



Guidance on managing woodlands with bats in England



1. Background and purpose of document

The Habitats Directive¹ aims to conserve various species of plant and animal which are rare across Europe, and it requires Member States to provide legal protection for these species. Most of the protected species which are found in the UK (European Protected Species, or EPS) are associated with woodland, in particular dormice, otters, many of the species of bat, great crested newts, smooth snakes and sand lizards. The EU Directive was transposed into UK law by the Habitats Regulations in 1994. However, the Regulations were amended in August 2007, and this has removed the 'incidental result' defence under which many forestry operations were carried out.

This document is one of a series providing guidance for woodland managers and operators on how to conserve these European protected species and reduce the risk of anyone committing offences under the Habitats Regulations. It focuses on the 17 species of bat found in England.

Guidance is given on routine and on-going forestry and woodland operations and activities. For more unusual operations, such as development, construction or land-use change (i.e. removal of forest) you should seek further advice from the Forestry Commission (FC). Similarly, whilst it covers low-key recreational usage, expert advice should be sought for more unusual or intensive activities in woodlands.

This guidance should be used in conjunction with wider guidance on forestry and woodland management, and should not be followed in isolation. Sources of more detailed information on conserving the species are given in the final section.

The FC and Natural England (NE), with assistance from relevant conservation organisations, have produced this suite of guidance to help you understand the legislation. Following the guidance will show that you have taken all reasonable steps to comply with the Regulations. If the guidance has been followed, but you nevertheless do inadvertently cause damage, disturbance or harm to this protected species, a prosecution is unlikely to be considered to be 'in the public interest'². However, you are reminded that it remains your responsibility to ensure all your actions do comply with the law.

This is 'interim' guidance that will be reviewed in the light of experience over the first 6 months after publication. We therefore welcome suggestions from users during that period on how it could be improved.

¹The formal title is: Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora.

² The public interest test is used by the regulators to decide whether it is appropriate to take a matter any further bearing in mind all the circumstances of the case.

2. Complying with the Habitats Regulations

There is an inherent difficulty in complying with the Habitats Directive, because whilst habitat management is often needed to conserve rare species, carrying out such management could contravene the strict protection that the Directive requires. This contradiction is recognised in a guidance note issued by the EC (see reference list below). This recommends that Member States produce codes of conduct, or guidance, and that these should: “offer flexibility, i.e. while recognising that absolute protection for all individuals of a species cannot be guaranteed, ensure that any harmful action takes full account of the conservation needs of the species/population concerned”. The EC also states that anyone complying with such codes of conduct should be protected from prosecution, but conversely there must be a legal process for enforcement in cases of non-compliance with the legislation.

Conserving rare species present in a wood requires a careful and well-planned approach to woodland management. Ensuring that the requirements of the Habitats Regulations are also satisfied is an additional challenge. A systematic approach will be required in order to minimise the risk of committing an offence. This guidance is structured around the following six stages:

- Is a protected species **present** in the wood?
- What woodland **habitats** does this species use?
- What activities and operations could potentially cause **damage, disturbance or harm** to the species?
- What operations can go ahead as ‘**good practice**’?
- When, and how, should I seek a **licence**?
- What else can I do to help **conserve** this species?

The phrase ‘causing damage, disturbance or harm’ is actually a simplification, and it is important to understand the precise offences that can be committed. These can be summarised as follows:

- *Damaging or destroying the breeding site or resting place of a protected species (even if unintentional or even when the animal is not present)*
- *Deliberately killing or injuring a protected species or destroying its eggs*
- *Deliberately disturbing a protected species in a manner that:*
 - *either significantly affects it’s ability to survive and breed;*
 - *or, as a consequence, significantly affects the local population.*

In the Directive, the term ‘deliberate’ is interpreted as being somewhat wider than just intentional and could be thought of as including an element of recklessness.

You should be aware that there is the potential for more than one protected species in your woodland, which for example may support bats and dormice, and you will need to follow the good practice guidance for each of the species present.

