



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

**The Mens Special Area of Conservation (SAC)  
UK0012716**



Barbastelle Bat © The Vincent Wildlife Trust

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## **About this document**

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

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

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](mailto:HDIRConservationObjectivesNE@naturalengland.org.uk)**

## About this site

### European Site information

<b>Name of European Site</b>	The Mens Special Area of Conservation (SAC)
<b>Location</b>	West Sussex
<b>Site Map</b>	The designated boundary of this site can be viewed <a href="#">here</a> on the MAGIC website
<b>Designation Date</b>	1 April 2005
<b>Qualifying Features</b>	See section below
<b>Designation Area</b>	203.28 ha
<b>Designation Changes</b>	N/A
<b>Feature Condition Status</b>	Details of the feature condition assessments made at this site can be found using Natural England's <a href="#">Designated Sites System</a>
<b>Names of component Sites of Special Scientific Interest (SSSIs)</b>	The Mens SSSI The SSSI boundary is coincident with the SAC boundary.
<b>Relationship with other European or International Site designations</b>	N/A

### Site background and geography

The Mens is one of the largest ancient woodlands in West Sussex and supports a significant population of barbastelle *Barbastella barbastellus*. It is eight miles south-west of Horsham and falls within the Low Weald National Character Area ([NCA 121](#)). Most of the woodland lies on Weald Clay although in some places Paludina limestone outcrops at the surface. It is a varied site with a range of woodland communities and age structures which have developed due to differences in underlying soils and past management. The site also supports outstanding invertebrate, fungi, lichen and bryophyte assemblages.

The woodland is predominantly high forest of sessile oak *Quercus petraea* and pedunculate oak *Quercus robur*, beech *Fagus sylvatica*, holly *Ilex aquifolium* and locally, ash *Fraxinus excelsior*, birches *Betula* spp. and wild service tree *Sorbus torminalis*. Beech dominates the lighter soils over an understorey of holly and yew *Taxus baccata*. On the heavier clay soils oak-ash woodland occurs over a mixed shrub layer which includes hazel *Corylus avellana*, hawthorn *Crataegus monogyna*, crab apple *Malus sylvestris* and blackthorn *Prunus spinosa*. It is developing a near-natural high forest structure, in response to only limited silvicultural intervention over the 20<sup>th</sup> century, combined with the effects of natural events such as the 1987 great storm. Barbastelles roost within the woodland but tend to forage outside of the site, commuting along woodland corridors into the wider countryside.

## 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:

- **H9120 Atlantic acidophilous beech forests with *Ilex* and sometimes also *Taxus* in the shrublayer (*Quercion robori-petraeae* or *Ilici-Fagenion*); Beech forests on acid soils**

This Annex I type comprises beech *Fagus sylvatica* forests with holly *Ilex*, growing on acid soils, in a humid Atlantic climate. Sites of this habitat type often are, or were, managed as wood-pasture systems, in which pollarding of beech and oak *Quercus* spp. was common. This is known to prolong the life of these trees.

This habitat occurs on acid soils and falls within two NVC types:

- W14 *Fagus sylvatica* – *Rubus fruticosus* woodland
- W15 *Fagus sylvatica* – *Deschampsia flexuosa* woodland

Typical species include holly *Ilex aquifolium*, bracken *Pteridium aquilinum* and bramble *Rubus fruticosus*, with wavy hair-grass *Deschampsia flexuosa* in the most acidic areas. Epiphyte richness is a key factor in defining hyper-Atlantic forms of this Annex I type.

British stands of this woodland type tend to contain a higher proportion of veteran trees than examples found in other parts of Europe. The biodiversity of many sites is enriched by the presence of assemblages of epiphytic lichens or saproxylic invertebrates. Notable species include lichens such as *Agonimia octospora* and invertebrates such as the beetle *Diplocoelus fagi*. The moss *Zygodon forsteri* is also strongly associated with this habitat in the UK.

H9120 is largely restricted by climatic factors to the western seaboard of Europe. It is extensive in the Armorican massifs of France and in northern Spain. There are close associations between the British examples and those found in Brittany and western Normandy. In the UK the native range of this Annex I type is restricted, and extensive stands on acid sites are rare outside south-east England. However, some notable outliers occur in south Wales.

The Mens is an extensive area of mature beech *Fagus sylvatica* woodland rich in lichens, bryophytes, fungi and saproxylic invertebrates, and is one of the largest tracts of Atlantic acidophilous beech forests in the south-eastern part of the habitat's UK range. It is developing a near-natural high forest structure, in response to only limited silvicultural intervention over the 20<sup>th</sup> century, combined with the effects of natural events such as the 1987 great storm.

### Qualifying Species:

- **S1308 Barbastelle *Barbastella barbastellus***

The barbastelle is a medium-sized bat unlike any other in Europe. The fur is almost black, usually with very pale or golden brown tips to the hairs. The ears are very broad with the inner edges joined together across the forehead.

