Scottish Natural Heritage
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LOCH HEILEN
Site of Special Scientific Interest

SITE MANAGEMENT STATEMENT

Site code: 989

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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 Loch Heilen SSSI	Condition of feature (date monitored)	Other relevant designations
Mesotrophic loch (a loch with a moderate level of nutrients)	Favourable, maintained (July 2004)	
Greenland white-fronted goose *Anser albifrons flavirostris*, non-breeding	Favourable, maintained (March 2002)	Special Protection Area (SPA), Ramsar
Greylag goose *Anser anser*, non-breeding	Favourable, maintained (February 2009)	SPA, Ramsar
Whooper swan *Cygnus cygnus*, non-breeding	Favourable, maintained (March 2008)	SPA, Ramsar

Description of the site

Loch Heilen Site of Special Scientific Interest (SSSI) is located 6km east of Castletown, Caithness. The site is nationally important for the loch habitat and the populations of greylag goose, whooper swan and Greenland white-fronted goose that roost on the loch over winter. The loch is around 70ha in size and is surrounded by wet grassland and small areas of fen, swamp and flush. Loch Heilen is one of seven sites in Caithness that form the Caithness Lochs Special Protection Area (SPA) and Ramsar sites and which together support internationally important wintering populations of Greenland white-fronted goose, greylag goose and whooper swan.

Mesotrophic loch

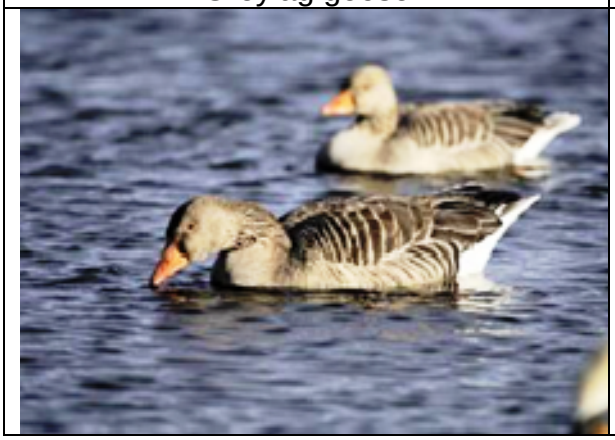
Loch Heilen is a mesotrophic loch, which means that it has an intermediate level of nutrients and productivity. This contrasts with most other Caithness lochs which

generally have lower nutrient levels. Loch Heilen has been partially enriched by calcium-rich shell sand, blown from Dunnet Bay. It is a relatively shallow loch, mainly less than 1.5m deep, surrounded by wet grassland with some fen vegetation around the loch margin. Loch Heilen has an interesting flora including slender leaved and perfoliate pondweeds, shoreweed and alternate water-milfoil. The nationally rare narrow small-reed grows on the margins of the loch.

The loch was monitored in summer 2004 and the loch habitat was assessed as being in favourable condition. The area of the loch was similar to that in previous surveys and the characteristic aquatic plants were present. No invasive species were recorded.

Greenland white-fronted goose, greylag goose and whooper swan

Loch Heilen is a component of the Caithness Lochs Special Protection Area (SPA) and Ramsar sites which supports internationally important wintering populations of whooper swan, Greenland white-fronted goose and greylag goose. This site lies close to the northern most limit of these species' wintering distribution and it is therefore important for the maintenance of the wintering population and range. The Greenland white-fronted geese that roost on Loch Heilen are one of only two flocks in the north of Scotland. This species often feeds during the day on fields close to the loch, whereas greylag goose and whooper swan spend the night on the loch and then move to other parts of Caithness to feed during the day.

Greylag goose	Whooper swan
	

Roosting Greenland white-fronted goose, greylag goose and whooper swan are counted each winter by volunteers at Loch Heilen. SNH has assessed the count data for the winters between 1998 and 2002 for Greenland white-fronted goose, 2003-2007 for whooper swan and 2005-2009 for greylag goose. We compared bird numbers during these periods with those recorded during previous monitoring. All three species were assessed as being in favourable condition.

