European Community Directive
on the Conservation of Natural Habitats
and of Wild Fauna and Flora
(92/43/EEC)

Second Report by the United Kingdom under Article 17

on the implementation of the Directive from January 2001 to December 2006

Conservation status assessment for :

H9180: *Tilio-Acerion* forests of slopes, screes and ravines

H9180 *Tilio-acerion* forests of slopes, screes and ravines

Audit trail compiled and edited by JNCC and the JNCC Woodland Lead Coordination Network

This paper and accompanying appendices contain background and data used to complete the standard EC reporting form (Annex D), following the methodology outlined in the document entitled "Assessment, monitoring and reporting under Article 17 of the Habitats Directive, Explanatory Notes & Guidelines, Final Draft 5, October 2006." The superscript numbers below cross-reference to the headings in the corresponding Annex D reporting form. This supporting information should be read in conjunction with the UK approach for habitats (see 'Assessing Conservation Status: UK Approach').

1. National-Biogeographic Level Information

1.1. General description and correspondence with National Vegetation Classification (NVC) and other habitat types

Table 1.1.1 provides a summary description of H9180 ravine ashwoods and their relations to UK classifications. The main NVC types conforming to *Tilio-acerion* forests are the western ash woodland forms (sub-communities d-g) of W8 *Fraxinus excelsior – Acer campestre – Mercurialis perennis* woodland and the north-western community W9 *F. excelsior – Sorbus aucuparia – M. perennis* woodland (see Rodwell 1991). However, many individual stands of these types fall outside of H9180 because they occupy sites other than (steep rocky) slopes, coarse screes or cliffs. H9180 stands often forms part of a mosaic with other woodland types, notably upland oakwoods and wet woodland and, in the Lower Wye Valley, beech woodland. A broad range of NVC types may therefore occur at any individual location.

UK H9180 *Tilio-Acerion* ravine forests mainly comprise woods of ash *F. excelsior* and wych elm *Ulmus glabra*, sometimes with lime (mainly small-leaved lime *Tilia cordata* and/or, more rarely, large-leaved lime *Tilia platyphyllos*) and/or field maple *A. campestre.* Introduced sycamore *Acer pseudoplatanus* is often present and is a common part of the community in mainland Europe, where it is native. A wide variety of associated trees and shrubs can occur, including hazel *Corylus avellana,* rowan *Sorbus aucuparia,* and yew *Taxus baccata.*

The habitat is limited to certain topographic situations, i.e. slopes (particularly steep rocky slopes), coarse screes and cliffs, preferably in humid ravines with shady micro-climates. Botanically similar communities occur more widely on flatter ground with deeper soils, but are excluded from the type. H9180 ashwoods typically occur on calcareous substrates and nutrient-rich soils, which often accumulate towards the bases of slopes. It often occurs as a series of scattered patches, grading into other types of woodland on level valley floors and on slopes above, or as narrow strips along stream-sides. More extensive stands occur in ravines over limestone and other base-rich rocks.

This habitat type is ecologically variable, particularly with respect to the dominant tree species. To the north and west, ash and wych elm assume increasing importance in the canopy, and lime may be completely absent. Floristic differences due to variations in slope, aspect and nature of the substrate add to the diversity of the habitat. The ground flora can be very varied, but the following elements are usually present: fern banks (particularly hart's-tongue *Phyllitis scolopendrium*, soft shield-fern *Polystichum setiferum* and buckler-ferns *Dryopteris* spp.); stands of ramsons *Allium ursinum* in the moister zones; dog's mercury *M. perennis* and enchanter's-nightshade *Circaea* spp. on drier but still base-rich soils; wood avens *Geum urbanum*, and natural 'disturbance communities' comprising common nettle *Urtica dioica*, herb-Robert *Geranium robertianum* and cleavers *Galium aparine* associated with scree and cliff-bases. A wide range of other basiphilous herbs and grasses may occur within these stands.

Table 1.1.1 Summary description of habitat H9180 and its relations with UK vegetation/habitat classifications.

Classification	Correspondence with Annex I type	Comments
EU Interpretation Manual	= H9180	This includes mixed forests of secondary species (*A. pseudoplatanus, F. excelsior, U. glabra, T. cordata*) of coarse scree, abrupt rocky slopes or coarse colluvions of slopes, particularly on calcareous, but also on siliceous, substrates. A distinction can be made between one grouping which is typical of cool and humid environments (hygroscopic and shade tolerant forests), generally dominated by the sycamore maple (*A. pseudoplatanus*) – sub-alliance *Lunario-Acerenion* – and another which is typical of dry, warm screes (xerothermophile forests), generally dominated by limes (*T. cordata, T. platyphyllos*) – sub-alliance *Tilio-acerenion*. Oak-hornbeam forest belonging to the *Carpinion* are not be included.
National Vegetation Classification (NVC) (see Rodwell 1991, Hall 1997)	Most H9180 stands fall within the following NVC types (though many stands within these types do not): • W8d-g *F. excelsior – A. campestre – M. perennis* woodland sub-communities d-g • W9 *F. excelsior – S. aucuparia – M. perennis* woodland community	Many stands of NVC types W8d-g and W9 occupy sites other than (steep rocky) slopes, coarse screes or cliffs and are therefore excluded from H9180. A few non-oceanic stands within W8d-f in the lowlands of central and eastern England are also excluded. On the other hand, a few local occurrences of sub-communities W8a-c in the north and west may be floristically similar and accepted as part of the habitat.
BAP priority habitat type	H9180 upland stands account for part of the BAP upland mixed ashwoods priority habitat type. The few H9180 lowland stands account for a minor part of the BAP lowland mixed deciduous priority habitat type	Much of the upland mixed ashwoods priority habitat type is not on (steep rocky) slopes, coarse screes or cliffs and therefore sits outside of upland mixed ashwoods priority habitat type. Most lowland mixed deciduous woodland comprises woodland dominated by other species (e.g. oak, beech, hornbeam) and that which is ash woodland is either non-ravine or differs in its overall floristics.

North of the central belt in Scotland, and in upland areas generally, base-rich conditions tend to become more restricted in extent; birch *Betula* spp. and oak *Quercus* spp. assume greater abundance in the canopy, and species typical of more acidic communities are often found in a close mosaic with more basiphilous indicators. However, elements of the type are still recognisable in, for example, the hazel *Corylus avellana* stands of the north-west coast of Scotland rich in lichens and higher plants.

