



Scottish Natural Heritage
Dualchas Nàdair na h-Alba

All of nature for all of Scotland
 Nàdair air fad airson Alba air fad

DURNESS
Site of Special Scientific Interest

SITE MANAGEMENT STATEMENT

Site code: 580

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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.

This statement is available in Gaelic on request.

Natural features of Durness SSSI	Condition of feature (and date monitored)	Other relevant designations
Arenig-Llanvirn (geology)	Favourable, maintained (July 2008)	
Cambrian-Tremadoc (geology)	Favourable, maintained (February 2000)	
Moine (geology)	Favourable, maintained (July 2008)	
Coastal geomorphology	Not monitored	
Base-rich loch	Favourable, maintained (July 2004)	Special Area of Conservation (SAC) (Calcium-rich nutrient-poor lakes, lochs and pools feature)
Dryas heath	Unfavourable, no change (September 2004)	SAC (Alpine and subalpine calcareous grasslands feature)
Limestone pavement (vegetation)	Unfavourable, declining (September 2004)	SAC
Maritime cliff (vegetation)	Unfavourable, no change (September 2004)	
Sand dune (vegetation)	Unfavourable, no change (September 2004)	SAC (Dune grassland, Humid dune slacks, and Shifting dunes with marram features)

See Annex 1 for a list of natural features of Durness Special Area of Conservation that are not notified features of Durness SSSI.

Description of the site

Durness Site of Special Scientific Interest (SSSI) lies on the north Sutherland coast, immediately west of Durness. The site covers the area around the Kyle of Durness and includes the headlands of Balnakeil and Faraid Head. A range of nationally important coastal and upland habitats are present, as well as internationally renowned geological exposures. Part of the site is designated as Durness Special Area of Conservation (SAC) for features of European importance, some of which are also SSSI features as shown in the table above.

Arenig-Llanvirn and Cambrian-Tremadoc (geology)

The coastal rock exposures around the Kyle of Durness and on the south side of Balnakeil Bay, together with the inland exposures south of Loch Croispol, are the 'type' locality for a series of sedimentary rocks dating from the Cambrian and Ordovician periods of geological time. These were deposited in an ancient sea between 540 and 470 million years ago. The 'type locality' is the place where a particular rock type is first identified. There are excellent exposures of Cambrian-Tremadoc age (~540-490 million year ago) which form the lowest part of this rock sequence where it lies on top of much older rock. The upper part of the sequence of Arenig-Llanvirn age (~490-470 million year ago) is known as the 'Durness Group', or 'Durness Limestone'. The Durness Group is made up of limestone and magnesium-rich limestone known as dolomite. The upper (younger) parts of the Durness Group contain a varied molluscan fossil fauna, which is similar to that recognised in North America and Greenland. This provides evidence that Scotland may have been part of the same continental landmass as North America. The Durness limestones thus provide key evidence in our understanding of the geography and environment of the North Atlantic region around 500 million years ago. The Arenig-Llanvirn and Cambrian-Tremadoc geological features were monitored (in July 2008 and February 2000 respectively) and both were found to be in favourable condition.

Moine (geology)

Exposures of older, metamorphic rocks (rocks which have been altered under the action of heat and pressure) can be found on Faraid Head. These rocks were formerly sandstones, siltstones and mudstones, and belong to the 'Moine Supergroup'. The rocks of the Moine Supergroup were moved westwards over other rocks, along a fault or fracture called the 'Moine Thrust', during massive continental collisions around 430 million years ago. To the west of Loch Eriboll, most of the Moine rocks have now been eroded away; so the Moine rocks which remain at Faraid Head are unusual and important. They are the most north-westerly outcrop of the Moine Thrust and its overlying Moine rocks in Scotland, and have played an essential part in our understanding of this major geological structure and the formation of the Northwest Highlands. The geological Moine feature was monitored in July 2008 and found to be in favourable condition.

