

CITATION

MUIR OF DINNET
SITE OF SPECIAL SCIENTIFIC INTEREST
Aberdeenshire Council

Site code: 1212

NATIONAL GRID REFERENCE: NJ433000

OS 1: 50 000 SHEET NO: Landranger Series 37 & 44
1: 25 000 SHEET NO: Explorer Series 395 & 405

AREA: 2308.6 hectares

NOTIFIED NATURAL FEATURES

Geological	: Quaternary geology and geomorphology	: Quaternary of Scotland
Biological	: Lowland heathland	: Lowland dry heath
		: Lowland wet heath
	: Fens	: Hydromorphological mire range
	: Freshwater habitats	: Oligo-mesotrophic loch
	: Birds	: Breeding bird assemblage
		: Greylag goose <i>Anser anser</i> , non-breeding
	: Invertebrates	: Invertebrate assemblage
	: Dragonflies	: Dragonfly assemblage

DESCRIPTION

The Muir of Dinnet is located on Deeside, 5 km east of Ballater. It comprises a complex area of morainic topography and granite hills and is important for its geomorphology and for its habitats and species.

GEOLOGY

The Muir of Dinnet is of outstanding geomorphological interest for an assemblage of fluvio-glacial landforms that includes eskers, kames, terraces, meltwater channels, kettleholes and outwash. These are significant not only in demonstrating many of the classic features of each landform type, but also as a landform assemblage which provides one of the best illustrations in Scotland of a sequence of features associated with ice sheet decay. This assemblage provides a particularly good illustration of the changes in conceptual understanding of how Quaternary ice sheets melted away.

The features at Dinnet were originally interpreted as a halt stage in the retreat of glaciers from the coast to the mountains, then as a significant readvance stage (Dinnet Readvance) of the last ice sheet. Current ideas, however, stress an actively retreating ice sheet in which the movement of meltwater was controlled by the topographic form of the Dinnet basin, thereby producing the localised concentration of landforms and deposits.

Particular features that deserve special mention include the Vat, a spectacular pothole eroded by glacial meltwaters which formed the Burn O'Vat meltwater channel, and the two large kettleholes (ice depressions) now occupied by Lochs Davan and Kinord. These two lochs are important reference sites for reconstructing changing environmental conditions in north-east Scotland since the last ice sheet melted. Pollen grains preserved in the sediments of Loch Kinord are particularly notable in recording an almost complete sequence of Devensian late-glacial and Holocene vegetation history.

In summary, Muir of Dinnet is a key site for studies in Quaternary geomorphology and environmental history.

BIOLOGY

Habitats

The Muir of Dinnet contains fine examples of nutrient-poor lochs, reedbeds and basin and valley mires, birch and pine woodland and species-rich dwarf-shrub heath. There are few areas of comparable habitat diversity in northern Scotland.

The drier parts of the site support a mosaic of heathland and woodland. There are two main types of dry dwarf-shrub heath. Typical upland dry acidic heath dominated by common heather *Calluna vulgaris* occurs on the upper slopes of Cnoc Dubh and middle and upper slopes of Culbean Hill. A more species-rich dry heath with bearberry *Arctostaphylos uva-ursi* occurs on the lower slopes of Culblean and particularly on either side of the A93 in the south of the site. Species-rich heath with bearberry is confined to the eastern and central highlands where Dinnet is considered to be one of the best and most extensive examples. It tends to occur on free-draining soils with a slightly greater nutrient and mineral content, in this case derived from fluvio-glacial sand and gravel, and with a thin humic layer. Distinguishing species include slender St. John's wort *Hypericum pulchrum*, intermediate wintergreen *Pyrola media*, bitter vetchling *Lathyrus linifolius* and common violet *Viola riviniana*. Wet heath with cross-leaved heath *Erica tetralix* occurs locally on the lower ground in the east of the site and on the slopes of Culblean and adds to the interest.

