



European Site Conservation Objectives: Supplementary advice on conserving and restoring site features

**Mendip Woodlands Special Area of Conservation (SAC)
Site Code: UK0030048**



Ebbor Gorge – Chris Westcott Natural England

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About this document

This document provides Natural England's supplementary advice about the European Site Conservation Objectives relating to Mendip Woodlands SAC.

This advice should therefore be read together with the SAC Conservation Objectives available [here](#).

This advice replaces a draft version dated January 2019 following the receipt of comments from the site's stakeholders.

You should use the Conservation Objectives, this Supplementary Advice and any case-specific advice given by Natural England when developing, proposing or assessing an activity, plan or project that may affect this site'

This Supplementary Advice to the Conservation Objectives presents attributes which are ecological characteristics of the designated species and habitats within a site. The listed attributes are considered to be those that best describe the site's ecological integrity and which, if safeguarded, will enable achievement of the Conservation Objectives. Each attribute has a target which is either quantified or qualitative depending on the available evidence. The target identifies as far as possible the desired state to be achieved for the attribute.

The tables provided below bring together the findings of the best available scientific evidence relating to the site's qualifying features, which may be updated or supplemented in further publications from Natural England and other sources. The local evidence used in preparing this supplementary advice has been cited. The references to the national evidence used are available on request. Where evidence and references have not been indicated, Natural England has applied ecological knowledge and expert judgement. You may decide to use other additional sources of information.

In many cases, the attribute targets shown in the tables indicate whether the current objective is to 'maintain' or 'restore' the attribute. This is based on the best available information, including that gathered during monitoring of the feature's current condition. As new information on feature condition becomes available, this will be added so that the advice remains up to date.

The targets given for each attribute do not represent thresholds to assess the significance of any given impact in Habitats Regulations Assessments. You will need to assess this on a case-by-case basis using the most current information available.

Some, but not all, of these attributes can also be used for regular monitoring of the actual condition of the designated features. The attributes selected for monitoring the features, and the standards used to assess their condition, are listed in separate monitoring documents, which will be available from Natural England.

These tables do not give advice about SSSI features or other legally protected species which may also be present within the European Site.

If you have any comments or queries about this Supplementary Advice document please contact your local Natural England adviser or email HDIRConservationObjectivesNE@naturalengland.org.uk

About this site

European Site information

Name of European Site	Mendip Woodlands Special Area of Conservation (SAC)
Location	Somerset
Site Map	The designated boundary of this site can be viewed here on the MAGIC website
Designation Date	1 April 2005
Qualifying Features	See section below
Designation Area	253.86ha
Designation Changes	n/a
Feature Condition Status	Details of the feature condition assessments made at this site can be found using Natural England's Designated Sites System
Names of component Sites of Special Scientific Interest (SSSIs)	Asham Wood SSSI, Cheddar Wood SSSI, Ebbor Gorge SSSI, Rodney Stoke SSSI
Relationship with other European or International Site designations	The boundary of this SAC coincides with North Somerset and Mendip Bats SAC

Site background and geography

The Mendip Woodlands SAC comprises four individual woods in Somerset, all located on the southern slope of the Mendip Hills National Character Area ([NCA Profile 141](#)). Three of the woods, Cheddar Wood, Ebbor Gorge and Rodney Stoke lie in the west of Mendip while Asham Wood lies in the east. Asham Wood and Ebbor Gorge are both associated with limestone gorges while Cheddar Wood and Rodney Stoke lie on the steep southern slope of the hills. Only one of the woods, Asham, has permanent streams running through it. All four woods are dominated by ash *Fraxinus excelsior* while both Cheddar Wood and Rodney Stoke have a high population of small-leaved lime *Tilia cordata*. Notable species present include Purple gromwell *Lithospermum purpurocaeruleum*, Lily of the valley *Convallaria majalis* and Wild daffodil *Narcissus pseudonarcissus*. All the woodlands were managed by coppicing and many were gradually reverting to high forest however some, like Cheddar Wood, are now being put back into coppice with standards.