Tilio-Acerion forests provide a habitat for a number of uncommon vascular plants, including, dark-red helleborine *Epipactis atrorubens*, violet helleborine *Epipactis purpurata*, wood fescue *Festuca altissima*, purple gromwell *Lithospermum purpureocaeruleum* and herb-Paris *Paris quadrifolia*. Many sites support notable bryophytes, in particular calcicoles associated with base-rich rock outcrops and (in western stands) Atlantic species. Some localities have important assemblages of epiphytic lichens.

Rodwell and Dring (2001) reported on the European context of British H9180 ravine ashwoods. The *Tilio-Acerion* has its centre of distribution in continental Europe, but is widespread from Scandinavia through to the Pyrenees and into Italy. Typically it occurs in association with base-rich rocks in the steep-sided immature river valleys of the colline, sub-montane and high mountain belts across Europe. In the EU a large number of associations have been characterised and, not surprisingly, the most similar to British examples of the *Tilio-Acerion* occur in southern Norway and Sweden. The type also occurs widely through Germany, Austria, Switzerland and France. The *Tilio-Acerion* also occurs into the Italian pre-

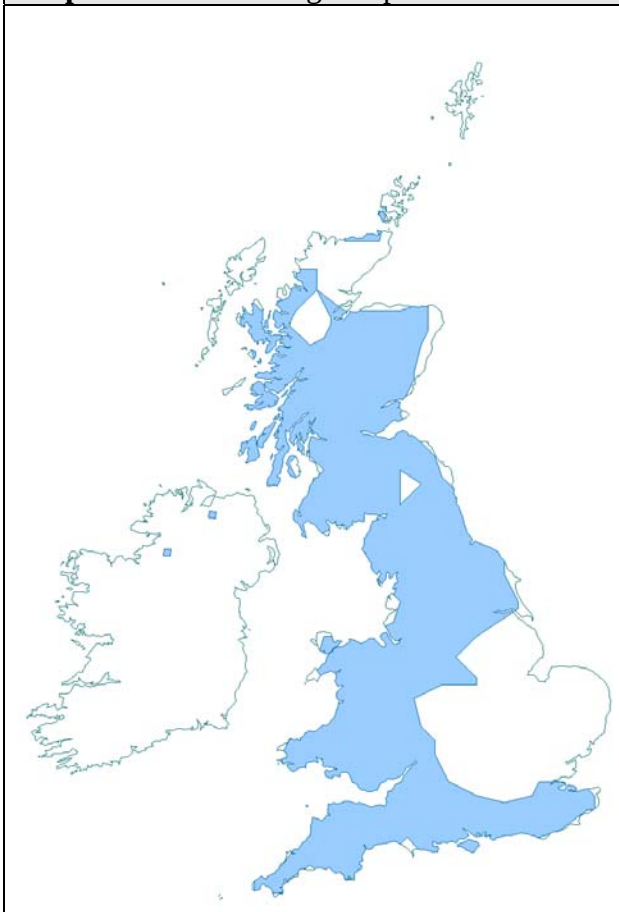
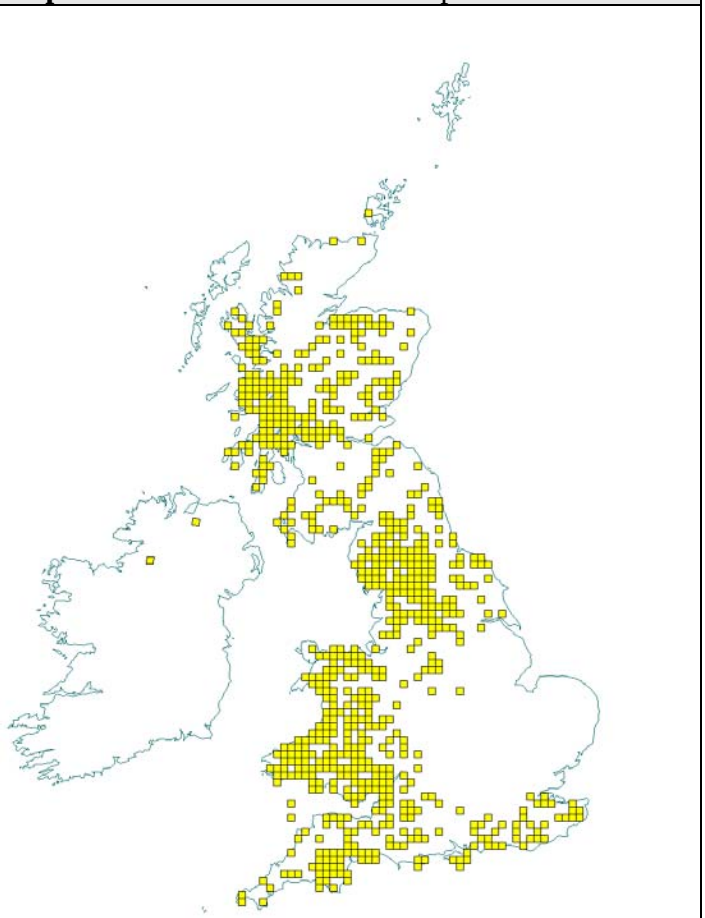
Alps and reaches its southern limit in humid, north-facing ravines of the Appennines. Among this wide range of woodland types, the British examples of the *Tilio-Acerion* are distinctive in spanning the north-western limit of more Continental species represented in the alliance – *T. cordata, A. campestre*, *Cornus sanguinea, Rhamnus catharticus* and *Euonymus europaeus* - and also including some Northern Montane and Continental Northern plants - *Prunus padus, Rubus saxatilis, Actaea spicata, Trollius europaeus, Crepis paludosa, Cirsium helenioides, Geranium sylvaticum* - which emphasise the links with the Boreal zone.

2. Range [2.3]

2.1 Current range

Range surface area [2.3.1]: **158,934km²**
Date calculated [2.3.2.]: **May 2007**
Quality of data [2.3.3.]: **Moderate**

The surface area estimate was calculated within alpha hull software, using extent of occurrence as a proxy measure for range (see Map 2.1.1). The value of alpha was set at 25 km; the alpha was clipped to include inland areas only.

