

# Bats

## Ecology and requirements

**BACK  
FROM THE  
BRINK**



Sonia Reveley, Woodland Officer  
Bat Conservation Trust

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# UK bats

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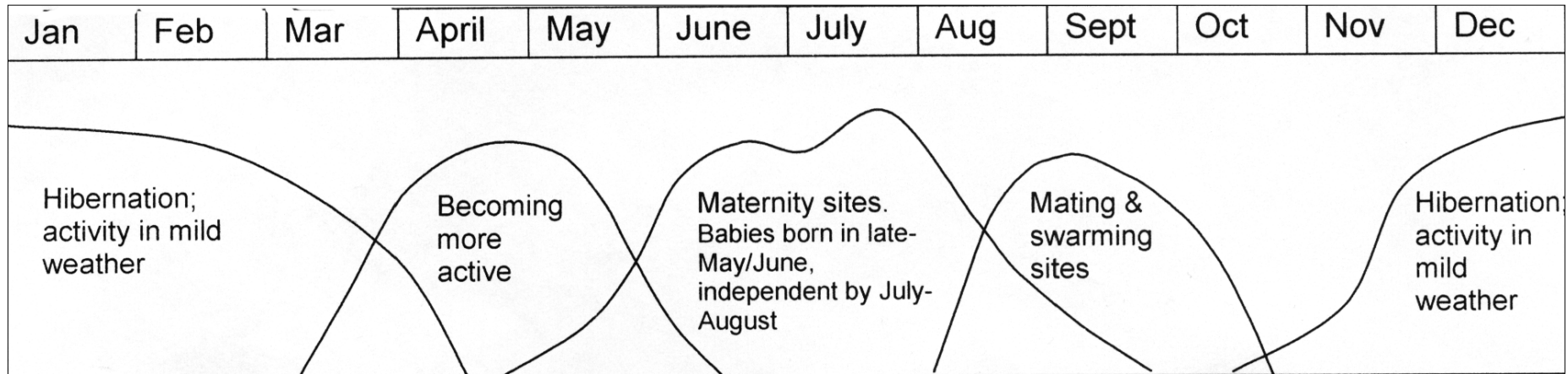


- Are long-lived
- Are nocturnal
- Only true flying mammal
- Give birth to one young per year
- Are insectivorous
- Echolocate to navigate and find their prey.
- Hibernate during the winter
- Many species rely on the same roosts year after year
- Have all experienced massive declines due to their vulnerability to changes in their environment.

## 17 species of bats breed in the UK



# Bat Year



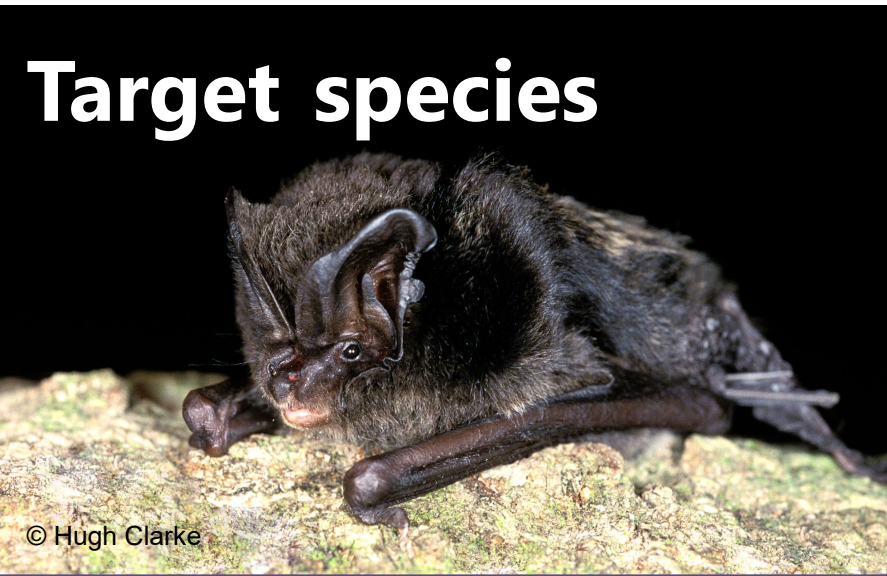
**March/April and September/October are the least vulnerable times for bats**

When planning any woodland/tree work, timing is important – the least disturbance is in spring and autumn when bats are highly mobile and dependent young are not present.





