Scottish Natural Heritage

HAMILTON HIGH PARKS
SITE OF SPECIAL SCIENTIFIC INTEREST

SITE MANAGEMENT STATEMENT

Site code: 760

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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

Hamilton High Parks Site of Special Scientific Interest (SSSI), lying immediately south east of Hamilton, comprises an area of semi-natural deciduous gorge woodland and two areas of parkland oaks. The parkland pasture supports a rich beetle assemblage.

The area of gorge woodland below Cadzow Castle, which is considered ancient in origin, is dominated by ash and elm. This area, together with ten other SSSIs, forms part of the Clyde Valley Woods Special Area of Conservation (SAC). These woodlands are designated under EU and UK law as they contain an EU priority habitat (mixed woodland on base-rich soils associated with rocky slopes) and comprise the most extensive areas of ash-elm woodland within Scotland.

The gorge woodland also supports oak, with a dominant oak-birch community occurring on the more acidic soils in the east. There are also several good examples of flush alder woodland with mats of *Cratoneuron*, a moss that grows in swathes on tufa, a calcareous deposit that coats the rock surface in flush areas. Interesting ground flora species include wood fescue, hart's-tongue fern, hard shield fern, pendulous sedge, and great horsetail.

The area surrounding Cadzow Castle contains large mature non-native tree species i.e. lime, horse chestnut, sycamore and beech, with occasional larch and Scots pine. Invasive rhododendron is established in the area to the west of Cadzow Castle,

severely limiting the growth of shrub layers and ground flora. There has been recent clearance work within the area, predominately of non-native regeneration. Rhododendron is also becoming established within the steep gorge slopes of ash-elm woodland along the banks of the River Avon.

South of Cadzow Castle mature oak is present within the ash-elm woodland with occasional standing dead elms as a result of Dutch elm disease. Regeneration of oak, ash and beech is present here. On the eastern bank of the River Avon less steep slopes support large mature beech which is regenerating and occasional rhododendron. Towards the north of these slopes the woodland has a younger age structure with ash, oak, hazel, dead elm and some coppice. Mature ash is scattered along the ravine walls along with well grown wych elm which have resisted infection. Hart's-tongue fern is abundant on the rock outcrops here and a landslip area has been stabilised and repaired.

Due to the abundance of non-native trees and shrubs, including beech, sycamore and rhododendron, the woodland feature is considered to be in an unfavourable condition. Sycamore is a natural coloniser of gaps left in the canopy by the demise of elm following Dutch elm disease, so it is accepted at elevated levels; however beech threatens to become the dominant canopy species in the absence of management. Although native seedlings were present there was not enough to meet the favourable target level and beech is undoubtedly the dominant regenerating species. It is hoped that positive management such as continued efforts to eradicate invasive rhododendron and to thin out both mature and regenerating non-native tree species will allow the woodland condition to recover.

The parkland adjacent to the Avon Gorge comprises two core areas of ancient oak woodland with pasture. There are approximately 330 ancient or veteran oaks with the oldest being considered to be at least 400 years old and the youngest tree being 250 years old; these trees are some of the oldest pollards in Scotland. The oak trees, which form an open canopy, are thought to be hybrids between *Quercus robur* and *Quercus petraea* and are historically known as the 'Cadzow oaks'.

The oaks can be categorised as those trees with crown still present and those trees with crown absent and growth restricted to lateral limbs and often with exposed heart rot. There is a rich dead wood content in the wood pasture and parkland areas with many fallen limbs at the base of standing trees. Trunks of several individual trees are hollow with exposed dead wood. The field layer is composed of short grazed grass.

The wood pasture and parkland feature is considered to be in a favourable condition as past management involving planting of oak saplings grown from the acorns collected from the oaks has secured sufficient regeneration of the oaks to meet the target level. The canopy cover is mainly composed of veteran oaks; however there are other species such as rowan, alder, hawthorn and elder within the understorey rendering the structural diversity of the feature sufficient. The grassland was of sufficient diversity at the time of monitoring, however grazing exclusion, to allow the growth of the oak saplings, along with re-sowing in the past has lead to the loss of grassland diversity. A review of the ongoing SNH Management Agreement is required to implement a grazing regime that will improve grassland diversity and maintain sufficient numbers of the oak saplings.