Map 2.1.1 Habitat range map [1.1] for H9180	**Map 2.1.2** Habitat distribution map [1.2] for H9180
	
Range envelope shown in blue/grey shade in above map is a minimum convex polygon constructed using JNCC Alpha Shapes tool (see technical note I for details of methodology).	Each yellow square represents a 10x10km square of the National Grid and shows the known and/or predicted occurrence of this habitat. 10-km square count: 730

See Section 7.1 for data sources

Maps 2.1.1 and 2.1.2 show the range and distribution of H9180 ravine ashwoods in the UK. They are based on comprehensive records extracted from the JNCC Database of Woodland Community Types. All

Special Areas of Conservation (SACs) for the type and all stands that conform to NVC types W8d-g or W9 are included, except for a few lowland records for W8d, W8e or W8f in Cambridgeshire, Essex, Hertfordshire, Northamptonshire, Norfolk or Suffolk, which fall outside the geographic limits of the type.

Map 2.1.1 provides a good representation of the broad range of H9180 in Great Britain, i.e. woodland of this type is known to occur across southern England, Wales, the English-Welsh borders, northern England, and into the far north of Scotland. The distribution shown in Map 2.1.2 is however likely to significantly over-represent the actual distribution of H9180, because it was not possible to discriminate against non-ravine ash woodland in the underlying data on the basis on NVC information alone. The range and distribution for the type in Northern Ireland may be under-represented as both are based solely on the occurrence of the type within SACs.

2.2 Trend in range since c.1994

Trend in range[2.3.4]: **Stable**
Trend magnitude[2.3.5]: **Not applicable**
Trend period[2.3.6]: **1994-2006**
Reasons for reported trend[2.3.7]: **Not applicable**

The broad range of H9180 ravine ashwoods appears to have not changed since 1994.

2.3 Favourable reference range

Favourable reference range[2.5.1]: **Approx. 160,000 km^2**

Section 3.2.1.3 of 'Assessing Conservation Status: UK Approach' sets out how favourable reference range estimates for habitats have been determined in the UK. Based on this approach, the current surface area (approximately 160,000 km^2) has been set as the favourable reference area. Reasons for this are discussed below.

Available evidence suggests that the current range of H9180 ravine ashwoods is sufficiently large not to raise any major concerns about the viability of the habitat on this account. It certainly includes most of the native range of upland ash woodland across western and northern Britain (see Rodwell 1991, Peterken 1993), albeit that losses from the margins of the range may have occurred over the long time frame. Despite some declines in area during the last century, which have been partly compensated for by recent small-scale expansion, the broad range of this habitat has probably remained reasonably stable for many centuries.

It is difficult to judge how fragmented the habitat distribution is because Map 2.1.2 over represents this feature. Even so, the occurrence of this woodland is naturally constrained by the availability of suitable ravine sites. Another consideration is that much of the potentially suitable ground for the habitat is now occupied by open habitats, e.g. limestone grassland, limestone pavement, boulder scree and tall herb, that are themselves of high conservation value. Any significant spread of ash woodland here could conflict with other conservation priorities. Some breaks in the range may reflect very early clearance of forest in particular regions, combined with early introduction of sheep grazing and possibility that originally woodland might have not been abundant everywhere. Some decline appears to have taken place due to clearance and soil erosion followed by development of acidic oak woodland (Barker 1998). The type may however have been affected less than some other woodland types, because often stands are located in relatively inaccessible areas.

The current range of H9180 ravine ashwoods is therefore taken to be viable and at least equal in area to that of the favourable reference range area.

2.4 Conclusions on range

Conclusion[2.6.i]: **Favourable**

The range of this habitat appears sufficiently large and compact not to raise any major concerns as regards viability of the habitat on these accounts. The range has remained stable since 1994 and probably so for many centuries before. It includes most of the native range of upland ash woodland. Some suitable ground is now occupied by open habitats of high conservation value: a spread in ash woodland here could conflict with other conservation priorities. Fragmentation within the range partly reflects natural constraints imposed by the availability of suitable sites. Some breaks may reflect very early clearance of forest, early introduction of sheep grazing, and possibly a paucity of original woodland cover. The current range area of H9180 is therefore taken to be viable and approximately equal to that of the favourable reference range.

3. Area [2.4]

3.1 Current area

Total UK extent [2.4.1]: **118 km^2**
Date of estimation [2.4.2]: **May 2007**
Method [2.4.3]: **1 = only or mostly based on expert opinion**
Quality of data [2.4.4]: **Poor**

Table 3.1.1 provides information on the area of H9180 ravine ashwoods in the UK, which is estimated to be between 8,250 and 15,350 ha. All the figures are based on expert opinion, as there is no comprehensive data available on the habitat extent. The values are derived from those presented in Jackson and McLeod (2002), with up-date advice on the extent in Northern Ireland. The value for Wales is derived from an analysis of the proportion of recorded sites within ravines that support NVC communities W8d-g or W9. The values for Scotland is provisional and needs to be verified. The total area is considerably less than that for the BAP upland mixed ashwood priority habitat, because botanically similar communities to H9180 occur more widely, on flatter ground with deeper soils.

Table 3.1.1 Area of H9180 in the UK. NB: the values for England and Scotland are provisional.

	Area (ha)	Method [2.4.3]	Quality of data [2.4.4.]
England	7,500 (5,000-10,000)	1	Poor
Scotland	2,000 (1,500-2,500)	1	Poor
Wales	2,000 (1,500-2,500)	1	Poor
Northern Ireland	300 (250-350)	1	Poor
Total UK extent [2.4.1.]	11,800 (8,250-15,350)	1	Poor

Method used to estimate the habitat surface area: 1 = only or mostly based on expert opinion; 2 = based on remote sensing data; 3 = ground based survey. Only the most relevant class is given if more than one applies.
Quality of habitat surface area data: 'Good' e.g. based on extensive surveys; 'Moderate' e.g. based on partial data with some extrapolation; 'Poor' e.g. based on very incomplete data or on expert judgement.

3.2 Trend in area since c.1994

Trend in area[2.4.5]: **Stable**
Trend magnitude[2.4.6]: **Not applicable**
Trend period[2.4.7]: **1994-2006**
Reasons for reported trend[2.4.8]: **Not applicable**

The area of H9180 ravine ashwoods has probably remained more-or-less stable since 1994, despite earlier losses to conversion and clearance have been largely stemmed and some positive restoration works and creation of new native woodland having taken place. Precise figures on a trend are not available.

