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

Eversden and Wimpole Woods Special Area of Conservation (SAC)
Site code: UK0030331

Barbastelle bat at Eversden and Wimpole Woods SAC 28 September 2016 © Chris Damant

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About this document

This document provides Natural England's supplementary advice about the European Site Conservation Objectives relating to Eversden and Wimpole Woods 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

About this site

European Site information

Name of European Site	Eversden and Wimpole Woods Special Area of Conservation (SAC)
Location	Cambridgeshire
Site Map	The designated boundary of this site can be viewed here on the MAGiC website
Designation Date	1st April 2005
Qualifying Features	See section below
Designation Area	66.48 hectares
Designation Changes	Not applicable
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)	Eversden and Wimpole Woods SSSI
Relationship with other European or International Site designations	Not applicable

Site background and geography

Covering a total area of approximately 66 hectares, Eversden and Wimpole Woods SAC is located in the broad, gently undulating, lowland plateau of the Bedfordshire and Cambridgeshire Claylands National Character Area close to Wimpole, approximately 8 miles south-west of Cambridge. It comprises a mixture of ancient coppice woodland (Eversden Wood) and high forest woodland, likely to be of more recent origin, now being part of the formal designed parkland around Wimpole Hall (Wimpole Wood). The site is set in rolling, mainly arable countryside with a loose patchwork of landscape features including copses, green lanes, ancient woods and parkland.

Eversden Wood is predominantly a relict coppice of ash and field maple over an under-storey of hazel *Corylus avellana*, with aspen *Populus tremula*, birch *Betula* sp and small-leaved elm *Ulmus minor* also locally dominant. This type of woodland is now very localised in extent, both in this area and in lowland England as a whole. The site is one of the largest remaining areas of such woods on the chalky boulder clay in Cambridge and contains a rich assemblage of woodland plants including some uncommon species.

A colony of barbastelle bats, *Barbastella barbastellus,* is associated with this site and is the sole reason for the SAC designation on Eversden and Wimpole Woods. The evidence suggests that trees in Wimpole Wood are used as a summer maternity roost. The bats also use the whole site as a foraging area. Some of the woodland is also used as a flight path when bats forage outside the site.

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 Species:

- **S1308 Barbastelle *Barbastella barbastellus***

The barbastelle *Barbastella barbastellus* is a medium-sized species of bat by British standards, weighing between 6-13 grams. Its fur is almost black, usually with very pale or golden brown tips to the hairs giving it a frosted appearance. The under-fur is grey-brown, again often with pale tips to the hairs. The ears are black, short, broad and joined across the forehead and together with the rather squat face give this bat a very distinctive 'pug-like' appearance.

Barbastelle ecology is relatively poorly-known although more information has become available since this SAC was designated. It is a northern temperate species, occurring in upland sites in southern Europe. In the UK it is found in a variety of habitats where suitable roosting and foraging is found. The species forages in mixed habitats, including 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. In recent years this species has been found to be more widespread across southern England and south Wales than previously recognised. The Eversden and Wimpole Woods SAC is one of the few sites to be protected by SAC designation for barbastelle bats. A colony of barbastelle is associated with the cracks and crevices of trees within Wimpole Woods. These trees are used as a summer maternity roost where the female bats gather to give birth and rear their young. Baby bats are usually born in July, sometimes even in early August; females usually produce a single baby, but occasionally twins. Juvenile bats can fly at about 3 weeks, and by 6 weeks can forage for themselves. Research indicates that juveniles follow the adults into their established foraging areas.

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.

Site-specific seasonality of SAC features

The table below highlights in grey those months in which significant numbers of each 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. The presence of the features may vary depending on weather conditions.

