

STRATHMORE PEATLANDS
Site of Special Scientific Interest

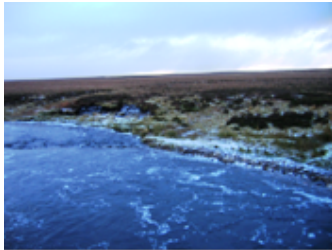
SITE MANAGEMENT STATEMENT

Site code: 1492

The Links, Golspie Business Park, Golspie, Sutherland, KW10 6UB.
Tel. 01463 701608

north@nature.scot

Purpose



This is a public statement prepared by NatureScot 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 Strathmore Peatlands SSSI	Condition of feature (and date monitored)	Other relevant designations
Blanket bog	Favourable, maintained (May 2002)	Special Area of Conservation (SAC), Ramsar
Breeding bird assemblage	Favourable, maintained (June 2015)	
Common scoter, breeding	Unfavourable, declining (August 2013)	Special Protection Area (SPA), Ramsar
Dunlin, breeding	Favourable, maintained (June 2015)	SPA, Ramsar
Golden plover, breeding	Favourable, recovered (June 2015)	SPA, Ramsar
Greenshank, breeding	Favourable, recovered (June 2015)	SPA, Ramsar
Wigeon, breeding	Favourable, maintained (July 2007)	SPA, Ramsar
Water beetle <i>Oreodytes alpinus</i>	Favourable, maintained (July 2010)	Ramsar

See Annex 1 for a list of natural features of overlapping European and Ramsar sites.

Description of the site

Strathmore Peatlands Site of Special Scientific Interest (SSSI) covers an extensive area of blanket bog in central Caithness. The site is nationally important for blanket bog, breeding birds and a rare species of water beetle. Common scoter, dunlin, golden plover, greenshank and wigeon are particularly important due to the significant

proportion of the British populations of these species that breed on this site.

This site forms part of the internationally important peatlands of Caithness and Sutherland which is one of the most extensive areas of blanket bog in the world. These peatlands include internationally important terrestrial and aquatic habitats which in turn support 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 promoting land management that maintains the peat-forming process makes an important contribution to reducing Scotland's carbon emissions, helping to combat climate change. Undisturbed peatlands also offer a buffer against floods and droughts further downstream by soaking up water during heavy rainfall and releasing it gradually during dry weather.

Strathmore Peatlands SSSI forms part of the Caithness and Sutherland Peatlands SAC, SPA and Ramsar site. The site also forms part of the headwaters of the River Thurso SAC, which has an internationally important population of salmon. A list of the habitats and species that are protected by each of these designations can be found in Annex 1.

The site was extended in 2022 to include areas where blanket bog is being restored following the felling of conifer plantations.

Blanket bog

This site has gentle gradients with several large lochs at the northern end of the site (110 - 140m altitude), but rises more steeply to the south to form a line of low hills above 200m altitude. The site is mostly underlain by Old Red Sandstone. Deergrass, heather and common cottongrass are the most widespread and abundant species on the blanket bog, with cross-leaved heath and hare's-tail cottongrass locally important. Unlike those sites with a more complex geology and topography, here the combination of landscape, vegetation and bog hydrology produces relatively few variations in bog formation.

The blanket bog was monitored in 2002. The extent of the blanket bog had been maintained since previous monitoring visits and plant species typical of this habitat including *Sphagnum* mosses, heather, bearberry, sundew and bogbean were found on the site. The full range of structural features found on blanket bogs including ridges, hollows, hummocks and pools were located within the site. No significant damage to the blanket bog was noted. Peat cutting had taken place only within an area agreed and there was no evidence of recent burning. Active drains are present on the site, but their effect is generally limited to vegetation close to the channel. Signs of deer were noted across the site and their impact was judged to be low to moderate. Heavy deer tracking was only seen in a few places, often associated with fence lines. Damage from heather beetle was widespread on the site, but the vegetation is expected to recover from this. Overall the blanket bog was found to be in favourable condition.

We checked site management during site visits in July 2014 and May 2015. No obvious damage had occurred to the majority of the habitat that we visited and management appeared appropriate. Seedling conifers from nearby plantations will need to be removed from parts of the site to prevent them from damaging the site in

future. The vegetation in the area where the habitat had been damaged by explosives testing in 2011 at Balavreed appeared to be recovering. Part of the site was damaged by fire in 2019. Levels of deer and livestock need to be minimised in this area for a number of years whilst the vegetation recovers.