Barbastelle ecology is relatively poorly-known. In Europe it is believed to be mainly an upland and forest species; in the UK it seems to prefer wooded river valleys. The species forages in mixed habitats, usually over water. Barbastelles appear to select cracks and crevices in wood for breeding, mostly in old or damaged trees, but cracks and crevices in the timbers of old buildings may also be used. Maternity colonies may move between suitable crevices within a small area, such as a piece of woodland or a complex of buildings. Caves and underground structures may be used for hibernation. The species is very sensitive to disturbance, together with the loss of roost-sites and food resources.

The barbastelle is one of the UK's rarest mammals. Few maternity roost sites are known in the UK. The great majority of other records come from caves or abandoned mines, which are important hibernation sites for a range of bat species. The barbastelle is widely distributed across southern England and across Wales but is likely to have been significantly under-recorded within its range. Individual bats are sometimes discovered in buildings during summer.

The barbastelle is distributed throughout Europe, except Iceland, Northern Ireland, Scotland, most of Scandinavia, Estonia and much of southern Europe. The highest population density is probably in central Europe. It is one of the rarest bats in western Europe, and is regarded as endangered in several countries. A population decrease has been reported over most of its European range.

The Mens SAC has been selected for classification as an example of a maternity colony of barbastelles *Barbastella barbastellus* which utilise a range of tree roosts in The Mens; usually in dead tree stumps. However the species appears to be present throughout the year; but it is not clear how many bats hibernate at the site.

All species of bat present in the UK, including the Barbastelle, are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017, making it a 'European Protected Species'. A Licence may therefore be required for any activities likely to harm or disturb individual bats at any time of year

### Site-specific seasonality of SAC feature

The table below highlights in grey those months in which significant numbers of each mobile qualifying feature are most likely to be present at the SAC during a typical calendar year. This table is provided as a general guide only.

Unless otherwise indicated, the months shown below are primarily based on information relating to the general months of occurrence of the feature in the UK. Where site-based evidence is available and has been used to indicate below that significant numbers of the feature are typically present at this SAC outside of the general period, the site-specific references have been added to indicate this.

Applicants considering projects and plans scheduled in the periods highlighted in grey would benefit from early consultation with Natural England given the greater scope for there to be likely significant effects that require consideration of mitigation to minimise impacts to qualifying features during the principal periods of site usage by those features. The months which are *not* highlighted in grey are not ones in which the features are necessarily absent, rather that features may be present in less significant numbers in typical years. Furthermore, in any given year, features may occur in significant numbers in months in which typically they do not. Thus, applicants should not conclude that projects or plans scheduled in months not highlighted in grey cannot have a significant effect on the features. There may be a lower likelihood of significant effects in those months which nonetheless will also require prior consideration.

Any assessment of potential impacts on the features must be based on up-to-date count data and take account of population trends evident from these data and any other available information. Additional site-based surveys may be required.

Feature	Stage	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Barbastelle	Breeding												

**Table 1: Supplementary Advice for Qualifying Features: H9120. Atlantic acidophilous beech forests with *Ilex* and sometimes also *Taxus* in the shrublayer (*Quercion robori-petraeae* or *Ilici-Fagenion*); Beech forests on acid soils**

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
<b>Extent and distribution of the feature</b>	<b>Extent of the feature within the site</b>	<p>Restore the total extent of the feature to approximately 203 hectares.</p> <p><b>Note: This extent figure</b> includes both SAC and non-SAC types as it has not been possible to distinguish the SAC types from the broad woodland habitat. Any precise effects on the extent of the SAC feature would have to be examined in more detail during casework.</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. 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, this attribute includes the extent of semi-natural wood-pasture mosaic area; areas of trees; the number of veteran trees (except through natural causes), including dead and living trees. Tree roots (particularly of veteran trees) may extend a considerable distance beyond the boundary of the site. A reduction of woodland/wood-pasture area - whether at the edge or in the middle of a site will reduce the core area where wood-pasture conditions are found - these support significant assemblages of species dependent on woodland conditions (eg lichens and bryophytes - being one example). Loss of any woodland area which fragments a site into different parts may interrupt the movement of species between the remaining parts of the woodland, especially those with limited powers of dispersal.</p> <p>The vast majority of the site is woodland. A number of different</p>	<p>This attribute will be periodically monitored as part of Natural England's <a href="#">site condition assessments</a></p> <p>Monk-Terry (2010)</p> <p>Sanderson (1997)</p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>woodland vegetation communities are present, principally:</p> <ul style="list-style-type: none"> <li>• W8 - <i>Fraxinus excelsior</i> - <i>Acer campestre</i> - <i>Mercurialis perennis</i> woodland</li> <li>• W10 - <i>Quercus robur</i> - <i>Pteridium aquilinum</i> - <i>Rubus fruticosus</i> woodland</li> <li>• W14 - <i>Fagus sylvatica</i> - <i>Rubus fruticosus</i> woodland</li> <li>• W15 - <i>Fagus sylvatica</i> - <i>Deschampsia flexuosa</i> woodland</li> </ul> <p>Target set to Restore because a small area of the site was clear-felled without consent and is in the process of being restored.</p>	
<b>Extent and distribution of the feature</b>	<b>Spatial distribution of the feature within the site</b>	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. Fragmentation and loss of woodland and veteran trees in the past has meant there is a pressing need to maintain and increase the number of veteran trees and area of the habitat to support woodland dependent species and habitats. The best places to develop new woodland for biodiversity is adjacent to, buffering and linking existing sites from which colonisation of the relevant plants, animals (including decaying wood insects) and fungi can happen. This will increase the robustness of these populations making them more resilient to current and future pressures and stresses.</p> <p>See comments in 'Extent of the feature' attribute, above. See Annex 1 for distribution of H9120 beech forest feature.</p> <p>Target set to Restore because a small area of the site was clear-felled without consent and is in the process of being restored.</p>	<p>This attribute will be periodically monitored as part of Natural England's <a href="#">site condition assessments</a></p> <p>Monk-Terry (2010)</p> <p>Sanderson (1997)</p> <p>Tittenstor (2002)</p>
<b>Structure and function</b>	<b>Vegetation community</b>	Ensure the component vegetation communities of the	This habitat feature will comprise a number of associated semi-natural vegetation types and their transitional zones, reflecting	This attribute will be periodically monitored as part of Natural

