



Scottish Natural Heritage

**RIVER AYR GORGE
SITE OF SPECIAL SCIENTIFIC INTEREST**

SITE MANAGEMENT STATEMENT

Site code: 1356

**19 Wellington
Square
Ayr
KA7 1EZ
Tel. 01292 261392
Fax. 01292 269493**

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

The River Ayr Gorge, lying immediately south of Failford, encompasses a steeply sloping sandstone gorge containing one of the best examples of upland oak woodland in Ayrshire. Over much of the site the woodland is dominated by even-aged stands of oak with a well-developed shrub layer of predominantly birch, as well as holly, rowan and hazel. Other native trees occurring across the site include ash and hawthorn, however non-native trees, including beech, sycamore, larch and lime are also prevalent.

The upland oak woodland is in unfavourable condition due to the lack of regeneration of native tree species and the high levels of non-native trees present, in particular beech, and, to a much lesser extent, sycamore. It is in the shrub layer that non-native trees are having the greatest negative impact, with beech saplings being dominant and oak saplings almost entirely absent, meaning that without management beech may come to fully dominate the canopy. Bracken is also abundant, which may be restricting the opportunities for native species to regenerate in some parts of the woodland.

The site supports a wide variety of Nationally Scarce beetles, due to a combination of the topography of the land and the diversity of the woodland vegetation, which provide a range of ecological niches. Many of the important beetles found within the site are saproxylic, which means that they depend on dead or decaying wood to complete their life cycles. Saproxylic species are specialised in breaking down the cellulose and lignin found in wood, and very few invertebrates possess the necessary gut enzymes to do this. Dead wood and especially the fungi associated with dead wood are important habitats for these species.

Saproxylic beetles recorded within the site include *Microscydmus nanus*, which occurs in rotting wood, leaf litter and moss, *Phloiophilus edwardsii* and *Tetratoma ancora*, which both live on one particular species of fungus (*Phlebia radiata*) that grows on rotting wood, and the bark or ambrosia beetle *Dryocoetes alni*, which lives under the bark of dead wood. Other important beetles, which are not saproxylic, also occur, including *Fleutiauxellus maritimus*, which lives in river shingle, the weevils *Coeliodes ruber* and *Archarius (Curculio) villosus*, which feed on oak foliage, and the rove beetle *Ilyobates nigricollis*, which lives in woodland leaf litter and is a Red Data Book species (i.e. it is included in a global list of species whose continued existence is threatened).

The condition of the Beetle assemblage feature is favourable; 16 species of saproxylic beetle were recorded, and the key woodland habitat components, particularly deadwood habitat, required to support the beetles are present. Further surveying of the beetle assemblage and deadwood resource, in particular investigation into the individual habitat requirements of each beetle species, would be useful for informing future assessment and management of this feature.



Although not part of the notified feature, the site is valuable for other invertebrates, including flies and spiders. There are 12 species of saproxylic flies, including the Nationally Scarce hoverfly *Brachyopa insensilis*.

Natural features of River Ayr Gorge SSSI	Condition of feature (date monitored)
Upland oak woodland	Unfavourable, no change (June 2002)
Beetle assemblage	Favourable, maintained (September 2004)

Past and present management

Despite being able to trace continuous woodland cover in this area back to the seventeenth century, information on past use of the woodland is limited. However, evidence of extensive timber exploitation is apparent. The majority of the west bank of the SSSI consists of even-aged stands of coppiced oak, showing that oak was selected to the exclusion of all other tree species. Some of the oak was clear-felled during the First World War.

In the 1980s the Scottish Wildlife Trust (SWT) acquired just over half of the site (and an area of adjacent land encompassing the northern part of Coilsholm Wood) and actively manages the area as a nature reserve. SWT have a ten-year woodland management plan in place, which expires in 2018. Recent management activities have included the creation of clearings to encourage natural native regeneration, felling and thinning of non-native conifers and sycamore, planting of native species including Scots pine and oak, and control of bracken and Japanese knotweed.

In 2009 funding for further woodland management was secured for half of the site through the Scotland Rural Development Programme (SRDP). An application for SRDP funding for much of the remaining area is pending, and if granted, will hopefully restore the condition of the upland oak woodland feature.

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

We wish to work with the owner and/or occupier 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 to monitor the effectiveness of the management.

- 1. To maintain and enhance, where possible, the natural species composition of the upland oak woodland feature** by removing the abundance of non-native trees, especially beech, and invasive species, such as bracken, and by encouraging native regeneration.

Non-native tree species, especially beech and sycamore are present throughout the site and their removal should be undertaken by removing young trees and saplings, as they are not component species of the woodland. Beech can be particularly detrimental to the condition of woodland habitats as their dense crowns and slow-decaying leaf litter can prevent sufficient light from reaching the woodland floor, thereby hindering the regeneration of native trees and the growth of native ground flora. As felling within such a steep sided gorge is dangerous, potentially damaging to ground flora and may give rise to unstable slopes one option for managing non-native trees is ring-barking. Using ring-barking as an alternative to felling would also benefit the invertebrate interest by creating standing deadwood habitat. However, the drawback of ring-barking is that it can cause a tree to produce a lot of seeds in the short-term before it dies and therefore would require the removal of saplings subsequently produced by the ring-barked trees.

The felling or ring-barking of beech and other non-native species, where possible, should allow for native species to regenerate. If regeneration does not occur naturally, native species should be planted. However it is important for the site's invertebrate interest that some areas of woodland clearing are maintained. Further to this, beech can support saproxylic beetles, especially older specimens, and therefore it may be beneficial to the invertebrate interest to retain some of the most mature beech trees.

The spread of giant hogweed and Japanese knotweed needs to be monitored as these are invasive, exotic plants which need to be eradicated if they are found within the site. Further bracken control may also be required in the areas of the site where it is abundant, as it too can suppress native tree regeneration.

2. **To maintain robust populations of the various beetle species** by ensuring that dead and decaying trees and branches remain within the site and ideally are left where they fall. If it is essential to move deadwood it should be moved as small a distance as possible and placed in a spot similar to the one from which it was taken. Living trees with dead branches, rot holes, sap runs and bracket fungi should be preserved wherever possible. Deadwood should ideally be found in a range of conditions such as in dry, humid and shaded conditions.

However, the fact that the oak stands are even-aged and that there is a lack of oak regeneration could present a future problem for the beetle assemblage as a result of an interim period of deadwood "drought" as veteran trees die before younger generations are able to provide suitable levels of dead wood microhabitats to support the existing saproxylic beetles. If monitoring shows that deadwood habitats are in decline there are a number of techniques which can be used to prematurely "veteranise" trees and create various standing deadwood habitats, such as by ring-barking. These techniques are described in Natural England's publication *Veteran Trees: A guide to good management* in chapter 8.

Front page photograph: View of River Ayr Gorge.

Date last reviewed: 29 September 2009