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	Season	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Site-specific references where available
Barbastelle bat	Breeding													

Table 1: Supplementary Advice for Qualifying Features: S1308 Barbastelle *Barbastella barbastellus*

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
Supporting processes (on which the feature and/or its supporting habitat relies)	**Conservation measures**	Maintain the management measures (either within and/or outside the site boundary as appropriate) which are necessary to maintain the structure, functions and supporting processes associated with Barbastelle and/or its supporting habitats.	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. The survey work carried out by Bernwood (13) in Wimpole Wood and the previous studies summarised in this report showing a concentration of activity of barbastelles, suggest that the woodland in the north-east section of the Belts is where a maternity roost within the SAC is situated. The canopy here has many standard oaks and also sycamore and ash common with some field maple hornbeam and horse chestnut and a patchy understory. Many of the trees have ivy and this is thought to important for barbastelle bats (7). This part of the woodland and also the remaining parts of Wimpole Wood within the SAC should be maintained by a regime of minimum management with little disturbance. Tree roosts should be retained intact and allowed to develop naturally. Sufficient suitable trees should be left throughout the surrounding woodland to provide additional roosting sites (1). Management Plans for this woodland needs to be very long term, 100 years plus, and could include intentionally damaging younger trees to make them suitable roosts at an earlier age. A recent study (13) has looked at the suitability of various trees on the Estate, including within the SAC, as roosts for barbastelles. In the Site Management Statement (4) the importance of the woodland understory for foraging is mentioned so this needs to be actively maintained in permanent and temporary open areas mostly in Eversden Woods. Also the transitory nature of the roosts is mentioned – bats usually spending no more that 2 – 3 days in one roost before moving to another - underlining the importance of having many suitable trees for roosting and the precautionary approach necessary towards any work on trees on the site. The limited radio-tracking studies that have been carried out (7, 10) showed that bats travelled as far as 11Km in a night to forage. Thus conservation measures outside the boundary of the SAC are also important e.g. planting new woodlands to provide additional roosts for the future, managing hedges appropriately,	Please refer to Annex 1: References. Number in brackets in supporting notes text refers to the relevant reference.

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			establishing flower-rich grasslands, restoring/creating ponds etc.).	
Supporting habitat: extent and distribution	**Extent of supporting habitat**	Maintain the total extent of the habitat(s) which support Barbastelle; Broadleaved, mixed and yew woodland across the whole SAC = 66.48ha.	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 depending on the nature, age and accuracy of data collection, and may be subject to periodic review in light of improvements in data. Eversden Wood is ancient semi-natural woodland (NVC Community W8) = 38.78 ha. Wimpole Wood is high forest likely to be of more recent origin = 27.70 ha	Please refer to Annex 1: References. Number in brackets in supporting notes text refers to the relevant reference
Supporting habitat: extent and distribution	**Distribution of supporting habitat**	Maintain the distribution and continuity of the feature's supporting habitat, including where applicable its component vegetation types and associated transitional vegetation types, across the site	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. The limited data available suggest the presence of a maternity roost in the SAC situated in the woodland belt to the east of Oddy Doddy Lane, in an area of very approx. 5.5 ha (7,10,13). The trees, some large and having loose bark and cracks, in the remaining parts of Wimpole Wood and in Eversden Wood also provide roosting sites. Eversden Wood, with a more diverse structure, is known to be an important foraging site/congregation point for the barbastelle bats and the line of the hedge and trees joining Wimpole and Eversden Woods marks an important route for the bats (5, 7). These features of the sites should be maintained.	Please refer to Annex 1: References. Number in brackets in supporting notes text refers to the relevant reference
Supporting processes (on which the feature and/or its supporting	**Adaptation and resilience**	Maintain the feature's ability, and that of its supporting habitat, to adapt or evolve to wider environmental change, either within or external to	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	Please refer to Annex 1: References. Number in brackets

