Scottish Natural Heritage

DIN MOSS - HOSELAW LOCH
Site of Special Scientific Interest

SITE MANAGEMENT STATEMENT

Site code: 512

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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.

Description of the site

Din Moss - Hoselaw Loch Site of Special Scientific Interest (SSSI) lies about 7 kilometres southeast of Kelso, near the Cheviot foothills.

The gently sloping site comprises a raised bog to the south-west, which is one of the largest and most complete areas of raised bog in the Scottish Borders, and a loch to the north-east, which provides a winter roost for a population of greylag geese. The site is a nationally important geological location for Holocene vegetation history.

Din Moss is an important reference site for studies of vegetation history and environmental change. It is the only site from south-east Scotland and the northernmost part of England with a detailed, radiocarbon-dated record. Although the record extends back into the Lateglacial Interstadial, to c. 14,500 years ago, Din Moss is particularly relevant for studies of Holocene vegetation history and forms part of a national network of sites which together show the temporal and spatial patterns of postglacial vegetation change. Din Moss is particularly important in showing the timings of arrival and expansion of different types of woodland in the area. It is noted for the relatively early expansion of birch, the long and protracted expansion of oak and the late expansion of alder; pine, however, was never a significant component of the local forest vegetation.

Hoselaw Loch is a shallow, eutrophic (naturally nutrient-rich) loch lying at mid-altitude (approximately 180 metres above sea level). The open water of the loch supports a limited but characteristic range of aquatic vegetation including spiked water-milfoil and amphibious bistort while the loch margins support a thin belt of emergent vegetation including reeds and bulrush species. The habitats around Hoselaw Loch show how

vegetation communities change from open water body to woodland and bog, with a range of wetland communities developing along the way including floating and emergent aquatic plants; poor and rich fen; sedge swamp; reed swamp; and wet woodland.

Din Moss is one of the largest and most complete areas of raised bog in the Scottish Borders but shows signs of drying out due to active drainage channels. The bog margins (or lagg) are well-wooded and trees are encroaching onto the main expanse.

Hoselaw Loch is a historical winter roost for greylag geese *Anser anser*. In 1988, the site was classified as Din Moss – Hoselaw Loch special protection area (SPA) under the European Birds Directive and as a Ramsar site for both species. There has been a dramatic decline in geese numbers at the Loch since the late 1980s which highlights the annual variations in abundance and distribution observed in southern Scotland and the overall population trend increasing south of the Border.

In addition to the above notified features, the site also supports an area of open wet grassland at its southern end. A diverse range of plants occurs here, including sedges, meadowsweet, angelica, valerian, marsh cinquefoil and marsh marigold.

The condition of the Quaternary of Scotland geological feature has not been assessed but is considered to be in good condition based on the site documentation in the Geological Conservation Review Report.

The 2004 site condition monitoring (SCM) assessment of the raised bog feature found it to be in unfavourable and declining condition as it appears to be drying out. This is indicated by the active drainage channels; the dominance of heather on the main expanse of the bog and the relatively low abundance of bog mosses (*Sphagnum* species); and the encroachment of trees (mainly pine and birch) from the well-wooded lagg onto the main expanse.

The 2004 SCM assessment of the eutrophic loch feature found it to be in favourable condition but at risk of deterioration as a result of increasing nutrient and siltation levels caused by human activity. The catchment area (outwith the SSSI) consists of arable fields to the north-west which are grazed during parts of the year, a mixed woodland plantation at the north end of the loch and rough pasture along the south-east boundary. The SCM survey found that the range of naturally occurring species appeared to be shifting towards those which favour higher nutrient status such as common duckweed, fennel pondweed and algae. It is likely that nutrient and herbicide run-off from the arable fields has influenced the natural vegetation communities within the SSSI. Siltation rates may have been increased as a result of poaching damage which has occurred at the loch edges and there has also been some dumping of rubble on the southern banks.

The 2003 SCM assessment of the greylag goose wintering population found it to be in unfavourable condition although the causes for this decline are unclear. The greylag population has not reached qualifying levels for SPA status since the winter of 1996/7 and the pink-footed geese have not reached qualifying levels since 1999/2000. This feature is therefore considered unfavourable for both species. Another survey is

scheduled for the winter of 2010/11 and this will provide an opportunity to assess whether the trend has continued.

Natural features of Din Moss - Hoselaw Loch SSSI	**Condition of feature** (and date monitored)	**Other relevant designations**
Quaternary of Scotland	No current assessment	
Raised bog	Unfavourable, declining (August 2004)	
Eutrophic loch	Favourable, declining (June 2004)	
Greylag geese (*Anser anser),* non-breeding	Unfavourable, no change (February 2003)	Din Moss-Hoselaw Loch SPA

Features of overlapping Natura sites that are not notified as SSSI natural features	**Condition of feature** (date monitored)	**SPA**
Pink-footed geese (*Anser brachyrhynchus),* non-breeding	Unfavourable, no change (February 2003)	Din Moss-Hoselaw Loch SPA

Pink-footed geese	Hoselaw Loch
	

Past and present management

Din Moss - Hoselaw Loch SSSI shows signs of a long association with human activity. The pollen record indicates that arable farming arrived in the area around 5,000 years ago, and there is evidence of more recent peat cutting on the bog.

