



Scottish Natural Heritage
Dualchas Nàdair na h-Alba

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DUNCANSBY HEAD Site of Special Scientific Interest

SITE MANAGEMENT STATEMENT

Site code: 564

New address from 16 March 2009: The Links, Golspie Business Park, Golspie, Sutherland, KW10 6UB. Tel. 01408 634063 north_highland@snh.gov.uk

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 Duncansby Head SSSI	Condition of feature (and date monitored)	Other relevant designations
Coastal Geomorphology of Scotland	Not Assessed	
Maritime cliff (vegetation)	Favourable, maintained (July 2001)	
Fulmar	Favourable, maintained (July 1999)	Special Protection Area (SPA)
Guillemot	Favourable, maintained (July 1999)	SPA
Kittiwake	Unfavourable, declining (July 1999)	SPA
Seabird colony (also known as 'Breeding seabird assemblage')	Favourable, maintained (June 1999)	SPA

Features of overlapping Natura sites that are not notified as SSSI natural features	Feature condition (date monitored)	Designation
Peregrine	Favourable, maintained (April and June 2006)	SPA
Puffin	Favourable, maintained (June 2000)	SPA
Razorbill	Unfavourable, declining (June 2000)	SPA

Description of the site

Duncansby Head Site of Special Scientific Interest (SSSI) is a section of coastal cliff near the most north-eastern point on the British mainland. The site includes 6.5km of the cliffs and cliff top between Skirza Head and Duncansby Head. The site is nationally important for the coastal landforms and cliff top vegetation and internationally important for breeding seabirds.

The famous stacks at Duncansby Head are an important tourist attraction year round, as are the large colonies of breeding seabirds during the summer. The features of the SSSI are therefore of economic value to Caithness, attracting visitors to the county.

Geology

The site has been designated as an SSSI for the dramatic coastal landforms. The site has fine examples of how the sea can form a spectacular and diverse range of plunging cliffs, stacks, arches, blowholes and caves. Of particular interest is the contrast between the steep sided geos cut into massive flagstones to the north and south (such as the Geo of Sclaites), and the coastline cut into more friable and variable sandstone rocks in the central part of the site between Fast Geo and Gibb's Craig. The sandstone cliffs are higher than the flagstone cliffs, but their slopes are less steep and erode more easily.

The bedrock is layered sedimentary rock, part of the 'Middle Old Red Sandstone' which dominates Caithness. It formed under semi-arid climate conditions about 390 million years ago, in the 'Devonian' period. At this time a large lake, called Lake Orcadie covered much of Orkney and Caithness, though it varied in size over time. The rocks at Duncansby were laid down as silt and sand in relatively shallow areas of this lake and they now form extensive and continuous sandstone and siltstone layers. This pattern gives repeated variations in resistance to erosion, with the sandstone being harder and the siltstone softer. The sandstone forming the cliffs in the central part of the site is younger than the rock to the north or south and was laid down mostly by large braided rivers at a time when the lake had a lower water level and did not cover the area that is now Duncansby Head.

The stacks protruding into the North Sea at Duncansby Head have been used as text book examples (see picture at the top of the previous page). They show how surface weathering of weaknesses in the bedrock, (such as vertical fractures known as 'joints', and the horizontal joints between layers of sandstone, known as 'bedding planes') has been more effective at eroding the rock higher up the stacks than wave erosion of the base of the stacks. This has resulted in their distinctive pyramid shape, with wide bases (less eroded) and pointed tops (more eroded).

Another important feature of the site is the rock 'shore platform'. This is an almost horizontal ledge cut into the bedrock just below water level. It extends underwater for up to 100m out to sea from the foot of the cliffs. It is most visible as forming the base from which the sea stacks rise; however, the particularly important feature of this shore platform, is that landslides and continued erosion at the base of the sea cliffs are actively extending it landward.

Since the coastal landforms at Duncansby Head SSSI have only just been added to the list of notified features, they have not been monitored by SNH's Site Condition Monitoring programme.

