



Scottish Natural Heritage

**Kershope Bridge
Site of Special Scientific Interest**

SITE MANAGEMENT STATEMENT

Site code: 839

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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

Kershope Bridge site of special scientific interest (SSSI) is located 3 km east of the village of Kershopefoot in Liddesdale, and is situated on and alongside the Kershope Burn. At this point, the border between Scotland and England is the mid-line of the Kershope Burn, and so whilst the bulk of the geological interest feature of this SSSI lies in Scotland, a small area of the feature is present along the south side of the Kershope Burn and is located in England. This land is also designated as SSSI, under English legislation.

The site in Scotland represents an 850m length of the Kershope Burn and some land to its north, with boundaries largely defined by the middle of the Kershope Burn (boundary with England) and two tributaries on its northern bank.

The SSSI is of interest for the rock sequences present in the stream section and disused quarry at Kershope Bridge, which formed during the Carboniferous period, between 355 to 290 million years ago. Two main groups of rocks occur at the site: volcanic (igneous) and sedimentary, with good geological cross-sections comprising both types visible at the site. The sediments which formed the sedimentary rocks were in part derived from old pre-existing rocks on land through the process of erosion and were carried by rivers to be deposited into a lowland area that was often covered by a shallow, tropical sea. This area was restricted in extent, being bordered to the north and south by upland areas, and is known as the Northumberland Basin. Huge amounts of sediment accumulated in layers within the Northumberland Basin, with local volcanic activity occurring at intervals spreading lava over parts of the landscape. When the volcanic activity ceased, the lavas and volcanic ash became buried by sediments which continued to accumulate in the lowland marine environment. One of

these areas became the Kershope Bridge area. After millions of years, the Northumberland Basin ceased to exist, the sediments became rock, and subsequent movements and upheavals in the crust of the Earth tilted the horizontally bedded rock sequence, most recently during the ice age.

The sedimentary rocks found at Kershope Bridge SSSI are of three main types: sandstone, limestone and mudstone. These different sediment layers were formed within the Northumberland Basin under different environmental conditions which reflected variations in sea levels and the rate of sediment input.

The igneous rocks within the sedimentary rock sequence are the best examples of a series of rocks known as 'Kershopefoot Basalt'. There are three visually distinct types at the site. The relationship between these basalts is difficult to determine. However, it is thought that they represent different lava flows produced one upon the other at different times. The location of the volcanic vent from which they came is not known.

The intimate association of the Kershopefoot Basalt sandwiched between the thicker layers of sedimentary rock yields a considerable amount of information about the development of the ancient environment. In addition, detailed study of the rock sequence, in particular the rock chemistry of the lavas, indicates the major changes which occurred in the crust of the Earth as it continued to evolve during the Lower Carboniferous period.

The 2002 site condition monitoring (SCM) assessment found the feature to be in favourable condition as the monitoring targets were all met for the extent and visibility of the feature and access to the exposures.

This is a Geological Conservation Review site.

| Natural features of Kershope Bridge SSSI | Condition of feature (and date monitored) |
|--|--|
| Geology: Igneous Petrology: Carboniferous - Permian Igneous | Favourable – maintained (September 2002) |

Past and present management

There is a disused quarry at the site.

The SSSI forms part of Sorbietrees Farm and is grazed by livestock.

Objectives for Management

We wish to work with the owner to protect the site and to maintain and, where necessary, enhance its features of special interest. SNH will 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.

- 1. To maintain the favourable condition of the geological exposure, ensuring that any rock exposures are not obscured and that adequate access is maintained.**

Date last reviewed: 29 March 2010