3.3 Favourable reference area

Favourable reference area[2.5.2]: **Approx. 129.8 km^2**

Section 3.2.2.3 of 'Assessing Conservation Status: UK Approach' sets out how favourable reference area estimates have been determined in the UK. Based on this approach, the favourable reference area has

been identified as greater than the current extent, but not by a factor of more than 10%. Reasons for this are discussed below.

H9180 ravine ashwoods are relatively scarce in the UK. The current area of c.12,000 ha is spread very thinly across its range, which stretches across the majority of the UK. It is naturally constrained to ravines and typically to nutrient-rich soils. However, even within these locations it often forms fragmented stands and individual areas of ash woodland are often separated from other by non-woodland habitats. This must limit opportunities for interaction between sites. Accordingly, there seems to be a general consensus amongst woodland conservationists that this habitat is overly fragmented and isolated to be sure that all of the component species can perpetuate themselves.

Concern is raised by the loss of ancient semi-natural stands of H9180 due to clearance/conversion during the 20th century, and the resultant increase in habitat fragmentation and isolation. Statistics for the decline of all types of ancient semi-natural woodland between c.1930-1985 across the core range of H9180 in northern England (Derbyshire, Lancashire, north-south-west Yorkshire and counties further north), south-west England (Cornwall, Devon, Somerset) and Wales (see Spencer and Kirby 1992), reveal that almost 69,000 ha or 48 % of the total area of such woodland was lost at an average rate of 1.2% per year. Over the same period the abundance of semi-natural habitats and interconnecting features within the surrounding countryside also declined substantially. Although the most inaccessible ravine ashwoods were protected from clearance and conversion by virtue of their location, many ashwoods are on more accessible slopes and in some areas a good many were converted to plantations, e.g. along Wenlock Edge in Shropshire (Carter 1988).

These concerns are counter-balanced by several factors. Ravine ashwoods have existed in a fragmented state for many centuries and much of the resource occurs in the uplands, where the extent and diversity of semi-natural vegetation and inter-connecting features is relatively high. Evidence shows that, in some areas, changing socio-economic factors led to an expansion of ashwoods in historical times, e.g. on the Derbyshire Limestone during the 19th century (Piggot 1969, Merton 1970). The type may also have lost some ground (literally) through clearance and soil erosion followed by development of acidic oak woodland (Barker 1998). Another consideration is that some of the potential area of H9180 is now occupied by open habitats, e.g. limestone grassland, limestone pavement, boulder scree and tall herb, that are themselves of high conservation value (some is within SACs for such types). Any expansion of ash woodland could therefore clash with other conservation priorities. Finally, as fragmentation and isolation are most likely to lead to impoverishment rather complete habitat loss, it is considered that an increase of no more than 10% above the current area of H91E0 is necessary to remedy this problem.

The current area of H9180 ravine ashwoods is therefore judged to be inadequate to ensure that all of its component species can perpetuate themselves. Nevertheless, the favourable reference area is taken to be not more than 10% above the current area.

3.4 Conclusions on area covered by habitat

Conclusion[2.6.ii]: Unfavourable – Inadequate but improving

This habitat is spread very thinly across its range and has remained more-or-less stable in area since 1994. Acknowledging that the habitat is naturally constrained to ravines, it still often exists in fragmented and relatively isolated stands with limited opportunities for interaction between sites. Concerns are raised by the increase in fragmentation and isolation due to the loss of ancient semi-natural stands and general decline in the quality of the wider countryside during the 20th century. Ravine ashwoods have, nevertheless, existed in a fragmented state for many centuries and many occur where semi-natural vegetation and inter-connecting features are relatively abundant. In places there has also been some expansion of ashwoods in historical times. Another consideration is that some of its potential area is now occupied by open habitats of high conservation value. It is also considered unlikely that the remedy to this situation requires an increase of more than 10% above the current habitat area. The favourable reference

area is therefore taken to be no more than 10% above the current habitat area. The habitat area has improved since 1994, with earlier losses have been largely stemmed and some restoration/creation having taken place.

4. Specific Structures and Functions **(including typical species)**

4.1 Main pressures **2.4.10**

The main pressures likely to be affecting H9180 ravine ashwoods are listed below. These are derived mainly from the UK BAP upland mixed ashwood habitat action plan and via the adverse features listed in Common Standards Monitoring condition assessments (see Section 4.2.1). The related EC codes are shown in brackets.

- Over-grazing (**140 Grazing**)

H9180 woodland has and continues to suffer from over-grazing by sheep, deer and rabbits in the western and northern uplands and expansion of populations of deer in southern districts. This impoverishes the ground flora, creates difficulties for regeneration, and may alter the woodland structure with impacts on many components of the woodland flora and fauna.

- Invasion by non-native species (**954 invasion by a species, 966 antagonism arising from introduction of species**)

Invasion by sycamore, beech and other species, which are generally not native to H9180 woods in most of Britain, is a widespread issues. Where such species are successful, they displace native counterparts and change the composition of the wood and its associated wildlife.

- Dutch elm disease (**973 introduction of disease**)

Since its arrival in Britain in the early 1970s, Dutch elm disease has changed the structure and composition of many H9180 ravine ashwoods (e.g. Peterken and Mountford 1998). It causes crown deterioration and can kill mature elm trees outright. In many woods it has removed or nearly removed elm from the over-storey. Although this disease has a long very history, the latest strain is particularly virulent and was transported to the UK by people.

- Unsympathetic forestry practices (**160 General Forestry management, 161 Planting, 162 Artificial planting, 163 Replanting, 164 Forestry clearance, 165 Removal of undergrowth, 166 Removal of dead and dying trees**)

Unsympathetic forestry practices have impacted on a number of H9180 woods. This includes planting of inappropriate conifer or broadleaved trees and methods of working and felling rates that do not reflect published guidelines. Some effort has already been made to restore damaged stands, but in other cases the legacy of such activities continues to impact.

- Lack of appropriate management (**190 Agriculture and forestry activities not referred to above**)

Cessation of traditional management practices in upland ash woods, notably coppicing, is a problem because this results in changes to the environmental and structural conditions and the availability of long-standing habitats. Often this leads to a decline in species richness. The problem is compounded because there is a lack of interest, expertise and incentives amongst some woodland owners to undertake management.

