Scottish Natural Heritage
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LOCH SPYNIE
Site of Special Scientific Interest

SITE MANAGEMENT STATEMENT

Site code: 1054

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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

Loch Spynie is one of very few large and naturally eutrophic (water rich in mineral nutrients) lochs in northern Scotland. The SSSI contains extensive areas of all stages of the succession from open water to fen-meadow and wet woodland. The loch is shallow (c 1m deep) and situated on a mixture of fine sands and silts with some gravels in the east. It is fed by a small burn (the Sey Burn), from the south (and groundwater seepage) and the outlet in the north-east drains to the Spynie Canal, part of which also lies within the SSSI. Until the 16th century the loch was part of an arm of the sea. Since the loch's isolation from the sea it has been progressively reduced in extent by drainage schemes. The history of this larger wetland system is well documented. The present day loch is maintained by artificial banks. The marine origin of the loch is reflected in its unusual water chemistry and possibly in the abundance of certain plant species.

Loch Spynie is of national and international importance for its winter roost of Icelandic greylag geese. The average peak count for the five-winter period from 1996/97 to 2000/01 was 4680, representing more than 7% of the world population of Icelandic greylags. The roost is particularly important in autumn (with peak numbers usually occurring in October/early November). The site is also notable as a winter roost and spring passage site for pinkfooted geese, the average peak count for the five-winter period from 1996/97 to 2000/01 was 2800, representing more than 1% of the world population.

Loch Spynie is nationally important as an example of a "type 7" loch, a relatively uncommon type more often associated with machair lochs in the Northern and

Western Isles. The loch contains a particularly diverse open-water flora made up of at least 25 species with nine species of pondweed recorded. The fen and swamp habitats, which cover extensive areas of the site, are of national importance. These habitats surround the main loch, cover much of the area to the west of the disused railway line and extend into the wetter parts of the area to the north-east of the loch. Nine fen and swamp plant communities have been identified of which reed swamp is the most extensive. The type of fen-meadow characterised by yellow iris is particularly notable as it is usually a western vegetation type. The woodland is of national importance as the largest and most natural example of two types of willow carr (fen woodland) in Moray. Loch Spynie has been designated as a Ramsar site of international importance for this range of vegetation communities representing all stages of hydroseral succession (open water colonisation by vegetation).

Loch Spynie's habitats support an interesting assemblage of flowering plants combining rare northern species and southern species near their northern limits. Nationally scarce northern plants recorded include slender-leaved pondweed, coralroot orchid and Baltic rush. The southern species, relatively common in southern Britain but rare or scarce in northern Scotland, include greater spearwort, hemlock water-dropwort, lesser water-parsnip and great reedmace. A number of additional regional rarities have been recorded including thread-leaved water-crowfoot, autumnal water-starwort and the rigid hornwort, a non-vascular plant. The uncommon lesser tussock sedge is also found.

The site supports a good range of breeding bird species characteristic of lowland open waters and their margins, including little grebe, great crested grebe, grey heron, shoveler, mute swan, tufted duck, water rail, common tern, grasshopper warbler, sedge warbler, bearded tit and reed bunting, and is nationally important for this feature.

Loch Spynie is also notable for a range of wintering wildfowl, roosts of starlings and swallows and records of a range of vagrant rare bird species. Otters are regularly seen on the loch, Daubenton's bats feed over the site and water voles were abundant in the 1980s, although they may have declined in recent years. The only invertebrate group to have been studied in any detail at Loch Spynie is moths with a total of 182 species being recorded in the period 1992-1996.

Natural Features of Loch Spynie SSSI	**Feature Condition (date monitored)**	**Other relevant designations**
Fen-meadow[#]	Favourable Maintained (October 2001)	Ramsar
Breeding bird assemblage	Favourable Maintained (August 2002)	
Eutrophic loch	Unfavourable Declining (January 2004)	Ramsar
Greylag goose *Anser anser*, non-breeding	Favourable Declining* (November 2008)	SPA, Ramsar
Open water transition fen	Favourable Maintained (October 2001)	Ramsar
Wet woodland	Favourable Maintained (June 2002)	Ramsar

#Monitored as Basin fen
*Unfavourable Declining (November 2008) for SPA

Loch Spynie has recently suffered the same drop in wintering greylag numbers seen at other sites in north-east Scotland. The mean peak count from 2005-2008 was 1450, which is a 28/84% drop on baseline figures for the SSSI & SPA respectively.

The open water habitat feature was monitored in cycle 1 and found to be declining due to an increase in nutrient levels in the loch and loss of vegetation structure. Water quality was generally poor, coloured green-brown, with high levels of phosphorous.

Monitoring in 2001 of the fen and fen-meadow to the north-east of the loch has highlighted the need for grazing or scrub control in the north-east of the site. Elsewhere, the wet woodland was not encroaching onto the adjacent fen but is regenerating under its own canopy.

Past and present management

The loch and surrounding wetlands are the remnants of a much more extensive wetland which was progressively drained for agriculture. The present day loch is maintained by artificial banks which, along with the disused railway line embankment which bisects the site, are Victorian in origin. In 1989/90 the requirements of the Reservoirs Act (1975) led to substantial engineering works including upgrading of the railway, canal and NE embankments (and abandoning of the former SW bank) and installation of new sluices and penstocks at the W and NE outlets. These works were funded by the Nature Conservancy Council under the terms of a Management Agreement. The works allow a constant water level to be maintained in the loch, provide for better flushing of the loch and enable the loch to be drained (for emergencies or management) by means of the west outlet. Three ponds were created in the NE fen in November/December 1991 to increase the open water habitat and a hide was constructed on the east bank of the loch in February 1992.