About the qualifying features of the SAC

The following section gives you additional, site-specific information about this SAC's qualifying features. These are the natural habitats and/or species for which this SAC has been designated.

Qualifying habitats:

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

Mendip Woodlands in south-west England is a relatively extensive example of Tilio-Acerion forests on limestone. It is a cluster of three ash-dominated woods on Carboniferous limestone comprising W7 (Wet lowland alder wood), W8 (Lowland ash-maple wood) and W10 (Lowland oak wood) NVC types. A rich variety of other trees and shrubs are present, including elm *Ulmus* spp. and, locally, small-leaved lime *Tilia cordata*. At Ebbor Gorge elm rather than lime is mixed with ash *Fraxinus excelsior* in a steep-sided gorge; at both Rodney Stoke and Cheddar Wood lime and ash are found on rocky slopes with patches of deeper soil between the outcrops. Ferns characteristic of this woodland type, such as hart's-tongue *Phyllitis scolopendrium* and shield-ferns *Polystichum* spp., are common. The site is in the centre of the range of common dormouse *Muscardinus avellanarius* and holds a large population of this species.

Qualifying Species:

Not Applicable

Table 1: Supplementary Advice for Qualifying Features: H9180. Tilio-Acerion forests of slopes, screes and ravines; Mixed woodland on base-rich soils associated with rocky slopes *