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
(including its typical species)	composition	feature are referable to and characterised by the following National Vegetation Classification types:  W14 <i>Fagus sylvatica</i> – <i>Rubus fruticosus</i> woodland  W15 <i>Fagus sylvatica</i> – <i>Deschampsia flexuosa</i> woodland	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).  Maintaining or restoring these characteristic and distinctive vegetation types, and the range of types as appropriate, will be important to sustaining the overall habitat feature.	England's <a href="#">site condition assessments</a>
Structure and function (including its typical species)	Vegetation structure - canopy cover	Maintain a canopy of open grown native trees with free crowns over between 50-80% of the site as appropriate.	Measures of the value of tree cohort continuity should take into account species, distribution across the site and situation (open-grown versus shaded) as well as total tree numbers. Cohort continuity is an important measure of the condition of the veteran tree resource and its potential to retain its value in the long-term. Trees growing in a wooded situation (ie not open grown) may not develop into veterans of equal value to open grown individuals.	This attribute will be periodically monitored as part of Natural England's <a href="#">site condition assessments</a>
Structure and function (including its typical species)	Vegetation structure - open space	Maintain areas of permanent/temporary open space within the woodland feature, typically to cover between 10-30% 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 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.	This attribute will be periodically monitored as part of Natural England's <a href="#">site condition assessments</a>
Structure and function (including its typical species)	Vegetation structure - old growth	Maintain the extent and continuity of undisturbed, mature/old growth stands (typically comprising at least 10%	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	This attribute will be periodically monitored as part of Natural England's <a href="#">site condition assessments</a>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
species)		of the feature at any one time) and the assemblages of veteran and ancient trees (typically >10 trees per hectare).	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.	
<b>Structure and function (including its typical species)</b>	<b>Vegetation structure - dead wood</b>	Maintain the continuity and abundance of standing or fallen dead and decaying wood, typically a minimum of 3 fallen lying trees >20 cm diameter per ha and 4 trees per ha allowed to die standing.”	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.  Dead and actively decaying wood, either as part of a standing tree or as a fallen tree on the woodland floor, is an important component of woodland ecosystems, and supports a range of specialist invertebrates, fungi, lichens and bryophytes, and associated hole-nesting birds and roosting bats, all of which may be very typical of the feature.	This attribute will be periodically monitored as part of Natural England’s <a href="#">site condition assessments</a>
<b>Structure and function (including its typical species)</b>	<b>Vegetation structure - ancient/veteran trees</b>	Maintain at least a third of ancient/veteran trees in open locations or with open halo around them, with younger cohorts of successor trees (<100 years; 100-200 years) each present over 10% of the site.	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 Annex I habitat type, individual trees of great age and/or size (veteran or ancient trees) are particularly characteristic and important features, and their continuity should be a priority. Protecting their root systems and the forest soils around them will also be important.	This attribute will be periodically monitored as part of Natural England’s <a href="#">site condition assessments</a>
<b>Structure and function</b>	<b>Vegetation structure -</b>	Maintain at least 3 age classes (pole stage/ medium/ mature)	Woodland structure includes variations in age, tree form, layering, the distribution and abundance of open space and	This attribute will be periodically monitored as part of Natural