Loch Kinord possesses a rich aquatic flora undamaged by eutrophication, and a full range of hydrosereal plant communities ranging from emergent fens dominated by bottle sedge *Carex rostrata* and slender sedge *Carex lasiocarpa*, to poor-fens with bog mosses (*Sphagnum* species), fen-meadows with bog myrtle *Myrica gale* and birch fen-woodland.

Loch Davan has a similar range of hydrosereal plant communities. Extensive areas of fen-meadow are found by the loch and along its outflow the Monandavan Burn.

Black Moss has a central area of shallowly raised bog, surrounded by swamp fen and fen-woodland. The bog is dominated by heather and cotton grasses (*Eriophorum* species), with some regeneration of Scots pine *Pinus sylvestris*. The swamp, forming an extensive lagg-fen, is mainly dominated by bottle sedge *Carex rostrata* and common reed *Phragmites australis*. Lesser tussock sedge *C. diandra* and slender sedge *Carex lasiocarpa* also occur. Other areas of bog and fen occur in the south of the site in kettle holes and along a valley. Ordie Moss is a wet, impenetrable area of swamp dominated by bottle sedge *C. rostrata* and willow carr.

Large areas of the site are covered by actively regenerating woodland, with ancient woodlands of birch (*Betula* species) and plantations of Scots pine *Pinus sylvestris*. Groves of aspen are found by New Kinord and a small area of alder woodland is found along the Vat Burn.

Species

The woodland, lochs, fens and heathland provide the variety of habitat particularly important for many insects and birds and the fauna is of outstanding importance.

Invertebrates

Many rare invertebrates are recorded and this is the richest site for Lepidoptera (butterflies and moths), Odonata (dragonflies and damselflies) and aquatic Coleoptera (beetles) in south Aberdeenshire. These include the rare northern damselfly *Coenagrion hastulatum*, the rare netted mountain moth *Semiothisa carbonaria*, the nationally declining pearl-bordered fritillary *Boloria euphrosyne* and the rare water beetle *Acilius canaliculatus*.

Birds

The lochs, fens and woodlands support diverse assemblages of breeding birds, about 80 species having been recorded breeding within the site. The lochs are important refuges for passage and wintering wildfowl, particularly Icelandic greylag geese.

The assemblage of breeding birds of lochs and fens regularly includes species such as great-crested and little grebes, mute swan, water rail, spotted crake and sedge warbler, along with wigeon, goosander and goldeneye. In addition, the lochs are also an important feeding site for osprey, which nest elsewhere on Deeside. Woodland breeding birds include black grouse, capercaillie, Scottish crossbill, buzzard and sparrowhawk.

In the 1990s the numbers of Icelandic greylag geese on the lochs during autumn passage and in the winter were internationally important, representing 29% of the total population. This was the largest roost in Britain for Icelandic greylag geese. Other migratory birds include pink-footed goose, mallard, goldeneye, whooper swan and wigeon.

NOTIFICATION HISTORY

First notified, under the 1949 Act: 1971.

Re-notified under the 1981 Act: 23 March 1989, with a 676.5 ha increase in area.

Notification reviewed under the 2004 Act: 16 November 2011.

REMARKS

Measured area of site corrected (from 2286.6 ha).

Parts of the Muir of Dinnet SSSI are designated the Muir of Dinnet Special Area of Conservation (SAC), and the Muir of Dinnet Special Protection Area (SPA), for the following European habitats, birds and species.

Habitat: Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels
Degraded raised bog
Dry heaths
Very wet mires often identified by an unstable 'quaking' surface

Birds: Greylag goose *Anser anser* (non-breeding)
Waterfowl assemblage (non-breeding)

Species: Otter *Lutra lutra*

Part of Muir of Dinnet SSSI is also part of River Dee SAC designated for the following European species.

Species: Atlantic salmon *Salmo salar*
Freshwater pearl mussel *Margaritifera margaritifera*
Otter *Lutra lutra*