- Impacts from intensive agriculture (**110 Use of pesticides, 120 Fertilisation, 151 Removal of hedges and copses, 190 Agriculture and forestry activities not referred to above, 702 air pollution, 703 soil pollution**)

Ash woods can be negatively affected by nutrient enrichment arising from spray drift or run-off from adjacent agricultural land. This can lead to changes in soils and ground flora. Another issue is where

agricultural intensification results in the loss of hedges, trees and small patches of ash-rich scrub in fields. This increases fragmentation and isolation amongst the remaining woodland.

- Air pollution (**702 air pollution**)

Based on an assessment of the exceedence of relevant critical loads (see technical note III), air pollution is considered to be a potentially significant pressure to the structure and function of this habitat.

4.2 Current condition

4.2.1 Common Standards Monitoring (CSM) condition assessments

Condition assessments based on CSM (see http://www.jncc.gov.uk/page-2199) provide a means to assess the structure and functioning of H9180 in the UK. The following attributes were examined for all CSM assessments relevant to the habitat:

- Extent.
- Structure and natural processes.
- Regeneration potential.
- Composition (trees and shrubs).
- Indicators of local distinctiveness.

SAC condition assessments

Table 4.2.1 and Map 4.2.1 summarise the CSM condition assessments for UK SACs supporting habitat H9180. These data were collated in January 2007. The maps give an impression of the overall spread of where Unfavourable and Favourable sites exist (summary statistics for the map are given in Section 7.2). The combined assessments show that of the SACs assessed 70% of the area and 70% of the number of assessments was Unfavourable. This means that at least 32% of the total UK habitat area was in Unfavourable condition. This is not surprising given the pressures that woodland, even protected sites, have been under during the 20th century. Nevertheless, over 40% of the Unfavourable category was judged to be recovering and little was declining.

Table 4.2.1 CSM condition assessment results for UK SACs supporting H9180. See notes below table for details. Information on the coverage of these results is given in Section 7.2.

Condition	Condition sub-categories	Area (ha)	Number of site features
Unfavourable	Declining	537	6
	No change	1,435	9
	Unclassified	199	2
	Recovering	1,607	15
	Total	3,779	32
	% of all assessments	***70%***	***70%***
	% of total UK resource	***32%***	***unknown***
Favourable	Maintained	926	9
	Recovered	0	0
	Unclassified	666	5
	Total	1,591	14
	% of all assessments	***30%***	***30%***
	% of total UK resource	***14%***	***unknown***

Notes

1. Data on features that have been partly-destroyed have been excluded from this table because they are not relevant to the consideration of present condition.
2. The data included are from CSM assessments carried out between April 1998 and December 2006. NB: these include additional and some up-date data form those used in the six year report produced by JNCC. (Williams, J.M., ed. 2006. *Common Standards Monitoring for Designated Sites: First Six Year Report*. Peterborough, JNCC).
3. Only assessments made for qualifying interest features on SAC have been included in this analysis.

4. Area figures for CSM assessments have been calculated using the data presented on the standard Natura 2000 data forms submitted to the EU.

Sites of Special Scientific Interest (SSSI)/Areas of Special Scientific Interest (ASSI) condition assessments

Table 4.2.2, and Maps 4.2.2 and 4.2.3 summarise the CSM condition assessments that were judged to be either strongly or weakly indicative of the condition of the Annex I habitat on SSSI/ASSIs (see technical note II for details of methodology behind this). These data were collated in January 2007. The maps give an impression of the overall spread of where Unfavourable and Favourable sites exist (summary statistics for the maps are given in Section 7.2). The combined condition assessments show that of the SSSI/ASSI assessments considered 64% of strongly indicative assessments were Unfavourable. Of the Unfavourable assessments almost half were in the recovering category and few were declining.

Table 4.2.2 CSM condition assessment results for UK SSSI/ASSIs that were judged to be either strongly or weakly indicative of the condition of H9180 on SSSI/ASSIs. See notes below table and technical note II for further details.

Condition	Condition sub-categories	Number of assessments	
		Strongly indicative assessments (Category 1)	Weakly indicative assessments (Category 2)
Unfavourable	Declining	15	
	No change	50	
	Unclassified	10	
	Recovering	71	
	Total	146	
	% of all assessments	***64%***	
Favourable	Maintained	31	
	Recovered	1	
	Unclassified	49	
	Total	81	
	% of all assessments	***36%***	

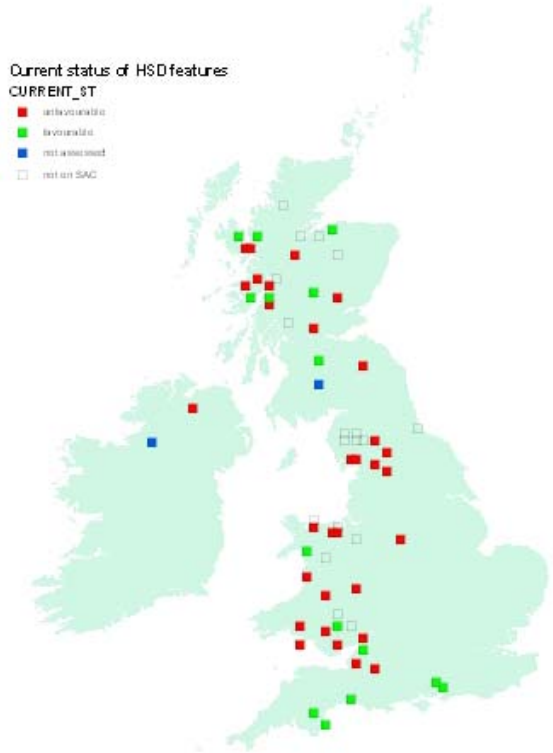
Notes

1. Data on features that have been partly-destroyed have been excluded from this table because they are not relevant to the consideration of present condition.
2. The data included are from CSM assessments carried out between April 1998 and December 2006.

Condition of non-designated sites

There is no formal condition assessment process for the resource outside the SSSI series. However, there is some qualitative information available as part of the BAP process for upland mixed ash woodland generally. There is no reason to assume that the condition of woodland outside the SSSI/SAC series is likely to be any better than that for the designated sites.