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
(including its typical species)	age class distribution	spread across the average life expectancy of the commonest trees.	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.	England's <a href="#">site condition assessments</a>
Structure and function (including its typical species)	Vegetation structure - shrub layer	Maintain an understorey of shrubs and trees covering at least 20% of the site (this will vary with light levels, grazing 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.	This attribute will be periodically monitored as part of Natural England's <a href="#">site condition assessments</a>
Structure and function (including its typical species)	Vegetation structure - woodland edge	Maintain a graduated woodland edge into adjacent semi-natural open habitats, other woodland/wood-pasture types or scrub.	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. 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.	
Structure and function (including its typical species)	Tree and shrub species composition	Restore a canopy and understorey of which 95% is composed of site native trees and shrubs, such as beech, oak, ash, holly and hazel	Native trees and shrubs in general support a greater diversity of associated species than non-native species, especially amongst groups of invertebrates which depend directly on trees for food and shelter. There are many plants and animals which use or co-exist with non-native trees, but many rare and threatened woodland species are specialists adapted to one or a few native trees or shrub species (birches, willows and oaks, are examples of trees that host many specialist insect species).  Target set to Restore because Rhododendron is invading the south-eastern edges of the site and surrounds the northern edge of the site,	This attribute will be periodically monitored as part of Natural England's <a href="#">site condition assessments</a>  Natural England (2015b)
Structure and function	Browsing and grazing by	Maintain browsing/grazing (eg by livestock) to sufficient levels to	Herbivores, especially deer, are an integral part of woodland ecosystems. They are important in influencing woodland	This attribute will be periodically monitored as part of Natural

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
(including its typical species)	herbivores	allow tree seedlings and saplings the opportunity to exceed browse height, and which Maintain the characteristic structure of the woodland feature	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.	England's <a href="#">site condition assessments</a>
Structure and function (including its typical species)	Regeneration potential	Maintain the potential for sufficient natural regeneration of desirable trees and shrubs; typically tree seedlings of desirable species (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	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 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.	This attribute will be periodically monitored as part of Natural England's <a href="#">site condition assessments</a>
Structure and function (including its typical species)	Key structural, influential and/or distinctive species	Maintain the abundance of the species/assemblages listed to enable each of them to be a viable component of the Annex I habitat feature <ul style="list-style-type: none"> <li>• Barbastelle bat</li> <li>• Outstanding lichen assemblage</li> <li>• Outstanding fungi assemblage</li> <li>• Outstanding invertebrate assemblage</li> <li>• Outstanding bryophyte</li> </ul>	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"> <li>• <b>Structural</b> 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').</li> <li>• <b>Influential</b> 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</li> </ul>	This attribute will be periodically monitored as part of Natural England's <a href="#">site condition assessments</a>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		assemblage	<p>linked to the habitat)</p> <ul style="list-style-type: none"> <li>• <b>Site-distinctive</b> species which are considered to be a particularly special and distinguishing component of an Annex I habitat on a particular SAC.</li> </ul> <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. The list may evolve, and species may be added or deleted, as new information about this site becomes available.</p>	
<b>Structure and function (including its typical species)</b>	<b>Invasive, non-native and/or introduced species</b>	Ensure invasive and introduced non-native species are either rare or absent, but if present are causing minimal damage to the feature	<p>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 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 (eg 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>Rhododendron is invading the south-eastern edges of the site and surrounds the northern edge of the site.</p>	<p>This attribute will be periodically monitored as part of Natural England's <a href="#">site condition assessments</a></p> <p>Natural England (2015b)</p>
<b>Structure and function (including its typical species)</b>	<b>Soils, substrate and nutrient cycling</b>	Maintain 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,	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			function and processes associated with this Annex I feature.	
<b>Structure and function (including its typical species)</b>	<b>Root zones of ancient trees</b>	Maintain the soil structure within and around the root zones of the mature and ancient tree cohort in an un-compacted condition	The management of land within and around forest habitats which are characterised by ancient trees can be crucial to their individual welfare and long-term continuity, and the landscape they are part of can be just as or even more important. The condition of the soil surrounding such trees will affect their roots, associated mycorrhizal fungi and growth. Plants have difficulty in compacted soil because the mineral grains are pressed together, leaving little space for air and water which are essential for root growth. Unless carefully managed, activities such as construction, forestry management and trampling by grazing livestock and human feet during recreational activity may all contribute to excessive soil compaction around ancient trees.	
<b>Supporting processes (on which the feature relies)</b>	<b>Hydrology</b>	At a site, unit and/or catchment level maintain natural hydrological processes to provide the conditions necessary to sustain the feature within the site	Defining and maintaining the appropriate hydrological regime is a key step in moving towards achieving the conservation objectives for this site and sustaining this feature. Changes in source, depth, duration, frequency, magnitude and timing of water supply can have significant implications for the assemblage of characteristic plants and animals present. This target is generic and further site-specific investigations may be required to fully inform conservation measures and/or the likelihood of impacts. Disruption/ damage to hydrological processes could be caused by activities at some distance from the site boundary. Eg through extraction of ground or surface waters; diverting or damming river channels; pollution of water source; channel alignment that disrupts natural geomorphological processes; tunnelling etc.  Variation in soil moisture across the site is one of the factors responsible for the wide diversity of vegetation types.	
<b>Supporting processes (on which the feature relies)</b>	<b>Illumination</b>	Ensure artificial light is maintained to a level which is unlikely to affect natural phenological cycles and processes to the detriment of the	Woodland biodiversity has naturally evolved with natural patterns of light and darkness, so disturbance or modification of those patterns can influence numerous aspects of plant and animal behaviour. For example, light pollution (from direct glare, chronically increased illumination and/or temporary,	Downs <i>et al.</i> (2003)  Stone <i>et al.</i> (2009)