# Target species



- **Barbastelle**

Found in broadleaved woodlands and uses older trees, veteran trees and deadwood. A woodland specialist that typically roosts, breeds, and hibernates in tree crevices and cavities (commonly behind lifted bark). It forages for moths in woodlands, wood pastures, parklands and alongside hedgerows and tree lines as well as in wet/unimproved grassland and coastal grasslands. Under threat due to loss of habitat, roost sites and connectivity to the countryside.



# Target species



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## Interior specialists

- roost and forage in woodland interior in more cluttered and shady woodland areas;
- broad winged allowing slow and controlled flight.

Bechstein's bat



- **Bechstein's bat**

Favours broadleaved woodland, veteran trees and deadwood. Another woodland specialist that will roost, breed and hibernate in tree crevices and cavities, showing a preference for woodpecker holes. Forages for moths within woodlands with a closed canopy and dense native understorey. Under threat due to loss of foraging habitat, roost sites and connectivity to the countryside.



# Target species



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- **Noctule**

The noctule is our largest British bat and is usually the first bat to appear in the evening. Forages over open habitats like pasture land and parkland, flying high above the trees, taking steep dives down to catch insects. Will roost, breed and hibernate in trees living mainly in rot holes and woodpecker holes. Loss of suitable trees for roosting has contributed to its decline.

## Edge/open specialists

- edge specialists will use more open areas, glades and woodland rides;
- narrow winged allowing faster flight.



Noctule





# How are trees important to bats?

Trees and woodland can be important for a variety of bat species. Many species also make use of the natural features in trees for roosting although this can vary by species and time of year.

Below you will see examples of these natural features. The species illustrated provide a visual aid into how these features are used and not the sole species to use that feature.



As a **navigational aid** especially when trees are in lines or hedges



**Feeding perch** or protection during bad weather



Roosting inside **woodpecker holes**



Roosting in **cracks, splits and crevices**



Roosting behind **loose bark**



Occasionally roosting behind **dense ivy**



Roosting in **rot holes**



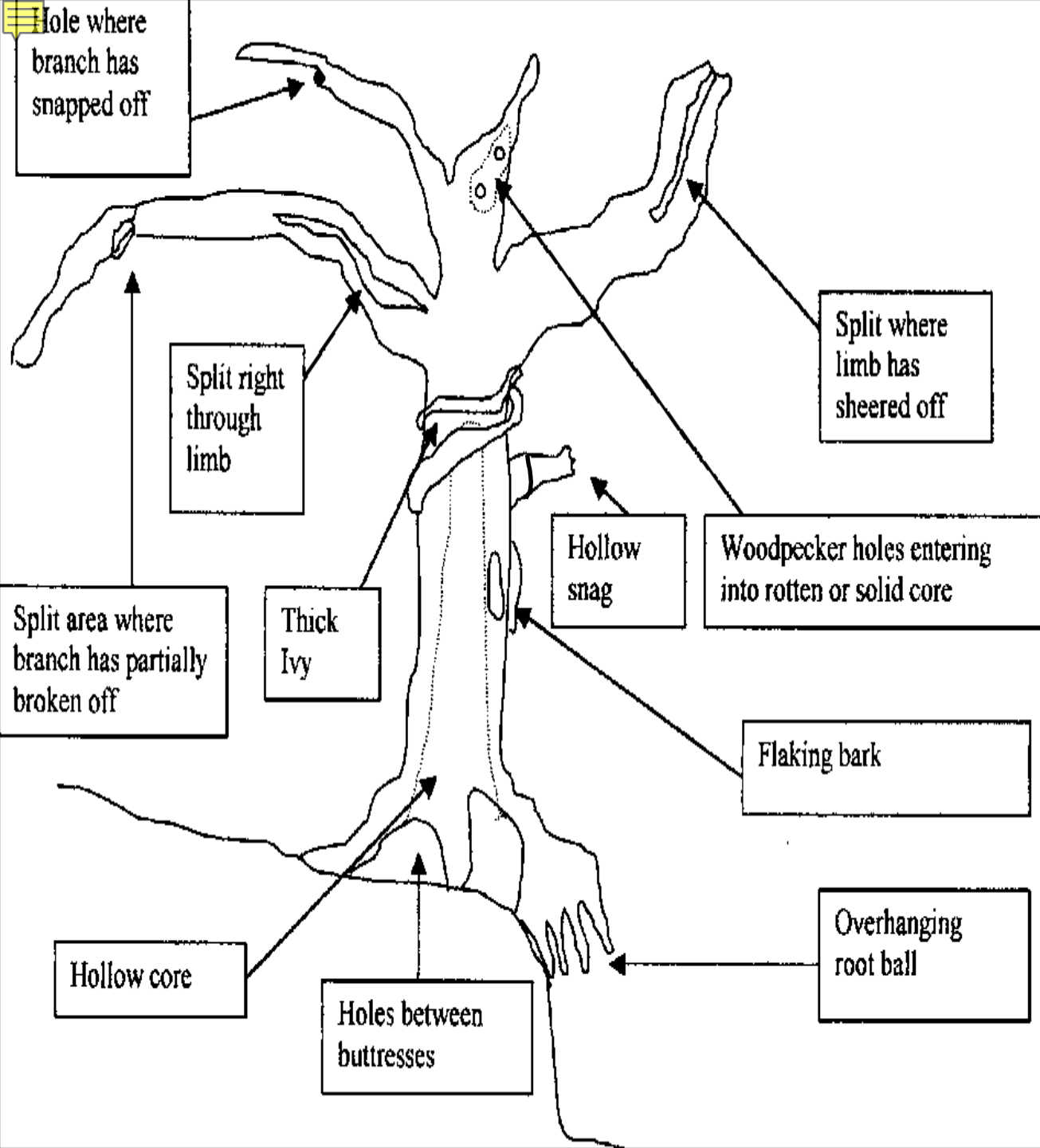
Winter hibernation in **hollow trunk** if tree-free

