

## **UPPER NITHSDALE WOODS SPECIAL AREA OF CONSERVATION (SAC)**

### **CONSERVATION ADVICE PACKAGE**



Menock Water, Upper Nithsdale Woods SAC © NatureScot

## Site Details

Site name:	Upper Nithsdale Woods
Map:	<a href="https://sitelink.nature.scot/site/8405">https://sitelink.nature.scot/site/8405</a>
Location:	South Western Scotland
Site code:	UK0030297
Area (ha):	99.62
Date designated:	17 March 2005

## Qualifying features

Qualifying feature	SCM assessed condition	SCM visit date	UK overall Conservation Status
Mixed woodland on base-rich soils associated with rocky slopes) [H9180]*	Unfavourable Declining	9 November 2009	Unfavourable-bad

Notes:

Assessed condition refers to the condition of the SAC feature assessed at a site level as part of NatureScot's [Site Condition Monitoring \(SCM\)](#) programme.

Conservation status is the overall condition of the feature throughout its range within the UK as reported to the European Commission under Article 17 of the Habitats Directive in 2019.

\* Habitats Directive priority habitat

## Overlapping Protected Areas

[Mennoch Water Site of Special Scientific Interest \(SSSI\)](#), [Stenhouse Wood SSSI](#), [Chanlockfoot SSSI](#) and [Back Wood SSSI](#).

## Key factors affecting the qualifying features

### Mixed woodland on base-rich soils associated with rocky slopes

This habitat typically occurs in association with base-rich rocks in steep-sided immature river valleys, and is found on nutrient-rich soils that often accumulate in the shady micro-climates towards the bases of slopes and ravines. Such forests are not extensive, but often exist as fragmentary stands that then grade into other woodland types on level valley floors or slopes.

The SAC is made up of four areas of woodland within Dumfries and Galloway. Overall the woodland at this SAC is considered to be in an unfavourable declining condition due to inappropriate grazing levels, which is preventing natural tree regeneration. The habitat requires low but not zero grazing. High levels of grazing can distort the structure and composition of the woodlands, especially leading to a

species-poor ground flora, and restricting regeneration of the more palatable tree species such as ash. This eventually results in a woodland dominated by older trees, and by the less palatable species such as birch, and lacking normal representation of intermediate life classes. Too little grazing can result in a lack of structural diversity in the canopy and over shading which can impact negatively on important lichen and bryophyte communities.

The presence of non-native species, such as rhododendron is also impacting the habitat by shading out ground flora, and preventing natural regeneration of native species.

In the future new stresses to the feature, particularly from climate change, Chalara ash-dieback and possibly other novel pests and pathogens, are anticipated.

Further information about this woodland habitat can be found on the [JNCC website](#).

### **Conservation Objectives for mixed woodland on base-rich soils associated with rocky slopes (also known as *Tilio-Acerion* forests of slopes, screes and ravines)**

#### **1. To ensure that the qualifying feature of Upper Nithsdale Wood SAC is in favourable condition and makes an appropriate contribution to achieving favourable conservation status**

Favourable Conservation Status (FCS) is considered at a European biogeographic level. When determining whether management measures may be required to ensure that the conservation objectives for this site are achieved, the focus should be on maintaining or restoring the contribution that this site makes to FCS.

When carrying out appraisals of plans and projects against these conservation objectives, it is not necessary to understand the status of the feature in other SACs in this biogeographic region. The purpose of the appraisal should be to understand whether the integrity of the site (see objective 2) would be maintained. If this is the case then its contribution to FCS across the Atlantic Biogeographic Region will continue to be met. Further details on how these appraisals should be carried out in relation to maintaining site integrity is provided by objective 2 (including parts a, b and c). If broader information on the feature is available then it should be used to provide context to the site-based appraisal.

Note that “appropriate” within this part of the conservation objectives is included to indicate that the contribution to FCS varies from site to site and feature to feature.

#### **2. To ensure that the integrity of Upper Nithsdale Woods SAC is restored by meeting objectives 2a, 2b and 2c**

The aim at this SAC is to restore the habitat to favourable condition as a contribution to its wider conservation status. Therefore any impacts to the objectives shown in 2a, 2b, or 2c below must not persist so that they prevent the achievement of this overall aim.