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		feature and its typical species at this site.	unexpected fluctuations in lighting) can affect animal navigation, competitive interactions, predator-prey relations, and animal physiology. Flowering and development of trees and plants can also be modified by un-natural illumination which can disrupt natural seasonal responses.	
<b>Version Control</b>				
Advice last updated: N/A				
<b>Variations from national feature-framework of integrity-guidance:</b> N/A				

**Table 2: Supplementary Advice for Qualifying Features: S1308. *Barbastella barbastellus*; Barbastelle bat**

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
<b>Population (of the feature)</b>	<b>Population abundance - maternity colony</b>	Maintain a sustainable population, whilst accepting no deterioration from current levels which is above 80 breeding females, whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent.	<p>This will ensure there is a viable population of the feature which is being maintained at or increased to a level that contributes as appropriate to its Favourable Conservation Status across its natural range in the UK. Due to the dynamic nature of population change, the target-value given for the population size or presence of this feature is considered to be the minimum standard for conservation/restoration measures to achieve. This minimum-value may be revised where there is evidence to show that a population's size or presence has significantly changed as a result of natural factors or management measures and has been stable at or above a new level over a considerable period (generally at least 10 years). The values given here may also be updated in future to reflect any strategic objectives which may be set at a national level for this feature.</p> <p>Given the likely fluctuations in numbers over time, any impact-assessments should focus on the current size of the site's population, as derived from the latest known or estimated level established using the best available data. This advice accords with the obligation to avoid deterioration of the site or significant disturbance of the species for which the site is designated, and seeks to avoid plans or projects that may affect the site giving rise to the risk of deterioration. Similarly, where there is evidence to show that a feature has historically been more abundant than the stated minimum target and its current level, the ongoing capacity of the site to accommodate the feature at such higher levels in future should also be taken into account in any assessment.</p> <p>Unless otherwise stated, the population size or presence will be that measured using standard methods, such as peak mean counts or breeding surveys. This value is also provided recognising there will be inherent variability as a result of natural fluctuations and margins of error during data collection. Whilst we will endeavour to keep these values as up to date as</p>	<p>This attribute will be periodically monitored as part of Natural England's <a href="#">site condition assessments</a></p> <p>Greenaway (2008)</p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>possible, local Natural England staff can advise whether the figures stated are the best available.</p> <p>Monitoring visits can only provide an indication of abundance on the date of the visit. The overall number of bats using the SAC is likely to be higher as the surveys do not achieve full coverage of the site. In addition, different individuals may move in and out of the site over the course of the season and numbers seen on a particular day will depend on many factors including weather around the time of visit.</p>	
<b>Supporting habitat: extent and distribution</b>	<b>Distribution of supporting habitat</b>	Restore the distribution and continuity of the feature and its supporting habitat, including where applicable its component vegetation types and associated transitional vegetation types, across the site	<p>A contraction in the range, or geographic spread, of the feature (and its component vegetation) 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. Contraction may also reduce and break up the continuity of a habitat within a site and how well the species feature is able to occupy and use habitat within the site. Such fragmentation may 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 this feature and this may affect its viability.</p> <p>See comments in 'Extent of supporting habitat', above.</p> <p>See Annex 1 for distribution of vegetation communities across the site.</p> <p>Target set to Restore because a small area of the site was clear-felled without consent and is in the process of being restored.</p>	<p>This attribute will be periodically monitored as part of Natural England's <a href="#">site condition assessments</a></p> <p>Greenaway (2008)</p> <p>Monk-Terry (2010)</p> <p>Sanderson (1997)</p>
<b>Supporting habitat: extent and distribution</b>	<b>Extent of supporting habitat</b>	Restore the total extent of the habitats which support the feature at 203.28 hectares	<p>In order to contribute towards the objective of achieving an overall favourable conservation status of the feature at a UK level, it is important to maintain or if appropriate restore the extent of supporting habitats and their range within this SAC. The information available on the extent and distribution of supporting habitat used by the feature may be approximate</p>	<p>This attribute will be periodically monitored as part of Natural England's <a href="#">site condition assessments</a></p> <p>Greenaway (2008)</p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>depending on the nature, age and accuracy of data collection, and may be subject to periodic review in light of improvements in data.</p> <p>The target has been set to the area of the whole site (203.28 ha) because barbastelle use a range of habitats throughout the SAC. Maternity roosts have been located across the site, generally in mature trees. They are usually in cracks and splits of damaged trees or behind plates of loose bark. It is likely that trees within the SAC are also used as roosts by barbastelle during the winter.</p> <p>The woodland also provides foraging habitat for barbastelle throughout the year. Barbastelle are winter active bats and can be found foraging right through the winter months at suitable temperatures, usually within about a kilometre of their roosts. During the summer most foraging occurs outside of the site when the SAC principally provides a number of commuting routes.</p> <p>Target set to Restore because a small area of the site was clear-felled without consent and is in the process of being restored.</p>	<p>Monk-Terry (2010)</p> <p>Sanderson (1997)</p>
