



Scottish Natural Heritage
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CORRIESHALLOCH GORGE Site of Special Scientific Interest

SITE MANAGEMENT STATEMENT

Site code: 405

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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 Corrieshalloch Gorge SSSI	Condition of feature (and date monitored)
Quaternary of Scotland	Favourable, maintained (March 2007)
Fluvial geomorphology of Scotland	Favourable, maintained (March 2007)
Upland birch woodland	Favourable, maintained (May 2002)
Crane-fly <i>Lipsothrix ecucullata</i>	Favourable, maintained (July 2003)

Description of the site

Corrieshalloch Gorge Site of Special Scientific Interest (SSSI) lies in Wester Ross, 19km southeast of Ullapool. This site is nationally important for the spectacular gorge, the woodland that flanks the gorge and a nationally rare species of crane-fly that lives in the woodland. The spectacular gorge is the focus of an important tourist attraction and is a National Nature Reserve.

Quaternary of Scotland

Corrieshalloch Gorge is one of the most spectacular gorges of its type in Britain and affords striking evidence of how glacial meltwaters can create deep gorges. The gorge was formed during several episodes of glaciation during the Quaternary Ice Age

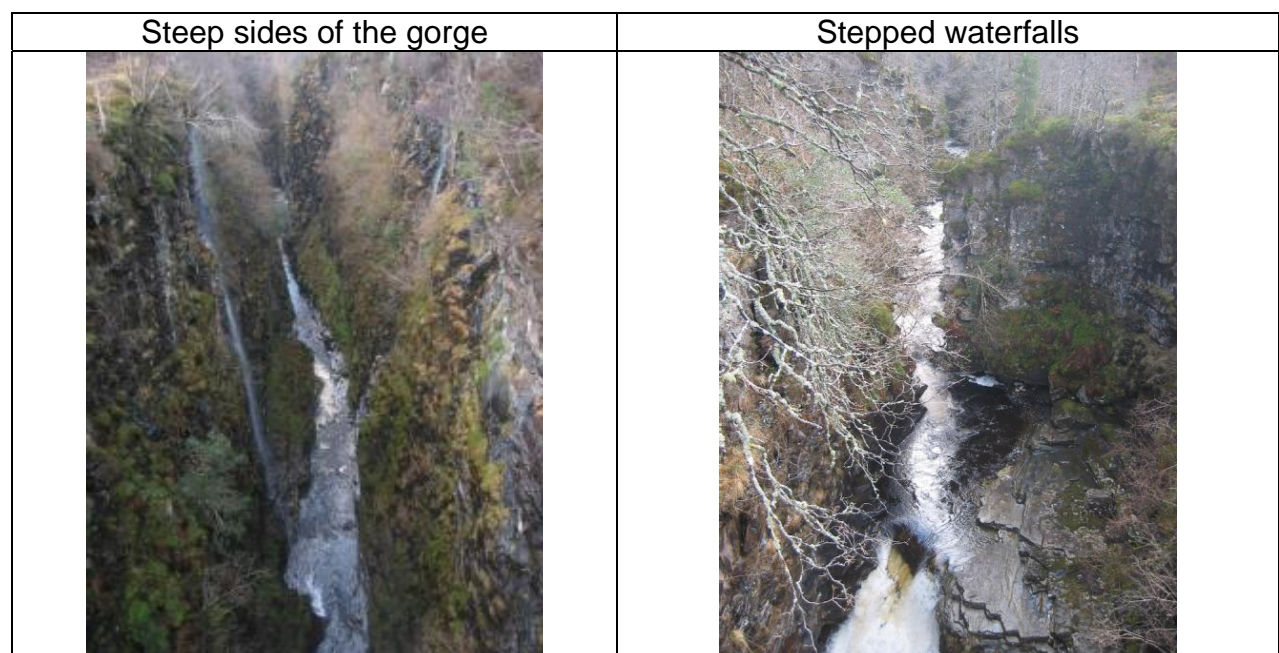
between 2.6 million and 11,500 years ago. The Quaternary is the geological period spanning the last 2 million years. The term 'ice age' is used to describe the period when the earth experienced a cyclical build-up and decay of ice approximately every 100,000 years. As the valley glaciers and ice caps which formerly covered much of the high ground in northern Scotland receded, vast quantities of meltwater were released. The erosive power of these glacial meltwater torrents is well illustrated at Corrieshalloch, where they were channelled to carve a slot gorge 1.6km in length and up to 60m in depth into the Moine bedrock. Meltwater channels form where glacial meltwaters flow under great pressure beneath the ice.