When carrying out appraisals of plans or projects the focus should be on restoring site integrity, specifically by meeting the objectives outlined in 2a, 2b and 2c. If these are met then site integrity will be restored. Note that not all of these will be relevant for every activity being considered. Any impacts on the objectives shown in 2a, 2b or 2c below must not persist so that they prevent the restoration of site integrity. Temporary impacts on

these objectives resulting from plans or projects can only be permitted where they do not prevent the ability of a feature to recover and there is certainty that the features will be able to quickly recover.

This objective recognises that the qualifying habitat is exposed to a wide range of drivers of change. Some of these are natural and are not a direct result of human influences. Such changes in the habitat's extent, distribution or condition within the site which are brought about by natural processes, directly or indirectly, are normally considered compatible with the site's conservation objectives. An assessment of whether a change is natural or anthropogenic, or a combination of both, will need to be looked at on a case by case basis.

#### **2a. Maintain the extent and distribution of the habitat within the site**

The habitat typically occurs on nutrient-rich soils that have formed in association with base-rich rocks, and where there is base-rich flushing. This complex of sites located on tributaries of the river Nith represents mixed woodland on base-rich soils associated with rocky slopes in south-west Scotland and is regionally important due to the highly fragmented nature of remnant semi-natural woodland in this part of Scotland.

The extent of the feature within the site has been estimated at 99.54ha. There should be no measurable net reduction in the extent of the habitat and its distribution throughout the site. The SAC comprises four individual woodlands which are Mennock Wood, Stenhouse Wood, Chanlockfoot and Back Wood. There has been no permanent loss of extent at these individual woodlands.

Impacts that could lead to a permanent reduction in the extent or distribution of the habitat should be avoided. In particular there should be no habitat loss from within or at the edge of the woodland and no habitat fragmentation. A lack of regeneration by native species, such as could occur through high herbivore impacts, will also lead to a long term decline in woodland extent.

#### **2b. Restore the structure, function and supporting processes of the habitat**

This habitat depends on nutrient-rich, base-rich soils and shady micro-climates found towards the bases of slopes, coarse scree, cliffs, steep rocky slopes and ravines. It is characterised by tree cover that is mostly dominated by ash (*Fraxinus excelsior*) with a dense hazel (*Corylus avellana*) understory and a rich herbaceous ground flora characteristic of the habitat type. The dominant canopy tree species of *Tilio-Acerion* woodland in this region should consist of one or more of the following: ash, wych elm, lime or oak in order for the habitat type to be retained.

In order to restore and improve the structure, function and supporting process of this habitat the key elements that should be in place include:

- A mixed forest structure including young, mature, dying and dead trees in dense thickets and open glades with a range of shade cast on the woodland floor.
- A diversity of broadleaved tree and shrub species; but most consistently and abundantly by species with the characteristics (shade, leaf decay, structure, bark pH and obligate/associated dependent species) of ash, hazel and wych elm.
- A balance of disturbance that is beneficial to the site's long term maintenance. Much of these woodlands is situated on unstable slopes, which leads to a dynamic structure. Whilst this adds to the diversity of the communities present, it also makes the woodland vulnerable, either to large scale natural events such as flooding or land slip or to disturbance from human activities. If disturbance is too

frequent, or present over too large an area, it may lead to significant loss of woodland area and typical species, which could take a long time to recover.

- An absence of invasive non-native species, especially rhododendron, that compromise the critical characteristics of the habitat.
- Inappropriate grazing can have a profound negative effect on tree regeneration and the associated woodland understorey. At Back Wood, access to the woodland by high numbers of cattle and sheep for many years has seen the woodland deteriorate and has necessitated the installation of a stock proof fence around the entire woodland to try and facilitate recovery. Grazing by roe deer had resulted in little regeneration at Mennock Wood, but a more aggressive estate wide program of culling has seen a marked improvement in regeneration rate. Similarly, Chanlockfoot has been affected by high herbivore impacts as evidenced in the last SCM survey.

### **2c. Restore the distribution and viability of typical species of the habitat**

The typical species best corresponds to the NVC types conforming to *Tilio-Acerion* forests are the 'western' forms of W8 *Fraxinus excelsior – Acer campestre-Mercurialis perennis* woodland, and the equivalent north-western community W9 *Fraxinus excelsior – Sorbus aucuparia – Mercurialis perennis* woodland.

The species typically found within these woodlands are characteristically dominated by ash (*Fraxinus excelsior*), a dense hazel (*Corylus avellana*) understory, wych elm (*Ulmus glabra*), oak (*Quercus*) and rowan (*Sorbus aucuparia*) with occasional birch (*Betula* species). Alder (*Alnus glutinosa*) dominates the wetter areas along burns and flushes.