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
Extent and distribution of the feature	Extent of the feature within the site	<p>Maintain OR if necessary restore the total extent of the feature to at least 82.98ha, whilst avoiding deterioration from its current extent</p> <p>JNCC standard data form 82.98ha</p> <p>Information from Natural England's Definitions of Favourable Condition for component SSSIs.</p> <p>Proportion of wood considered to comprise Tilio-Acerion feature:</p> <p>Cheddar Wood – 100% Ebbor Wood – 50% Rodney Wood – 60% Asham Wood – 25%</p> <p>Asham Wood SSSI = 134ha (W7, 8, 10) x 25% = 33.5ha</p> <p>Cheddar Wood SSSI = 65ha (W8)</p> <p>Ebbor Gorge SSSI = 59ha (W8) x 50% = 29.5ha</p> <p>Rodney Stoke SSSI = 38.4ha (W8) x 60% = 23.04ha</p> <p>Total = 151.04ha</p>	<p>There should be no measurable reduction (excluding any trivial loss) in the extent and area of this feature, and in some cases, the full extent of the feature may need to be restored. The baseline-value of extent given has been generated using data gathered from the listed site-based surveys. Area measurements given may be approximate depending on the methods, age and accuracy of data collection, and as a result this value may be updated in future to reflect more accurate information.</p> <p>The extent of an Annex I habitat feature covers the sum extent of all of the component vegetation communities present and may include transitions and mosaics with other closely-associated habitat features. Where a feature is susceptible to natural dynamic processes, there may be acceptable variations in its extent through natural fluctuations. Where a reduction in the extent of a feature is considered necessary to meet the Conservation Objective for another Annex I feature, Natural England will advise on this on a case-by-case basis.</p> <p>For this feature tree roots (particularly of veteran trees) can extend a considerable distance beyond the boundary of the site - they can be impacted by soil compaction (such as caused by vehicles or construction works); agricultural operations or other soil disturbance (like trenches); and agro chemicals or other chemicals which get into the soil.</p> <p>Any loss of woodland area - whether at the edge or in the middle of a site will reduce the core woodland area where woodland conditions are found - these support significant assemblages of species dependent on woodland conditions (e.g. lichens and bryophytes - being one example). Loss of any woodland area which fragments a site into different parts will clearly disturb the movement of species between the remaining parts of the woodland.</p> <p>In the absence of specific site surveys tailored to identifying</p>	<p>Natural England (Various) Definitions of Favourable Condition for component SSSIs of Mendip Woodlands SAC (Available from Natural England on request)</p> <p>JNCC data sheet http://jncc.defra.gov.uk/ProtectedSites/SACselection/sac.asp?EUCode=UK0030048</p> <p>This attribute will be periodically monitored as part of Natural England's SSSI condition assessments.</p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>extents of Tilio-Acerion habitat, NVC community W8 has been used as a proxy to the Annex I habitat. This, in part, explains the discrepancy between the JNCC standard data form and the individual Definition of Favourable Condition figures. Further survey effort is needed to determine the proper extent of the Annex 1 habitat (and/or its proxy community W8 as no NVC maps are known to exist) since there are specific areas known to exhibit features such as slopes, screes and ravines, but these are as yet unmapped and undefined.</p>	
Extent and distribution of the feature	Spatial distribution of the feature within the site	Maintain OR if necessary restore the distribution and configuration of the feature, including where applicable its component vegetation types, across the site	<p>A contraction in the range, or geographic spread, of the feature (and its component vegetation and typical species, plus transitional communities) across the site will reduce its overall area, the local diversity and variations in its structure and composition, and may undermine its resilience to adapt to future environmental changes. This may also reduce and break up the continuity of a habitat within a site and how well its typical species are able to move around the site to occupy and use habitat. Such fragmentation can impact on their viability and the wider ecological composition of the Annex I habitat.</p> <p>Smaller fragments of habitat can typically support smaller and more isolated populations which are more vulnerable to extinction. These fragments also have a greater amount of open edge habitat which will differ in the amount of light, temperature, wind, and even noise that it receives compared to its interior. These conditions may not be suitable for some of the typical and more specialist species associated with the Annex I habitat feature.</p>	Natural England (Various) Definitions of Favourable Condition for component SSSIs of Mendip Woodlands SAC (Available from Natural England on request)
Structure and function (including its typical species)	Vegetation community composition	<p>Ensure the component vegetation communities of the feature are referable to and characterised by the following National Vegetation Classification type</p> <p><i>W8 Fraxinus excelsior - Acer campestre - Mercurialis perennis</i></p>	<p>This habitat feature will comprise a number of associated semi-natural vegetation types and their transitional zones, reflecting the geographical location of the site, altitude, aspect, soil conditions (especially base-status and drainage) and vegetation management. In the UK these have been categorised by the National Vegetation Classification (NVC).</p> <p>Maintaining or restoring these characteristic and distinctive vegetation types, and the range of types as appropriate, will be</p>	<p>Natural England (Various) Definitions of Favourable Condition for component SSSIs of Mendip Woodlands SAC (Available from Natural England on request)</p> <p>This attribute will be periodically monitored as part of Natural</p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		woodland	<p>important to sustaining the overall habitat feature.</p> <p>Chalara Ash die back (<i>Hymenoscyphus fraxineus</i>) is a concern for this site and may in the future result in changes to the species composition.</p>	England's SSSI condition assessments .
Structure and function (including its typical species)	Vegetation structure - canopy cover	Maintain OR if necessary restore an appropriate tree canopy cover across the feature, which will typically be between 30-90% of the stand.	<p>Canopy cover is the overall proportion of vegetative cover consisting of any woody layer ranging from established regeneration to mature and veteran stages. Woodland canopy density and structure is important because it affects ecosystem function and in particular microclimate, litterfall, soil moisture, nutrient turnover and shading; this in turn influences the composition of plants and animals in lower vegetation layers and soil.</p> <p>Open canopies with just scattered trees will have less of a woodland character and reduced diversity of woodland-dependent species (although they may be still be important as a form of woodland-pasture).</p> <p>Completely closed canopies across the whole woodland are not ideal either however, as they cast heavier shade and support fewer species associated with edges, glades and open grown trees, and have little space where tree regeneration could occur. In general, the woodland canopy of this feature should provide a core of woodland interior conditions with some open and edge habitat as well.</p>	<p>Natural England (Various) Definitions of Favourable Condition for component SSSIs of Mendip Woodlands SAC (Available from Natural England on request)</p> <p>This attribute will be periodically monitored as part of Natural England's SSSI condition assessments.</p>
Structure and function (including its typical species)	Vegetation structure - open space	Maintain OR if necessary restore areas of permanent/temporary open space within the woodland feature, typically to cover approximately 10%of area	Woodland structure includes variations in age, tree form, layering, the distribution and abundance of open space and dead wood. It plays a critical role in woodland ecosystem functioning. The targets set within this attribute should reflect the most appropriate structure for the woodland feature on a particular site, taking account of its known interest, history, past management and the landscape context. Having some open, sunlit and largely tree-less areas as part of the woodland community is often important to facilitate natural tree and shrub regeneration and also to provide supporting habitat for specialist woodland invertebrates, birds, vascular and lower	<p>Natural England (Various) Definitions of Favourable Condition for component SSSIs of Mendip Woodlands SAC (Available from Natural England on request)</p> <p>This attribute will be periodically monitored as part of Natural England's SSSI condition assessments.</p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			plants. Such open space can be permanent or temporary and may consist of managed grazed areas, linear rides and glades, or naturally-produced gaps caused by disturbance events such as windthrow/fire/tree falling over/snow damage.	
Structure and function (including its typical species)	Vegetation structure - old growth	Maintain OR if necessary restore the extent and continuity of undisturbed, mature/old growth stands (typically comprising at least 10% of the feature at any one time) and the assemblages of veteran and ancient trees (typically 5-10 trees per hectare).	Good woodland structure includes variations in age, tree form, layering, the distribution and abundance of open space and dead wood. It plays a critical role in woodland ecosystem functioning. The targets set within this attribute should reflect the most appropriate structure for the woodland feature on a particular site, taking account of its known interest, history, past management and the landscape context. For this habitat type, old or over-mature elements of the woodland are particularly characteristic and important features, and their continuity should be a priority.	Natural England (Various) Definitions of Favourable Condition for component SSSIs of Mendip Woodlands SAC (Available from Natural England on request) This attribute will be periodically monitored as part of Natural England's SSSI condition assessments .
Structure and function (including its typical species)	Vegetation structure - dead wood	Maintain OR if necessary restore the continuity and abundance of standing or fallen dead and decaying wood, typically between 30 - 50 m3 per hectare of standing or fallen timber or >2 fallen trees >20cm diameter per hectare, and >3 standing dead trees per hectare	Woodland structure includes variations in age, tree form, layering, the distribution and abundance of open space and dead wood. It plays a critical role in woodland ecosystem functioning. The targets set within this attribute should reflect the most appropriate structure for the woodland feature on a particular site, taking account of its known interest, history, past management and the landscape context.	Natural England (Various) Definitions of Favourable Condition for component SSSIs of Mendip Woodlands SAC (Available from Natural England on request) This attribute will be periodically monitored as part of Natural England's SSSI condition assessments .
Structure and function (including its typical species)	Vegetation structure - age class distribution	Maintain OR if necessary restore at least 3 age classes (pole stage/ medium/ mature) spread across the average life expectancy of the commonest trees.	A distribution of size and age classes of the major site-native tree and shrub species that indicate the woodland will continue in perpetuity, and will provide a variety of the woodland habitats and niches expected for this type of woodland at the site in question.	Natural England (Various) Definitions of Favourable Condition for component SSSIs of Mendip Woodlands SAC (Available from Natural England on request) This attribute will be periodically monitored as part of Natural