Birds

The blanket bog and associated habitats provide breeding and foraging areas for a range of moorland bird species. Waders such as greenshank, dunlin and golden plover nest on the bog and are particularly drawn to wet areas around pool systems. Raptors including hen harrier, merlin and short-eared owl can regularly be seen hunting over the area. A number of large lochs are included within the site and these support breeding populations of waterbirds such as black-throated diver, red-throated diver, wigeon and common scoter.

Monitoring of the bird features (except common scoter) on the site in 2015 found them all to be in favourable condition. A diverse range of breeding birds were recorded on the site. Walkover surveys were conducted over part of the site to monitor the densities of breeding waders. The densities of dunlin, golden plover and greenshank were all found to be above average for peatlands in Caithness and Sutherland. Common scoter and wigeon populations on Strathmore Peatlands were assessed using data supplied by the RSPB. Wigeon numbers had been maintained from previous surveys, although common scoter was found to be declining

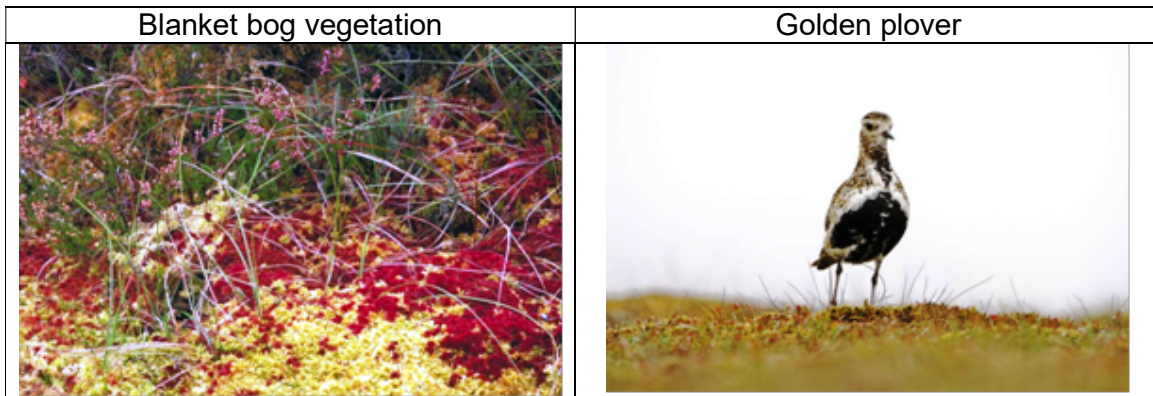
The “unfavourable” condition of the common scoter population on this SSSI mirrors the overall condition of the SPA scoter feature, and a 63% decline in the UK population of breeding common scoters between 1995 and 2007. The reasons for the decline are not yet clear, but poor productivity appears to be a key factor affecting the breeding population. RSPB are currently researching this. Depending on the outcomes of this research, changes to management may be required.

Water beetle

The nationally rare water beetle *Oreodytes alpinus* is found within Strathmore Peatlands SSSI. The entire British population of this species is restricted to a small number of lochs in Caithness and south-east Sutherland. During monitoring in 2010, *Oreodytes alpinus* was recorded at sampling locations on Loch More and Loch Gaimeimh. Individuals of this species were plentiful along the wave-exposed shores of these lochs. The loch habitats appeared suitable for this species and no adverse impacts or obvious threats to the loch habitat or species were noted. Overall the *Oreodytes alpinus* population was found to be in favourable condition. Site management continued to be suitable for *Oreodytes alpinus* when we visited the site in 2014.

Other interests

A variety of other communities complements the abundance and extent of blanket bog vegetation. Wet and dry heath are associated with the better drained slopes, flushes where there is local water movement and grassland along the burn-sides. Areas of grassland are also associated with former improvement around now derelict human settlements. These areas provide important habitat for feeding waders, particularly golden plover. The River Thurso flows through this site and an internationally important population of Atlantic salmon is found within this river. Otters feed and may also breed within the site.



Past and present management

The site is mainly managed for deer stalking and nature conservation. A significant part of the site is owned by the RSPB and the RSPB also have a management agreement with the owner that covers other parts of the site. Sheep graze the eastern part of the site and cattle occasionally graze the site along the banks of River Thurso. Grouse and wildfowl shooting occurs at low levels on the bogs and lochs.