<b>Supporting habitat: structure/function</b>	<b>Flightlines from roost into surrounding habitat and foraging areas</b>	Restore the presence, structure and quality of any linear landscape features which function as flightlines. Flightlines should remain unlit, functioning as dark corridors.	<p>Barbastelle bats may forage up to 5km from their maternity roosts, though some individuals in less favourable habitat may forage further to reach suitable feeding grounds (Greenaway, 2001). Generally forages within woodland canopy and margins, though will feed in more open areas i.e. orchards, suburban parks. Commutes along linear landscape features such as woodland edge, hedgerows etc, though will cross extensive open areas (i.e. arable fields) to reach foraging grounds and may feed to a certain extent within these more open areas.</p> <p>Typical flightlines used by these species include linear hedgerows, waterways, blocks of scrub, wooded rides and tracks. Flightlines will extend beyond the designated site boundary into the wider local landscape.</p>	<p>Greenaway (2001)</p> <p>Greenaway (2004)</p> <p>Greenaway (2008)</p> <p>Natural England (2015b)</p> <p>Zeale <i>et al.</i> (2012)</p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>The Mens SAC lies in a well wooded landscape. Ebernoe Common SSSI/SAC, which lies approximately 4km to the north-west, is a similar site that also supports barbastelle. There is continuous woodland cover between the two sites and it is likely that the bat populations are linked. There are two other SSSI woodlands in close proximity to The Mens: Chiddingfold Forest SSSI is less than 6 km to the north-west and Northpark copse to Snapelands Copse is less than 10 km to the west.</p> <p>See Annex 2 for key foraging areas and commuting routes identified by radio-tracking. Unbroken dense strips of mature woodland with a shaded central track or ride (along which bats can fly) provide ideal flightlines.</p> <p>Target set at Restore because some flightlines are fragmented e.g. by breaks in hedgerows. Suggestions for improving connectivity are given in Greenaway (2004).</p>	
<b>Supporting habitat: structure/function</b>	<b>Soils, substrate and nutrient cycling</b>	Maintain the properties of the underlying soil types, including structure, bulk density, total carbon, pH, soil nutrient status and fungal: bacterial ratio, within typical values for the supporting habitat	Soil supports basic ecosystem function and is 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 the supporting habitat of this Annex II feature.	
<b>Supporting habitat: structure/function</b>	<b>Supporting off-site habitat (foraging areas)</b>	Restore any core areas of feeding habitat outside of the SAC boundary that are critical to Barbastelles during their breeding period	<p>Roost choice, and the presence of bats within the SAC, is likely to be influenced by the site's ability to provide bats with food and shelter. Key feeding areas around a roost, and the commuting routes (or flight-lines) between them, will be an important element of sustaining the SAC population.</p> <p>Radio-tracking and other surveys have demonstrated significant use of the wider countryside around The Mens SAC for foraging and commuting during the breeding season. There are also likely to be roost sites outside of the SAC woodland, particularly for male barbastelle. In addition to the SACs</p>	<p>South Downs National Park &amp; Natural England (2015) Sussex Bat Special Area of Conservation Planning and Landscape Scale Enhancement Protocol</p> <p><a href="https://www.southdowns.gov.uk/wp-content/uploads/2018/04/TLL-15-Draft-Sussex-Bat-SAC-Protocol.pdf">https://www.southdowns.gov.uk/wp-content/uploads/2018/04/TLL-15-Draft-Sussex-Bat-SAC-Protocol.pdf</a></p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>containing their roosting sites the bats also require access to habitats outside the boundary of the SACs. This habitat is integral to supporting bats associated with the SACs and is often referred to as functionally- linked habitat. Such functionally linked habitat includes the following:</p> <ul style="list-style-type: none"> <li>• Flightlines – these are key commuting routes from roosts to foraging (or feeding) areas used by the bats. The barbastelle flightlines around Ebernoe Common and The Mens have been investigated through survey and are shown in Map 1. The routes to Singleton and Cocking Tunnels are less well known.</li> <li>• Foraging areas – these are the areas of land where bats feed. Barbastelle bats can forage 10-15 kilometres from the roosting sites and they prefer wet meadows and riparian habitats.</li> </ul> <p>The land within the West Weald which encompasses Ebernoe Common SAC; The Mens SAC and Singleton &amp; Cocking Tunnels SAC should be regarded as a single landscape utilised by bats from all three SACs.</p>	
<b>Supporting habitat: structure/ function</b>	<b>Woodland site - maternity colony</b>	Restore the extent and structural diversity of supporting woodland habitat used for feeding and foraging	The structural diversity of supporting habitat will be important to maintain optimal feeding and foraging conditions in close proximity to maternity roosts; key aspects of woodland structure will include good canopy cover (typically 50-90%), an abundance of standing and fallen dead wood, areas of permanent and open space and the retention of open water and/or wetland features.	This attribute will be periodically monitored as part of Natural England's <a href="#">site condition assessments</a>
<b>Supporting processes (on which the feature and/or its supporting habitat relies)</b>	<b>Adaptation and resilience</b>	Restore the feature's ability, and that of its supporting habitat, to adapt or evolve to wider environmental change, either within or external to the site	This recognises the increasing likelihood of supporting habitat features 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,	Greenaway (2004) Natural England (2015a & 2015b) Sherwin <i>et al.</i> (2013) Voigt <i>et al.</i> (2011)