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
				England's SSSI condition assessments .
Structure and function (including its typical species)	Vegetation structure - shrub layer	Maintain OR if necessary restore an understorey (2-5m) of shrubs over at least 20% of the stand area (this will vary with light levels and site objectives)	Woodland structure includes variations in age, tree form, layering, the distribution and abundance of open space and dead wood. It plays a critical role in woodland ecosystem functioning. The targets set within this attribute should reflect the most appropriate structure for the woodland feature on a particular site, taking account of its known interest, history, past management and the landscape context.	Natural England (Various) Definitions of Favourable Condition for component SSSIs of Mendip Woodlands SAC (Available from Natural England on request) This attribute will be periodically monitored as part of Natural England's SSSI condition assessments .
Structure and function (including its typical species)	Vegetation structure - woodland edge	Maintain OR if necessary restore a graduated woodland edge into adjacent semi-natural open habitats, other woodland/wood-pasture types or scrub.	Woodland edge is defined as being the transitional zone between the forest feature and adjacent but different habitat types - the best woodland edges will have a varied structure in terms of height and cover. Many typical forest species make regular use of the edge habitats for feeding due to higher herb layer productivity and larger invertebrate populations. Grasslands / arable fields managed with high doses of agro-chemicals could potentially not allow this gradation of woodland edge and could have other impacts on the integrity of the site (pollution/ nutrient enrichment etc).	Natural England (Various) Definitions of Favourable Condition for component SSSIs of Mendip Woodlands SAC (Available from Natural England on request)
Structure and function (including its typical species)	Adaptation and resilience	Maintain OR if necessary restore the resilience of the feature by ensuring a diversity of site-native trees (at least 4 site native tree species) e.g. ash/ small-leaved lime/ aspen/ alder/ sycamore/ rowan/ bird cherry/ birch) is present across the site. At least 95% of cover in any one layer of site-native or acceptable naturalised species. Minimum levels of particular native tree/shrub species	This recognises the increasing likelihood of natural habitat features needing to absorb or adapt to wider environmental changes. Resilience may be described as the ability of an ecological system to cope with, and adapt to environmental stress and change whilst retaining the same basic structure and ways of functioning. Such environmental changes may include changes in sea levels, precipitation and temperature for example, which are likely to affect the extent, distribution, composition and functioning of a feature within a site. The vulnerability and response of features to such changes will vary. The overall vulnerability of this SAC to climate change has been assessed by Natural England (2015) as being low taking into account the sensitivity, fragmentation, topography and	Natural England (Various) Definitions of Favourable Condition for component SSSIs of Mendip Woodlands SAC (Available from Natural England on request) NATURAL ENGLAND. (2015). Climate Change Theme Plan and supporting National Biodiversity Climate Change Vulnerability assessments ('NBCCVAs') for SACs and SPAs in England [Available at http://publications.naturalengland .