Maritime cliff (vegetation)

Duncansby Head SSSI is designated for the maritime cliff vegetation. This is found on some of the cliff ledges and above the cliffs in a narrow strip (typically about 100m wide) dominated by grassland and maritime heath. It is of particular botanical importance for the maritime heath, which is a northern, species-rich type that is only found in Caithness, Sutherland and Orkney.



The vegetation on the cliff ledges includes species such as Scots lovage and roseroot. There are also extensive areas of species rich maritime heath and grassland on the cliff tops. The grassland areas contain characteristic plants such as spring squill and sea plantain and the maritime heath supports plant species such as heather, bell heather, crowberry, juniper and birds-foot trefoil.

The maritime heath and grassland plant communities are extensive and form a well-developed mosaic. Maritime heath (*Figure 1*) thrives on the steep slopes, often merging with cliff-top vegetation communities to give species-rich slopes, with plants such as creeping willow, sea campion, angelica, red campion and primrose.

Results of monitoring the maritime cliff vegetation in July 2001 showed it was in favourable condition. The site included key species for this habitat type such as thrift, roseroot, Scots lovage, sea mayweed and scurvy-grass. Bracken was present on parts of the site and this will be monitored in the future to ensure that encroachment by bracken does not reduce the area of maritime heath and grassland. Grasses and flowering plants were able to set seed and flower.

Seabirds



The site is also designated for its internationally important colony of breeding seabirds, in particular for the large numbers of breeding fulmar, kittiwake (*Figure 2*) and guillemot on the cliffs. In addition, razorbill, puffin, shag, black-guillemot, arctic and great skua can be found at Duncansby Head SSSI in smaller numbers. The most important areas for nesting seabirds are adjacent to and immediately south of the lighthouse in the north of the SSSI and immediately north of Skirza Head in the southern part of Duncansby Head SSSI. Most of the puffin burrows are on offshore stacks. The seabird colony was monitored in June 1999 and an increase was found in the total number of seabirds across all species since the initial survey in 1987. The seabird colony feature was assessed as being maintained in favourable condition.

<i>Figure 1. Maritime heath with heather and juniper</i>	<i>Figure 2. Kittiwake and two chicks</i>
	

Guillemot, fulmar and kittiwake are also notified features in their own right at Duncansby Head SSSI because the site holds more than 1% of the UK population of kittiwake, more than 2% of the UK population of fulmar and more than 5% of the UK population of guillemot. These birds were monitored in July 1999. Guillemot and fulmar breeding populations were found to have increased since the previous survey in 1987. As a result, they were found to be in favourable condition. However, only about half the number of kittiwake nests were recorded in 1999 compared with the previous count in 1987 and kittiwake were therefore assessed as being in unfavourable condition. Even taking this decline in kittiwake numbers into account, more than 1% of the UK population of kittiwake still bred on this site. The decline in the numbers of kittiwake may be due to a reduction in food availability for these birds since kittiwake are surface feeders and the reduction in sand eels at the sea surface has caused problems for seabirds all over Britain. Razorbill numbers had also declined for similar reasons across North Caithness Cliffs SPA (Duncansby Head is part of North Caithness Cliffs SPA).

Other interests

Duncansby Head is the most north-eastern point on the British mainland. The site hosts spectacular numbers of seabirds and the aesthetic value of the cliff faces, slopes and geos, make this a popular place for visitors. Duncansby Head forms part of an Area of Great Landscape Value. This means that the scenic nature of the area is recognised by The Highland Council. The eroded cliffs are also a good habitat for peregrines and ravens. In winter, this is a good place to watch breeding colonies of grey seals on some of the boulder beaches at the base of the cliffs.