3. Are bats present in the wood?

The 17 species of bat found in Britain are all protected under the Habitats Regulations. All 17 species will use woodland and woodland edge habitats, at least during part of the year, whether to forage, roost, breed or hibernate. Six species are woodland specialists, being reliant on woodland to provide key habitats for foraging and/or roosting during important

periods of the year. There are a number of ways of determining the likelihood of bats being present in your wood:

a. Is your woodland approximately within the current known range of bats?

The maps below show the distribution of some of the more common bats known to use woodlands as well as some of our rarest bat species (please note that not all recent occurrences of bats may be shown on the maps). You will see that it is highly likely that at least one species of bat will have been recorded in your local area, and there is also a significant likelihood that bats will be living in or visiting your woodland. What it is critical to establish is whether there are any bats roosting in the woodland you intend to carry out operations in.

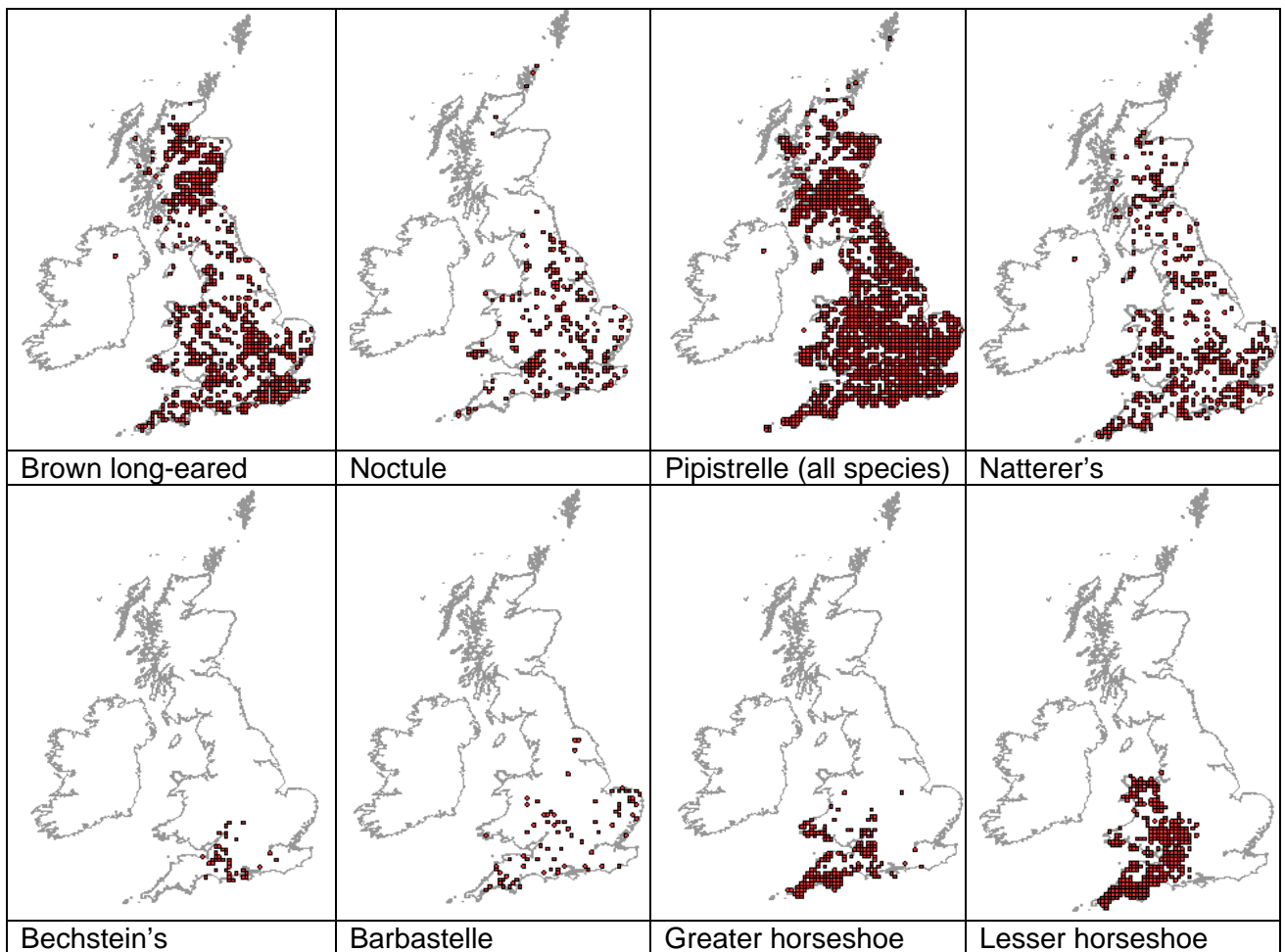


Figure 1. Distribution maps for some of the more common bats known to use woodlands as well as some of our rarest bat species.

Source: National Biodiversity Network Crown Copyright. All rights reserved NERC 100017897 2004.

b. Are there records of bats in your woodland?

The National Biodiversity Network (NBN) is available on the web. Search for records of bats near or in your woods by using the interactive maps available for each bat species via www.searchnbn.net to zoom to your area of interest. Please note that not all recent occurrences of bats may be shown on the map, and a lack of records does not confirm absence of these species. Your local Natural England or County Wildlife Trust representative may also be able to give site specific information on bat presence (or their likelihood), as may

the Local Biological Records Centre (www.nfbr.org.uk), Natural History Societies and local Bat Groups (contact details from: www.bats.org.uk).

c. Does your wood contain potential roosts?

Bats use trees as breeding sites in summer or resting places throughout the year. Trees may serve as maternity roosts, mating roosts, hibernation roosts and/or temporary/transitory roosts. Mature trees, particularly oak, ash, beech, sycamore and Scots pine, are most frequently used as roosts, but bats will use any tree with suitable cavities or crevices.