Muirburn has been carried out in the past, whilst most of the site has benefited from a reduction in burning, part of the site was damaged by fire in 2019. Levels of deer and livestock need to be minimised in this area of a number of years whilst the vegetation recovers. Low ground pressure vehicles are used occasionally on the site, primarily for deer carcass removal. Vehicle use needs to be avoided if possible in the area recovering from the 2019 fire.

Trout and salmon fishing takes place from banks and boats on many of the lochs within the site and along the River Thurso. The water level of Loch More is regulated by a dam on its eastern outflow into the River Thurso. A fish pass allows the upstream movement of migratory fish into the loch.

The site was extended in 2022 to include an area where conifer plantation was felled in the early 2000s with the aim of restoring blanket bog. Ongoing management is needed in this area including control of conifer regeneration and furrow blocking. Ongoing management is also needed in areas close to plantations in the north of the site to remove conifers that have self-seeded into the blanket bog.

The RSPB undertakes regular and detailed monitoring of the bird populations and vegetation across a significant part of the site. The RSPB has also blocked a large number of hill drains with peat and pile dams to restore the water table of the blanket bog which will allow the peat-forming process to continue. Peatland ACTION and the Agri-Environment Climate Scheme (AECS) schemes provides financial support for management which maintains and enhances the condition of the notified features, for example re-wetting the peatland by blocking drains.

A small number of people visit the site, usually accessing it via the road between Westerdale and Loch More. A long distance walking, mountain biking and horse riding trail also runs through the site along the forestry tracks between Loch More and Forsinain. The majority of people who see this site probably do so from the train as the railway line passes along the site boundary.

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. NatureScot 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 to monitor the effectiveness of the management.

The Conservation (Natural Habitats, &c.) Regulations 1994, as amended, 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 Regulations. 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 conservation objectives (which are listed on our website through the NatureScot – 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 enhance the condition, extent and distribution of the peatland habitats

Blanket bog depends on a continuous cover of *Sphagnum* moss and other special vegetation 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). Sheep and deer stocks should be maintained at levels where there is no obvious damage to the vegetation from grazing or trampling by animals.

Use of vehicles can also cause damage. Off prepared 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 must follow the agreed muirburn plan. Outwith areas covered by a management agreement, any muirburn should be carried out following the Muirburn Code, avoiding blanket bog and deep peat.

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 use can be carried out in areas close to the edge of the site that have traditionally been cut without damaging the blanket bog. The turf should be replaced vegetation-side upwards so that new peat can quickly start to be formed.

NatureScot should be consulted before opening any new peat banks since although some places are suitable for opening peat banks, in other places this could have the unintended effect of altering the drainage in substantial areas of the bog. This might lead to drying out of the bog, preventing the peat-forming process from continuing.

Restoration management will need to continue for several more decades in areas that are currently recovering to peatland from being planted with conifers. A low level of deer grazing is likely to be helpful in controlling future conifer regeneration although any larger seedlings will need to be felled, hand-pulling where appropriate. Brash crushing or brash removal in areas where there is deeper brash is also likely to be beneficial. Construction of dams to block furrows in areas where this has not already been done is also likely to speed up peatland recovery. These areas should continue to be protected from fire and from any other activities that might hinder peatland recovery.

Felling and hand-pulling of conifers that have self-seeded into the SSSI would also benefit the blanket bog in the north of the site.

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 enhance breeding bird populations and to avoid significant disturbance of birds during the breeding season

If the habitats on this site are maintained following the advice given in the two Objectives for Management immediately above, opportunities for uplands birds to breed on this site are also expected to be maintained. Disturbance can reduce the breeding success of nesting birds. It is important that any potential activities on the site are carefully planned to safeguard the nesting birds.

Red-throated and black-throated divers are particularly sensitive to human presence and, along with other uncommon species, are protected by special legislation. Their nests should not be disturbed during the breeding season since eggs may fail to hatch if they become chilled due to the parent birds being disturbed from the nest. Both eggs and young chicks are more likely to be eaten by predators if the parent birds are not there to protect them. It is important that anglers do not unintentionally disturb these birds during the period April to June, when they are nesting. Anglers should look out for divers and keep as far away from their nests as possible if fishing on larger lochs. On small lochs, anglers should move to a different loch if breeding divers are present.

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. Any known otter holts should not be disturbed. 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 NatureScot 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.