The parkland pasture supports a rich beetle assemblage, especially saproxylic species (species which depend on dead or fungus-bearing wood) that includes a number of Nationally Scarce species such as the hairy fungus beetles *Mycetophagus populi*, which is unknown elsewhere in Scotland, and *Mycetophagus piceus*. Two species, *Ptenidium gressneri* and the cobweb beetle *Ctesias serra*, are believed to occur at only one other Scottish locality. Other Nationally Scarce beetles present include the rove beetle *Phyllodrepoidea crenata*, the pelted beetle *Thymalus limbatus* and the cerylonid beetle *Cerylon fagi*.

The beetle assemblage is considered to be in favourable condition following a targeted survey of saproxylic invertebrates during 1999-2000. Nineteen beetle species were recorded, four of them Nationally Scarce – evidence of the maintenance of a beetle assemblage typical of woodland pasture. There is an abundance of dead-wood habitats within the wood pasture with almost all of trees samples containing examples of either decaying heartwood or decaying sapwood. Sap runs, rot holes and water pockets were all present within the site further enriching the habitat quality for invertebrates.

Natural features of Hamilton High Parks SSSI	**Condition of feature** (date monitored)	**Other relevant designations**
Upland mixed ash woodland	Unfavourable, no change (March, 2009)	Special Area of Conservation (SAC)
Beetle assemblage	Favourable, maintained (August, 2000)	
Wood pasture and parkland	Favourable, maintained (April, 2005)	

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 the lack of interference/low disturbance. 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.

	
A view of the veteran Cadzow oaks showing signs of being formerly pollarded, with large bases topped by branches emerging at a uniform height.	The hairy fungus beetle *Mycetophagus populi*, which has been recorded at this site, is unknown from elsewhere in Scotland. (Photo: Stanislav Krejcik).

Past and present management

The parkland was once part of the Duke of Hamilton's Park which, together with Dalkeith Palace Park in Midlothian, was declared Royal Hunting Forest in 1163. The ancient wood-pasture was grazed by white cattle and it is possible that the ancient Cadzow oaks have been pollarded in the past. Exotic and non-native tree species have been planted both in the vicinity of Cadzow Castle (now managed by Historic Scotland) and Chatelherault (on the eastern bank of the River Avon). It is likely that vistas would have been kept open to allow views from Chatelherault to be retained through and across the wooded gorge. Coppicing was occasionally practised on less steep slopes within the gorge woodland. This is likely to have ceased in the 19th century.

Chatelherault Country Park, which also forms part of Chatelherault Gardens and Designed Landscapes, is a major visitor attraction with public access encouraged within the grounds. Tracks and footpaths, including part of the Avon Walkway, are maintained and upgraded. Rhododendron control is on-going to the west of Cadzow Castle. South Lanarkshire Council is currently producing a management plan for the gorge woodland which is part of the wider woodland extent in the Country Park. Since July 2009 the gorge woodland became part of Clyde Valley Woodlands National Nature Reserve (NNR).

It was considered that the existing oak trees were dying at the rate of 1 or 2 per year, and an inventory of the condition of the oaks was prepared in 1994 and each tree was tagged – a total of 330 trees. An SNH Management Agreement has been put in place covering the parkland areas to the south west of the River Avon (which includes approximately 22 hectares of the site). This seeks to promote the regeneration of the oaks, protect the existing oaks and maintain conditions for the invertebrate fauna.

Management practices include restricting grazing and ensuring the future regeneration of the Cadzow oaks by planting young oaks, grown from acorns collected from the original trees to ensure the genetic continuity of this population of oaks into the future. These planted seedlings have been protected from grazing by either large or small enclosures until such time as trees not vulnerable to the effects of grazing by stock.

Dead trees or fallen limbs are retained within the site and allowed to decay naturally to provide habitat for invertebrates.
In 2004 the small enclosures were thinned to one tree with the gate protection system removed and individual small metal protectors erected around the individual tree. Within the large enclosures all tree guards were removed and the metal gate system protectors from the small enclosures were erected around some trees as a safeguard. From 2005 it was proposed that sheep grazing was introduced to control the vegetation with numbers and timing reviewed as part of the Management Agreement.

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 to monitor the effectiveness of the management agreement.

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 of the mixed ash woodland** by selective removal of mature non-native trees, removal of non-native regeneration where practicable and controlling the spread of rhododendron.