In the woodland compartments where you intend to undertake management activities, conduct a winter or spring walk-through survey (before trees come into leaf) to identify potential bat roosts. Identify veterans and any other trees with such features as woodpecker holes, other holes, cracks, crevices, hollow branches or loose bark – all of which are potential bat roosts. Where safe and possible to do so, also check any buildings or structures (above or below ground) for presence of bats. It is very difficult, even for a bat specialist, to find every bat roost in a wood. To be cautious, you may simply wish to assume that the trees identified with potential roosts do contain bats, and plan operations around these accordingly. Record the location of potential and confirmed trees on your planning and proposed felling maps so that, where possible, they can be protected.

d. Are bats actually using these roosts?

If you want to be more certain whether or not bats are present, a more careful inspection will be needed, using binoculars or even a ladder to identify signs of use. In the winter you might be able to see scratches and/or brown staining around a potential roost site, and during the summer evidence of active use will include droppings below the hole, squeaking/chittering noises from the bats inside and a strong smell of ammonia. In summer, a walk through woodland at dawn to observe swarming bats around roosts can also be an effective survey method. However, some bats roost in small groups and are virtually undetectable. Some training and experience is necessary to be able to reliably ascertain whether or not a roost site is in use. Sightings of unidentified bats flying and feeding in woodlands does not necessarily mean they are roosting in the wood.

e. Do I need to get a bat expert in?

Once you have undertaken the survey for potential roosts as outlined above, and are able to follow the good practice outlined in Section 6 (below), you should not require a bat expert. However, you may choose to seek assistance from a licensed bat expert to confirm the presence of bats in any potential roosts through the use of specialist equipment (ultrasonic detectors and endoscopes). They should also be able to identify some individual species.

If by self-assessment and survey (using the information above) or by specialist survey you are confident that proposed woodland operations will not result in roost loss or damage, then no further action is necessary and the operation may proceed. It would be sensible to keep a record of your decision and information used to reach it. Should you discover a bat roost during operations, you should immediately alter your felling plans by retaining the roost and a buffer of trees around it (see Section 6). If this is not possible you must stop work, and seek advice from the FC. It is therefore important for operators to remain vigilant for bats and other protected species while undertaking work.

For more information on surveying for bats see such publications as Woodland Management for Bats (Anon, 2005) (www.forestry.gov.uk/forestry/INFD-6K3CXY), the recently published Bat Surveys – Good Practice Guide by Bat Conservation Trust or alternatively contact the Trust at www.bats.org.uk.