Current Condition of H9180 based on Common Standard Monitoring condition assessments (See Sections 4.2 and 7.2 for further information)

Map 4.2.1 SAC assessments	**Map 4.2.2** Assessments strongly indicative of the condition on SSSI/ASSIs	**Map 4.2.3** Assessments weakly indicative of the condition on SSSI/ASSIs
		Not applicable
Key Red = Unfavourable, i.e. the square contains at least one SAC where this habitat feature is present and has been judged to be Unfavourable Green = Favourable, i.e. the square contains at least one SAC where this habitat feature is present and has been assessed as Favourable but there are no Unfavourable SAC features Blue = SAC not assessed, i.e. the square contains at least one SAC supporting this habitat feature but no assessment has been reported Transparent = SAC feature not present, i.e. the square contains some examples of the habitat type but none are SAC features	Key* Green – 80 – 100% of assessed features on 10km square are Favourable Yellow - 50 – 80% of assessed features on 10km square are Favourable Orange - 20 – 50% of assessed features on 10km square are Favourable Red - 0 – 20% of assessed features on 10km square are Favourable *This is the same key as was used for JNCC CSM Report 2006	

4.3 Typical species

Typical species[2.5.3]: ***Daphne mezereum, Platanthera chlorantha, Primula elatior, Convallaria majalis, Sanicula europaea, Campanula latifolia, Carex pallescens, Melica nutans, Polygonatum multiflorum, Viola odorata, Adoxa moschatellina, Festuca gigantea, Ruscus aculeatus, Campanula trachelium, Daphne laureola, Veronica montana, Myosotis sylvatica, Ribes rubrum***

Typical species assessment[2.5.4]: Change in 10 km square occupancy across UK over last 25 years

A relatively high number of species show a medium-very high degree of faithfulness to this habitat or at least to the two related woodland community types (W8 and W9) within the NVC. Trends in the occurrence of these species across the UK during the last 25 years are set out in the table below. A few of these declined, mostly by less than 25%, but most increased albeit by less than 25%. These data suggest that at least some species associated with H9180 have declined, though more have spread albeit though not necessarily within this forest type.

Table 4.3.1 Trends and faithfulness of selected typical species for H9180

Typical species [2.5.3]	**Faithfulness to habitat H9120 (based on analysis of NVC synoptic tables)**	**Trend over last 25 years from BSBI atlas – based on change in 10 km square occupancy across UK (see http://www.jncc.gov.uk/page-3254)**
Daphne mezereum	Very high	Significant decline >=25% in 25 years
Platanthera chlorantha	Very high	Significant decline but <25% in 25 years
Primula elatior	Very high	
Convallaria majalis	Medium	
Sanicula europaea	Medium	
Campanula latifolia	Very high	Significant increase but <25% in 25 years
Carex pallescens	Very high	
Melica nutans	Very high	
Polygonatum	Very high	
Viola odorata	Very high	
Adoxa moschatellina	High	
Festuca gigantea	High	
Ruscus aculeatus	High	
Campanula trachelium	Medium	
Daphne laureola	Medium	
Veronica montana	Medium	
Myosotis sylvatica	Very high	Significant increase >=25% in 25 years
Ribes rubrum	Medium	

4.4 Conclusions on specific structures and functions (including typical species)

Conclusion[2.6.iii]: Unfavourable – Bad but improving

The EC Guidance states that where "more than 25% of the area of the habitat is Unfavourable as regards its specific structures and functions", the conclusion should be Unfavourable – Bad. In the UK this was generally taken to mean that more than 25% of the habitat area in Unfavourable condition.

The main pressures are over-grazing, habitat fragmentation and isolation, invasion by non-native species, Dutch elm disease, unsympathetic forestry practices, lack of appropriate management, agricultural practices, and air pollution. Condition assessments for SACs and SSSIs show that a large part of the habitat is in Unfavourable condition: 70% of assessed SACs are judged Unfavourable, whilst the level for relevant SSSI/ASSIs is 64%. Much more of that which is Unfavourable assessments is recovering than declining. There is no reason to expect the condition of the non-designated resource to be substantially better. At least some species associated with the habitat have declined in occurrence in recent times.

5. Future Prospects

5.1 Main factors affecting the habitat

5.1.1 Conservation measures

This habitat mainly forms part the UK BAP Habitat Action Plan for upland mixed ashwoods (see http://www.ukbap.org.uk), which has targets to maintain existing areas of such woodland, restore some areas that have been replanted with non-native species, initiate measures to improve its condition, and expand the resource by natural colonisation or planting.

This habitat is subject to a number of legal instruments, national policy measures and grant-aid schemes. These prevent clear-felling for conversion to other land uses, and aim to maintain and restore their ecological diversity and expand remnant and new native woods. All woodland is expected to be managed according to the UK Forestry Standard, with ancient and semi-natural woodland receiving special provision. Felling of trees and grant aid are controlled by the Forestry Authority and are conditional upon management achieving these aims in accordance with published guidance. The Woodland Grant Scheme provides finance for regenerating, planting and other management activities.

About 20-30% of upland mixed ashwoods are protected in whole or as part of SSSIs under the Wildlife and Countryside Act 1981 or the Nature Conservation and Amenity Lands Order (Northern Ireland) 1985. A number have been designated as SACs for H9180 in response to the EC Habitats Directive (see http://www.jncc.gov.uk/ProtectedSites/SACselection/habitat.asp?FeatureIntCode=H9180). Various other measures and initiatives have been put in place to help conserve such woodland. These include published guides on their management and creation, and initiatives aimed at promoting expansion and/or appropriate management (e.g. Highland Birchwoods, Coed Cymru, Cumbria Broadleaves, and Tayside Native Woods). The recently completed Ravine WoodLIFE partnership project focused on restoring ash woodland SACs in the Peak District in Derbyshire and the Wye Valley on the south Wales border (see http://www.ravinewoodlife.org.uk/). A similar project focused problems and direct improvement of the Scottish ravine woodlands of the Clyde Valley (see http://www.clydevalleywoods.org.uk/).

5.1.2 Main future threats[2.4.11]

The most obvious major threats to H9180 ravine ashwoods over the next 12-15 years are listed below. The related EC codes are shown in brackets.

- Over-grazing (**140 Grazing**)

Over-grazing is likely to remain a major threat to upland oak woodland, at least until livestock and wild deer numbers and impacts can be substantially reduced.