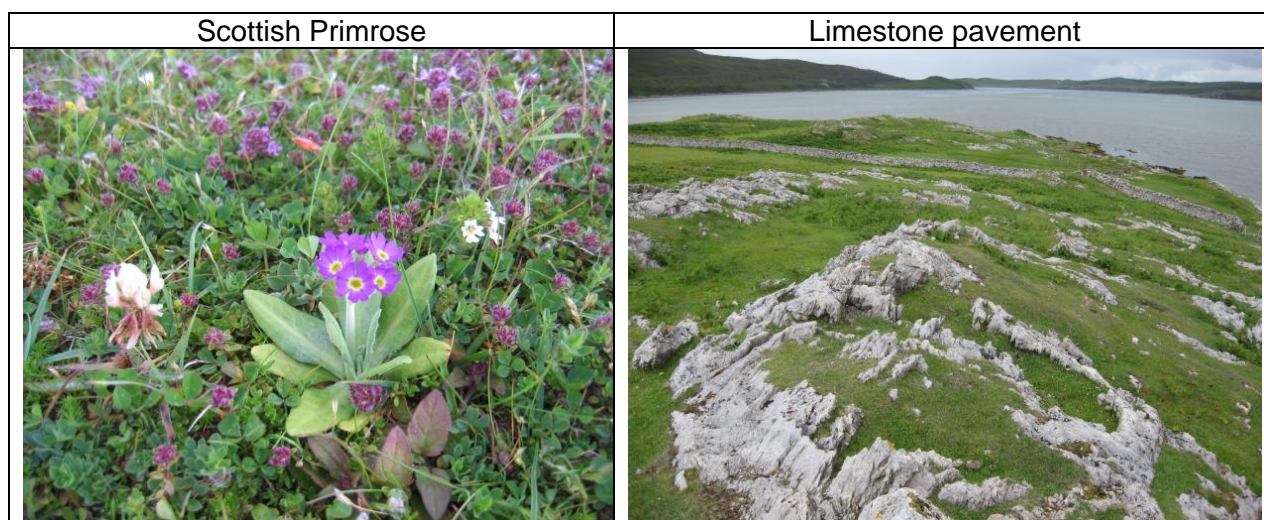
Coastal geomorphology

The 3km-long peninsula of An Fharaid encloses Balnakeil Bay and lies at the entrance to the Kyle of Durness. It contains a spectacular array of beach and dune landforms, ranging from undercut dune face to large and active dune blowthroughs. There are large, wide and steep sided blowthrough corridors (25m deep and 400m long) and sand is carried in the wind across An Fharaid, from the beaches on the west coast to cascade over a prominent cliff on the east. Coastal grassland vegetation has stabilized much of the blown sand deposits at higher altitudes in the north and east of the peninsula. This contrasts markedly with the lower altitude stable vegetated slopes and

the lower altitude, highly active dunes and blowthrough corridors. The dunes at Balnakeil are some of the most active in Scotland and display the interaction between the erosion and deposition of sand. Waves undercut and erode the front of the dune whilst the high velocity winds drive the eroded dune sand inland and uphill. This is a newly notified feature and therefore any changes in the condition of the feature will be measured against a baseline established in 2008.

Base-rich loch

Four marl lochs occur in this area. It is rare for freshwater lochs to lie on limestone because it is usually free-draining. In some areas, shallow, stony areas of the lochs are colonised by shore weed, alternate-flowered water milfoil, stonewort and pondweed. Extensive areas of stoneworts interspersed with pondweed, spiked water milfoil and mare's tail are found growing submerged in deeper water. The nationally scarce pondweed species *Potamogeton filiformis* was recorded frequently in shallow water around the loch. This feature was monitored in July 2004 and found to be in favourable condition.



Dryas heath

The coastal grasslands grade almost imperceptibly into heathland communities on the Balnakeil headland where wind-pruned heaths occur on exposed summits. A rare plant community - mountain avens *Dryas octopetala* heath - grows amongst the limestone outcrops on brown calcareous loam soils. At the coast, these *Dryas* heaths merge with ground which is strongly influenced by blown shell sand. Here creeping willow *Salix repens* occurs commonly in the vegetation.

This area contains the best *Dryas* heaths in Britain and the only ones which rival those of the Burren (County Clare, Ireland). Other montane species associated with the *Dryas* heaths include alpine bistort *Polygonum viviparum*, yellow mountain saxifrage *Saxifraga aizoides*, twisted whitlow-grass *Draba incana* and hair sedge *Carex capillaris*. This habitat is not presently realising its full potential. The *Dryas* heath was monitored in September 2004, and was found to be in unfavourable condition due to the lack of typical species in this habitat, spread of bracken and heavy grazing pressure on the heath. Burning has also had a negative impact on the inland areas of the site.

Limestone pavement

The Durness limestone of the Balnakeil headland is blanketed with sand and, in places where the soil and sand cover is thin, limestone pavements are exposed. These pavements are found at only three other sites in Scotland and support a rich flora including holly fern and burnet rose. The deeper grikes (hollows) of the limestone pavements support a relict woodland flora with scrub birch and hazel. The presence of invasive species and the loss of dark red helleborine from the site (which was present in previous surveys in 1999 and 1975) are likely to be associated with intensive grazing by sheep and rabbits over recent decades. When monitored during September 2004, overall the limestone pavement was found to be in unfavourable and declining condition due to the loss of the above mentioned key indicator species and the spread of bracken.