All our primary target species will use tree roosts all year round.

All our primary target species will use wood pasture land for foraging and for commuting

Most bats are reluctant to leave the cover and protection features such as tree lines, hedgerows and edge habitat provide, as they move between their roost and the foraging sites.





## Roosting





# Examples of tree roosts



© Aubrey Furner

Loose and flaky bark



© Aubrey Furner

Cavities



© Aubrey Furner

Cracks and splits



© Bob Cornes

Woodpecker hole  
Knot hole



© Aubrey Furner

Basal cavity  
Rot hole



© Jane Wheeler

Old growth ivy  
Hollows & cavities



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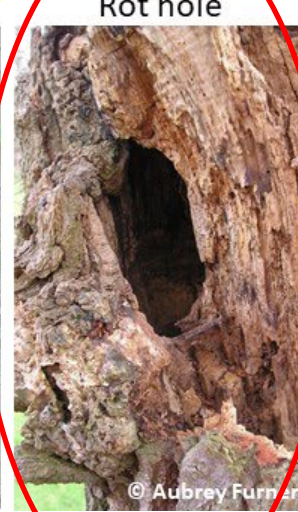
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# All bats are listed as 'European Protected Species' (EPS) under the Conservation of Habitats and Species Regulations 2017 Follow Good Practice!

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<https://www.gov.uk/guidance/manage-and-protect-woodland-wildlife>

INTERIM GUIDANCE  
Version 2  
5 September 2007



## Guidance on managing woodlands with bats in England



### 1. Background and purpose of document

The Habitats Directive<sup>1</sup> 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.

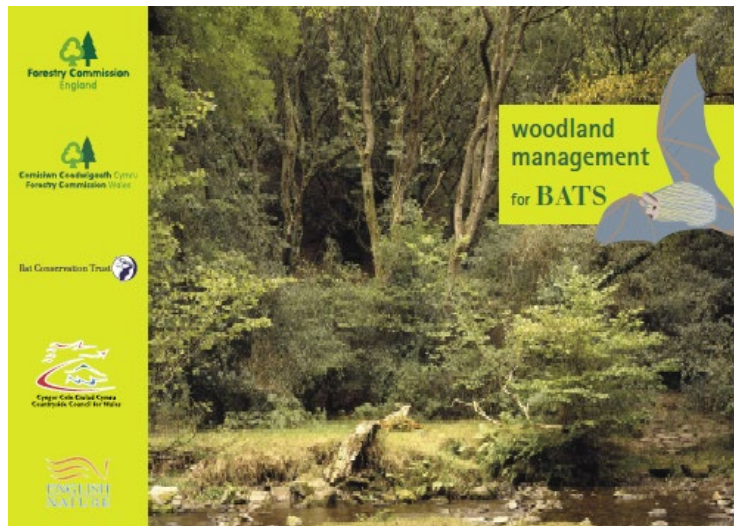
This guidance should be used in conjunction with wider guidance on forestry and woodland management, and should not be followed in isolation. Sources of more detailed information on conserving the species are given in the final section.