The loch was used for wildfowling for much of the 20th century. Considerable keepering activity took place. Habitat management for sporting interests included cutting back of reeds from the loch margin, burning of fen vegetation, cutting of reeds to allow access and creating and maintaining pools. Large numbers of mallard were released. Most of the wildfowling took place from butts in the West fen and across the loch (remains of the latter persist). No wildfowling has taken place since 1981. The site was formerly of importance for angling and was stocked with several species of fish. Only very limited angling has occurred since 1981. Grazing of the north-east part of the site by Highland cattle (which had ceased by 1981), was recently re-introduced, annually for up to 6-8 weeks. A small area in the north-east of the site was planted with Sitka spruce more than 50 years ago.

Under the terms of the Management Agreement, the site is managed by the owner to protect and enhance the natural heritage interest. Fen and grassland communities are mowed annually and scrub invading the north-east part of the site has been controlled. Two outlets to raise the water level in this part of the site were installed in 2000 and gauges are situated to monitor water levels. A number of conservation

management works such as creating tern breeding platforms and clearing scrub from the margin of the loch near the hide have been undertaken by volunteers. The Reservoirs Act requires the loch to be subject to an annual engineer's inspection. Maintenance and repair of the embankments, sluices, penstocks and silt trap is occasionally required.

The owner of the site very occasionally uses the site for skating, boating or angling. There is considerable recreational use of the site by birdwatchers visiting the hide via a small car park at Scarffbanks Farm. Access to this hide is unrestricted but is not deliberately publicised. The site is visited by organised groups such as the RSPB. The site is occasionally used for research projects such an investigation into the population dynamics of perch. The disused Elgin to Lossiemouth railway line, which crosses the site, is maintained by the owner as an access route for agricultural vehicles, maintenance activities include occasional trimming of encroaching vegetation. The former railway line is also a popular footpath and cycleway, although it is not a public right of way. Small numbers of visitors access the loch from the disused railway line. There have been very occasional instances of unauthorised shooting of wildfowl at the loch.

Spynie Canal, which runs through the SSSI, provides drainage for a large area of agricultural land which occupies the site of the historical wetland. The Canal, including the section within the SSSI, is dredged on an annual basis. The inlet burn to the loch is also occasionally cleared out to maintain the drainage of adjacent farmland.

A transmission line wayleave in the West Fen is occasionally cleared of trees.

Roe Deer control is undertaken in the NE and W Fens in order to protect adjacent commercial woodland from browsing damage.

Under the terms of the Management Agreement, positive management works are agreed between the owner and SNH, with SNH providing funding for the works. These works are implemented through an annually agreed work programme. The Loch Spynie Advisory Committee, a voluntary body comprised of local naturalists, also provides the owner with advice regarding the management of the site. Members of the Committee also carry out some habitat management work and have provided interpretive material for the hide.

The annual engineer's inspection required by the Reservoirs Act may recommend works to protect embankments etc or make them easier to inspect, such works may include removal of trees and scrub from embankments.

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

We wish to work with the owner 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 to 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).

1. **To maintain the assemblage of wetland habitats including open water, swamp, fen, fen-meadow and wet woodland and the fauna and flora that these support**

   - Maintain the extent of standing open water (estimated at about 24.5 hectares, based on 1988 air photos, excluding open water in the West fen).

   - Maintain the unusual water chemistry of the loch and the diversity of its aquatic flora.

     Loch Spynie's unusual water chemistry makes it particularly vulnerable to enrichment, particularly from phosphates. Excessive input of nutrients or pollutants via the loch's inflow burn could adversely affect the diverse aquatic plant communities. The inflow burn drains an area of intensively farmed agricultural land with the potential for runoff of agricultural chemicals, silage etc. Use of water from the inflow burn for irrigation and subsequent recirculation of run-off water into the burn may enhance the potential for transport of nutrients. Further development of the catchment of the inflow burn for housing or industry which resulted in waste water or surface water runoff entering the inflow burn could also adversely affect the site.

     Invasion by non-native plant species such as New Zealand pigmyweed, which has been recorded at a nearby site, could adversely affect plant communities.

   - Maintain the extents of fen and swamp communities.

     The site is highly prone to natural successional changes which, for example, will result in the reduction in the area of open water and encroachment of woodland in fen and swamp areas.

- Maintain the extent and diversity of woodland and encourage natural regeneration in open spaces within woodland.

- Maintain populations of rare or scarce plants.

2. To maintain conditions suitable for wintering and breeding birds

- Maintain the population of greylag geese and other wintering wildfowl

  Excessive human disturbance could adversely affect wintering wildfowl numbers. At present most visitors use the hide or access the area with little resultant disturbance. Use of the former railway line by vehicles, cycles and pedestrians similarly causes little disturbance. Occasional entry into other parts of the site by visitors, particularly with uncontrolled dogs, can cause considerable disturbance.

  A considerable amount of lead shot is still present in the loch sediment. High winter water levels allow the geese a safe roost site, while preventing them from reaching and swallowing lead shot which remains in the loch sediment from previous wildfowling. Maintaining this management should safeguard the greylag geese.

- Maintain and, if possible, enhance the range of breeding bird species characteristic of lowland open waters and their margins

  Mink are regularly recorded at Loch Spynie but no data exists regarding their impact on breeding bird populations.

3. To maintain existing facilities for allowing public awareness and understanding

Where this does not conflict with other objectives, ways of providing further opportunities for improving public awareness and understanding will be investigated.

Other factors affecting the natural features of the site

Migratory birds, such as greylag geese, are subject to factors outwith the site, including changes in weather patterns and local patterns of agricultural practice which affect winter food supply.

Date last reviewed: 18 May 2011.