



Scottish Natural Heritage

## HOY

### Site of Special Scientific Interest

#### SITE MANAGEMENT STATEMENT

Site code: 798

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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

Hoy Site of Special Scientific Interest (SSSI) is located on the island of Hoy and extends down the west coast from the Bay of the Tongue on the north coast to Tor Ness in the south. The SSSI covers a large part of the interior of the island and reaches as far as the east coast between Lyre Geo and Chalmers Hope.

The northern part of the site consists of two steep-sided hills rising to 479 metres (m) at Ward Hill and 433 m at Cuilags. These hills have gently rounded summits, summit plateau ridges and spurs (ridges projecting from the side of the hill). The exposed nature of these hills has led to the development of extensive wind-clipped heath, eroded ground and rocky fell-field (slopes where processes of frost and wind has given rise to characteristic plants).

In contrast, the southern section is composed of more gently rolling hills with large areas of plateau at around 230-350 m. This part of the site is covered with extensive wet heath and blanket mire.

Most of the site is composed of Old Red Sandstone with calcareous (calcium-rich) bands of rock. High sea cliffs dominate the coast rising to 338 m at St John's Head on the west coast of Hoy, which is one of the highest headlands in Britain.

The site contains a diverse range of habitats and geological interests which support a wide range of species.

#### Geological

Coastal Geomorphology: Hoy is mainly composed of rocks of the Upper Old Red Sandstone and this is the only location for rocks of this age in Orkney. Sandstone is a sedimentary rock (composed of minerals or rock fragments deposited as sediment) and is more susceptible to erosion than rocks formed from lava. This has led to the creation of dramatic land and seascapes which display the effects of weathering and coastal erosion. The coast from Rora Head to Yellow Rock shows these weathering processes to good effect. Spectacular examples of various cliff forms, cliff-top spray erosion,

geos, caves, arches and stacks at different stages of development, are present along the coast. These include the Old Man of Hoy which rises to 137 m and is the tallest sea stack in Britain. The changing face of the Old Man can be seen in pictures and photographs. In 1750 the area was shown as a headland, but by the 1820s the sea had carved a stack and arch from the land. Sometime during the 1800s the arch was washed away, the remains of which can be seen as rubble lying between the stack and the adjacent cliffs.

**Old Red Sandstone Igneous:** The cliffs adjacent to Top of the Head contain interesting exposures of the Hoy Volcanic Formation. These consist of layers of igneous rock (cooled volcanic ash and lava), resting upon Hoy sandstone. Comparison of these layers with similar deposits elsewhere in the Orcadian basin (Shetland, Orkney and north Scotland) and further afield in the Midland Valley helps us to understand long-term environmental change.

**Quaternary:** Hoy SSSI displays most of the classic features of an area shaped by glaciers during the Ice Age. Enegar's Corrie and Dwarfie Hamars are the most northerly corries in Britain. Moraines are composed of rocks, boulders and other material carried and deposited by a glacier to form these landforms. Ward Hill, Orkney's highest hill at 479 m, has many ancient and active periglacial landforms, produced by the action of wind and freezing and thawing. These have developed over at least the last 10,000 years and include turf-banked terraces, hill dunes, wind stripes and composite strip/terrace formations.

**Devonian:** The north-west coast of Hoy provides exposures of the Hoy Sandstones. These sedimentary rocks were laid down during the Devonian age around 420 – 350 million years ago. There are clear examples of sandstone deposits which were created from sediment which was both carried by glacial meltwater and by wind (Aeolian deposits). The former includes braided stream patterns, where meltwater streams became blocked by debris and diverted and reformed. These exposures are important in the interpretation of geographical and environmental change in the area during the Devonian period.

The geological features were assessed in January 2003 and found to be in favourable condition. Their extent, composition, structure and visibility were maintained, as was their accessibility. The condition of the Quaternary features was assessed in August 2003 and considered favourable. The extent, composition, structure and morphology of the moraines and the periglacial landforms and deposits on Ward Hill were maintained.

### Biological

The biodiversity interest of the site lies in the extensive and relatively undisturbed upland habitats and the species these habitats sustain. Hoy SSSI supports a mosaic of acidic northern montane and moorland habitats including dwarf-shrub heath, acid grassland, blanket bog, and fen, marsh and swamp. Hoy's plant life is extremely diverse and species which are scarce in similar areas are abundant here.