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		Death, destruction or replacement of native woodland species through effects of introduced fauna or other external unnatural factors not more than 10% by number or area in a five year period.	<p>management of its habitats. This means that this site is considered to be vulnerable overall but are a lower priority for further assessment and action. Individual species may be more or less vulnerable than their supporting habitat itself. In many cases, change will be inevitable so appropriate monitoring would be advisable.</p> <p>Using best available information, any necessary or likely adaptation or adjustment by the feature and its management in response to actual or expected climatic change should be allowed for, as far as practicable, in order to ensure the feature's long-term viability.</p> <p>Chalara Ash die back (<i>Hymenoscyphus fraxineus</i>) is a concern for this site and may in the future result in changes to the species composition.</p>	org.uk/publication/4954594591375360].
Structure and function (including its typical species)	Browsing and grazing by herbivores	Maintain OR if necessary restore browsing at a (low) level that allows well developed understorey with no obvious browse line, & lush ground vegetation with some grazing sensitive species evident (bramble, ivy etc), and tree seedlings and sapling common in gaps.	Herbivores, especially deer, are an integral part of woodland ecosystems. They are important in influencing woodland regeneration, composition and structure and therefore in shaping woodland wildlife communities. In general, both light grazing and browsing is desirable to promote both a diverse woodland structure and continuous seedling establishment. Short periods with no grazing at all can allow fresh natural regeneration of trees, but a long-term absence of herbivores can result in excessively dense thickets of young trees which shade out ground flora and lower plant species. However, heavy grazing by deer or sheep prevents woodland regeneration, and can cause excessive trampling and/or poaching damage, canopy fragmentation, heavy browsing, barkstripping and a heavily grazed sward.	Natural England (Various) Definitions of Favourable Condition for component SSSIs of Mendip Woodlands SAC (Available from Natural England on request)
Structure and function (including its typical species)	Regeneration potential	Maintain OR if necessary restore the potential for sufficient natural regeneration of desirable trees and shrubs; typically tree seedlings of desirable species	The regeneration potential of the woodland feature must be maintained if the wood is to be sustained and survive, both in terms of quantity of regeneration and in terms of appropriate species. This will include regeneration of the trees and shrubs from saplings or suckers, regrowth from coppice stools or	Natural England (Various) Definitions of Favourable Condition for component SSSIs of Mendip Woodlands SAC (Available from Natural England

