Scottish Natural Heritage

NETHAN GORGE
SITE OF SPECIAL SCIENTIFIC INTEREST

SITE MANAGEMENT STATEMENT

Site code: 1218

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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

Nethan Gorge Site of Special Scientific Interest (SSSI), lying directly west of Crossford in South Lanarkshire, comprises upland mixed ash woodland which lies within a deep river gorge characterised by precipitous cliff faces of carboniferous sandstone that are underlain with limestone. The site also supports an important beetle assemblage.

The woodland within the gorge is semi-natural and is considered long established or 'ancient' in origin. It is structurally varied and composed of two dominant woodland types, ash-elm woodland and oak woodland. These woodland types are replaced on the crag tops by predominantly oak-birch woodland and on wetter, flushed ground by ash-alder woodland. Stands of dead elm, important for saproxylic invertebrates (those which depend upon dead or decaying material associated with tree wood) are found along the length of the gorge and upriver toward Corra Mill, some of which are regenerating from the base of the trunk. Hazel is a characteristic understorey species on the steeper slopes of the gorge. The site also contains one stand of aspen which is poorly represented in South Lanarkshire.

Great horsetail
(*Equisetum telmateia*)

Regionally rare or uncommon ground flora species include mountain melick, hart's tongue fern, black spleenwort, great horsetail, moschatel, giant bellflower, wood stitchwort and wood fescue. The geology of the site has resulted in the regular occurrence of *Cratoneuron*, a moss that grows in swathes on tufa, a calcareous deposit that coats rock surfaces surrounding freshwater springs.

The condition of the upland mixed ash woodland feature is considered to be favourable as this feature was found with virtually all areas of the woodland possessing an appropriate suite of species, ample deadwood and abundant native regeneration.

The wood-borer beetle - *Hedobia (Ptinomorphus) imperialis*

Nethan Gorge is also notified for its beetle assemblage, a number of which are saproxylic. The habitats within the site support the cerylonid beetle *Cerylon fagi*, the shiny fungus beetle *Tetratoma ancora* and the wood-borer beetle *Hedobia (Ptinomorphus) imperialis*, all of which are nationally scarce. The site also supports the regionally scare shiny fungus beetle *Dacne bipustulata*. The nationally scare hide beetle *Trox sabulosus* had also been recorded in a glasshouse immediately adjacent to the SSSI.

The beetle assemblage is considered to be in a favourable condition as both the beetle assemblage and the habitat components of importance to the beetles, such as a variety of dead wood habitats, were present.

Many other interesting species are found within the site; these include the nationally scare saproxylic true fly species *Aulacigaster leucopeza* and the hoverfly *Brachyopa insensilis*, which are found in the sap runs of decaying broad-leaved trees. The site also hosts *Phyllonorycter tristrigella*, a species of moth that is at the northern limit of its British distribution in the Clyde Valley.

The varied ages of the trees within the woodland supports a rich breeding bird community including the green woodpecker, which is restricted in its distribution in west/central Scotland. Of further note are the badgers that use this woodland; a species that is protected under the Protection of Badgers Act 1992.

Upstream of Craignethan Castle the woodland gorge opens out into a fairly wide valley with herb-rich meadows and deciduous scrub. Scrub woodland dominated with dog rose, blackthorn and hawthorn is found on the woodland perimeter often forming a transition habitat between woodland and grassland. The grasslands vary in condition from rank with woody stemmed plants, such as raspberry and bracken, to those rich with wildflowers. The area surrounding Craignethan Castle supports associated policy woodland in conjunction with amenity grassland. The policies support a wide variety of exotic tree species, especially within the immediate vicinity of the castle. A conifer plantation bounds the SSSI to the north with seedlings establishing themselves within the site boundary along with sycamore and beech. The beech seedlings are derived from the mature boundary trees on the perimeter of the native wood while sycamore seedlings may be derived from the mature coppiced trees near Corra Mill.

Natural features of Nethan Gorge SSSI	Condition of feature (date monitored)	Other relevant designations
Upland mixed ash woodland	Favourable maintained, (September 2009)	Special Area of Conservation (SAC)
Beetle assemblage	Favourable maintained, (September 2003)	

The site is also an important component of the Clyde Valley Woods Special Area of Conservation (SAC), which has the following qualifying feature:

- Mixed Woodland on Base-rich Soils Associated with Rocky Slopes

The Clyde Valley Woods SAC is comprised of eleven individual woodland Sites of Special Scientific Interest, lying in the often steep sided gorges containing several tributary rivers to the River Clyde in Lanarkshire. This SAC contains the most extensive areas of ash-elm woodland in Scotland.

The condition of this qualifying feature, considered across the whole SAC, has been assessed as favourable, despite the high number of non-native trees present. The favourable condition of this site is likely a result of non-intervention. Though some of the flatter areas of the SAC have historically been felled, coppiced or otherwise managed, the steep-sided nature of the gorges in which these woodlands are situated has made it difficult for much interference to have taken place since their original development following the last ice-age.

