



## 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

The Muirkirk Uplands SSSI is largely comprised of two upland areas to the north and south respectively of the Ayrshire town of Muirkirk. Upland habitats within the site consist of heather dominated moorland, acid grassland and blanket bog. Dry heath dominated by heather typifies the moorland on steeper, well-drained slopes, while blanket bog of various types predominates on flatter, wetter ground where peat soils have developed. Acid grassland types are best represented on lower ground around the periphery of the SSSI, where peat shallows and gives way to mineral soils.

The SSSI also includes Airds Moss, an area of low-lying blanket bog situated between the two upland components of the SSSI. Although termed 'blanket bog', the site exhibits features of both blanket and raised bog. On deeper areas of peat there is abundant cranberry and crowberry amongst the bog mosses, a vegetation type normally associated with lowland raised bogs. For this reason, Airds Moss has sometimes been described as an 'intermediate' bog, a description further merited by the physical structure of the bog surface, which includes pool systems normally associated with blanket bogs and 'hummock & hollow' patterns normally associated with raised bogs. Airds Moss is unusual due to the extent of such patterning and to the development of blanket bog attributes at such a low altitude. The importance of the blanket bog is such that Airds Moss has been designated under the EC Habitats Directive (92/43/EEC) as a Special Area of Conservation (SAC).


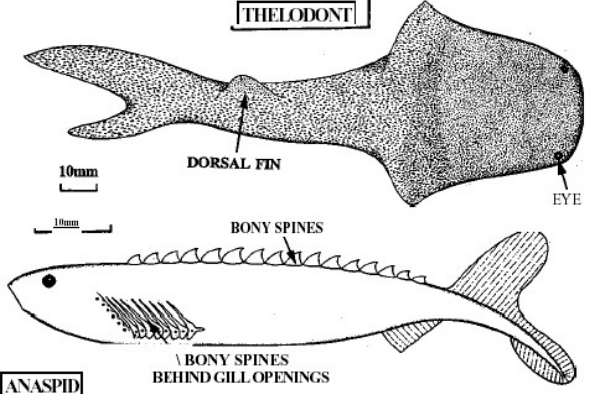
Although the condition of the upland habitats in 2004 was judged to be favourable, the blanket bog of Airds Moss was considered (at December 2004) to be in unfavourable condition due principally to the effects of grazing and drainage. Since these damaging activities are largely historic and much of the site is now subject to positive management, the condition of Airds Moss is considered to be recovering.

This mosaic of habitats across the Muirkirk Uplands SSSI supports a diverse community of moorland breeding and wintering bird populations of national and international significance, notably including hen harrier and short-eared owl. Other bird species characteristic of moorland include peregrine, merlin, buzzard, red grouse, dunlin, snipe, curlew, whinchat, stonechat, wheatear and ring ouzel. The breeding populations of hen harrier, short-eared owl and the wider assemblage of moorland birds are considered to be maintained in favourable condition.

The SSSI partly underpins the Muirkirk and North Lowther Uplands Special Protection Area (SPA) designated under the EC Birds Directive for regularly supporting breeding bird populations of European importance including hen harrier, short-eared owl, merlin, peregrine and golden plover. The SPA is also classified for its regular wintering population of hen harrier. This wintering population (monitored between 1999-2004) is significantly reduced from previous levels (1990-1995), and its condition is therefore considered to be unfavourable and declining.

The SSSI includes important exposures of fossil-bearing rocks along part of the course of the Dippal Burn, north of Muirkirk. These rocks are of national importance as a source of fossilised jawless fish (thelodonts and anaspids) dating from the Silurian period, some 430 million years ago. There is potential for the discovery of fresh fossil material at Dippal Burn, which will help enhance the understanding of these Silurian fish. The exposures are accessible and not considered to be under threat from significant damage, obstruction or obscuration. The site's condition is therefore considered to be favourable.

<b>Natural features of Muirkirk Uplands SSSI</b>	<b>Feature condition (date monitored)</b>	<b>Other relevant designations</b>
Silurian chordata	Favourable, maintained (2005)	
Hen harrier (breeding)	Favourable, maintained (2002)	SPA
Hen harrier (wintering)	Unfavourable, declining (2004)	SPA
Short-eared owl (breeding)	Favourable, maintained (1998)	SPA
Assemblage of moorland birds	Favourable, maintained (May/June 2004)	SPA
Upland habitats	Favourable, maintained (2004)	
Blanket bog	Favourable, maintained (2004) [Airds Moss unfavourable, recovering (December 2004)]	SAC

Bog rosemary	Illustrations of the types of primitive jawless fish found within Dippal Burn.
	