Maritime cliff and Sand dune (vegetation)

Extensive sand dunes have formed between Keoldale and Balnakeil and along the peninsula leading to Faraid Head. All stages in the development of sand dunes can be seen at the site, from mobile dunes on the foreshore to fixed dunes with marram and climbing dunes and dune grassland further inland. Further north, the cliffs on the east side of Faraid Head are notable for their array of flowering plants associated with the cliff-top grasslands and cliff ledges such as sea aster, common scurvy-grass and rock Samphire. When monitored during September 2004 overall the sand dunes and maritime cliffs were found to be in unfavourable condition because there was too much rabbit grazing and past vehicle damage on the sand dunes had created bare ground and reduced moss cover within the habitat. Stock feeding practices are also of concern in some areas.

Other interests

Loch Borrallie is the only marl loch in Britain to contain a population of Arctic char. This native species is a member of the salmon family and has its UK stronghold in the Highlands of Scotland. Loch Borrallie has significant areas of deep water that act as a refuge for this species. In the UK, Arctic charr is now considered to be threatened and declining in range due to climate, land use changes and species introductions.

A population of rare white clawed crayfish *Austropotamobius pallipes* has been introduced to Loch Croispol. Although they do not form part of the notified interest of this SSSI, they are considered a globally vulnerable species and are protected. This species of crayfish, which can grow up to 10cm in length, is Britain's only native freshwater crayfish and is naturally absent from Scotland. It favours relatively hard, mineral-rich waters on calcareous rock, making Loch Croispol a very suitable habitat for this translocated population. Across Britain this species has suffered due to pollution, habitat loss and, more recently, the introduction of non-native crayfish species – particularly the North American signal crayfish. Consequently, these non-native signal crayfish pose a threat not only because some are disease-carriers, but also through predation and competition with white-clawed crayfish.

Puffins breed on the cliffs on the east side of Faraid Head in burrows under grasslands rich in wild flowers. Scottish primrose *Primula scotica* is a notable flowering plant on the site. Otters also forage, and may even breed, on this site.

There have been several recent records of the great yellow bumblebee in the Durness area. This nationally scarce species of bee has been in decline for a number of years across the UK and is now found only on the north and west coasts of Scotland including Orkney and the Hebrides. Conservation of this bee involves encouraging extensive areas of the main food plants to flower. The main food plants in north Sutherland are bird's-foot-trefoil, white clover, vetches and members of the knapweed family.

Past and present management

Historically, the majority of the site has been managed for sheep and cattle grazing, which continues today. There are farms, crofts and common grazings within the SSSI. Some areas of the site which have been notified for their geological interests have been fertilised. All terrain vehicles (ATVs) are regularly used for agricultural purposes. Rabbits have caused severe erosion and grazing impacts in some areas of the site and many owners and occupiers regularly attempt to control rabbit numbers, mostly by shooting. A management agreement currently exists between SNH and the Keoldale Stock Club with the aim of reducing rabbit numbers.

A RSPB-led scheme to benefit corncrakes is in place on Durness SSSI. This involves erecting fences to exclude livestock from certain field corners between April and October to encourage both early and late vegetation cover for the birds.

A small amount of sand extraction takes place from below the mean high water mark at Balnakeil beach. This is for domestic and agricultural use only.

Salmon fishing occurs on the River Dionard and the limestone lochs are popular with trout fishermen. Active management of the fisheries occurs with the stocking of native brown trout into lochs. A jetty and a footbridge are maintained on Loch Croispol. Loch Borralie provides the domestic water supply for Durness.

Durness Golf Course covers approximately 40ha of the site. A management agreement currently exists between SNH and Durness Golf Club, which ensures practices such as the mowing of fairways, use of vehicles and the use of chemicals are compatible with the SSSI features. A programme of rabbit and erosion control and the restoration of damaged areas has also taken place on the golf course.

The Ministry Of Defence (MOD) owned land on the tip of Faraid Head is used during military training exercises in conjunction with the Cape Wrath military firing range. This facility serves as a Control Centre during live fire exercises, the largest of which is the international Joint Warrior exercises which occur 2 or 3 times per year. The MOD employs a contractor to maintain the road to the Faraid Head facility. This involves moving sand and placing it on the westerly side of the roadway.

The area is popular with visitors who mainly walk along the coastal areas of the site. A Highland Council Ranger is based in the village of Durness and organises guided walks and provides visitor information. Within the dune systems occasional wild camping also occurs.

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

We wish to work with land managers to protect the site and to maintain and where necessary enhance its features of special interest. SNH aims 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, 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). The list of Operations Requiring Consent, and the discussions on land management involved in the issuing of formal consents, are intended to minimise the threat of any damage to the natural features.