Blanket bog is an internationally rare habitat that develops only in areas with a cool wet climate, where water evaporates slowly and the ground is waterlogged. Dead vegetation is not decomposed in such saturated conditions but instead builds up to form peat. Blanket bog supports only a limited range of plants that can live in very nutrient-poor conditions, notably deer grass, cotton-grass and bog-mosses. Over 4000 ha of undisturbed blanket bog is present within the SSSI. Peat mounds also occur, a feature mainly found in northern peatlands.

The varied surface of the mire complex includes a range of pools and lochans. These

dystrophic (acidic and nutrient-poor) water bodies are stained yellow or brown through exposure to peat. They are widely developed and are the best examples of their kind in Orkney, in terms of size, diversity, topography and altitude..

Many of the plants found on Hoy grow elsewhere in Scotland but at much higher altitude. For example, plants on the summit of Ward Hill at 479 metres include bearberry, Alpine bearberry, trailing azalea and dwarf willow, which are similar to those found on the Cairngorms at 1,000 metres. Other Arctic-Alpine plants grow where the soil is rich in calcium, in places like Quoyawa. Mountain avens, alpine meadow-grass, holly fern, alpine saw-wort, purple saxifrage, yellow saxifrage and starry saxifrage are also present. In Orkney, many of these can only be seen in Hoy and others occur only rarely elsewhere.

Berriedale, in the north-west of the site, holds the most northerly natural woodland in Britain. The dominant trees are downy birch with rowan, aspen and hazel while below the wood, there is a larger area of regenerating downy birch, rowan and willow. Patches of willow scrub occur locally throughout the site.

Upland assemblage, blanket bog and dystrophic loch habitats were monitored in August 2004. They were all found to be in good condition. The woodland was surveyed in July 2009, its extent and composition were maintained.

This diverse range of habitats provides an assortment of nesting and foraging habitats for many species of bird. The moorland supports a nationally important breeding bird assemblage which includes (common Orkney names follow in brackets): hen harrier (catabally), buzzard, merlin, red grouse (Muir-hen / Mirran), golden plover (Pliver), dunlin (Boondie), snipe, curlew, redshank, common sandpiper, short-eared owl (cataface), stonechat, wheatear, raven and twite.

Great skua (Bonxie), Arctic skua (Scootie Allan) and great black-backed gull (Baakie) can also be found nesting inland. Almost 2,000 pairs of great skua are present on the site, making Hoy the most important nesting area in Orkney. Large populations can be found at The Berry and Bailie Fea. The various inland pools and lochs provide nesting habitat for large numbers of red-throated divers (Rain Goose).

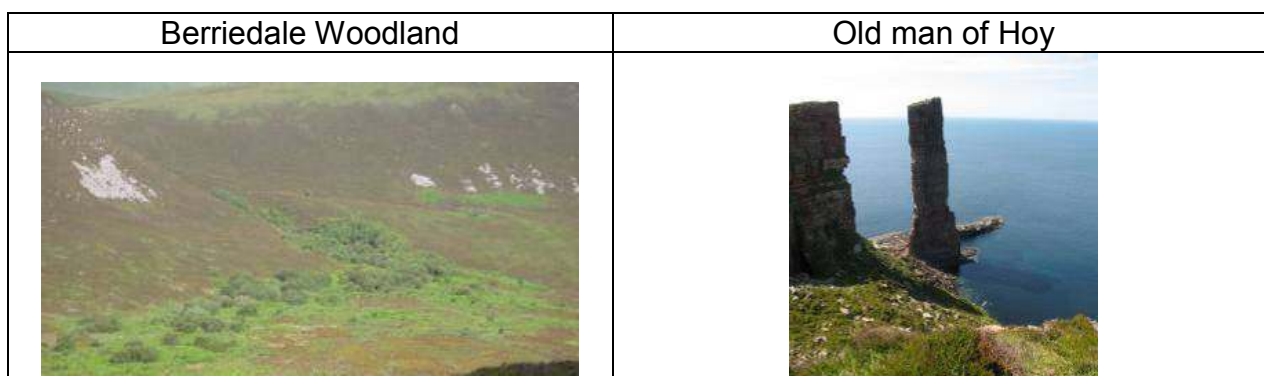
The site supports up to seven nesting species of birds of prey including significant numbers of peregrine. There are at least six sites where peregrine nest and these birds can be found on cliffs inland and on sea cliffs. The cliffs also support a vast array of species comprising fourteen different species including: fulmar, guillemot, razorbill, shag, black guillemot (tystie), herring gull, puffin and kittiwake.