Past and present management

The woodland within the site has been used in many ways. During the 19th century coppicing of accessible areas of woodland along the Craignethan Burn and Nethan Gorge ceased, including at the fairly extensive area of old coppice north of Corra Mill. Felling, and timber extraction, on the north side of the gorge ceased in the 1950's. Exotic tree and plant species were introduced to the policy woodland at Craignethan Castle. The castle and policies are owned and managed now by Historic Scotland.

The industrial heritage of the area is apparent through the presence of a disused mine to the west of the Nethan Gorge, near Tillietudlem. A smiddy was formerly in operation at Broomknowe, and a track nearby is believed to have been used for carrying coal from the mine. There is also a disused railway that runs along the western edge of the site.

The Scottish Wildlife Trust (SWT) currently manages 16 hectares of the SSSI as a wildlife reserve with provision for public access. This area was designated a National Nature Reserve (NNR) in March 2010 as an extension to the Clyde Valley Woodlands NNR. Further access to the site can be gained via a track along the north side of the river which is regularly used by walkers and fishermen.

Currently the site forms part of the Clyde Valley Woods Special Area of Conservation (SAC) and all but 3.5 ha (9%) of the site is managed under seven different management agreements with SNH. The remaining area is under no active management. The management agreements are due to expire in 2014 and were initiated under the Clyde Valley Woodlands LIFE project. LIFE funding is available to

support positive management. Management policy under these agreements includes: removal of non-native tree species; removal of invasive plant species; planting of native, locally appropriate broadleaved trees; removal of rubbish from the woodland area and where necessary the erection of stock-proof fencing around the woodland.

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

We wish to work with the owners and occupiers 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 and monitor the effectiveness of the management agreements.

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).

1. **To maintain and enhance, where possible, the natural species composition and structure of the woodland habitats** by removing non-native trees, seedlings and saplings, controlling invasive species and by ensuring stock-proof fencing is maintained or where necessary erected.

   While non-native invasive species are not extensive across the site there is a danger that if left unchecked they could, in time, change the composition of the woodland. Non-native tree regeneration, both seedlings and saplings, should be removed from the site. The removal of mature non-native trees is slightly more difficult, as the site contains a steep sided gorge. Felling of mature trees can potentially damage the ground flora, could disturb badger setts and may give rise to unstable slopes. Therefore, some non-native trees could be ring barked or injected with herbicide to avoid these hazards while also creating standing dead wood habitat. However, before the tree dies some species will produce a flush of basal shoots and seeds. This potential for increased regeneration would need to be addressed in the short term.

   Livestock grazing impacts on ground vegetation and will also inhibit tree regeneration. Poaching by livestock can also churn and compact the soil. Recent stock fencing has been put in place that has helped to ensure livestock do not have access to the wood thereby reducing the potential for damage to tree regeneration and trampling of ground flora. However, the total removal of grazing can be undesirable as it may result in the loss of grassland areas, the loss of floristic interest and the spread of non-native

trees and invasive species e.g. the spread of bracken in the grassland areas. Future consideration may be given to introducing grazing enclosures within the SSSI in order to focus grazing pressure in appropriate areas.

A management plan has been written to safeguard the aspen stand found at the site and encourages its expansion through a planting programme.

2. **To maintain a robust assemblage of beetles** by ensuring a variety and continuity of habitats important to beetles exist at the site. This includes ensuring that there is a variety of dead wood habitats and grasslands.

   Dead and decaying trees and branchwood should remain within the site to provide suitable conditions for the development of the dead wood fauna. The wood from any trees that are felled should also be left within the site.

   The open grassland habitats are important for the lifecycle of certain invertebrate species and they should be maintained by controlling the spread of scrub and bracken. In future it may be preferable to introduce controlled grazing to these areas.

   A conflict of interest arises where certain invertebrate species are known to use living non-native trees such as beech and sycamore during their lifecycle. At present it is unknown whether the development of primarily native woodland will be detrimental to invertebrate diversity. Therefore the removal of non-native trees from the woodland is tempered by the value of mature trees for deadwood invertebrates. By concentrating management efforts on removing mature non-native trees from within the body of the woodland, those that remain living around the woodland boundary can provide invertebrate habitat. Another option could be to remove younger non-native trees which have limited deadwood habitat value.

Other factors affecting the natural features of the site

Protected Species: The presence of badger setts within the woodland should be considered before any felling work starts. Otters, nesting birds and roosting bats also need to be taken into consideration when implementing management work.

Public access: Access is encouraged in the NNR part of the SSSI managed by the SWT and along the track to the north of the river.

Human Impacts: Rubbish dumping is a cause for concern; it is unsightly and may also be a potential source of invasive non-native plant species.

Front page photograph: View of Nethan Gorge SSSI

Date last reviewed: 6 January 2010

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