1. To improve the condition and extent of the coastal habitats – maritime cliff and sand dunes.

The level of grazing is a key factor maintaining the plant diversity in many of the notified habitats and crucial to the condition of vascular plant populations. Over much of the site, stocking is at a level at which there is no obvious damage to the coastal habitat vegetation from over-grazing or trampling, and this level of grazing should continue. However, there are some localised areas of heavy stock grazing and these areas would benefit from a reduction in stock numbers. Rabbits are a serious concern causing overgrazing and erosion on some habitats. The present programme of rabbit control should continue and be increased in seasons and locations where populations are still flourishing. The effectiveness of rabbit enclosures and stabilisation work should be assessed and expanded to other areas where appropriate. Redundant rabbit enclosures should be removed once the erosion is stabilised. Ploughing, re-seeding or fertilisation of the ground is likely to damage the rare plants on Durness SSSI, so these activities should be avoided. Any developments should be carefully sited and designed to avoid any loss to the extent of coastal habitats.

2. To improve the condition and extent of heath and upland habitats including limestone pavement.

The level of sheep grazing within these habitats appears to be causing some damage to the plant communities. Where this is occurring, a reduction in stock numbers would be beneficial. However, continued grazing by livestock at a suitable level is essential for the maintenance of these habitats. Burning has damaged the site in the past. The vegetation in these upland habitats is slow growing and widespread hot fires can cause serious and long-lasting damage. Grazing and trampling pressures on burned habitats can exacerbate this damage and can also lead to the spread of bracken. The Muirburn Code should be followed to ensure that fires do not get out of control. The spread of bracken is in the process of being addressed with funding from the Rural Development Programme. Work will be carried out over the next several years and will involve the mechanical cutting of bracken.

3. To maintain the condition of the base-rich lochs.

The water quality of these lochs should be maintained by the continued restriction on petrol-engine boats and restraint in the use of fertilisers, herbicides and other chemical compounds in the loch catchments. It is vital for vegetation growing in the loch shallows that the water level in the lochs is maintained. The poor state of repair of

dams could potentially threaten this objective. Under the Reservoir Act 1975, it is the owner's responsibility to maintain dams.

4. To allow natural processes to shape the dune system and its vegetation at Balnakeil Bay.

The dune system should be allowed to evolve naturally through the processes of erosion and accretion. This requires minimal human interference. Damage to the dunes can be caused by excessive trampling or overgrazing. If human trampling is destabilising the dunes, then improved visitor information may be needed. The presence of stock and rabbit-induced erosion also have the potential to cause damage to the dune area. Improvements have been achieved by a combination of stock reduction and the control of rabbit numbers, although rabbits require continuous control. Continued stock feeding at some of the places used in the past is compatible with conservation management of the sand dune area. Detailed advice should be sought from SNH regarding which places are appropriate to feed stock because feeding in sensitive parts of the dune system is likely to cause artificial enrichment of the ground by increased dunging and introduce undesirable species such as nettles.

5. To maintain the extent, visibility and accessibility of the geological features.

The geological sites are remote and unlikely to be affected by major developments or excavations that would reduce their extent. Surrounding vegetation is not encroaching upon the features and the current level of grazing seems sufficient to maintain the visibility and accessibility of the outcrops.

6. To maintain suitable otter habitat across the site and avoid activities that might disturb otters. This objective can also be achieved by maintaining the present management that allows natural processes to continue with minimal intervention. Any known otter holts should not be disturbed. To safeguard the food supply of otters, water quality in burns, rivers and lochs should be maintained by avoiding activities that might add excess chemicals, nutrients or sediment. If any management is planned that might affect banks or piles of boulders where there could be otter holts, advice should be sought from SNH on how to avoid impacts on otters. Any fencing on the site that is likely to cross otter routes should have mesh with a large enough gauge to allow otters to pass through.

Other factors affecting the natural features of the site

Off-road vehicles: Frequent use of both recreational and agricultural off-road vehicles such as trail bikes and quad bikes in the sand dunes and coastal habitats would damage the vegetation. This could lead to the formation of large artificially-induced blowthroughs in the dunes and erosion that would be very difficult to control. Such activity should be reported to SNH.

Trampling by visitors: Large numbers of visitors walking through the dunes to the beaches could trample the vegetation, leading to erosion. Provision of paths may help to avoid this potential problem.

Date last reviewed: 3 June 2010

Annex 1 List of natural features of overlapping Natura sites that are not notified features of Durness SSSI

Features of overlapping Natura sites that are not notified as SSSI natural features	Feature condition (date monitored)	SPA or SAC
Base rich fens	Unfavourable, no change (September 2004)	SAC
Dry heaths	Unfavourable, no change (September 2004)	SAC
Otter	Favourable, maintained (October 2004)	SAC
Tall herb communities	Favourable, maintained (September 2004)	SAC
Wet heathland with cross-leaved heath	Unfavourable, no change (September 2004)	SAC