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
habitat relies)		the site	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. 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. No information on the direct effect of environmental changes on barbastelle bats is known. The overall vulnerability of this particular SAC to climate change has been assessed by Natural England (14) as being low, taking into account the sensitivity, fragmentation, topography and management of its supporting habitats.	in supporting notes text refers to the relevant reference
Supporting processes (on which the feature and/or its supporting habitat relies)	**Water quantity/ quality**	Maintain water quality and quantity of supporting habitats to a standard which provides the necessary conditions to support Barbastelle.	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 structure and function of this habitat type. 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. Barbastelles are often associated with water and there are lakes and ponds in the parkland close to the roost (but off the SAC) at which they could forage. However all the tracking studies that have been carried out (less than 12 individuals in total, (13)) have had them flying north to Eversden Wood and dispersing from there. Having said that barbastelles have been detected all over the Wimpole Estate and it is known that there is a second maternity roost on the Estate, but outside the SAC (13). Bernwood (13) does record at least one pond holding water and some dry ponds during September within the SAC and notes how important a source of water for drinking is, particularly when the bats are lactating.	Please refer to Annex 1: References. Number in brackets in supporting notes text refers to the relevant reference
Supporting processes	**Air quality**	Restore the concentrations and deposition of air	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	More information about site-relevant

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
(on which the feature and/or its supporting habitat relies)		pollutants to within the site-relevant Critical Load or Level values given for the SAC's supporting habitats on the Air Pollution Information System (www.apis.ac.uk).	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 (NH3), oxides of nitrogen (NOx) 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. 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. Currently (July 2018) the Air Pollution Information System (APIS) shows that deposition of both nitrogen and acidity in this area is above the critical load, indicating that these pollutants will be affecting the woodland habitat of the barbastelle bats in this SAC. No data are available on the significance of this effect at this site, or if there is any direct effect on the bats themselves.	Critical Loads and Levels for this SAC is available by using the 'search by site' tool on the Air Pollution Information System (www.apis.ac.uk).
Supporting habitat: structure/ function	**Supporting off-site habitat (flight-lines and foraging areas)**	Maintain the presence, structure and quality of any linear landscape features which function as flight-lines between the SAC and surrounding foraging areas used by Barbastelles Maintain core areas of feeding habitat outside of the SAC boundary that are critical to Barbastelle bats during their breeding period	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. The ongoing provision of rich feeding areas around a roost, and the commuting routes (or flight-lines) to them, will be an important element in sustaining the SAC population. Barbastelles feed mainly on small moths, some flies and beetles. They may forage up to 5-7kms from their maternity roosts, though some individuals in less favourable habitat may forage further to reach suitable feeding grounds (Greenaway, 2001). It is thought that Barbastelles prefer pastoral landscapes with deciduous woodland, wet meadows and water bodies, though they will feed in more open areas i.e. orchards, suburban parks. Barbastelles may commute to foraging or sustenance areas along linear landscape features, such as woodland edges and, hedgerows, to cross extensive open areas (i.e. arable fields) to reach foraging grounds and may feed to a certain extent within these more open areas. Typical flight-lines used by this	Please refer to Annex 1: References. Number in brackets in supporting notes text refers to the relevant reference .