The north-east end of the site, including all of Hoselaw Loch and part of Din Moss, has been occupied by the Scottish Wildlife Trust (SWT) since 1972 and is run as an unstaffed nature reserve. There is little active management of any part of the site though SWT built 3 stone promontories around the western edge of the loch in the 1970s to encourage greater duck breeding numbers.

There are three owners of the raised bog with SWT occupying the northern portion. At

present there are no internal fences and the perimeter fence is in poor condition. The bog has not been grazed since at least 1998 when stock were excluded from most of the southern section and adjacent ground under the terms of a Countryside Premium Scheme (later a Rural Stewardship Scheme). This scheme expired in 2007 but the site remains ungrazed.

A number of drainage channels cross the bog and, while these are not actively maintained and some have begun to revegetate, others are still effectively draining the bog. As a result of the lowering of the water table and lack of grazing, heather has become rank and has begun to dominate the shrub vegetation across the bog and trees have begun to encroach from the well-wooded lagg. From 2008, SWT have been removing the tree cover from the area they occupy, concentrating on the main expanse of the bog.

SWT have also installed some ditch dams along their south-west boundary and plan to carry out further ditch damming in the future.

Future funding for positive management measures is likely to be available through Rural Development Contracts (RDCs), which are run under the Scotland Rural Development Programme (SRDP)(available 2007-2013).

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

We wish to work with the owners and occupiers 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.

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, in so far as 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).

1. **To improve the condition of the raised bog by restoring the water level, reintroducing grazing and controlling grazing levels, heather cover and scrub encroachment.**

   It is essential that water levels within the main expanse of the bog are raised to improve the condition of the bog habitat. Old ditches on the central expanse of the bog should continue to be left to re-vegetate and further ditch blocking should be employed. Management of drainage to address flooding issues on the margins of the bog must be carried out in a sustainable manner so as not to

impact on the water table elsewhere.

The reintroduction of a light grazing regime should assist in redressing the imbalance between heather and the other bog vegetation. Heather is a typical component of raised bog vegetation but too much of it reduces the opportunities for other flowering plants and bog mosses to grow. However, grazing levels need to be controlled at appropriate levels to ensure the bog surface does not become damaged through poaching. New stockproof fencing and stock bridges will be required and should be maintained around and within the SSSI to control grazing on the bog. Cutting of heather tracks would help to spread grazing across the bog.

The areas of birch and pine scrub developing on the main expanse of the bog should be removed as they will result in the further modification of the vegetation in these areas (in particular the loss of bog mosses) through shading and nutrient enrichment from the accumulation of fallen leaves. A high density of scrub on a bog also causes the bog to dry out through evapo-transpiration and interception of rainfall. The reintroduction of sheep grazing will discourage tree regeneration and raising the water table will also help contribute by discouraging seed germination. The lagg wood can be retained at this stage but will have to be monitored to ensure that regeneration onto the bog itself does not continue.

2. **To maintain the condition of the eutrophic loch and the full range of its associated wetland habitats, including the open water body; poor and rich fen; sedge swamp; reed swamp; and wet woodland, and improve their condition where possible** by ensuring water levels within the site remain at appropriate levels and where possible, ensure that the nutrient and sediment input from the catchment area remains low.

   The water level within the loch should be maintained at least at current levels where possible to safeguard the aquatic and marginal wetland communities and further water extraction should be avoided. The plant communities of the SSSI depend on a stable supply of water from the surrounding catchment. Water enters the site from springs and general seepage from the surrounding slopes and the land use within the catchment area is therefore highly influential in determining both the nutrient content of the water entering the site and the level of sediment input. Nutrient and sediment input caused by human activity should be kept to a minimum so as to avoid accelerating natural succession.

3. **To restore and maintain the wintering populations of greylag and pink-footed geese at sustainable levels** by minimising disturbance and maintaining the habitats as above.

   Disturbance to the bird populations should be avoided in order to maximise the opportunities for the populations to recover. This is particularly critical during the winter months of October to March.

4. **To maintain access to the geological interests of Din Moss.**

   The geological interests need no management and will remain intact so long as

the Moss's peat deposits are not dug out, cut over or otherwise seriously disturbed.

Other factors affecting the natural features of the site

Water Quality: The catchment area of Hoselaw Loch is under separate management from the SSSI and therefore the managers of the loch (SWT) do not have any direct control over the quality of water entering the SSSI from the catchment. As mentioned above, funding for sympathetic management of the catchment area e.g. the establishment of buffer strips, may be available through Rural Development Contracts run under the Scotland Rural Development Programme (SRDP). Grazing animals in the fields adjacent to the loch (i.e. outwith the SSSI) have access to the loch side, which has resulted in localised poaching at the loch edge. In the past, rubble has been deposited near the loch edge.

Water extraction: Extraction of water exacerbates the heightened nutrient levels within the loch and may also contribute towards further drying out of Din Moss.

Date last reviewed: 15 February 2011