Fluvial (river) geomorphology of Scotland

This site is a particularly good example of how weaknesses in the bedrock influence the way rivers cause erosion. The shape of Corrieshalloch Gorge is controlled by vertical joints which trend northwest-southeast and northeast-southwest through the Moine bedrock. The Moine rocks that form the gorge were originally sands and muds laid down in an ancient sea around 1000 – 870 million years ago when life on earth had not evolved beyond simple life forms such as algae.

Bedrock erodes more easily along lines of weakness, and the cracks and other weaknesses in the rock that were present before the ice age have influenced the profile of the gorge. The gorge has an impressive series of stepped waterfalls and pools, including the spectacular 45m high Falls of Measach. The Abhainn Droma, which flows through the gorge today is called a 'misfit stream' because it is obvious that such a small river would not have been capable of cutting a gorge of this scale, even at peak flows. Due to the unusual geology of the Corrieshalloch area, the large volume of water that flowed here during the ice age cut a very deep narrow gorge here instead of the more normal broad, shallow valley.

Site condition monitoring on the SSSI has revealed that the physical and visual integrity of the Quaternary and fluvial geomorphic landforms at Corrieshalloch have been maintained and these features are both in favourable condition.



Upland birch woodland

The gorge has a woodland edge retaining a broad range of native tree species. Birch, rowan, hazel, oak, wych elm, holly, aspen, willow, bird cherry and Scots pine are all present. The steepness of the gorge and its edge has discouraged grazing animals and as a consequence the woodland has a well developed understorey. Grasses typical of deep shade are common with an abundance of wood millet and wood fescue, which are uncommon species in Wester Ross. Species such as blaeberry, honeysuckle, dog rose and sanicle are also well represented.

The Moine rock is nutrient-rich and the gorge is dark and humid, supporting a range of plant communities that enjoy poor light, high humidity and fertile conditions. This includes a rich Atlantic moss and liverwort flora, occurring mainly on the walls of the gorge and boulders in the stream bed.

When the woodland was monitored in 2002, the invasive shrub species *Rhododendron ponticum* was found within the SSSI and mature exotics (non native species) and potential seed sources such as larch, firs, beech and sycamore border the SSSI. Despite the presence of exotics, the range of native tree species present, their good rate of natural regeneration and a rich associated ground flora meant that the woodland was assessed as being in favourable condition.

Cranefly *Lipsothrix ecucullata*

The woodland in Corrieshalloch gorge provides suitable habitat for the nationally rare cranefly species *Lipsothrix ecucullata*. In Europe *Lipsothrix ecucullata* is rare, with a northern bias in its distribution. It is a UK Biodiversity Action Plan priority species. There are records of this species from only eight sites in Scotland.

This species was first recorded in Corrieshalloch Gorge SSSI in 1969. Larvae were found during a survey in the winter 1999-2000 in wet seepages, flushes and boggy areas above the steep rocky part of the gorge. Suitable habitat was found on both sides of the gorge, although fallen wood was not very frequent. Adults of this pale yellow cranefly are found in June or July on or close to wet areas in damp, deciduous woodlands, but they avoid acid conditions. The larvae of this species are found in shallow tunnels in very soft, well-decayed fallen timber lying partially immersed in water, where the larvae feed on fungi within the decaying wood. Branches of about 3-10cm diameter appear to be the most suitable. Larvae cranefly have been found most frequently in birch, but alder, oak, elm and pine can also provide appropriate breeding habitat. This species is thought to require high water quality.

Monitoring a small insect in a gorge with steep sides and many inaccessible places is a considerable challenge and these difficulties meant that the cranefly itself was not recorded during monitoring in 2003. However since appropriate habitat for cranefly had been maintained this species is still likely to be present. The cranefly feature was assessed as being in favourable condition.