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'. 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.

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

<sup>2</sup>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.



Report Number  
658

## Woodland management advice for Bechstein's bat and barbastelle bat

English Nature Research Reports



working today  
for nature tomorrow



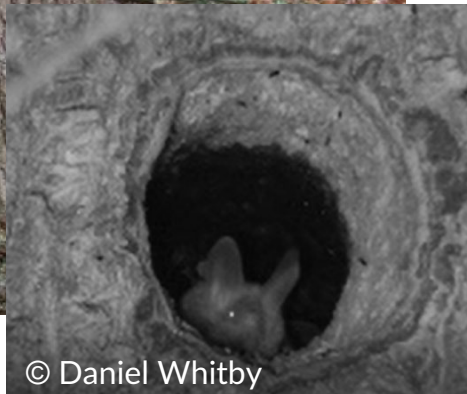
# Management recommendations



Protect all existing confirmed roosts sites



- Clearly mark and protect any trees that contain confirmed bat roosts.
- Avoid work around confirmed roost sites to limit disturbance.
- Care is needed when thinking of managing your site, so that you don't cause disturbance or destroy any known roosts.



© Daniel Whitby





# Retain potential roost trees and ensure a succession or continuity of roosts for the future



- Retain a variety of trees of different ages to ensure a succession of mature, ancient and dying trees that will provide suitable roosting sites long term.
- For some bat species like the barbastelle and Bechstein's bat try to where appropriate to encourage the prevalence of oak.
- Veteranisation techniques (man made holes, splits, pollarding) on young trees will address the age gap and may provide suitable roost features for the future.
- Retain dead standing wood and limbs as they will provide suitable roost opportunities for the future.



# Create a good network of habitats used for commuting and avoid isolating from the wider landscape



- Protect, maintain and enhance existing networks of mature hedgerows, tree lines, woodlands, scrub, meadows and wetlands.
  - Connectivity to the wider landscape is important. Avoid isolation and ensure there are suitable wildlife corridors.
  - Linear landscape features (hedges, shelterbelts, rows of riparian trees, etc.) will link sites to roosting and foraging grounds.





# Create structure and suitable foraging habitat



- **Minimum intervention**
  - Retain areas of dense understorey and closed canopy for foraging where possible.
  - Retain any ancient and veteran trees – great for roosts and for feeding opportunities.
- **Enhancement of edge habitat.**
  - Encourage native edges with a variety of trees, shrubs and grasses. This will support a greater diversity of insects and is of high value to many species.
  - Leave overhanging branches and shrubs to provide cover for bats. Ensure that potential roosts trees do not become exposed.
  - Create scalloped edges and bays along edges and rides for sheltered areas and increased food supply.





# Create structure and suitable foraging habitat



- Wooded land creation
  - Planting trees and/or natural regeneration.
  - Plant trees in sparse areas to improve connectivity to the wider landscape.

## Foraging habitat

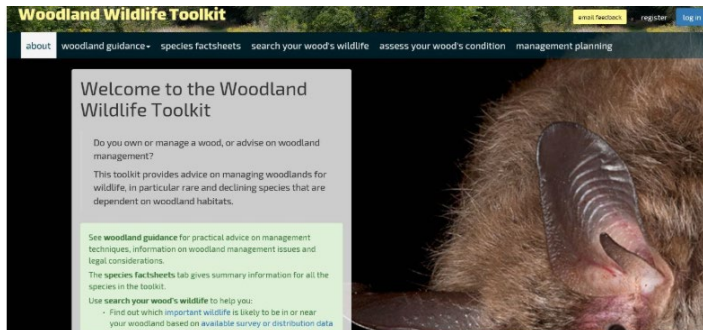
- In wood pastures, planting of nectar rich shrubs in protective enclosures and tree planting, will provide foraging opportunities.
- Retention of water features to support greater insect diversity.
  - Encourage native broadleaved trees and shrubs to grow alongside streams, rivers, lakes and other waterbodies to improve foraging opportunities and structural diversity.
  - Create suitable water features and protect existing water features.





# Key points:

- Protect all existing confirmed roosts sites
- Retain potential roost trees
- Ensure a succession or continuity of roosts for the future
- Create a good network of habitats used for commuting and avoid isolating from the wider landscape
- Create structure and suitable foraging habitat
- Retain standing and fallen deadwood



[www.woodlandwildlifetoolkit.sylva.org.uk](http://www.woodlandwildlifetoolkit.sylva.org.uk)



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