The assemblage of breeding moorland birds was last monitored in May 2008. It was found to be in favourable condition, based on the range of species recorded and the extent of suitable habitat. Peregrine and red-throated diver populations were surveyed in 2007 and their numbers were maintained since the previous survey. The status of the seabird colony was assessed in 2000 and considered in favourable condition. However, the survey of fulmars and guillemots in June 2007 showed a significant decline in population numbers, possibly caused by food shortages. The population of great skuas was monitored in May 2000 and great black-backed gulls in July 2000. Both colonies were in favourable condition. The Arctic skua colony was surveyed in June 2009. The number of territories had dropped since the site was notified from 59 to 15, giving the feature an unfavourable, declining status. This decline is believed to be a consequence of food shortages and possibly competition for territory with great skuas.

Other Interests: Hoy is also the only place in Orkney where mountain hares are found.

Berriedale is also an important location within Orkney for butterflies and moths. Some moths found here are not known from moorlands on the mainland and at least one, the juniper carpet moth, has formed its own very distinct subspecies.

<b>Natural features of Name of site SSSI</b>	<b>Condition of feature (date monitored)</b>	<b>Other relevant designations</b>
Coastal Geomorphology of Scotland	Favourable, maintained (January 2003)	
Old Red Sandstone Igneous	Favourable, maintained (January 2003)	
Quaternary of Scotland	Favourable, maintained (August 2003)	
Non-marine Devonian	Favourable, maintained (January 2003)	
Blanket bog	Favourable, maintained (August 2004)	Special Area Conservation (SAC)
Dystrophic loch	Favourable, maintained (August 2004)	SAC (Acid peat-stained lakes and ponds)
Upland assemblage	Favourable, maintained (August 2004)	
Upland oak woodland	Favourable, maintained (July 2009)	
Arctic skua ( <i>Stercorarius parasiticus</i> ), breeding	Unfavourable, declining (June 2009)	Special Protection Area (SPA)
Breeding bird assemblage	Favourable, maintained (May 2008)	
Fulmar ( <i>Fulmarus glacialis</i> ), breeding	Unfavourable, declining (June 2007)	SPA
Great black-backed gull ( <i>Larus marinus</i> ), breeding	Favourable, maintained (July 2000)	SPA
Great skua ( <i>Stercorarius skua</i> ), breeding	Favourable, maintained (May 2000)	SPA
Guillemot ( <i>Uria aalge</i> ), breeding	Unfavourable, declining (June 2007)	SPA
Peregrine ( <i>Falco peregrinus</i> ), breeding	Favourable, maintained (May 2007)	SPA
Red-throated diver ( <i>Gavia stellata</i> ), breeding	Favourable, maintained (August 2007)	SPA
Seabird colony, breeding	Favourable, maintained (April 2000)	SPA



Hoy SSSI is designated as Hoy Special Area of Conservation (SAC) for the European habitats and species and is also designated as part of Hoy Special Protection Area (SPA) for the birds listed in the tables above and below.

Features of overlapping Natura sites that are not notified as SSSI natural features	Condition of feature (date monitored)	Designation (SPA or SAC)
Alpine and subalpine heaths	Unfavourable, declining (August 2006)	SAC
Base-rich fens	Favourable, recovered (June 2004)	SAC
Dry heaths	Unfavourable, declining (August 2007)	SAC
Hard-water springs depositing lime	Favourable, maintained (August 2006 <sup>1</sup> )	SAC
Plants in crevices on base-rich rocks	Unfavourable, declining (August 2006)	SAC
Vegetated sea cliffs	Favourable, maintained (July 2003)	SAC
Wet heathland with cross-leaved heath	Favourable, maintained (August 2004)	SAC
Kittiwake ( <i>Rissa tridactyla</i> ), breeding	Unfavourable, declining (June 2007)	SPA
Puffin ( <i>Fratercula arctica</i> ), breeding	Unfavourable, declining (June 2004)	SPA

### Past and present management

The SSSI is managed by a number of owners and occupiers who maintain traditional use of the site as grazing for cattle and sheep and for small scale domestic peat cutting. The Royal Society for the Protection of Birds (RSPB) manages part of the site as a nature reserve.

Grazing levels reached a peak in the mid-1980s when around 3,000 farm animals used the site for rough grazing. The site is still used for rough grazing but at much reduced levels. This limited grazing together with limited burning has allowed a diversity of vegetation to develop which is unusual for British moorland.

Part of the site has been subject to management agreements with owners and

<sup>1</sup> Provisional, site conditioning monitoring process being completed

occupiers with specified grazing regimes designed to benefit the natural features. This practice of low or no grazing across the site maintains the habitats and the diversity of the vegetation.

