels which result in no obvious damage to this vegetation from excessive grazing or trampling. Livestock numbers on areas covered by the Peatland Management Scheme should not exceed the agreed stocking levels.

Use of vehicles can also cause damage. Off established tracks, only low ground pressure vehicles should be used and care should be taken in their use. The choice of

route is important: soft ground, sharp turns and areas where erosion is beginning to start should be avoided as any bare peat can be very slow to revegetate.

Muirburn in areas covered by a management agreement (such as a Peatland Management Scheme agreement or Rural Development Contract) must follow the agreed muirburn plan. Outwith areas covered by a management agreement, any muirburn should be carried out following the Muirburn Code which recommends avoiding the burning of blanket bog and deep peat. When the PMS ends SNH would recommend an SRDP application for continued funding of conservation management of this site.

It is important to maintain the natural water table in peatland habitats so no new drains should be made, nor existing ones cleared. It would be beneficial to block old drains that are still active as these drains alter the natural water table and dry out the peat either side of the drain. They will also continually cut down through the peat until the underlying mineral layer is reached creating further bare peat erosion surfaces.

Peat cutting for domestic purposes can be carried out without damaging the blanket bog by continuing to cut from existing banks, replacing the turf with the vegetation upwards as soon as possible. This will allow new peat to start to form again in the area that has been cut and minimise drying out of the bog. SNH should be consulted before any new peat banks are opened since careful positioning of peat banks is needed to ensure that large areas of blanket bog are not accidentally damaged by altering drainage patterns.

2. To maintain the water levels, water quality, extent and distribution of the clear water lochs and dubh lochans

Management in the areas around lochs should avoid activities that would release sediment, excessive nutrients or chemicals into the water. Activities that might alter water levels of lochs should be avoided. This objective can readily be achieved by maintaining the present management of lochs that allows natural processes to continue with minimal intervention or disturbance.

3. To avoid significant disturbance of the breeding bird populations.

Disturbance can reduce the breeding success of nesting birds. It is important that any potential activities on the site are carefully planned to safeguard nesting birds, in particular between April and June. Some uncommon species are protected by special legislation. Their nests should not be disturbed during the breeding season.

Bird eggs and chicks are vulnerable to predation. Foxes, crows and mink are potential predators of eggs or young. Legal control of these species as part of general estate management is likely to be beneficial to breeding birds.

4. To maintain suitable otter habitat and access routes for otter across the site and avoid activities that might disturb otters.

This objective can also be achieved by maintaining the present management that allows natural processes to continue with minimal intervention. Otter holts and other resting places should remain undisturbed. To safeguard the food supply of otters, water quality in burns, rivers and lochs should be maintained by avoiding activities that might add excess chemicals, nutrients or sediment. If any management is planned that might affect banks or piles of boulders where there could be otter holts, advice should be sought from SNH on how to avoid

impacts on otters. Any fencing on the site that is likely to cross otter routes should have mesh with a large enough gauge to allow otters to pass through.

Other factors affecting the natural features of the site

- Forestry: Tree seedlings could potentially spread into the SSSI from the adjacent coniferous plantations damaging the blanket bog habitat. Forestry could also influence the hydrology of the peatland adjacent to the plantation, water flow rates and water quality in burns downstream of plantations. It may also influence breeding bird populations near plantations.
- Egg collecting: Some of the rare birds that breed on Badanloch Bogs SSSI are potential targets for illegal egg collecting. Any suspicious activity and description of cars and registration plates should be reported to the Police as soon as possible.

Date last reviewed: 27 August 2009

Annex 1. List of natural features of overlapping Natura and Ramsar sites that are not notified features of Badanloch Bogs SSSI

Features of overlapping Natura/Ramsar sites that are not notified as SSSI natural features	Feature condition (date monitored)	Designation (SPA, SAC or Ramsar)
Acid peat-stained lakes and ponds (dubh lochans)	Favourable, maintained (August 2004)	SAC
Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels	Favourable, maintained (July 2004)	SAC
Depressions on peat substrates	Favourable, maintained (August 2004)	SAC
Very wet mires often identified by an unstable 'quaking' surface (ladder fen)	Favourable, maintained (August 2004)	SAC
Wet heathland with cross-leaved heath	Not assessed	SAC
Breeding bird assemblage	Not assessed	SPA
Black-throated diver	Favourable, maintained (July 2004)	SPA
Common scoter	Favourable, maintained (August 2004)	SPA
Dunlin	Favourable, maintained (July 2004)	SPA, Ramsar
Golden eagle	Favourable, maintained (July 2003)	SPA
Greylag goose	Not assessed	Ramsar
Hen harrier	Favourable, maintained (June 2003)	SPA
Merlin	Favourable, maintained (July 2004)	SPA
Red-throated diver	Not assessed	SPA
Short-eared owl	Not assessed	SPA
Wigeon	Not assessed	SPA
Wood sandpiper	Favourable, maintained (June 2004)	SPA
Marsh saxifrage	Not assessed	SAC
Otter	Favourable, maintained (October 2004)	SAC

Note - The list of features of overlapping Natura and Ramsar sites includes habitats and species found in the whole of the Caithness and Sutherland Peatlands SAC, SPA and Ramsar site. Some of these features may not be present on Badanloch Bogs SSSI and the presence of some species may vary from year to year.