   Non-native tree species such as beech and sycamore are present throughout the woodland gorge section of the site on the slopes of the River Avon. These tree species tend to out-compete native trees and beech leaf-litter will also smother native ground flora. It is not possible to remove mature non-native trees throughout the steep-sided areas of the gorge as felling within such a terrain is dangerous, potentially damaging to ground flora and may give rise to unstable slopes. It is therefore recommended that, where possible, non-native trees are ring-barked – this will also provide standing deadwood habitat for invertebrate fauna. Areas best targeted include the eastern bank of the River Avon (where beech is dominant) and sycamore to the west of Cadzow Castle.

   All felled tree materials and other dead wood should remain on site wherever possible to maintain microhabitats for dead wood fauna. Where practicable, both seedlings and saplings of non-native tree species should be removed – hand-pulling and grubbing up is recommended to minimise any regeneration. The development and expansion of native tree species should also be encouraged throughout the site.

Removing non-native shrub species is also important as they can shade out the native ground flora species associated with mixed ash woodland. Rhododendron in particular will out-compete native tree species and suppress native wildflowers through acidification of the soil.

Responsible public access should continue to be encouraged, ensuring access to the site follows the Scottish Outdoor Access Code (SOAC).

2. **To maintain and enhance, where possible, the condition of the mature oak trees and wood pasture** by encouraging continuity of the habitat, particularly the 'Cadzow oaks', and ensuring protection from damaging impacts.

   Any young oak trees planted must continue to be grown from acorns collected from the original trees to ensure the genetic continuity of this population of 'Cadzow oaks' into the future. Fencing and/or protectors must be maintained around any seedlings planted until they grow past the stage that they are vulnerable to grazing. Grazing within the woodland pasture enclosures requires careful management. The desired outcome of a grazing regime is to obtain a range of sward heights e.g. short grassland and patches of tussock grass while preventing rank grassland species taking hold. Although grazing by livestock is desirable in the pasture areas, care must be taken to avoid poaching, thus thresholds on the number of livestock and the period of grazing must be adhered to. Overstocking would result in damage to trees or roots from soil compaction and erosion. There may also be a requirement for thinning to be carried out in order to restore some of the grassy glades, which are an important part of the wood pasture habitat and to encourage wide crown development of the remaining trees.

3. **To maintain and conserve the rich beetle assemblage** by ensuring protection from damaging impacts and ensuring dead and decaying wood remain within the site.

   The ancient, mature oaks in the wood pasture and parkland areas support fungi, contain various types of rot and they shed branches – these habitats are home to a great many invertebrate species, in particular saproxylic beetles.

   Woodland pasture and parkland differs from other woodland types in that trees are growing in open, sunny conditions which support different invertebrate species. Much of the invertebrate interest here may be associated with the understorey shrubs, the ground flora and litter layer, so it is essential that a complex tree age structure is present, including areas where light can penetrate to the herb layer within open glades.

   As there is a large gap between the mature veteran oaks and the young planted oaks there are concerns over the continued provision of dead-wood habitat over the long-term. Pollarding of some young trees would encourage the formation of boles in which rotten wood can develop. Future monitoring will ascertain whether this is an appropriate management option.

Dead or decaying wood of all ages, either fallen or standing, should be retained in situ and allowed to decay naturally as close as possible to its source. The placement of fallen dead wood both in the shade and in the sun will ensure a variety of habitat conditions for invertebrates. Dappled shade can be provided for some dead-wood by retaining small areas of tall herb vegetation and placing dead-wood in its vicinity.

Any works on an ancient tree should be carefully planned. Trees that have become top-heavy should have their canopy gradually reduced over a long period of time allowing re-growth to occur between treatments – drastic cutting could result in the death of the tree. It also must be noted that unnecessary felling or removal of trees with heart-rot could result in local extinction of specialist species which depend on this type of habitat.

A hedge has been planted in the eastern parkland enclosure comprising mainly native species e.g. hawthorn, dog rose, hazel and holly in an effort to provide a nectar source for insects. Further planting of such nectar-producing species close to the oaks is encouraged.

Ring-barking of non-native trees within the ash-elm woodland body, will provide a substantial source of standing dead-wood for saproxylic beetle species within these areas.

Front page photograph: The River Avon gorge. The upland mixed ash woodland feature spans both banks of the gorge in the vicinity of Cadzow Castle.

Date last reviewed: 7 July 2010