The ground flora can be very varied. Species that have been identified within these woodlands include common cow-wheat (*Melampyrum pratense*), dog violet (*Viola riviniana*), greater stitchwort (*Stellaria holostea*), bugle (*Ajuga reptans*), tormentil (*Potentilla erecta*), wood sorrel (*Oxalis acetosella*), sweet vernal-grass (*Anthoxanthum odoratum*), remote sedge (*Carex remota*), wood rush (*Luzula*), bedstraw (*Gallium* sp), bilberry (*Vaccinium myrtillus*), hard fern (*Blechnum spicant*), bluebell (*Hyacinthoides non-scripta*), wood anemone (*Anemone nemorosa*), wild garlic (*Allium ursinum*), common valerian (*Valeriana officinalis*), wild strawberry (*Fragaria vesca*), pignut (*Conopodium majus*), birds nest orchid (*Neottia nidus-avis*) and bracken (*Pteridium aquilinum*). Mennock Wood has also benefited from a bryophyte survey, which has identified a number of locally interesting species. It is likely that the other elements of the SAC support an interesting bryophyte flora.

The woodlands also support typical fauna including roe deer, badger and red squirrel. At Stenhouse Wood a variety of bird species have been recorded including pied flycatcher, woodpeckers, willow and wood warblers, whilst Back Wood is known to support a diverse beetle assemblage.

Inappropriate grazing levels and non-native species (rhododendron) have had a profound negative influence on the typical species of this site. Effective restoration of the woodland flora will be dependent on management of herbivore impacts and effective treatment of non-natives.

#### Tree health implications

Many of the characteristics of mature Wych elm are reduced or absent in many locations due to Dutch elm disease (DED). However, it usually continues to persist as an 'auto-

coppicing' shrub after the loss of the mature trees, so long as grazing impacts are low enough for it to continue to grow.

Ash is beginning to show extensive infection from Ash Dieback (ADB). While the end point of the disease is not known, some level of resistance has been found in most populations, and the main threat to this is the prevention of regeneration by high herbivore impacts. Meanwhile, it is likely that a high proportion of the mature ash will be damaged, with a short-term increase in deadwood. Other trees, such as hazel, rowan, willow and aspen, support many of the species associated with ash, although their nutrient cycling properties differ somewhat.

Probably the most important management requirement for this habitat is to ensure low enough herbivore impacts to allow all tree and shrub species present to regenerate. This will maximise the opportunity for ash to develop resistance to ash dieback, and allow other species to regenerate as well, to ensure a species-rich tree and shrub layer. During the period of time that we will be without most of our ash trees, hazel and aspen can be considered reasonable native surrogates for a proportion of the species ash supports, as they are able to assume some of the ash tree's characteristics, and functions. In addition it is SNH's (NatureScot's) approach (as of December 2016, and subject to review) that sycamore, which can also provide some of the characteristics and functions of ash, will be accepted as a typical species at Upper Nithsdale Woods SAC. However, this will require careful monitoring.

## Conservation Measures

Upper Nithsdale Woods is notified as a Site of Special Scientific Interest and management changes described on the list of Operations Requiring Consent must have prior consent from SNH (NatureScot).

## Current and recommended management for mixed woodland on base-rich soils associated with rocky slopes

Issue	Measure	Responsible party
Herbivore and livestock grazing impacts	Ensure that herbivore impacts are generally 'low' in all the woodlands based on the FCS (Scottish Forestry)/SNH (NatureScot) Herbivore Impact Assessment Process. Ensuring through management agreements and Agri-Environment Climate Scheme (AECS) that appropriate grazing is carried out within target areas, for example as has been done at Back Wood .	Land manager, NatureScot, Deer management groups
Incursion of non-native species	Ensure that issues with invasive non-native species, including rhododendron, are tackled through suitable management agreements and agri-environment schemes.	Land manager, NatureScot
Sycamore	Monitor regeneration of sycamore in each woodland and manage to ensure the correct balance between supporting woodland function and becoming dominant.	Land manager, NatureScot, Forestry and Land Scotland.
Future threats	A coordinated resilience planning process should be developed to respond to anticipated	NatureScot

	future threats to the habitat. Management actions arising from the resilience planning process, and site-level plans, should be implemented to anticipate future threats. This resilience work may also include further research to understand the vulnerabilities of the habitat.	Land managers, Local Authorities, Forestry and Land Scotland.
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