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			species include linear hedgerows, waterways, blocks of scrub, wooded rides and tracks. Such flight-lines should remain dark, unlit and well-connected to roosting and feeding areas. Flight-lines will extend beyond the designated site boundary into the wider local landscape. Four references (5, 6, 7 & 12) mention that the narrow strip of woodland and hedge that link Wimpole and Eversden Woods together is a very important flight-line for barbastelle and other bats. It is important to manage this feature very carefully including thickening the hedge with additional planting.	
Supporting habitat: structure/ function	**Woodland site - maternity colony**	Maintain the extent and structural diversity of supporting woodland habitat within the SAC used by breeding Barbastelles for feeding and foraging	Bats typically forage within woodlands close to their roosts before commuting to core foraging areas. 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 open space and the retention of open water and/or wetland features. The high forest of Wimpole Wood has a high canopy cover, up to 90%, with an abundance of standing and fallen dead wood (8) and also open water for at least some of the year (13). The ancient semi natural woodland of Eversden Wood has more open space on rides and in coppiced coupes with a better developed understory. In winter and spring the rides are very wet with some open water in small pools and puddles.	Please refer to Annex 1: References. Number in brackets in supporting notes text refers to the relevant reference
Supporting processes (on which the feature and/or its supporting habitat relies)	**Disturbance from human activity**	Control and minimise human access to all Barbastelle roost sites	Maternity roosts of Barbastelle are particularly sensitive to disturbance and should be secured against unauthorised access, which can result in disturbance to bats at critical times of year and which can disrupt their breeding cycle and affect their population viability and use of the site. Grilles on site access points should be maintained where present. There is no evidence that daytime public access to woodland used by barbastelles causes disturbance to these bats. It seems very likely that light pollution during hours of darkness would be disturbing. Tree management that damaged actual or potential roosts, carried out for H&S reasons in areas used by the public, or indeed any other reason, would certainly cause serious disturbance to the bats.	Please refer to Annex 1: References. Number in brackets in supporting notes text refers to the relevant reference
Population (of the feature)	**Population abundance - maternity colony**	Maintain the abundance of the breeding Barbastelle population at a level which is within or above 11 to 50	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.	Please refer to Annex 1: References.

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		bats, whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent.	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. 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. 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. 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 possible, local Natural England staff can advise that the figures stated are the best available. The data available on the size of the breeding population is imprecise because it is very difficult to count Barbastelle bats. At this site (as most others in Britain) they roost in trees, which means that they are more difficult to discover than bats roosting in buildings. Scott and Altringham (3, page 35) comment on this topic. Barbastelles are particularly difficult to count out of their roosts, because within the favoured zone of woodland, different trees will be used as roosts on different nights depending on the atmospheric conditions and roosting positions under loose bark cannot be sighted from the ground. In addition it is known that there is a second maternity roost on the Wimpole estate, but outside the SAC, which could cause complications.	Number in brackets in supporting notes text refers to the relevant reference

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			The Bat Conservation Trust carries out annual monitoring of Eversden and Wimpole Woods SAC through the National Bat Monitoring Programme using bat detectors along 2 transects, one in Wimpole Wood and one in Eversden Wood from late July to early September. The main purpose of this monitoring is to confirm presence or absence of barbastelles and no attempt is made to estimate the size of the population. For Eversden and Wimpole Woods SAC the presence of barbastelles was recorded in all years from 2002 to date. The activity of barbastelles tended to be higher here than at the other sites across England, but this could reflect how long the bats stay feeding in the area after emergence, which in turn might reflect on the quality of the surrounding habitat. The exception was in 2017 when activity recorded was less than in previous years. There was no apparent trend in activity over the 11 years of monitoring. Reports are produced annually, but each includes a summary of the results from previous years. The most recent report held locally is for 2017 (5). Radio tracking from 2001/2 reported in (7) recorded barbastelles in 8 trees, all with ivy and estimated a total of 13 to 20 adult bats present. . The Supporting Information for the enlargement of the SSSI to include Wimpole Wood in 2002, associated with the designation of the SAC (1), notes that the summer counts of barbastelles suggest the presence of a maternity roost, the maximum count being 20. These data are derived from the work carried out in 2000 to 2002 Radio tracking was carried out in August 2004. A single lactating bat was involved and was followed moving within Wimpole wood, moving along the narrow strip of woodland and hedge that link Wimpole and Eversden Woods (see above) and out into the wider countryside. It was also recorded drinking from a pond on several occasions, emphasising the importance of open water for the bats. 14 barbastelles were recorded during this study (9) In June 2005 (11) one male and one female were radio tracked and were recorded foraging in Eversden and points east off the SAC. Barbastelles were also counted out of their roosts where possible, which were mostly beneath loose bark. This method is likely to underestimate actual numbers, but the maximum number recorded was 16. A second maternity roost off the SAC was located at this time and the total number of breeding female Barbastelles on the Estate was estimated at 30 to 40. Bernwood (13) provides a summary of records of Barbastelle bats at Wimpole since 1999 noting that about 12 individuals of this species have been radio	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			tracked between 2001 and 2009, not necessarily within the area of the SAC. This 2016 study involved trapping and identifying bats as well as using a bat detector to record their calls between mid-September and mid-October 2016. The greatest levels of activity were measured at the maternity roosts (one off the SAC) but barbastelles were recorded at all the sites covered. At and close to the maternity roost in the SAC barbastelle bats were trapped on more than one occasion, including several females which had bred in 2016. They were trapped on the path that runs east-west through the wood and also at openings from the wood to the open countryside. It must be considered that radio-tracking studies have not been carried out at this site for many years and altogether few individuals have ever been tracked. Thus relying on the data from these studies may well be misleading. Details such as the position of the maternity roost and the direction in which bats fly to forage may be incorrect now and are certainly likely to be more complex that these limited data suggest.	
Version Control Advice last updated: n/a				
Variations from national feature-framework of integrity-guidance: The 4 criteria concerned with the external and internal condition of buildings used by maternity colonies/for hibernation and access to same have been deleted as there are no such buildings within the boundaries of the SAC, the maternity roosts being in trees.				