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		(measured by seedlings and <1.3m saplings - above grazing and browsing height) should be visible in sufficient numbers in gaps, at the wood edge and/or as regrowth as appropriate;	pollards, and where appropriate planting. Browsing and grazing levels must permit regeneration at least in intervals of 5 years every 20. The density of regeneration considered sufficient is less in parkland sites than in high forest. Regeneration from pollarding of veteran trees should be included where this is happening.	on request) This attribute will be periodically monitored as part of Natural England's SSSI condition assessments .
Structure and function (including its typical species)	Key structural, influential and/or distinctive species	Maintain OR if necessary restore the abundance of the typical species listed below to enable each of them to be a viable component of the Annex 1 habitat; Constant and preferential plant species of W8 woodland NVC vegetation types which comprise the H9180 feature within this SAC	Some plant or animal species (or related groups of such species) make a particularly important contribution to the necessary structure, function and/or quality of an Annex I habitat feature at a particular site. These species will include; <ul style="list-style-type: none"> • Structural species which form a key part of the Annex I habitat's structure or help to define that habitat on a particular SAC (see also the attribute for 'vegetation community composition'). • Influential species which are likely to have a key role affecting the structure and function of the habitat (such as bioturbators (mixers of soil/sediment), grazers, surface borers, predators or other species with a significant functional role linked to the habitat) • Site-distinctive species which are considered to be a particularly special and distinguishing component of an Annex I habitat on a particular SAC. <p>There may be natural fluctuations in the frequency and cover of each of these species. The relative contribution made by them to the overall ecological integrity of a site may vary, and Natural England will provide bespoke advice on this as necessary. The list of species given here for this Annex I habitat feature at this SAC is not necessarily exhaustive.</p> <p>The list may evolve, and species may be added or deleted, as new information about this site becomes available at this SAC is not necessarily exhaustive. The list may evolve, and species may be added or deleted, as new information about this site becomes available or if our understanding of the term 'typical</p>	Natural England (Various) Definitions of Favourable Condition for component SSSIs of Mendip Woodlands SAC (Available from Natural England on request) Botanical Society of Britain and Ireland (BSBI) data

