



**Scottish Natural Heritage**  
**Dualchas Nàdair na h-Alba**

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

**LOCH WATTEN**  
**Site of Special Scientific Interest**

**SITE MANAGEMENT STATEMENT**

**Site code: 1068**

**The Links, Golspie Business Park, Golspie, Sutherland, KW10 6UB.**

**Tel 01408 634063**

**north\_highland@snh.gov.uk**

**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.

<b>Natural features of Loch Watten SSSI</b>	<b>Condition of feature (date monitored)</b>	<b>Other relevant designations</b>
Base-rich loch (also known as 'Naturally nutrient-rich lakes or lochs which are often dominated by pondweed')	Favourable, maintained (July 2004)	Special Area of conservation (SAC)
Open water transition fen	Favourable, maintained (July 2007)	
Greylag goose, non-breeding	Favourable, maintained (March 2002)	Special Protection Area (SPA), Ramsar site

<b>Features of overlapping Natura sites that are not notified as SSSI natural features</b>	<b>Condition of feature (date monitored)</b>	<b>Designation SPA, SAC or Ramsar site</b>
Greenland white-fronted goose, non-breeding	Favourable, maintained (March 2010)	SPA, Ramsar site
Whooper swan, non-breeding	Favourable, maintained (April 2001)	SPA, Ramsar site

**Description of the site**

Loch Watten Site of Special Scientific Interest (SSSI) is located 12km west of Wick, Caithness. Loch Watten is a large, shallow, naturally nutrient-rich loch lying over Old Red Sandstone. This is the largest of a series of lochs in this part of Caithness. The site is of national importance for the wintering greylag goose population and fen vegetation and internationally important for its open water habitat. Loch Watten is one of seven sites in Caithness that form the Caithness Lochs Special Protection Area (SPA) and Ramsar site and which together support internationally important wintering populations of Greenland white-fronted goose, greylag goose and whooper swan.

### **Base-rich loch**

A wide variety of aquatic plants grow in the loch and these are typical of northern areas. These include nine species of pondweed, including the nationally rare slender-leaved pondweed and long-stalked pondweed and the locally unusual curled pondweed. Other types of aquatic plant that grow here include several species of water milfoil and stonewort.

The loch habitat was monitored in July 2004 and was found to be in favourable condition. The extent of open water at Loch Watten had been maintained since previous monitoring visits. Plant species typical of naturally nutrient-rich lochs were recorded. Reed canary-grass, common spike-rush and shore weed fringed the edge of the loch. Six species of pondweed, two species of stonewort and water milfoil were found growing in the shallower waters. These included the nationally scarce slender-leaved pondweed, and the locally rare curled pondweed and spiked water milfoil. No invasive or non-native species were recorded during the survey. The water clarity was generally good although there was a surface bloom of cyanobacteria (this micro-organism is sometimes called blue-green algae) in one area and filamentous algae were found throughout the loch. The levels of nutrients and algae were not a cause for concern in 2004. Excessive growth of cyanobacteria or filamentous algae can indicate that nutrient levels, particularly of phosphorous, are too high. Phosphorous levels were tested and were found to be at an appropriate level for a base-rich loch in 2004. Regular monitoring by the Scottish Environment Protection Agency (SEPA) has found similar levels of phosphorous in the loch between 2004 and 2010.

### **Open water transition fen**

The swamp, fen and wet meadow grassland that fringe the loch are important examples of these habitats in Caithness. The area of rich fen with alder/willow scrub at the north-western end of the loch supports a population of the nationally scarce narrow small-reed.

Monitoring carried out in 2007 found the open water transition fen to be in favourable condition. Plant species typical of fen habitats were found around the loch including meadowsweet, common reed, yellow flag iris and water horsetail. No invasive species or non-native invasive species were recorded on the site. Willow was growing on some parts of the site, but the area of willow did not seem to have increased when compared to aerial photographs from 1996. The extent of the willow should be monitored in the future as this species can become invasive on fen habitats. The current low level of management of the fen is beneficial for this habitat.

### **Greylag goose**

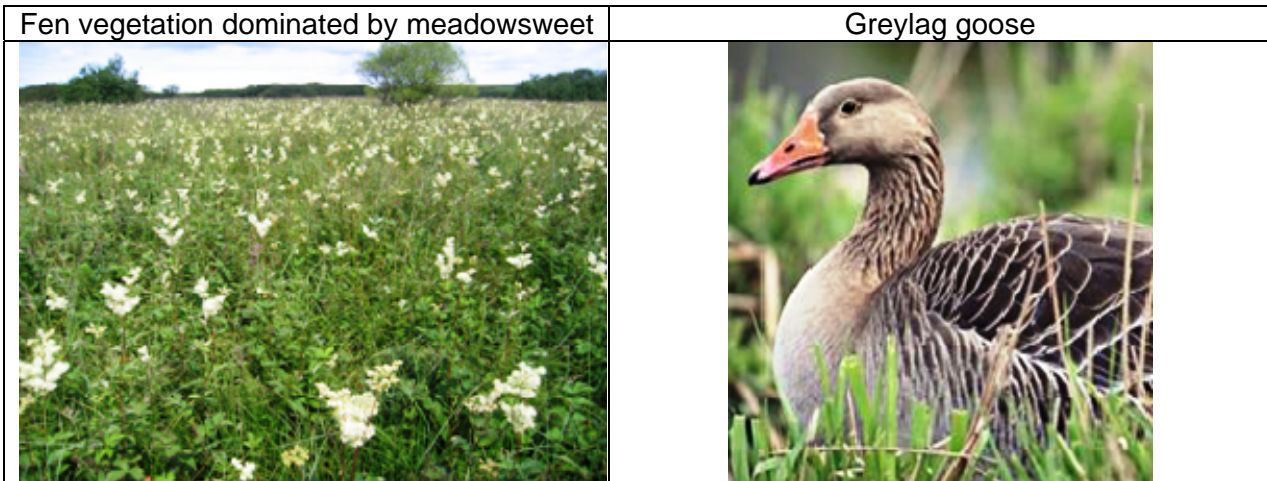
Loch Watten is one of the largest roost sites for wintering greylag goose in Caithness. The site is of national importance for wintering greylag geese, regularly supporting around 3% of the British population between late September and April. Greylag geese breed in Iceland and most of them overwinter in Scotland. Loch Watten lies towards the northern limit of this species' wintering distribution and is important for the maintenance of the species' wintering range.