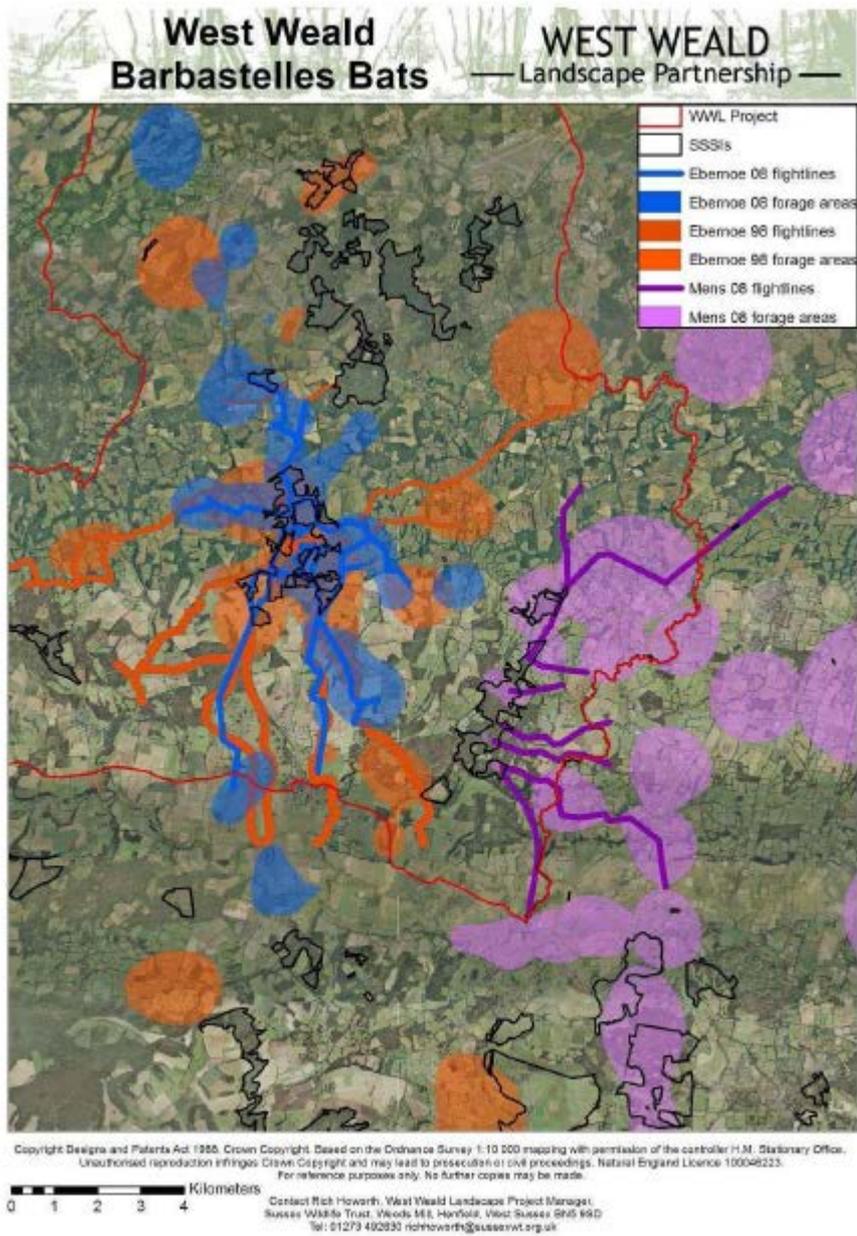
Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>composition and functioning of a feature within a site. The vulnerability and response of features to such changes will vary. Using best available information, any necessary or likely adaptation 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>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 management of its supporting 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>Target set at Restore because some flightlines are fragmented e.g. by breaks in hedgerows. Suggestions for improving connectivity are given in Greenaway (2004).</p>	
<b>Supporting processes (on which the feature and/or its supporting habitat relies)</b>	<b>Air quality</b>	Restore concentrations and deposition of air pollutants to at or below the site-relevant Critical Load or Level values given for this feature of the site on the Air Pollution Information System ( <a href="http://www.apis.ac.uk">www.apis.ac.uk</a> ).	The supporting habitat of this feature 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 (including food-plants) and reducing supporting habitat quality and population viability of this feature. 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 (NH <sub>3</sub> ), oxides of nitrogen (NO <sub>x</sub> ) and sulphur dioxide (SO <sub>2</sub> ), 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. Ground level ozone is regionally important	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 ( <a href="http://www.apis.ac.uk">www.apis.ac.uk</a> ).