4. What woodland habitats do bats use?

Bats use a wide range of woodland habitats in which to roost and to forage. Roosts can be found in most species of tree so long as it has features such as holes, cracks, crevices or loose bark; such features are usually found in older trees. Therefore mature semi-natural woodland, maturing broadleaf plantations (80+ years) and veteran trees are all likely to be an important resource of roosting habitat in the local landscape. Certain species of bat will also use buildings and underground structures within woodland, such as mineshafts and caves. It should be remembered that bats will use conifer woodland to forage and where suitable trees are available, to roost as well.

The foraging habits of the various species vary greatly in the landscape, but there is a general requirement for a steady supply of insects through the seasons, 'safe' corridors along which to fly between roosts and feeding areas and a local source of water. Most species will forage within woodland and the wider landscape, but Bechstein's bat tends to forage in woodland, generally requiring a minimum woodland size of 40-50 hectares. This can be composed of smaller woods if they are well connected by woods and hedgerows. Appendix 1 provides detailed information on the type of woodland and roosts that are used by different species.

Suitable habitats for bats can be maintained and enhanced through woodland management activities such as thinning and subsequent understorey development and the maintenance of rides and glades. Further information on location and habitat requirements of these species is available from the Bat Conservation Trust (www.bats.org.uk).

5. What activities and operations could cause damage, disturbance or harm to bats?

Bat roosts can be located in any part of a woodland where they can take shelter, but most roosts are likely to be in older trees (often with features listed above). Consequently, any proposed operations that require felling of such trees could cause damage, disturbance or harm to unidentified roosts and therefore requires careful forethought.

Any operation that opens up the woodland canopy around the roost site could subtly change the local environmental conditions making the roost unfavourable for bats. Equally, the removal of sheltering trees immediately adjacent to a roost will make the resident bats more vulnerable to predation and might force them to abandon the roost.

In addition to direct impacts on roosts in trees (or perhaps in buildings or underground structures) there is the potential to disturb the foraging areas. The use of the woodland by bats for foraging is more difficult to predict, and some species of bat are better able to cross open space than others, but thought should be given to ensuring that the shape of clearfells does not render wooded areas isolated i.e., maintain wooded links. Damage to favoured foraging habitats rich in insect life, particularly ponds, should also be avoided.

6. Good practice guidance for woodlands with bats

Woodland management should aim to:

- protect all existing confirmed roosts sites,
- retain most potential roost sites,
- ensure a succession or continuity of roosts for the future,
- create a good network of habitats used for feeding and avoid isolating any areas.

Good practice for managing woodland used by bats

This good practice guidance for routine woodland operations should maintain or improve the habitat for bats and minimises the risk of harming individuals or damaging their breeding sites or resting places. If you follow this good practice, and carry out the operations as described here, we would not expect you to require a protected species licence.

- Clearly mark and protect any trees that contain confirmed bat roosts.
- Retain a buffer or ring of trees and understorey around these roosts in order to maintain the environmental conditions of the roost; this will usually mean a ring with a width of one to two canopies around the tree. Ensure these trees do not become isolated from woodland, but maintain wooded 'corridors' or links to the wider woodland.
- Retain a similar buffer ring of trees and understorey around any underground structure or building likely to be used by bats, again ensuring that links are maintained to adjoining woodland.
- Where there are comparatively few trees with potential bat roosts avoid felling or disturbing any of them. Where there is an abundance of trees with potential roosts, ensure you are only felling a small proportion in any 10-year period.
- Where you are felling or thinning in woodlands with an abundance of trees with potential roosts, leave a significant proportion of the area entirely undisturbed in that 10-year period.
- Similarly, when planning felling coupes retain belts of trees, e.g. along watercourses, and avoid creating isolated blocks of woodland. Avoid opening up gaps greater than about 20m in any linear features. This will help free movement of bats within the woodland.
- Identify 'natural reserves' where areas of woodland are managed through very low intensity intervention (e.g. deer management) to allow woodland habitats to develop naturally for wildlife.
- Retain (and encourage) as much understorey as is possible, in particular where it directly shelters or shades a known roost.
- Coppice management is beneficial for a range of wildlife. However, where roosts of Bechstein's bats have been confirmed, try to avoid coppicing work in close proximity (50m) to the major roost site so as to reduce disturbance to their immediate flightlines and foraging area.
- Cut ride and/or trackside vegetation to sustain an insect-rich environment, but ensure that potential roosts in trackside trees do not become exposed.
- Ensure smoke and/or heat from managed fires does not affect roosts in trees or structures.
- Avoid major increases in the levels of noise and activity around confirmed roost trees (e.g. from rapid increases in recreational use or on-site wood processing).