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>species' changes.</p> <p>Tilio-Acerion ravine forests are woods of ash <i>Fraxinus excelsior</i>, wych elm <i>Ulmus glabra</i> and lime (mainly small-leaved lime <i>Tilia cordata</i> but more rarely large-leaved lime <i>T. platyphyllos</i>). This habitat type is ecologically variable, particularly with respect to the dominant tree species. Ash and wych elm are important in the canopy, and lime may be completely absent.</p> <p>The ground flora can be very varied, but the following elements are usually present: fern banks (particularly hart's-tongue <i>Phyllitis scolopendrium</i>, soft shield-fern <i>Polystichum setiferum</i> and buckler-ferns <i>Dryopteris</i> spp.); stands of ramsons <i>Allium ursinum</i> in the moister zones; dog's mercury <i>Mercurialis perennis</i> and enchanter's-nightshade <i>Circaea</i> spp. on drier but still base-rich soils; wood avens <i>Geum urbanum</i>, and natural 'disturbance communities' comprising common nettle <i>Urtica dioica</i>, herb-Robert <i>Geranium robertianum</i> and cleavers <i>Galium aparine</i> associated with scree and cliff-bases.</p> <p>A wide range of other basiphilous herbs and grasses may occur within these stands. The main NVC types conforming to Tilio-Acerion forests are the 'western' forms (sub-communities d-g) of W8 – <i>Acer campestre</i>-<i>Mercurialis perennis</i> woodland. Tilio-Acerion forests provide a habitat for a number of uncommon vascular plants, including, purple gromwell <i>Lithospermum purpureocaeruleum</i> and herb-Paris <i>Paris quadrifolia</i>.</p> <p>Chalara Ash die back (<i>Hymenoscyphus fraxineus</i>) is a concern for this site and may in the future result in changes to the species composition.</p>	
Structure and function (including its typical species)	Invasive, non-native and/or introduced species	Ensure invasive and introduced non-native species are either rare or absent, but if present are causing minimal damage to the feature	Invasive or introduced non-native species are a serious potential threat to the biodiversity of native and ancient woods, because they are able to exclude, damage or suppress the growth of native tree, shrub and ground species (and their associated typical species), reduce structural diversity and	Natural England (Various) Definitions of Favourable Condition for component SSSIs of Mendip Woodlands SAC (Available from Natural England)

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>prevent the natural regeneration of characteristic site-native species. Once established, the measures to control such species may also impact negatively on the features of interest (e.g. use of broad spectrum pesticides). Such species can include Rhododendrons, snowberry, Japanese knotweed, giant hogweed and Himalayan balsam, for example. Similarly, this would include pheasants, rabbits and non-native invertebrate 'pest' species.</p> <p>The consideration of what is 'introduced non-native' has become more complex in the light of the likely impacts of <i>Chalara</i> ash dieback. It is likely that species such as Sycamore and Beech, whilst not usually considered a native component of ancient woodland in this area, may have to move to an accepted naturalised status to retain a broad enough mix of acceptable species and spread the risk of possible future diseases. A continuing watching brief should be the default on the status of <i>Chalara</i> and the possible impacts of these substitute species on individual sites. Other non-native spp. Like Holm oak, Turkey oak, Rhododendron and Laurel are or could become an issue within the woodlands and work should be completed to control and where possible eradicate them.</p>	<p>on request)</p> <p>Natural England (2015) SAC Site Improvement Plan (SIP), Mendip Woodlands SAC</p> <p>Natural England (2009) Guidance on dealing with the changing distribution of tree species. Technical Information Note TIN053</p>
Structure and function (including its typical species)	Soils, substrate and nutrient cycling	Maintain OR if necessary restore the properties of the underlying soil types, including structure, bulk density, total carbon, pH, soil nutrient status and fungal: bacterial ratio, to within typical values for the habitat.	Soil is the foundation of basic ecosystem function and a vital part of the natural environment. Its properties strongly influence the colonisation, growth and distribution of those plant species which together form vegetation types, and therefore provides a habitat used by a wide range of organisms. Soil biodiversity has a vital role to recycle organic matter. Changes to natural soil properties may therefore affect the ecological structure, function and processes associated with this Annex I feature.	
Supporting processes (on which the feature relies)	Functional connectivity with wider landscape	Maintain OR if necessary restore the overall extent, quality and function of any supporting features within the local landscape which provide a critical functional connection with the site	This recognises the potential need at this site to maintain or restore the connectivity of the site to its wider landscape in order to meet the conservation objectives. Structural connectivity refers to physical connections between habitat patches, often referred to as corridors, and functional connectivity is a measure of how easily species can move through the landscape and often relates to vegetation structure or management intensity. These connections may take the	SWT Living Landscapes Project Somerset's Ecological Networks report, SWT 2016 State of Environment, (Ecosystem services & ecological network maps) – West of England nature partnership 2013.

