



Scottish Natural Heritage
Dualchas Nàdair na h-Alba

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

OYKEL GORGE
Site of Special Scientific Interest

SITE MANAGEMENT STATEMENT

Site code:1264

The Links, Golspie Business Park, Golspie, Sutherland, KW10 6UB.

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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 Oykel Gorge SSSI	Condition of feature (and date monitored)
Moine (geology)	Favourable (March 2002)

Features of overlapping Natura sites that are not notified as SSSI natural features	Designation
Atlantic salmon	Special Area of Conservation (SAC)
Freshwater pearl mussel	SAC

Description of the site

Oykel Gorge Site of Special Scientific Interest (SSSI) straddles the Bonar Bridge to Inchnadamph road around Oykel Bridge, in east Sutherland. Oykel Gorge SSSI extends for just over 800m along the River Oykel. The rock outcrops for which the site has been notified have been exposed by the river cutting its way through the bedrock.

Oykel Gorge SSSI contains rocks that belong to the 'Moine Supergroup', a group of rocks which underlies much of Scotland north of the Great Glen. The rocks were originally deposited as shallow marine sediments, such as sands, silts and muds, around 1000 million years ago. These sediments have subsequently been compressed into rock, then severely altered, or 'metamorphosed' by several phases of intense folding, fracturing and chemical alteration due to the effects of high temperatures and pressures deep within the Earth.

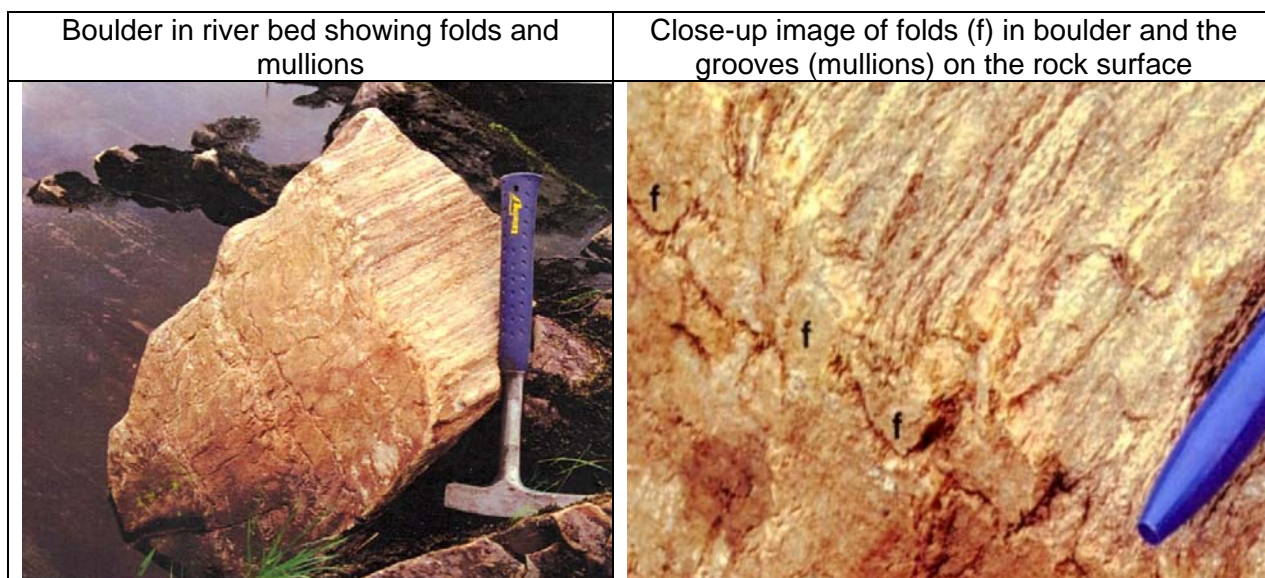
The rocks at Oykel Gorge are formed from sandy sediments with many thin muddy layers, which have been metamorphosed to form a quartz-rich rock known as 'psammite' (or 'psammitic schist') containing thin (<10mm thick) layers rich in mica. Mica is a silvery-grey mineral that forms in flat sheets which were formerly the layers of muddy sediment. Since these Moine rocks were metamorphosed deep within the

Earth, millions of years of erosion have removed the overlying rock to expose them in Oykel Gorge.

The principal interest of the site is the exposure of Moine bedrock that clearly shows the development of prominent parallel grooves and ridges on the rock surface known as 'mullions'. Mullions are formed by compression and folding of rock which is made up of relatively thin layers of different compositions with different strengths. In this case the quartz-rich rocks are stronger and the mica-rich layers are weaker. When pressure is applied to the edges of the rocks layers, the stronger (quartz-rich) layers fold with sharp edges (as a piece of paper would), while the weak (mica-rich) layers deform 'plastically' (like warm dough), around the ridges and grooves in the folded quartz-rich layers. If the mica-rich layers were thicker, the folds would be larger and the small-scale ridge-and-groove 'mullion' look would be lost. If there was no difference in the strength of the rock layers, then they would all simply become shorter and fatter when compressed and no folds or mullions would form.

The excellence and accessibility of rock exposure at Oykel Gorge makes this a key site for studies of the formation of mullions. In fact, the mullion structures here are one of the finest and most spectacular examples in Britain, and have been widely featured in geological texts, making this site one of international importance.

Site Condition Monitoring carried out in 2002 found that the Moine feature of the Oykel Gorge SSSI was in favourable condition. The outcrops were virtually unchanged from the earlier baseline survey, with no noticeable encroachment by vegetation.



Atlantic salmon and freshwater pearl mussel

Atlantic salmon and freshwater pearl mussel are found in the River Oykel. Freshwater pearl mussel are not found in this part of the river but Atlantic salmon spend time the pools. Since Oykel Gorge SSSI covers such a small part of the River Oykel there is little scope for increasing the populations of Atlantic salmon or freshwater pearl mussel in the whole river as a result of management within the SSSI but management should avoid any harmful activities such as release of excess sediment or chemicals into the river.

Past and present management

The owner manages the site for recreational angling purposes.

The rock exposures form part of the bed and banks of the River Oykel and have not been subject to any obvious form of management. The River Oykel is an important salmon fishing river and vegetation along the banks is cut back periodically to maintain easy access which also has the benefit of maintaining the visibility and accessibility of the geological features.

The site is accessible to visitors as it lies close to the main road between Bonar Bridge and the Ledmore junction and the paths allow easy access to parts of the gorge. The site is also close to the Oykel Bridge hotel where there is a parking area.

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

We wish to work with the owner 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.

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, in so far as 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 extent, accessibility and visibility of the Moine rock exposure** by keeping the banks free from dense vegetation and any development that might obscure the bedrock.
- 2. To maintain water quality of the River Oykel for the benefit of the Atlantic salmon and freshwater pearl mussel populations.** Water levels and water quality play a crucial role in the suitability of the River Oykel for freshwater pearl mussels and Atlantic salmon. An increase in drainage, abstraction or other activities significantly affecting the hydrology of the river catchment should be avoided as natural river water levels are important for both Atlantic salmon and freshwater pearl mussel. Agriculture and forestry operations within the catchment should be carefully managed to prevent the input of sediment, chemicals or nutrients into watercourses in order to maintain the high water quality required by freshwater pearl mussels and Atlantic salmon.

Date last reviewed: 23 April 2009