The island water supply comes from lochs within the SSSI namely, Sandy Loch, Hoglinns Loch and Heldale Water. Fresh water fishing takes place within the site and Heldale Water has been stocked by the Orkney Trout Fishing Association.

Part of the north of the site is owned by The RSPB and is managed as the Hoy Nature Reserve. As part of the management, the RSPB are encouraging the expansion of native woodland using local seed sources. Hoy is an important source of native seeds which are used to reintroduce native trees throughout Orkney. There are several footpaths on the site and the one leading to the Old Man of Hoy attracts a lot of visitors. The Hoy Warden provides information and leads guided walks for visitors to the site.

The site attracts a range of visitors who come to see the wildlife, geology or to take part in outdoor pursuits such as climbing. Several archaeological sites such as the Bronze Age settlement and Neolithic tomb also attract visitors.

The Island of Hoy Development Trust was established in 2007 to explore ways to encourage the sustainable development of the island. They manage the South Isles Ranger Service which delivers advice and information to visitors and locals and also provides guided walks.

**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 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).

The objectives for site management are:

**1. To maintain the coastal landforms, Old Red Sandstone, Quaternary and Devonian geological interests in favourable condition by:**

- Allowing natural erosion processes to continue without intervention (where safety is not involved)
- Ensuring that landforms or rock exposures are not obscured by e.g. coastal protection works or storage of materials. Some of the surface glacial features are vulnerable to erosion by trampling and vehicle use. Encouraging visitors to keep to recognised paths is helpful.

## **2. To maintain the blanket bog in favourable condition by:**

- Maintaining grazing at levels which provide a sward of mixed height and avoid damage from trampling.
- Replacing turfs during peat cutting with vegetation side uppermost.
- Ensuring that any fires do not spread onto blanket bog where the bog mosses which sustain the habitat could be lost. ( as set out in the Muirburn Code)
- Locating stock feeding points on firm dry ground, where poaching or enrichment of surrounding ground will be limited.

## **3. To maintain the assemblage of upland habitats in favourable condition by:**

- Maintaining grazing at levels which provide a sward of mixed height and avoid damage from trampling. Heathland is sensitive to high grazing pressure, especially as heather growth is slow at this exposed location. Current livestock grazing regimes are appropriate to maintain upland habitats in good condition.
- Preventing any fires from spreading on to short, patchy vegetation where the peat or shallow soils are exposed.
- Locating stock feeding points on firm dry ground, where poaching or enrichment of surrounding ground will be limited

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The Rural Development Contracts - Rural Priorities scheme provides support for the management of moorland habitats.

## **4. To maintain the dystrophic lochs in favourable condition by:**

- ensuring the low nutrient status of the lochs is maintained. This is best achieved by avoiding the use of fertiliser within the catchments. Generally, their remote location and management of the site as unimproved moorland help protect them from nutrient enrichment.

## **5. To maintain the native upland woodland in favourable condition by:**

- protecting the woodland from overgrazing. (Overgrazing prevents seedlings from developing further).
- encouraging natural regeneration (largely by avoiding grazing ) in suitable locations such as sheltered gullies and valleys.
- Removing any non-native invasive species

## **6. To maintain the assemblage of moorland breeding birds in favourable condition by.**

- Maintaining the habitat in good condition, with a mixture of short vegetation for feeding areas and taller nesting cover.
- minimising disturbance during the breeding season, especially from recreational activities

There is little fencing on the site. Erecting new fences should be avoided, where possible, so as not to create hazards for birds.

**7. To maintain the seabird colony in favourable condition by:**

- Ensuring the cliffs remain suitable for nesting, especially by minimising disturbance.

**8. To maintain the nationally important populations of breeding great skuas, great black-backed gulls, peregrines and red-throated divers in favourable condition by:**

- maintaining the moorland habitat in good condition (as above).
- avoiding disturbance during the breeding season
- maintaining a high water table by avoiding new drainage.. Red-throated divers in particular are sensitive to changes in the levels of bog pools.

**9. To restore the nationally important populations of breeding arctic skuas, fulmars and guillemots to favourable condition by:**

- maintaining the moorland habitat for arctic skuas in good condition (as above).
- avoiding disturbance during the breeding season

Other factors affecting the populations tend to be related to conditions at sea, particularly the availability of sand eels. These factors cannot be influenced by site management.

Date last reviewed: 28 March 2012