<p><i>Figure 1. Maritime heath with heather and juniper</i></p>	<p><i>Figure 2. Kittiwake and two chicks</i></p>
	

Past and present management

The cliff tops are used as grazing pasture for sheep and possibly cattle. The cliff on the site is steep and dangerous and receives no active management. At present, almost all the site is fenced off from grazing stock but occasional sheep and cattle sometimes graze on the cliff top. Light grazing is beneficial for the vegetation. The total exclusion of grazing is likely to lead to loss of some plant species and this may become a concern in future years.

The site is popular with visitors who come to see the seabirds, stacks and grey seals. Highland Council Rangers lead guided walks along the coast. A boardwalk has been installed to assist crossing wet areas of ground just south of the lighthouse and there are interpretation boards near the lighthouse.

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 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).

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 maintain the integrity and accessibility of the geological interest

The current management of the cliffs and stacks has allowed natural processes to form the coastal landforms for which this site is designated. This management should be continued so that these landforms are maintained. Any proposals for drainage, quarrying, dumping, erection of sea defences or coastal protection works, should be carefully considered to ensure that they are compatible with the geomorphological features and the visual integrity of the site. Access to the site for educational purposes and the future removal of samples for research purposes should be allowed to further our understanding of the past environment in which the rocks were formed and current natural erosion processes.

2. To maintain the condition and extent of the maritime cliff vegetation

Most of the site is currently fenced, preventing any grazing by livestock. The ideal level of grazing is one that maintains a short sward but also enables sufficient plants to seed to maintain the characteristic mixture of species. This can be achieved by removing or reducing the numbers of livestock during the spring and summer while having more intensive grazing in autumn and winter. Coastal heath and grassland benefits from grazing since this maintains the current diversity of specialised coastal plants. Many of these plants only grow a few centimetres tall and their tiny seeds require small patches of bare ground in which to germinate. It is important for these plants that grazing maintains a short sward since they would not be able to compete against larger plants if grazing were to be removed and the grassland were to become rank. Complete removal of grazing is therefore not desirable.

Burning is not a desirable form of managing the coastal habitats and, if practiced, should be restricted to areas of long heather in the parts of the site that are furthest from the coast. Coastal heath, such as is found at Duncansby Head SSSI grows slowly in the harsh climatic conditions and rarely achieves any significant height. Therefore where the heath is grazed, it seldom requires burning. Any burning should be at long intervals and much less frequent than the minimum interval given in the Muirburn Code. Burning of the cliff vegetation can cause serious damage and is

contrary to the Muirburn Code. If vehicles are to be used off existing tracks, care should be taken not to break through the vegetation, by avoiding wet areas and not using the same route too frequently.

Stock feeding would not be desirable on the maritime heath or grassland because this can concentrate livestock in one place, causing localised trampling that could lead to formation of bare ground, followed by erosion of fragile soils. Concentrating livestock around feeding sites can also cause large amounts of dung to be left in one place. These conditions can allow the seeds of vigorous plants that are often found within hay to germinate, which would be undesirable because these plants are not typical of coastal habitats and can out-compete the slow-growing plants that grow here at present.

3. To maintain the size and distribution of the populations of breeding seabirds and to avoid significant disturbance to these birds during the breeding season

Seabirds depend on the sea for their food supply and spend most of their time at sea other than when they need to come to cliffs, such as those at Duncansby Head, to breed. Changes in the food supply can cause variation in seabird numbers. The following advice only relates to management of the land where seabirds nest.

Best practice management for the breeding seabirds includes avoiding activities that might prevent the birds from nesting on the cliffs and avoiding disturbance to the nesting birds themselves. The current management practices achieve these aims. Activities close to the edge of the cliff that might create significant disturbance to nesting birds should be carried out outwith the nesting season. The most sensitive period is April and May when seabirds are selecting their nest sites and laying or incubating their eggs. Chicks are present during June and early July. Most seabirds have left the colonies by the end of July.

Other factors affecting the natural features of the site

- Sand eels: The breeding seabirds are largely dependent on the sand eel population for feeding. Any significant decline of the sand eel population is likely to have a detrimental effect on the breeding success of the seabird colonies.

Date last reviewed: 18 June 2009