



Scottish Natural Heritage

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MORTON LOCHS
Site of Special Scientific Interest

SITE MANAGEMENT STATEMENT

Site code: 1192

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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

Morton Lochs Site of Special Scientific Interest (SSSI) is located approximately 2 km south of Tayport, west of Tentsmuir sand dune system (which is thought to be more than 8,000 years old). The site contains representative areas of open water, reed-swamp, dune grassland, and scrub and woodland habitats. A narrow strip of herb-rich grassland occurs along a disused railway line on the eastern boundary of the site.

There are three lochs within the site, representing a range of trophic status from nutrient poor to relatively nutrient rich water. Associated with the open water is a range of pondweed (*Potamogeton* species), stonewort (*Chara* species) and plants such as spiked water-milfoil. On areas of open mud to the west of the north loch the nationally scarce mudwort *Limosella aquatica* has been recorded. The lochs are fringed with scrub, woodland and a range of fen and reed swamp vegetation types, including greater pond-sedge, bladder sedge and sea club-rush.

On drier areas, to the west of the north and south lochs are areas of remnant dune vegetation with sand sedge and bell heather. Areas of former dune slacks can be found to the north and east of the lochs. These wetter hollows support species such as marsh stitchwort which occurs here at the northern limit of its range in Britain.

The old railway line, which forms the site's eastern boundary, supports a diverse botanical interest including field gentian, wild parsnip, grass-of-Parnassus, common wintergreen, moonwort and bristle club-rush.

The lochs were artificially created in 1906 for recreational fishing. They soon attracted a variety of wildfowl and water plants which rapidly colonised the lochs. The site was recognised as a prime wildfowl site and the lochs were designated as a National Nature Reserve (NNR) in 1952 for overwintering wildfowl and breeding birds. Nationally important numbers of teal and large numbers of whooper swans have historically used the site over autumn. Altogether, 150 species of birds have been recorded at this site.

As the site became increasingly affected by seral succession to swamp and carr (wet woodland), the ornithological interest decreased while the botanical interest increased and a large number of plants (206 species), including many rare and uncommon species, have been recorded.

In addition, the site supports a large number of mammal and invertebrate species. Among the 19 mammals recorded are red squirrel, water vole and otter, which returned to the site in 1994/95 after an absence of some 40 years. Fifteen species of butterfly have been recorded. These include a very large population of ringlet, as well as dark green fritillary and grayling, which are both very local outside Tentsmuir, and small pearl-bordered fritillary, which is of restricted distribution in south-east Scotland. The site also holds several rare moth species. The rides and open areas, especially along the railway line, are used by seven species of damsel- and dragonflies, while the open water is home to breeding palmate newts, common toads and frogs, as well as 27 species of water beetles, including some uncommon species.

The most recent site condition monitoring (SCM) assessments found the 'loch trophic range' and 'sand dune' features to be in unfavourable, recovering condition; this was due to a reduction in the overall extent of standing water in the lochs and because some key indicator species were absent. Hydrological issues were noted during the survey visit as the loch's water levels were low, which also appears to be having an adverse effect on water quality and the nutrient composition of the loch. The sand dunes are also suffering from a loss in extent due to the encroachment of scrub, woodland and grassland vegetation and a corresponding increase in undesirable species.

The unfavourable, recovering assessment of both features reflects the management that is now in place. In terms of the 'sand dune' feature, the cattle grazing regime is currently at an appropriate level for the dune grassland and low levels of grazing by rabbits compliments this at present. Recent management of gorse and other scrub, involving cutting and treating the stumps, and a programme of bracken control have been implemented. At the time of the 'loch trophic range' assessment, the water supply had been withdrawn, however this has subsequently been partially reinstated. Other management works have also been introduced to improve water quality and quantity, including improvements to inflow and outflow ditches to create a through flow of water, removal of silt from inflow ditches and the installation of a solar pump to boost water levels.

The teal population is currently in an unfavourable, declining condition due to a significant reduction in the mean peak count (a population decline of 62% from the time of notification). It is currently unclear as to what the cause(s) of this may be, however changes in water levels, climate change and the difficulties posed when

surveying/counting teal could potentially have contributed to the reduction in the mean peak count.

Natural features of Morton Lochs SSSI	Condition of feature (and date monitored)
Loch trophic range	Unfavourable - recovering (August 2004)
Sand dunes	Unfavourable – recovering (September 2008)
Teal (<i>Anas crecca</i>), non-breeding	Unfavourable – declining (November 2009)



Past and present management

The SSSI forms part of Tentsmuir National Nature Reserve and is currently managed by one full-time and one part-time member of SNH staff. Part of the SSSI is owned and managed by SNH. The remaining part is owned and managed by Forestry Commission Scotland.

Past management of the site was affected by the construction of the railway line on the eastern boundary of the site. The construction disrupted the hydrology of the area, leading to the gradual silting of the supply burn over the following years, culminating in periodic drying up of the burn during the 1940s. As a result, most of the aquatic plants disappeared, while bracken and scrub started to colonise the surrounding land.

In 1951/52, the area was ploughed and drained and the sandy heath on the northern side of the lochs was planted with conifers. This had adverse effects on much of the heathland vegetation and caused disruption to the water table within the wet hollows. Despite this, some of the wet hollows survived as scrub rapidly colonised at their edges and started to shade and overhang many of them.

In 1976, the north and south lochs were drained and the accumulated silt excavated.

Over the following years, the South Loch in particular dried up due to water abstraction upstream and drainage in adjacent fields. In 1992, an agreement was struck with a neighbouring farmer to divert the Ninewells Burn through Morton Lochs and to maintain the water supply. Feral goats were introduced between 1992 and 1993 to reduce areas of rank vegetation, which was largely ineffective. In 1996, five Highland cattle were introduced onto the site.

A Management Plan was concluded with Forest Enterprise for the period 1994-1998. The objectives of this agreement were the restoration of the species-rich dune slack communities in the north-western area through clear-felling and thinning of the remaining conifer plantation. These consented operations left a scattering of stumps and brash, caused the abandonment of a badger sett and damaged the vegetation in the northern section of the railway line.

Morton Lochs forms part of Tentsmuir National Nature Reserve, and its management is included in the Tentsmuir Reserve Management Plan 2005 – 2011. The management of the lochs focuses on maintaining the ditches and slipways to control the water levels, and maintaining an open area of water by removing reeds and controlling the scrub and willow around the lochs. The management of the dune heath focuses on maintaining cattle grazing, scrub removal and herbicide treatment to remove invasive species. The grazing keeps the grass at a low height and maintains open areas, beneficial for vascular plants and important butterflies. The vegetation along the southern railway track is cut on a rotational basis to maintain the grassland habitat.

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

We wish to work with the owners 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 management.

Loch Management

- 1. Establish a long-term solution to the water supply and water quality issues and to establish an appropriate water level for key species, including teal.**
- 2. Maintain slipways to keep water at agreed levels with a clear flow through the loch system.**
- 3. Control emergent vegetation:**
 - Reeds - to maintain open water at 70% of the loch surface.**
 - Willow - to maintain within 40m of the north loch and 10m of the south loch.**

Dune grassland management

- 1. To maintain open areas of the woodland by cutting and spraying regenerated scrub and other invasive species.**
- 2. Manage cattle grazing to control emergent vegetation. Maintain fencing and gates so that they are stock proof.**

3. Cut vegetation along the railway track on a 3 year rotation, cutting a third each year to encourage species diversity.

Other factors affecting the natural features of the site

None noted at present.

Date last reviewed: 23 February 2011