### Past and present management

Almost the whole SSSI is managed by extensive grazing of livestock, mainly comprising black-face sheep. Grazing intensity varies widely between different farm units within the SSSI, but is typically highest in areas close to the periphery of the SSSI where it adjoins in-bye fields. In some areas, the effects of grazing are apparent in the relative scarcity of heather and the dominance of coarse, less palatable grasses (e.g. mat grass (*Nardus stricta*) and purple moor grass (*Molinia caerulea*)).

The effects of former land drainage practices are visible across much of the site, with open hill drains or 'moor grips' frequent in areas of blanket bog. Some of these drains have partially revegetated, although many, especially on steeper slopes, remain active to some extent and so continue to have an adverse influence on the integrity of the bog habitats.

Some areas of the SSSI are still managed for grouse shooting. In these areas, muirburn has been a key management practice affecting moorland habitats. Where carried out appropriately, it has yielded a valuable diversity of habitat structure. Poorly managed or accidental moorland fires, however, can lead to a loss of heather cover and encourage the spread of more uniform 'white moor' dominated by purple moor grass. A very large accidental fire in 2003 caused damage across some 8km<sup>2</sup> of the northern block of the SSSI, although the vegetation is recovering well where it is encouraged by sensitive land management.

Conifer plantations abut the SSSI along much of its boundary. Although, such forests have generally been excluded from the SSSI, the Upper Heilar conifer plantation on Airds Moss remains within the SSSI as it sits largely on deep peat integral to the functioning of the wider bog. When felled at harvestable age, this plantation will not be replanted on those areas of deeper peat (more than one metre deep), where recovery and restoration of blanket bog vegetation will be promoted.

The SSSI and its environs have a considerable industrial heritage, and parts of the site have been a source of minerals including coal, limestone and barytes. This has left the site with a legacy of disused workings, bings and some derelict buildings, particularly close to the town of Muirkirk. Extractive industries remain important within the Muirkirk valley, and there is currently one opencast coal mine operative within a significant area (c. 1km<sup>2</sup>) of the SSSI. Consent for the development was granted subject to the implementation of extensive habitat management work by way of mitigation.

A majority of the land within the SSSI is subject to agreements for positive conservation management through SNH's Moorland Management Scheme or other agri-environment schemes such as the Rural Stewardship Scheme. Future support for positive management is likely to be delivered through the proposed system of Land Management Contracts.

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

We wish to work with the owner and/or occupier 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 agreements.

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, in so far as 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 population and distribution of birds breeding and wintering within the SSSI** by avoiding significant disturbance. It is important that any land management practices – existing and proposed – and any land use changes are carefully planned to avoid disturbance to nesting and wintering locations. SNH will assist land managers and others in planning existing or proposed land uses in a manner sensitive to the needs of the natural features.
- 2. To maintain the extent and condition of upland habitats and blanket bog.** The condition of these habitats is influenced by numerous factors, including grazing, drainage and muirburn. SNH will offer land managers support and advice to manage the habitats in a manner likely to optimise their condition and their value to breeding and wintering birds.
- 3. To maintain the condition and extent of the geological exposures of the Dippal Burn** by ensuring sampling from exposures only takes place in accordance with the Geological Code and that wherever possible photographs rather than samples should be taken. Fossil collecting should only be carried out by

experienced researchers and subject to the recognised Fossil Collecting Code of Practice. Any finds should be reported to SNH and the local museum service and appropriately catalogued and photographed. Outcrops should also be safeguarded from vegetation encroachment and access to the site should follow the Scottish Outdoor Access Code (SOAC).

### **Other factors affecting the natural features of the site**

Heather beetle: Recent years have seen some severe damage to heather stands by heather beetle. There are no practical means to control such outbreaks, which are typically reversed through a form of natural biological control whereby a host-specific parasitic wasp increases in number to infect much of the beetle population. The beetle and parasitic wasp vary in abundance in a cyclical manner, such that infestations are likely to recur periodically.

Development: By virtue of their open and exposed character, the upland areas of the SSSI are the subject of considerable interest for windfarm development. All such proposals within or close to the SSSI must be assessed in light of their implications for the site's natural features and for the conservation objectives of the SPA.

Date last reviewed: 30 June 2008