7. When and how should I seek a licence?

Carrying out any operations that 'exceed' the thresholds or do not comply with the good practice guidance above constitute an offence or carry a significant risk of committing an offence. Some possible examples are:

- Felling a tree with a confirmed bat roost.
- Surgery to a tree that contains a confirmed bat roost.
- Operations that would significantly disturb bats in hibernation.
- Felling buffer trees around a known roost site so as to make the roost less suitable for the bats.
- Felling a large proportion of the potential roost sites in an area, or being unable to retain 'natural reserves' when thinning or felling.

Activities that fall outwith the guidance, but could cause such damage or disturbance to bats or their roosts, would also necessitate an application for a licence. Such activities would be likely to involve loss of habitat such as the removal of woodland to restore open habitats.

You can apply for a licence to carry out such operations, but your application will have to be able to demonstrate that it meets all of the following three tests:

- The work is being done in order to conserve wildlife, ensure public safety or help deliver the Government's woodland strategy and provide public benefits;
- There is no satisfactory alternative way of achieving the same outcome; and
- The overall package of work will not be detrimental to the population of bats.

An application form can be obtained from your local FC office. This will guide you through the process and the information you need to provide. To meet the third 'test' you may have to carry out additional work to improve the habitat and 'compensate' for any short-term adverse impacts on the bats. The FC will carry out initial checks but NE will make the ultimate decision and grant the licence.

On the rare occasion where you might need to disturb or remove a confirmed bat roost and you are within the geographic distribution range of Bechstein's and barbastelle bats you will need a bat expert to survey the tree and identify the species present. This information will be essential in support of a species licence application.

If the package of work you are proposing does not meet these 'tests' then it will not be possible to grant a licence. You are strongly advised not to proceed with operations that involve a high risk of committing an offence without a licence.

Should you need to undertake emergency works to a dangerous tree with a potential or confirmed bat roost, please contact your local FC office immediately for further advice.

8. What else can I do to help conserve bats?

The following operations should improve your woodland for bats and some of these are likely to be essential if you are applying for a licence:

- Encouraging structural and species diversity in woodland through selective thinning, coppicing and glade creation.
- The creation and maintenance of wooded links/corridors which bats can use to move through the landscape.

- Managing a mosaic of habitats in woodland, including glades and rides.
- The retention of deadwood habitats for the insects they support.
- Managing the woodland by continuous cover.
- Erecting bat boxes or artificial structures, particularly when these are naturally deficient.
- Identifying and providing for future veteran trees.
- Conserving old trees in surrounding farmland or woods.
- Creating/maintaining a pond in a suitable location.

It is possible that grant aid may be available under the England Woodland Grant Scheme to support such work to further the conservation of bats.

Sources of further information and references

Anon (2005) *Woodland Management for Bats*. Forestry Commission England, Forestry Commission Wales, Bat Conservation Trust, Countryside Council for Wales and English Nature (www.forestry.gov.uk/forestry/INFD-6K3CXY). Free copies also available from Forestry Commission Publications - tel: 0870 121 4180.

Anon (2007) *Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC*, European Commission, February 2007, available at:
http://forum.europa.eu.int/Public/irc/env/species_protection/library?l=/commission_guidance/final-completepdf/ EN 1.0 &a=d

Arboricultural Association Guidance Note 1 – *Trees and Bats*

Bat Conservation Trust species leaflets www.bats.org.uk/helpline/helpline_learn.asp.

Bat Conservation Trust - *Bats and Trees in England, Specialist Support Series* (www.bats.org.uk/helpline/helpline_roosts_trees_bridges_caves.asp).

