

## CITATION

**BEN LOYAL  
SITE OF SPECIAL SCIENTIFIC INTEREST  
Highland (Sutherland)**

Site code: 187

NATIONAL GRID REFERENCE: NC 590485

OS 1:50,000 SHEET NO: Landranger Series 10  
1:25,000 SHEET NO: Explorer Series 447

AREA: 4339.97 hectares

### NOTIFIED NATURAL FEATURES

|                                       |                              |
|---------------------------------------|------------------------------|
| <b>Geological: Igneous petrology:</b> | <b>Caledonian igneous</b>    |
| <b>Biological: Bogs:</b>              | <b>Blanket bog</b>           |
| <b>Upland habitats:</b>               | <b>Upland assemblage</b>     |
| <b>Woodlands:</b>                     | <b>Upland birch woodland</b> |

### DESCRIPTION

Ben Loyal Site of Special Scientific Interest (SSSI) lies at the head of the Kyle of Tongue on the north coast of Sutherland. The site is designated for its nationally important geology, blanket bog, upland habitats and birch woodland.

#### **Caledonian igneous geology**

The rocks exposed in the Ben Loyal SSSI form the majority of three intrusions of igneous rocks called syenites which are found around Loch Loyal and together are known as the 'Loch Loyal Syenites'. Taken together, the three intrusions of the Loch Loyal Syenites form the largest area of alkaline intrusive rocks in the British Isles. The Loch Loyal Syenites are also the only extensive intrusion which is composed of a particular quartz-bearing syenite called 'nordmarkite'. They include the only British example of syenites containing two chemically different types of the mineral 'feldspar'. The outer part of the main 'Ben Loyal Intrusion' was produced as a 'ballooning' mass of rock that was forced into existing rock deep within the earth. This is the only proven example of such a style of emplacement among alkaline intrusions in the northwest Highlands. Millions of years of erosion have exposed these rocks on the surface of the earth.

The Loch Loyal Syenites have been dated to approximately 425 million years ago. Importantly, they have not been affected by the Caledonian Orogeny (mountain building event), therefore helping to date the end of the Caledonian Orogeny to around 425 million years ago. The Loch Loyal Syenites therefore make a significant contribution to our understanding of Scotland's geological history.

#### **Blanket bog**

Blanket bog is found in localised areas at high altitude and extensively on the gentle, lower slopes of Ben Loyal. The dominant species are heather *Calluna vulgaris*, deergrass *Trichophorum cespitosum* and purple moor-grass *Molinia caerulea*, with abundant bog-moss *Sphagnum*. The more unusual species *S. fuscum* and *S. magellanicum* and the nationally scarce *S. austinii* occur occasionally. Bog pools and ridges are found locally.

#### **Upland assemblage (upland habitats)**

The mosaic of upland habitat types consists of moss heaths and montane dwarf-shrub heaths on the summit plateau with wet heath, heather moorland and blanket bog on the slopes. The summit ridge features a moss heath of stiff sedge *Carex bigelowii* and woolly

hair-moss *Racomitrium lanuginosum* with patches of least willow *Salix herbacea*. There are also areas of prostrate heath which include short, wind-clipped heather *Calluna vulgaris* and mountain bearberry *Arctostaphylos alpinus* with some trailing azalea *Loiseleuria procumbens*. There is a general profusion and luxuriance of lichens and a strong development of moss carpets. On the steep, west-facing slopes there is a tall-herb community dominated by blaeberry *Vaccinium myrtillus* and greater woodrush *Luzula sylvatica*. The wet heaths are dominated by heather, cross-leaved heath *Erica tetralix*, deergrass and purple moor-grass and the heather moorland by heather and blaeberry.

### **Upland birch woodland**

Woodland has formed on the western slopes over areas of block scree. Birch *Betula pubescens* and rowan *Sorbus aucuparia* are the dominant tree species. The field layer includes frequent mountain fern *Oreopteris limbosperma*, and there are a few base-rich flushes. These woods are of great lichen interest, harbouring sub-alpine, boreal, and boreo-atlantic species, including the nationally rare *Lecanora fugiens* and the nationally scarce *Alectoria sarmentosa*.

### **NOTIFICATION HISTORY**

First notified under the 1949 Act: 1963

Re-notified under the 1949 Act with an amended boundary: 1974

Re-notified under the 1981 Act: 25 February 1985 with a 182ha increase in area

Notification reviewed under the 2004 Act: 30 September 2009

### **REMARKS**

Measured area of site corrected (from 4431.4 ha).

Ben Loyal SSSI is part of the Caithness and Sutherland Peatlands Special Protection Area (SPA), which is designated for the birds listed below. Part of Ben Loyal SSSI is part of the Caithness and Sutherland Peatlands Special Area of Conservation (SAC), which is designated for the European habitats and species listed below.

Habitats : Acid peat-stained lakes and ponds  
: Blanket bog  
: Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels  
: Depressions on peat substrates  
: Very wet mires often identified by an unstable 'quaking' surface  
: Wet heathland with cross-leaved heath

Species : Marsh saxifrage (*Saxifraga hirculus*)  
: Otter (*Lutra lutra*)

Birds : Black-throated diver (*Gavia arctica*)  
: Common scoter (*Melanitta nigra*)  
: Dunlin (*Calidris alpina schinzii*)  
: Golden eagle (*Aquila chrysaetos*)  
: Golden plover (*Pluvialis apricaria*)  
: Greenshank (*Tringa nebularia*)  
: Hen harrier (*Circus cyaneus*)  
: Merlin (*Falco columbarius*)  
: Red-throated diver (*Gavia stellata*)  
: Short-eared owl (*Asio flammeus*)  
: Wigeon (*Anas penelope*)  
: Wood sandpiper (*Tringa glareola*)