Monitoring of greylag geese between the winters of 1996/97 and 2000/01 found the average peak count for this species was 3153 individuals. This is a significant increase from the average of 2614 birds recorded between 1992/93 and 1996/97. The extent of the open water habitat used by the geese appears to have been maintained since previous surveys. The greylag goose population was found to be in favourable condition.

### Other interests

Many bird species, including pochard, mute swan, teal, tufted duck, red-breasted merganser and common tern nest around the loch.

The loch contains many species of invertebrates, including snails, leeches, mayflies, caddis flies and freshwater shrimps. These provide food for a healthy trout population.



### Past and present management

During the mid to late 1800s, a small dam was installed at the eastern edge of the loch to elevate the water level to feed a mill. This has resulted in the water table now being a few feet higher than the natural level. This contrasts with the history of most of the lochs in Caithness where the water level has been reduced when land was drained for agricultural purposes.

The loch currently supports an important and popular brown trout fishery. Fishing takes place from both the bank and from boats and a number of boats are moored on the loch shore for this purpose. The loch is also used for other recreational activities during summer including windsurfing. Wildfowling takes place around the margins of the loch during the winter months. The railway line between Thurso and Wick runs along the north shore of the loch.

The land surrounding Loch Watten is mainly grassland which is managed for beef cattle and sheep grazing. There are also some arable fields. Manure and other fertilisers are periodically added to the ground to improve productivity. There have been concerns about the nutrient status of Loch Watten in the past. A study completed in 2000 found higher levels of phosphorous (between 1994 and 2000) in both Loch Scarmclate and Loch Watten than in other lochs in Caithness. If a surplus of phosphorous is added to the land then a proportion of this can leave the soil and be washed into the loch. Levels of phosphorous that are too high can cause harmful blooms of algae or cyanobacteria in summer. When algal blooms die off at the end of summer they fall to the bottom of the loch where they are broken down by bacteria that remove oxygen from the water. This can cause oxygen-depleted (or anoxic) conditions that can kill fish. Blooms of cyanobacteria (a micro-organism that is sometimes called blue-green algae) can release toxins into the water that are harmful to humans, farm animals and pets.

As a result of the relatively high phosphorous levels found between 1994 and 2000 the Scottish Agricultural College set up the Pollution Minimisation Project for the Loch Watten Catchment Area in 2001. This project was part funded by SNH and aimed to

improve the water and habitat quality of Loch Watten by calculating farm nutrient budgets and advising on best management practices to minimise nutrient run-off. Farm-specific nutrient budgets were used to recommend ways to minimise waste by matching nutrient inputs and outputs more closely. The project concluded that soil erosion from agricultural fields was the most likely source of the high levels of phosphorous in the loch, however domestic waste and droppings from roosting geese were also likely to contribute. We recommend that land managers avoid soil erosion into the loch by creating buffers of uncultivated land next to the loch in the most vulnerable areas. This will help to ensure that phosphorous levels do not rise in the loch as well as having cost saving and efficiency savings for farm businesses.

There is one Management Agreement between SNH and the landowner that protects the nature conservation interests on 11ha of the site which expires at the end of 2010. SNH encourages the landowner to apply to the Scotland Rural Development Programme (SRDP) Rural Development Contracts (RDC) scheme for continued funding of the conservation management of the site. These RDCs are awarded on a competitive basis to ensure that contracts are awarded for the proposals that are best able to deliver good conservation management. Several SRDP Rural Development Contracts already fund good conservation management on over 20ha of the SSSI. Management includes providing good edge habitat which acts a buffer against excessive nutrients entering the loch. Some of the ground covered by Rural Development Contracts was previously managed under the Rural Stewardship Scheme.

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

We wish to work with the owners and 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, distribution and extent of the freshwater and loch side habitats**

Water levels and water quality play a crucial role in the condition of both wetland habitats and the freshwater habitat of the loch itself. As long as water levels and quality are maintained, 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 Watten 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 base-rich status required by the vegetation. Any artificial 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. SEPA guidance on Best Management Practice to reduce diffuse pollution of water bodies should be followed where possible. This includes advice on measures such as the calculation of nutrient budgets to set appropriate levels of fertiliser application and the creation of buffer zones along water margins. The report from the study carried out by the Scottish Agricultural College in 2004 also provides advice on how to minimise nutrient run-off into the loch.

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](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 Watten.

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 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 spillages of fuel or oil.

## **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 Watten mainly for roosting overnight so it is important to avoid disturbance between dusk and dawn. Icelandic greylag geese can spend the whole day foraging at Loch Watten 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 Watten runs from 1 May to 30 September. 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. Old fishing line should be removed as it could entangle birds if it were left on the site.

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. 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 Watten.

Wildfowling outwith Loch Watten 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 wildfowling. If the overall population of greylag geese changes, the number of birds overwintering at Loch Watten 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 could cause the water to freeze at Loch Watten encouraging geese and swans to seek unfrozen water elsewhere in Caithness, for example at Loch Calder.

Date last reviewed: 25 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).