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>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> <p>Target set to Restore because both nitrogen and acid exceed critical loads for woodland habitats of barbastelle.</p>	
<b>Supporting processes (on which the feature and/or its supporting habitat relies)</b>	<b>Conservation measures</b>	<p>Restore the management measures (either within and/or outside the site boundary as appropriate) which are necessary to restore the structure, functions and supporting processes associated with the feature and/or its supporting habitats.</p>	<p>Active and ongoing conservation management is needed to protect, maintain or restore this feature at this site. Further details about the necessary conservation measures for this site can be provided by contacting Natural England. This information will typically be found within, where applicable, supporting documents such as Natura 2000 Site Improvement Plan, site management strategies or plans, the Views about Management Statement for the underpinning SSSI and/or management agreements.</p> <p>Management measures are required both within and outside the SAC boundary.</p> <p>Within the SAC, disturbance to favoured roost areas, which in barbastelle tend to occur in the quieter areas of woodlands (Greenaway 2008), needs to be minimised. In the longer term a continuing supply of roost sites is needed to replace those that become unsuitable. Woodland management to maintain a diverse structure with a complete range of tree age classes within the site will ensure it continues to provide a range of roost sites.</p> <p>Radio-tracking and other surveys have demonstrated significant use of the wider countryside around The Mens SAC for foraging and commuting during the breeding season. There are also likely to be roost sites outside of the SAC woodland, particularly for male barbastelle.</p> <p>Barbastelle commute long distances to foraging areas (see</p>	<p>English Nature (2004)</p> <p>Greenaway (2004)</p> <p>Greenaway &amp; Hill (2004)</p> <p>Greenaway (2008)</p> <p>Natural England (2015b)</p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>Annex 2 for key foraging areas and commuting routes identified by radio-tracking) and so appropriate management is required over a large area. The barbastelle is a specialist predator on small Lepidoptera and the principal foraging areas used by the nursery colony in The Mens are along the floodplain of the Arun Valley. Unbroken dense strips of mature woodland with a shaded central track or ride (along which bats can fly) provide ideal flightlines.</p> <p>A range of management measures are required in the wider countryside to maintain and restore foraging areas and commuting routes, such as hedgerow planting and low intensity pasture and hedgerow management. In addition, Local Planning Authorities are taking account of barbastelle in decision-making.</p> <p>Target set at Restore because some flightlines are fragmented e.g. by breaks in hedgerows. Suggestions for improving connectivity are given in Greenaway (2004).</p>	
<b>Supporting processes (on which the feature and/or its supporting habitat relies)</b>	<b>Disturbance from human activity</b>	Control and minimise human access to roost sites	<p>Site should be secured against unauthorised access, which can result in disturbance to bats at critical times of year and which can affect their population viability and use of the site. Grilles on site access points should be maintained where present.</p> <p>The location of roosts is often not known (roosts are well hidden in trees and there is considerable movement between different roosts, both within and between seasons). Management for barbastelle should therefore aim to maintain areas of woodland with little/no disturbance since favoured roost areas tend to occur in the quieter areas of woodlands (Greenaway 2008),</p>	Greenaway (2008)
<b>Supporting processes (on which the feature and/or its supporting</b>	<b>Water quantity/ quality</b>	Where the feature or its supporting habitat is dependent on surface water and/or groundwater, maintain water quality and quantity to a standard	For many SAC features which are dependent on wetland habitats supported by surface and/or ground water, maintaining the quality and quantity of water supply will be critical, especially at certain times of year. Poor water quality and inadequate quantities of water can adversely affect the	Greenaway (2008)

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
habitat relies)		which provides the necessary conditions to support the feature.	<p>structure and function of this habitat type.</p> <p>Typically, meeting the surface water and groundwater environmental standards set out by the Water Framework Directive (WFD 2000/60/EC) will also be sufficient to support the achievement of SAC Conservation Objectives but in some cases more stringent standards may be needed to reflect the ecological needs of the species feature. Further site-specific investigations may be required to establish appropriate water quality standards for the SAC.</p> <p>Barbastelle have been recorded drinking from small waterbodies within The Mens and they may also feed on aquatic invertebrates emerging from them.</p> <p>The principal foraging areas used by the nursery colony is the flood plain of the Arun. The structure and diversity of floodplain habitats, particularly grasslands, and consequently their invertebrate populations depend on good water quality. A number of aquatic invertebrates also depend on good water quality</p>	
<b>Version Control</b> Advice last updated: N/A				
<b>Variations from national feature-framework of integrity-guidance:</b> Maternity roosts are within trees so attributes for roosts within buildings have been removed. The SAC is selected for its maternity roosts; attributes relating to hibernation roosts have been removed				

## Annex 1: Barbastelle flight lines and forage areas



Map 1. Barbastelle Bat flight-lines and forage areas in 1998 & 2008

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