- Invasion by non-native species (**954 invasion by a species, 966 antagonism arising from introduction of species**)

Invasion by sycamore, beech and other species is a continual threat to H9180 ravine ashwoods, although some major work programmes have been undertaken to remove such species.

- Dutch elm disease (**973 introduction of disease**)

There are no signs that the current outbreak of Dutch elm disease is subsiding.

- Unsympathetic forestry practices (**160 General Forestry management, 161 Planting, 162 Artificial planting, 163 Replanting, 164 Forestry clearance, 165 Removal of undergrowth, 166 Removal of dead and dying trees**)

With improved management guidelines and better appreciation and promotion of the importance and appropriate treatment of semi-natural woodland, the threat from unsympathetic management will continue to diminish. The next ten years provide considerable opportunities to restore damaged stands.

- Lack of appropriate management (**190 Agriculture and forestry activities not referred to above**)

Activities and grant-aid to encourage restoration and appropriate management of oakwoods have increased. The next ten years should result in considerable improvements, though it will take longer for the vegetation and associated wildlife to respond positively.

- Air pollution (**702 air pollution**)

Based on an assessment of the exceedence of relevant critical loads (see technical note III), air pollution is considered to be a potentially significant pressure to the structure and function of this habitat. This factor has particularly damaging effects on the epiphytic lichen and bryophyte communities, for which this habitat is of great importance.

5.2 Future condition **(as regards range, area covered and specific structures and functions)**

5.2.1 CSM condition assessments

The CSM condition assessments reported in Sections 4.2.1-2 provide a basis to crudely predict the potential future condition of H9180 in the UK. This involved treating all assessments currently identified as either favourable or unfavourable recovering as future-favourable: remaining categories were treated as future-unfavourable – see Table 5.2.1. There are a number of caveats to this approach, which are set out beneath this table.

SAC condition assessments

Table 5.2.1 and Map 5.2.1 summarise the possible future condition of H9180 on UK SACs. This is based on the approach described above. The maps give an impression of the overall spread of where future-unfavourable and future-favourable sites might occur (summary statistics for the map are given in Section 7.2). The combined assessments show that of the SACs assessed 60-63% fall within the future-favourable category. This amounts to at least 27% of the total UK habitat area.

Table 5.2.1 Predicted future condition of UK SACs supporting H9180 based on current CSM condition assessments. See notes below table for details. Information on the coverage of these results is given in Section 7.2

Future condition	Present condition	Area (ha)	Number of site features
Future-Unfavourable	Unfavourable declining	537	6
	Unfavourable no change	1,435	9
	Unfavourable unclassified	199	2
	Total	2,172	17
	% of assessments	***40%***	***37%***
	% of total UK extent	***18%***	***Unknown***
Future-Favourable	Favourable maintained	926	9
	Favourable recovered	0	0
	Unfavourable recovering	1,607	15
	Favourable unclassified	666	5
	Total	3,198	29
	% of assessments	***60%***	***63%***
	% of total extent	***27%***	***Unknown***

Note that the scenario presented above is based on the same information as used to construct the Table in section 4.1. It is based on the following premises:

(i) the Unfavourable-recovering condition assessments will at some point in the future become Favourable;

(ii) all Unfavourable-unclassified sites will remain Unfavourable, which is probably overly pessimistic;

(iii) sympathetic management will be sustained on sites already classified as Favourable and these will not be seriously damaged by any unforeseen events.

IMPORTANT NOTE: We do not have information on the timescale of the predicted recovery, which may be influenced by many past, natural and human related factors. A sustained, sympathetic management regime is more likely to result in 'Favourable' condition being attained.

SSSI/ASSI condition assessments

Table 5.2.2, and Maps 5.2.2 and 5.2.3 summarise the predicted potential future condition of H9180 on UK SSSI/ASSIs. This is based on the approach described above and utilises condition assessments that were judged to be either strongly or weakly indicative of the condition of the Annex I habitat on SSSI/ASSIs (see technical note II for details of methodology behind this). The maps give an impression of the overall spread of where future-Unfavourable and future-Favourable sites might occur (summary statistics for the maps are given in Section 7.2). The combined condition assessments show that 67% of the strongly indicative assessments fall within the future-Favourable category.

Table 5.2.2 Predicted future condition of H9180 on SSSI/ASSIs based on CSM assessments that were judged to be either strongly or weakly indicative of the condition. See notes below table and technical note II for further details.

Future condition	Present condition	Number of assessments	
		Strongly indicative assessments (Category 1)	**Weakly indicative assessments (Category 2)**
Future-Unfavourable	Unfavourable declining	15	
	Unfavourable no change	50	
	Unfavourable unclassified	10	
	Total	75	
	% of assessments	***33%***	
Future-Favourable	Favourable maintained	31	
	Favourable recovered	1	
	Unfavourable recovering	71	
	Favourable unclassified	49	
	Total	152	
	% of assessments	***67%***	

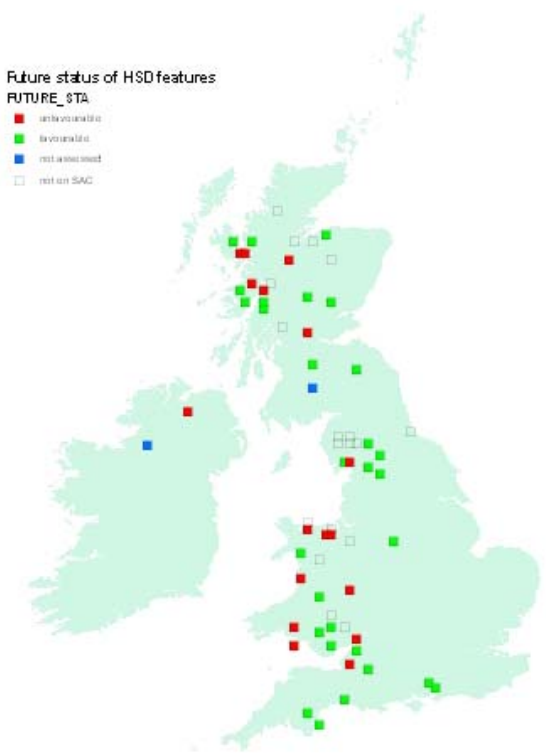
Note that the scenario presented above is based on the same information as used to construct the Table 4.2.2. It is based on the following premises:

(i) the Unfavourable-recovering condition assessments will at some point in the future become Favourable;

(ii) all Unfavourable-unclassified sites will remain Unfavourable, which is probably overly pessimistic;

(iii) sympathetic management will be sustained on sites already classified as Favourable and these will not be seriously damaged by any unforeseen events.