Bat Survey Guidelines (in preparation) Bat Conservation Trust. For information see (www.bats.org.uk/biodiversity/BatSurveyGuidelines.asp).

English Nature Research Report 661 *Development of good practice guidelines for woodland management for bats*. See: English Nature publications (<http://naturalengland.twoten.com/NaturalEnglandShop/product.aspx?ProductID=8f4244be-289f-40b5-84d2-726f082a3423>).

English Nature Research Report 658 *Woodland Management Advice for Bechstein's bat and barbastelle bat*. See: English Nature publications (<http://naturalengland.twoten.com/NaturalEnglandShop/product.aspx?ProductID=39042955-e09c-4e22-96c9-bef56d2ce569>).

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INTERIM GUIDANCE
Version 2
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Table 1. Bat habitat use (Adapted from: Mitchell-Jones, A.J. (2004) Bat Mitigation Guidelines (Table 4.1), English Nature, Peterborough).

Bat species	Woodland habitat used	Roost sites (S=Summer) (W=Winter)			Other habitats used for foraging	Foraging distance (if known)
		Trees	Buildings	Under- ground		
Barbastelle	Deciduous, uneven aged, or ancient semi natural with high proportion of oak trees, dead wood, and with a dense mixed under storey	H	M(S) L(W)	N(S) H(W)	parkland, water, water meadows, wet woodland, minor rural roads	20 km
Bechstein's	Oak woodland with streams and understorey. Occasionally mixed broadleaf	H	L	L(S) M(W)	none	1-2 km
Noctule	Deciduous woodland	H	M(S) L(W)	N	parkland, pasture, water and forest edges, heathland	15 km
Brown long-eared	All types of woodland, parkland and gardens	H	H	N(S) M(W)	parkland, orchards, hedges	5 km
Grey long-eared	All types of woodland, parkland and gardens	L	H(S) L(W)	N(S) M(W)	parkland, orchards, hedges	5 km
Leisler's	Open deciduous, mixed and coniferous woodland,	M	H(S) L(W)	N	parkland, suburban areas and around street lamps, wetland habitats	
Natterer's	Open Deciduous woodland, mixed and conifer woodland e.g. Scots and Corsican pine plantations	M?	H(S) L(W)	L(S) H(W)	Pasture, parkland, hedgerows, along water-side vegetation	
Lesser horseshoe	Deciduous woodland and conifer woodlands	L	H(S) M(W)	L(S) H(W)	scrub, parkland, wetland and permanent pasture	2-3 km
Brandt's	deciduous and possibly mixed and conifer woodland	L	H	N(S) H(W)	Woodland edges, rides and dense cover, often near water	
Whiskered	deciduous and possibly mixed and conifer woodland	M?	H(S) L(W)	N(S) H(W)	Woodland edges, rides and dense cover, often near water	
Pipistrelles	open deciduous, mixed and conifer woodland,	M	H	N(S) L(W)	woodland edge, over water, marshes, farmland, along hedgerows, suburban gardens and urban areas	4 km
Daubenton's	Deciduous woodland	M?(S) L?(W)	M(S) L(W)	M?(S) H(W)	over lakes, rivers and ponds, but also forages in woodland	13 km
Serotine	Open deciduous, mixed and conifer woodland,	N	H(S) N(W)	N(S) L(W)	woodland edge., pasture, parkland, tall hedgerows, gardens, suburban area	
Greater horseshoe	Deciduous woodland	N	H(S) L(W)	M(S) H(W)	scrub, permanent pasture, water, along hedgerows	15 km

Trees – includes all types of crevice and hollow as well as bat-boxes attached to trees
Buildings – above ground areas, with an emphasis on roof voids and other areas warmed by the sun
Underground – anywhere that provides cool humid conditions buffered against rapid temperature change
Includes caves, mines, tunnels, fortifications, cellars, ice-houses, lime kilns etc.

N – not recorded in recent times

L – low dependence; unusual, but has been recorded

M – some usage recorded, though perhaps not the most important type of site

H – the most frequently recorded type of site for this species/activity