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>form of landscape features, such as habitat patches, hedges, watercourses and verges, outside of the designated site boundary which are either important for the migration, dispersal and genetic exchange of those typical species closely associated with qualifying Annex I habitat features of the site.</p> <p>These features may also be important to the operation of the supporting ecological processes on which the designated site and its features may rely. In most cases increasing actual and functional landscape-scale connectivity would be beneficial. Where there is a lack of detailed knowledge of the connectivity requirements of the qualifying feature, Natural England will advise as to whether these are applicable on a case by case basis.</p> <p>Sites do not exist in isolation. The structure and function of the qualifying habitat, including its typical species, may rely upon the continued presence of areas which are outside the designated site boundary and changes in surrounding land-use may adversely (directly or indirectly) affect the functioning of the feature and its component species. This supporting habitat may be critical to the typical species of the feature to support, for example, their ability to feed, breed, roost, their population dynamics ('metapopulations') and ability to pollinate.</p> <p>Surrounding areas can also prevent, reduce or absorb damaging impacts from adjacent land uses such as pesticide drift or nutrient enrichment. The CORE toolbox developed by Forest Research and Somerset Wildlife Trust allows ecological network maps to be assessed for coherence and resilience. This method highlights where ecological networks are fragmented and where creation or restoration work could link up habitats such as species rich grassland and woodland.</p>	<p>Somerset Wildlife Trust. 2016. Somerset's Ecological Networks report. Available: http://www.somersetwildlife.org/hr/es/Somerset%20Ecological%20Networks%20Report%202016.pdf</p>
Supporting processes (on which the feature relies)	Air quality	Maintain OR if necessary restore as necessary, the concentrations and deposition of air pollutants to at or below the site-relevant Critical Load or Level values	This habitat type is considered sensitive to changes in air quality. Exceedance of these critical values for air pollutants may modify the chemical status of its substrate, accelerating or damaging plant growth, altering its vegetation structure and composition and causing the loss of sensitive typical species	More information about site-relevant Critical Loads and Levels for this SAC is available by using the 'search by site' tool on the Air Pollution Information System

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		given for this feature of the site on the Air Pollution Information System (www.apis.ac.uk).	<p>associated with it.</p> <p>Critical Loads and Levels are recognised thresholds below which such harmful effects on sensitive UK habitats will not occur to a significant level, according to current levels of scientific understanding. There are critical levels for ammonia (NH₃), oxides of nitrogen (NO_x) and sulphur dioxide (SO₂), and critical loads for nutrient nitrogen deposition and acid deposition. There are currently no critical loads or levels for other pollutants such as Halogens, Heavy Metals, POPs, VOCs or Dusts. These should be considered as appropriate on a case-by-case basis.</p> <p>Ground level ozone is regionally important as a toxic air pollutant but flux-based critical levels for the protection of semi-natural habitats are still under development. It is recognised that achieving this target may be subject to the development, availability and effectiveness of abatement technology and measures to tackle diffuse air pollution, within realistic timescales.</p>	(www.apis.ac.uk).

Version Control

18th February 2019 – Stakeholder comments - **Functional connectivity with wider landscape** attribute: supporting and explanatory notes expanded and reference made to the fact sites do not exist in isolation and importance of connectivity and ecological network mapping found within the CORE toolbox (developed by Somerset Wildlife Trust and Forest Research). Chalara Ash die back (*Hymenoscyphus fraxineus*) is a concern for this site and may in the future result in changes to the species composition and is mentioned throughout.

Variations from national feature-framework of integrity-guidance:

The targets for some attributes listed above include both 'maintain' or 'restore' objectives. This is because this SAC is an extensive complex of geographically-separate component sites. Overall, both objectives will be applicable to the SAC but these will differ between each component site depending on its particular circumstances. Natural England will be able to provide further advice on request.

Attributes relating to **Supporting processes – hydrology** and **Illumination** are deleted as they are not considered relevant for this feature within the SAC.