IMPORTANT NOTE: We do not have information on the timescale of the predicted recovery, which may be influenced by many past, natural and human related factors. A sustained, sympathetic management regime is more likely to result in Favourable' condition being attained.

Predicted Future Condition of H9180 based on Common Standard Monitoring condition assessments (See Sections 5.2 and 7.2 for further information on these maps)		
Map 5.2.1 SAC assessments	**Map 5.2.2** Assessments strongly indicative of the condition on SSSI/ASSIs	**Map 5.2.3** Assessments weakly indicative of the condition on SSSI/ASSIs
		Not applicable
Key Red = future-Unfavourable, i.e. the square contains one or more SACs where this habitat feature is present and has been predicted to be future-Unfavourable Green = future-Favourable, i.e. the square contains at least one SAC where this habitat feature is present and has been predicted to be future-Favourable Blue = SAC not assessed, i.e. the square contains at least one SAC supporting this habitat feature but no assessment has been reported	Key* Green – 80 – 100% of assessed features on 10km square are Favourable Yellow - 50 – 80% of assessed features on 10km square are Favourable Orange - 20 – 50% of assessed features on 10km square are Favourable Red - 0 – 20% of assessed features on 10km square are Favourable *This is the same key as was used for JNCC CSM Report 2006	

5.3 Conclusions on future prospects (as regards range, area covered and specific structures and functions)

Conclusion[2.6.iv]: Unfavourable – Inadequate but improving

The EC Guidance states that where habitat prospects are intermediate between "good with no significant impacts from threats expected and long-term viability assured" and "bad with severe impacts from threats expected and long-term viability not assured", the judgement should be Unfavourable – Inadequate. In the UK, this was generally taken to mean that range and/or area are stable or decreasing, and between 75-95% of the habitat area is likely to be in Favourable condition in 12-15 years.

A substantial number of positive conservation measures have been put into place to improve the status of this habitat. The main threats that remain are from over-grazing, invasion by non-native species, Dutch elm disease, unsympathetic forestry practices, lack of appropriate management, and air pollution. Condition assessments for the relevant SACs indicate that 60-63% of sites may become Favourable in the foreseeable future. Relevant condition assessments for SSSIs put 67% of sites within this category. Given progress already made and some additional recovery once further conservation measures are put into place, the expectation is that a significant part of the habitat will be in Unfavourable condition in the next 12-15 years, but less than 25%.

6. Overall Conclusions and Judgements on Conservation Status [2.6]

Conclusion[2.6]: Unfavourable – Bad but improving

On the basis of Structure and Function, the overall conclusion for this habitat feature is Unfavourable – Bad but improving.

Table 6.1 Summary of overall conclusions and judgements

Parameter	Judgement	Grounds for Judgement	Confidence in judgement*
Range	Favourable	Current range is stable and not less than the favourable reference range.	2
Area covered by habitat type within range	Unfavourable – Inadequate but improving	Favourable reference area is greater than the current extent, but not by more than 10%. The area appears to have improved somewhat since 1994, with some restoration/creation works having been carried out.	2
Specific structures and functions (including typical species)	Unfavourable – Bad but improving	More than 25% of the area of the habitat is Unfavourable as regards to specific structures and functions. Much more of that which is in Unfavourable condition is recovering than declining.	2
Future prospects (as regards range, area covered and specific structures and functions)	Unfavourable – Inadequate but improving	Habitat prospects considered to be intermediate between "good with no significant impacts from threats expected and long-term viability assured" and "bad with severe impacts from threats expected and long-term viability not assured. Given progress already made and some additional recovery once further conservation measures are put into place, the expectation is that a significant part of the habitat will be in Unfavourable condition in the next 12-15 years, but less than 25%.	2
Overall assessment of conservation status	Unfavourable – Bad but improving	On the basis of Structure and Function, the overall conclusion for this habitat feature is Unfavourable – Bad but improving.	2

Key to confidence in judgement: 1 = High; 2 = Medium; 3 = Low

7. Annexed Material (including information sources used 2.2)

7.1 References

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UK BAP Habitat Action Plan for upland mixed ashwoods. Available via http://www.ukbap.org.uk/

UK BAP Habitat Action Plan for lowland mixed deciduous woodland. Available from JNCC.

Map Data Sources

JNCC International Designations Database. Joint Nature Conservation Committee.

NVC Woodland Community Access Database. Joint Nature Conservation Committee.

7.2 Further information on CSM data as presented in Sections 4.2 and 5.2

Table 7.2.1 Summary of the coverage of the data shown in Tables 4.2.1 and 5.2.1

Data	Value
Number of SACs supporting feature (a)	48
Number of SACs with CSM assessments (b)	46
% of SACs assessed (b/a)	96
Extent of feature in the UK – hectares (c)	11,800
Extent of feature on SACs – hectares (d)	5,605
Extent of features assessed – hectares (e)	5,370
% of total UK hectarage on SACs (d/c)	48
% of SAC total hectarage that has been assessed (e/d)	96
% of total UK hectarage that has been assessed (e/c)	46

Notes

1. Extent of features on SACs (d) includes only those features that have been submitted on the official Natura 2000 data form as qualifying features. This figure is based on the habitat extent figures presented on standard Natura 2000 data forms.
2. The data included are from CSM assessments carried out between April 1998 and December 2006. NB: these include additional and some up-date data form those used in the six year report produced by JNCC (Williams, J.M., ed. 2006. *Common Standards Monitoring for Designated Sites: First Six Year Report*. Peterborough, JNCC)

Table 7.2.2 Summary of grid square map data shown in Maps 4.2.1-3 and 5.2.1-3

Status	Number of squares	Proportion of all squares
Current – Unfavourable (red)	31	47%
Current – Favourable (green)	15	23%
On SAC but not assessed (blue)	2	3%
Not on SAC (transparent)	18	27%
Total Number of 10km squares (any colour)	66	100%
Future – Unfavourable (red)	17	26%
Future – Favourable (green)	29	44%