5. To maintain water quality of the River Thurso SAC for the benefit of the Atlantic salmon population

Water levels and water quality play a crucial role in the suitability of the River Thurso SAC for Atlantic salmon. Where possible, any increase in drainage, abstraction or other activities affecting the hydrology of the river catchment should be avoided. Any agriculture or forestry operations within the catchment should be carefully managed to prevent the input of sediment, chemicals or nutrients, in order to maintain the high water quality required by Atlantic salmon. Any forestry operations within the River Thurso catchment area should comply with the latest version of The Forestry Commission's '*Forest and Water Guidelines*, and the '*UK Forestry Standard: The governments' approach to sustainable forestry*'. As long as the level of Loch More is regulated by a dam, the fish pass should continue to be maintained to allow salmon access to their breeding grounds in the headwaters of the River Thurso.

6. To maintain the population and distribution of the water beetle *Oreodytes alpinus*

Continued management of the site for the blanket bog and loch habitats described above will also be suitable to maintain the population of water beetle *Oreodytes alpinus*. Water beetle will benefit from maintaining the water quality in Loch More or Loch Gaineimh where the water beetles are known to be found (for example by avoiding release of pesticides or excessive silt into the water). They will also benefit from lack of disturbance of loch margin habitat.

Other factors affecting the natural features of the site

- Forestry: Tree seedlings are spreading into the SSSI from the adjacent coniferous plantations and these will require to be controlled to prevent damage the blanket bog habitat. Forestry can also influence the hydrology of the peatland adjacent to the plantation, water flow rates and water quality in burns downstream of plantations. Birds may also be deterred from nesting near plantations.
- Egg collecting: Some of the rare birds that breed on Strathmore Peatlands SSSI are potential targets for illegal egg collecting. Any suspicious activity and description of cars and car numbers should be reported to the Police as soon as possible.

Date last reviewed: 25 August 2022

Annex 1 Natural features of other protected areas that overlap Strathmore Peatlands SSSI.

Natural features of Caithness and Sutherland Peatlands SAC, SPA and Ramsar site that overlap Strathmore Peatlands SSSI	Feature condition (date monitored)	Designation (SAC, SPA or Ramsar)
Acid peat-stained lakes and ponds (dubh lochans)	Favourable, maintained (August 2004)	SAC, Ramsar
Blanket bog	Unfavourable, no change (June 2017)	SAC, Ramsar
Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels	Unfavourable, declining (August 2015)	SAC, Ramsar
Depressions on peat substrates	Unfavourable, no change (June 2017)	SAC, part of Ramsar blanket bog feature
Marsh saxifrage	Favourable, maintained (August 2007)	SAC
Otter	Unfavourable, declining (September 2011)	SAC, Ramsar
Very wet mires often identified by an unstable 'quaking' surface (ladder fen)	Favourable, declining (June 2017)	SAC, Ramsar
Wet heathland with cross-leaved heath	Unfavourable, no change (June 2017)	SAC, Ramsar
Black-throated diver, breeding	Favourable, maintained (June 2018)	SPA, Ramsar
Common scoter, breeding	Unfavourable, declining (June 2013)	SPA, Ramsar
Dunlin, breeding	Favourable, maintained (June 2015)	SPA, Ramsar
Golden eagle, breeding	Favourable, maintained (August 2016)	SPA
Golden plover, breeding	Favourable, recovered (June 2015)	SPA, Ramsar
Greenshank, breeding	Favourable, maintained (June 2015)	SPA, Ramsar
Hen harrier, breeding	Favourable, maintained (June 2016)	SPA
Merlin, breeding	Favourable, maintained (July 2004)	SPA
Red-throated diver, breeding	Favourable, maintained (July 2006)	SPA, Ramsar
Short-eared owl, breeding	Not yet assessed	SPA
Wigeon, breeding	Favourable, maintained (June 2018)	SPA, Ramsar
Wood sandpiper, breeding	Favourable, maintained (June 2004)	SPA, Ramsar
Water beetle <i>Oreodytes alpinus</i>	Favourable, maintained (July 2010)	Ramsar

Bog orchid <i>Hammarbya paludosa</i>	Not yet assessed	Ramsar
Lindberg's bog-moss <i>Sphagnum lindbergii</i>	Not yet assessed	Ramsar
Olive bog moss <i>Sphagnum majus</i>	Not yet assessed	Ramsar
Freshwater pearl mussel <i>Margaritifera margaritifera</i>	Unfavourable, no change (April 2015)	Ramsar

Note - The list of features of overlapping European 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 Strathmore Peatlands SSSI and the presence of some species may vary from year to year.

Features of River Thurso SAC that overlap Strathmore Peatlands SSSI	Feature condition (date monitored)	Designation
Atlantic salmon	Unfavourable, recovering (October 2011)	SAC