Whooper swan numbers had increased considerably to an average of 145 birds (up from an average of 72 during the baseline period). Greenland white-fronted geese had increased slightly to an average of 203 birds (up from 195). Although the average number of greylag geese had declined to 1047 birds (down from 1810 birds), numbers were still greater than the minimum threshold for favourable condition (905 birds). The decline in greylag goose numbers may be because more geese are opting to overwinter in Orkney rather than Caithness.

Other interests

Large numbers of other species of wildfowl use the site in winter including teal, wigeon, pochard and goldeneye. The site is also of local importance for breeding birds.

Past and present management

Loch Heilen SSSI is primarily used for agriculture and recreation. The ground around the loch provides grazing for cattle and sheep at certain times of the year, and is also used for horse riding.

The loch itself is managed as a commercial trout fishery by the Loch Heilen Improvement Association (LHIA). The LHIA have stocked the loch with locally reared trout in the past and have upgraded facilities for anglers including car parks, boardwalks and picnic benches. Other land management activities include maintenance of existing drains and use of farm vehicles. The feeder burn, which is a trout spawning ground, has been subjected to some land drainage work in the past to try to promote natural spawning.

Until 2004, part of the site was covered by a Management Agreement between the landowner and SNH which minimised wildfowling and allowed the land to be grazed from May to November to protect the features of interest. These Management Agreements have now been replaced by Rural Development Contracts - Rural Priorities (RDC-RP). RDC-RP include financial incentives for a range of management options which maintain and enhance the condition of wetland sites. Land managers on the site are encouraged to apply to RDC-RP to continue to receive funding for the conservaation management of the site. RDC-RPs are awarded on a competitive basis to ensure that contracts are given for proposals that are best able to deliver good conservation management.

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 to monitor the effectiveness of its 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, 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).

The list of Operations Requiring Consent, 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, distribution and extent of the freshwater and loch side habitats

Water levels and water quality play a crucial role in the condition of wetland habitats and if these are maintained, then little active management is needed for this site at present. Any increase in drainage, abstraction or other activities affecting the hydrology of the site and the wider Loch Heilen catchment should be considered carefully to ensure that the high water table is maintained. Agriculture and forestry operations within the hydrological catchment should be carefully managed to prevent the input of excess chemicals, nutrients or sediment into watercourses in order to maintain the mesotrophic status required by the vegetation. Any enrichment of the loch would be inappropriate since this would be likely to alter the ecosystem of the loch, possibly causing the loss of the rare plants that grow here and changes in other aquatic life. Drier areas at the edge of the site would benefit from light grazing that ensures that tall, rank vegetation does not overwhelm smaller plants. Grazing levels should be light enough however to allow plants to flower and set seed. Stocking levels and use of the site for horse riding should also be low enough to avoid extensive poaching of the ground.

As the loch is used for fishing it is important to guard against any pollution from this activity. Outboard motors should be well maintained to avoid water contamination from leakages or spillages. Old fishing line should be removed as it could entangle birds if it were to be left on the site.

Controls over potentially damaging changes in management of lochs and streams are covered by the Controlled Activities Regulations (CAR) which is regulated by Scottish Environment Protection Agency (SEPA). The booklet 'Controlled Activity Regulations: a Practical Guide' can be downloaded from the SEPA website at http://www.sepa.org.uk/water/water_publications.aspx
The guidelines in these regulations need to be followed if any works are planned in or around Loch Heilen.

2. To maintain the populations of wintering geese and swans

This objective can be met if the habitat is maintained following the advice given in the objective above and there is no significant disturbance of the birds. Disturbance can affect overwintering birds and any management activities on or around the site should be planned to minimise disturbance.

Wintering geese and swans may be present in Caithness between late September and late April. The exact dates that these birds arrive in Caithness in autumn and leave again in spring, varies from year to year, depending on the weather at their breeding grounds in Iceland and Greenland, as well as the weather in Caithness. Wintering geese use Loch Heilen mainly for roosting overnight so it is important to avoid disturbance between dusk and dawn. Greenland white-fronted geese can spend the whole day foraging near Loch Heilen as well as roosting here, so any activities during the winter should be planned to avoid disturbance to these birds.

The fishing season on Loch Heilen runs from 1 April to 6 October. If any geese or swans are present on the loch during the fishing season, care should be taken not to disturb these birds. This is only likely to happen during the early or late part of the fishing season.