Annex 1:

References

1) ENGLISH NATURE, 2002 Views About Management - A statement of English Nature's views about the management of Eversden and Wimpole Woods Site of Special Scientific Interest (SSSI) *Available on Natural England's website* https://designatedsites.naturalengland.org.uk/PDFsForWeb/VAM/1000416.pdf

2) ENGLISH NATURE, 2002 Citation - Eversden and Wimpole Woods Site of Special Scientific Interest (SSSI) *Available on Natural England's website*

3) SCOTT, C. & ALTRINGHAM, J. ,2014. *WC1015: Developing effective methods for the systematic surveillance of bats in woodland habitats in the UK*. Final report to Defra, University of Leeds.

4) ENGLISH NATURE, 2004 Site Management Statement and Woodland Grant Scheme for Wimpole Hall Estate (includes Eversden and Wimpole Woods SAC and SSSI) prepared for The National Trust *Available on request from Natural England..*

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6) DAMANT, S. & WARRINGTON, S., 2006 A flower in the desert: wildlife of the Wimpole Estate, Cambridgeshire. British Wildlife, Vol 17 (5) 324 - 330

7) DAMANT, S. & VINE, C. 2006. The Barbastelle at Wimpole. *Nature in Cambridgeshire*, 48 60-64

8) BRASH, P. & WARRINGTON, S 2009. National Trust Nature Conservation Evaluation. Wimpole, Cambridgeshire. *Available from National Trust on request.*

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11) VINE, C. & CORNES, B. Barbastelle Bat tracking June 2005. Unpublished notes. Report to Natural England. Available from Natural England on request or directly from the National Trust

12) ENGLISH NATURE, 2002. Eversden and Wimpole Woods Site of Special Scientific Interest (SSSI) Cambridgeshire. Enlargement of an SSSI under section 28C of the Wildlife and Countryside Act 1981 (as amended). *Available from Natural England on request.*

13) BERNWOOD ESC Ltd, 2016. Wimpole Hall Estate Cambridgeshire - Proposed Multi-user Trail Bat Surveys. *Available from Natural England on request or directly from the National Trust*

14). NATURAL ENGLAND, 2015. Climate Change Theme Plan and supporting National Biodiversity Climate Change Vulnerability assessments (NBCCVAs) assessments for SACs and SPAs in England. Available at http://publications.naturalengland.org.uk/publication/4954594591375360

15). NATURALENGLAND, 2015. Site Improvement Plan: Eversden and Wimpole Woods (SIP078). Available at http://publications.naturalengland.org.uk/publication/5757354431741952