Past and present management

Corrieshalloch Gorge SSSI lies within a wider National Trust for Scotland (NTS) land holding. The SSSI boundary also corresponds with the boundary of Corrieshalloch Gorge National Nature Reserve. NTS manages the NNR according to a Reserve Management Plan that has been agreed between SNH and NTS. The Management

Plan is reviewed on a 5-yearly basis and an annual report is produced by NTS summarising the management and use of the NNR.

The site presently forms a major tourist attraction. A suspension bridge over the Falls of Measach is a significant part of the viewing attraction and allows spectacular views of the gorge and the waterfalls. The main entrance was moved from the Ullapool road on the north side of the gorge to the Dundonnell road to the south side during a major redevelopment programme in 2006. The redevelopment also included 1.8km of new footpath, new interpretation and a new viewing platform. There is currently parking for 2 coaches and 20 cars at the new entrance and visitor numbers were in the region of 65,000 between May 2006 and March 2007.

Maintenance of the visibility of the landforms, access to them for their study and safety of that access is required for the maintenance of the favourable status of the SSSI's geological features. Consequently management for safe recreational use by visitors of the suspension bridge, viewpoint and paths contributes to the favourable assessments of the geological features during Site Condition Monitoring.

The Reserve Management Plan includes a Woodland Management Plan which looks to develop the woodland to native broadleaf and Caledonian Scots pine over the whole of the NTS property including the SSSI. Much of this work was also included under a Scottish Forestry Grant Scheme in 2005 and previous Woodland Grant Schemes. The plan prescribes that the woodland be developed and managed for the purposes of amenity, public access and conservation. Current management includes removal of exotics within the SSSI, by felling, ring barking and seedling pulling. Complete eradication is planned for *Rhododendron ponticum* within NTS property, through a process of cutting back and treatment of the stumps with herbicide. Specialist rope access contractors are employed to remove *Rhododendron ponticum* from within the gorge. In some areas natural regeneration of native species is taking place whilst in other areas planting has taken place to replace those trees felled. Deer fencing has been used to protect these areas of regrowth from grazing animals on the south-west side of the site, with the gorge acting as a natural barrier on the north-east.

Part of the catchment of the Abhainn Droma has been captured and diverted to feed into Loch Glascarnoch for hydroelectric generation. As a result, the gorge receives only a proportion of the waters it once did and the natural dynamism of the gorge has been partially altered. Flood flows only enter the gorge during extremely high water levels, when the loch at Droma over tops the dam. Hence the landforms associated with the Abhainn Droma may be developing at a slower rate than prior to the damming of the loch.

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 ensure that site condition surveys, monitoring and research are continued as appropriate, to increase our knowledge and understanding of the site and its natural features.

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 condition, distribution and extent of the upland birch woodland by continuing to develop the woodland to native broadleaf and Caledonian Scots pine. Appropriate management will also include the encouragement of natural regeneration of native species through deer management, and the removal of non-native species, by felling and ring barking or pulling up of seedlings. This may require access to the gorge area by specialist contractors. Complete eradication of *Rhododendron ponticum* will require cutting back and treating the stumps with herbicide. Where this is within the gorge, it will also require specialist rope access contractors to be employed.

2. To maintain/ increase populations of the crane fly *Lipsothrix ecucullata*. It is important that native trees are allowed to grow to maturity and for dead trees to be left to rot away naturally. In particular, the specialised breeding habitat – branches 3-10 cm in diameter lying in wet seepages or small burn in shaded conditions – needs to be enhanced since the survey of larval habitat in 1999/2000 found that fallen wood is not very frequent at this site. It is especially important to leave any birch branches in wet areas since dead birch wood is used most frequently by the larvae, but alder, oak, elm and pine can also provide appropriate breeding habitat. Good water quality is also important for this species and should be maintained. Where possible, deadwood of exotic tree species should also be left in situ to decompose, as this may also provide suitable habitat for the larvae.

3. To maintain visibility of the geological features. Corrieshalloch is both a relict and an active geomorphological system and management plans should reflect this. The key management strategy is to maintain the physical and visual integrity of the relict landform (the gorge) and the natural dynamism of the channel form, associated rock formations and sediments within it, for future research and interpretation.

Date last reviewed: 26 March 2009