Greylag geese are legal quarry between 1 September and 31 January (other than on Sundays or during cold-weather bans on wildfowling). However other species that roost here in winter – Greenland white-fronted goose and whooper swan – are not legal quarry (see BASC Guide to Quarry identification below). SNH discourages shooting of greylag geese that would disturb the protected Greenland white-fronted goose and whooper swan. SNH recommends that the "British Association of Shooting and Conservation's Code of Practice for sporting agents and guides offering inland goose shooting" should be followed and that any wildfowling should be carried out infrequently, with every effort made to avoid disturbance to non-quarry species. Consent is needed from SNH before any wildfowling is carried out on the site.

Other factors affecting the natural features of the site

The breeding success of the geese and swans that winter on this site is likely to affect the number of birds wintering here. If the overall populations of geese and swans fall due to lower breeding success, fewer birds are likely to overwinter at Loch Heilen.

Wildfowling outwith Loch Heilen SSSI may affect the number of greylag geese that overwinter on the site since the overall population of this species is likely to increase if fewer birds are shot and decrease if more geese are killed by wildfowlers. If the overall population of greylag geese changes, the number of birds overwintering at Loch Heilen is also likely to change.

Climate change and northward shift in greylag geese

Climate change could alter the distribution of wintering geese and swans in unpredictable ways. Recent research has suggested that the Scottish population of Icelandic greylag geese is moving northwards and favouring Orkney as a wintering ground (for more details see the report by Trinder (2010)). The reason for this is currently unknown but could be a result of comparatively milder winters or lower shooting pressures in the north. This northward shift may result in greater numbers of birds wintering in Caithness from sites further south, or conversely, if the birds continue to favour wintering in Orkney there could be fewer birds wintering in Caithness. Very cold conditions cause the water to freeze at Loch Heilen (due to its shallow depth), encouraging geese and swans to seek unfrozen water elsewhere in Caithness, for example at Loch Calder.

Date last reviewed: 18 November 2010

Reference

Trinder, M. (2010). Status and Population Viability of Icelandic Greylag Geese in Scotland*. Scottish Natural Heritage Commissioned Report No.366*. This report can be downloaded from our web site http://www.snh.gov.uk/ (type 'Report 366' into the Search box and follow the links).

BASC Guide to Quarry Identification

Some Principles

Identifying your quarry is only one aspect of good shooting practice. There are many contributory factors, and understanding and applying them in the shooting field is very important, for several reasons. They will increase your success and enjoyment, keep you a responsible and considerate sportsman or sportswoman, and ensure any losses or wastage of shot birds and animals are kept to a minimum. On the basis that you have the authority to shoot and are fulfilling all relevant legal requirements, then positively identifying your quarry is the first step. You should then take a shot only if you are sure:

- it is safe to do so
- the target is within your range
- your gun/cartridge combination is appropriate for the type and size of quarry you are shooting
- you are confident of hitting and killing the bird or animal
- you will be able to recover the shot bird or animal and, as far as possible, put it to good use.

BASC has codes of practice for all types of shooting. You are encouraged to obtain those which relate to your type(s) of shooting and be guided by the information and advice given. Do also encourage your shooting friends and associates to do the same. For the good of the sport, do not tolerate bad practice, either of your own or of others. Enjoy your shooting!

GREYLAG GOOSE

Anser anser
Size: 75–90 cm (30–35 in)

Large, big-headed, thick-necked, heavy grey goose. Head, neck and most of body uniform pale brownish-grey. Characterised by large size, heavy head and neck with stout bill, and very pale bluish-grey forewing – the latter especially distinctive in flight. Bill bright orange; legs flesh pink. Breast often spotted with black. Young birds similar to adults but generally unspotted, with greyer legs. Can be confused with Pink-footed and White-fronted Goose (protected in Scotland) especially immature birds, and Bean Goose (protected), but all these are smaller and more slightly built by comparison.

Season opens 1 September, and closes 31 January inland (other than on Sundays or during cold-weather bans on wildfowling).

Information taken from the **British Association for Shooting and Conservation (BASC) Guide to Quarry Identification** which is available to download from the BASC website.

BASC
The British Association for Shooting & Conservation

www.basc.org.uk