

SITE MANAGEMENT STATEMENT

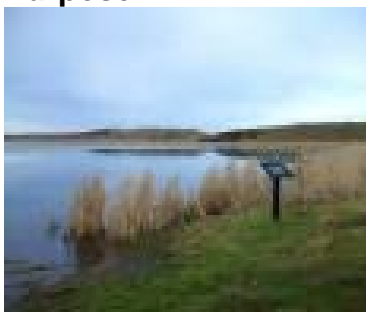
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Purpose



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

Geological

Kippet Hills is a site of longstanding interest for studies of the Quaternary or Ice Age period in north-east Scotland. It demonstrates a representative, well-developed and compact suite of landforms and sand and gravel deposits associated with the so-called 'red drift', laid down by the last ice sheet as it moved northwards along the coast from Strathmore. The features comprise: a 3km-long esker ridge (formed by meltwater flowing under the ice); the kettle hole occupied by Meikle Loch (where an isolated block of ice melted to form a hollow); and other meltwater landforms that reveal how the ice sheet melted.

The nature of the deposits and their interbedding, involving sands and gravels both overlain and underlain by red clay, has been the source much scientific debate since the mid-19th century. Research into their origin and the processes that formed them has advanced Quaternary studies in the region.

The interest of the site is greatly enhanced by the erratic (exotic) material contained in the deposits, particularly fragments of limestone and marine shells. As these do not have local sources, their presence indicates that much of the material was derived from offshore. Kippet Hills is, therefore, a key site demonstrating the onshore direction of movement of the last ice sheet and the pattern of deglaciation in the coastal lowlands north of Aberdeen. For these reasons the site is identified in the Geological Conservation Review (GCR), which describes the most important sites for geology across Britain. The boundary of the Kippet Hills GCR site is larger than the SSSI, as it includes additional land to the south and west of the loch which topographically is an integral part of the kettle hole.

Biological

Meikle Loch is one of the major roosts for the large number of pink-footed geese that occur in the Grampian lowlands from autumn to spring. Greylag geese also roost at Meikle Loch and it is of European and international importance for both species. Between 15 and 20% of the NW European/world population of pink-footed geese use the loch regularly. Up to 10% of the NW European population of greylag geese have used the loch for roosting although their numbers have been very variable since 1960.

Other wildfowl found in smaller numbers on passage and in winter include teal, pochard, wigeon and tufted duck.

Natural Features of Meikle Loch & Kippit Hills SSSI	Feature Condition (date monitored)	Other relevant designation
Greylag goose <i>Anser anser</i> , non-breeding	Unfavourable Declining (November 2002)	SPA, Ramsar
Pink-footed goose <i>Anser brachyrhynchus</i> , non-breeding	Favourable Maintained (October 2002)	SPA, Ramsar
Quaternary of Scotland	Unfavourable Declining (November 2002)	

Site condition monitoring (SCM), of the geological feature was last carried out in 2002, in the first cycle of SNH's national programme. This assessed the feature to be in an unfavourable declining condition, as a part of an esker near Meikle Loch had been damaged by extraction. Concerns were also noted about trees planted in 1995 along the western side of Thiefseye Moss, just within the site, on parts of the esker's eastern slope and crest, affecting future visibility.

The condition of the pink-footed and greylag goose SSSI features was also monitored in 2002 and assessed as being in favourable and unfavourable condition respectively. Whilst a peak of 19,600 pink-feet was recorded, a maximum of only 156 greylags were seen. The changes reflect national trends in goose populations and movements that are unrelated to the management of the loch. The Icelandic population of pink-footed geese has grown steadily since the early 1980s. There appears to be a northward shift in the distribution of wintering greylags in Scotland, with 60% of the wintering greylags now found on Orkney.

Natural Features of Ythan Estuary, Sands of Forvie & Meikle Loch SPA	Feature Condition (date monitored)
Waterfowl assemblage, non-breeding	Favourable Maintained (January 1999)

SCM of the waterfowl assemblage of the SPA and Ramsar site in 1999 for cycle 1 assessed the features as being in favourable condition, though total number of waterfowl numbers had fallen by 16% (from an average peak of 26 400 in 1988/89-1992/93 to 22 175 in 1994/95-1998/99).

Past and present management

Kippet Hills and the land around Meikle Loch are used for intensive agriculture. It is likely that it has been grazed and cultivated for a considerable period of time. Most of the ridge is either grazed or cultivated and various agricultural operations are carried out.

Wildfowling and the release of reared ducks used to take place on the lochs but have now ceased, as has fishing. There is a sluice on the loch, which suggests that the water level may have been controlled in the past.

Small-scale gravel and sand extraction is consented in a quarry in the northern part of the site, for material to repair farm tracks etc. This has exposed important exposures and allowed study of the sediments. Part of this quarry area at Whitefields Pit is used for dumping stones removed from nearby fields. The quarrying into the esker near Meikle loch was carried out without SNH's consent.

Two areas of the site have been planted with trees. One area was planted before 1986 and the other in 1995. No consents have been issued by SNH for tree planting on the site.

A consent has been issued by SNH for the discharge of septic tank effluent into Meikle Loch from the adjacent Whitefields steading via a phosphorus stripping system, reed bed and soakaway.

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.

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 overall assemblage, appearance, inter-relationships and structure of the landforms to provide for their study on both large and small scales

The Quaternary interest of the site lies in the landforms and the sediments they contain. While the Meikle Loch kettle hole and the Kippet Hills esker are

conspicuously well-developed features of ice sheet melting, the entire assemblage of landforms and their inter-relationships is of importance. These interests are sensitive to damage from excavation and operations which cover landforms. Expansion of mineral extraction from the site, forestry and dumping are all potentially damaging to the special interest, as is infilling of the existing gravel pits..

The naturally infilled kettle hole of Thiefseye Moss, adjacent to the site on the east, contains a record of sediments and pollen which has been the subject of unpublished research. As this records the stabilisation and re-vegetation of the site after the ice had melted, it is potentially a valuable add-on to the representative nature of the existing Quaternary interest. Late-glacial and Postglacial pollen records are rarely known in the region. Further research is needed to identify the importance of this area.

2. To maintain the features of the site which support the internationally important populations of geese

Because of their migratory nature, factors external to the site are likely to have the greatest impact on the internationally important goose populations. Roost sites are however important for goose conservation and local factors could affect the attractiveness of the loch as a winter roost for the geese.

This type of small shallow loch tends to be relatively productive and nutrient rich due to the short distance between the nutrients in the sediment on the floor of the loch and the light areas at the top of the loch where the plants and algae grow. The relatively low flow of water through the system means that nutrients are not readily flushed from the loch and tend to accumulate. In addition to these natural factors run-off from the fields carrying nutrients from fertilisers or manure and poorly maintained silage clamps can all lead to enrichment of the feeder streams. The geese roosting on the loch also cause enrichment by their faeces. If nutrient levels become too high in the loch this can lead to blooms of blue-green algae, which produce toxic chemicals. A survey of the loch in 2002 found that there had been an increase in eutrophication of the loch and decline in the diversity of plants growing within it.

Significant damage to the loch and its birds may occur if the nearby pipeline leaks oil. Appropriate measures should be included in the pipeline oil spill contingency plan to protect the loch.

Date last reviewed: 13 June 2011.