



Forestry Commission
England



Comisiwn Coedwigaeth Cymru
Forestry Commission Wales

Bat Conservation Trust



Cyngor Cefn Gwlad Cymru
Countryside Council for Wales



ENGLISH
NATURE

woodland management for **BATS**





Introduction

This good practice guide aims to strike a balance between the needs of bats and the diverse objectives of woodland managers. It gives general principles and practical advice to assist in the management of your particular woodland, whilst recognising potentially conflicting management interests and objectives.

The guide examines the management of woodland in blocks or stands, ranging in size from an avenue of trees to large wooded landscapes. It is designed to help you sustain entire bat populations in woodland habitats, rather than focusing on each individual bat roost.

In addition to roosting sites, woodlands provide good feeding grounds for bats as they have a high abundance and diversity of insect prey.

The legal protection for bats and their roosts is strict. Necessary works can be undertaken, but before doing anything that might affect a known roost, you should seek advice about when and how the work should be undertaken. You may

need to obtain a licence as, in law, it is an offence to destroy, damage or disturb bats or their roosts (even if bats are not present at the time). It is therefore important to identify and conserve roosts. Tips on signs to look out for are provided. Whilst it is not possible to find every roost within a woodland, your aim should be to reduce the chances of bats and their roosts being damaged or destroyed and to minimise any adverse impact.

If a bat roost is damaged, it is vital that the woodland manager can demonstrate that good practice was implemented. By following this guide, you will minimise the risk of breaking the law and manage your woodland for the benefit of bats and many other species of conservation concern.

This guide has been developed by the Bat Conservation Trust, Forestry Commission England, Forestry Commission Wales, Countryside Council for Wales and English Nature, working closely with woodland managers.

Bats have evolved to roost in trees because they offer a wide variety of sites with different levels of shelter, temperature and humidity.

Cover photographs: Horner Wood, on the National Trust's Holnicote estate, Exmoor, offers a complex mosaic of habitats that supports 15 species of bat.

Bats in woodlands

The use bats make of woodland is influenced by the particular bat species, the season and the type and size of woodland.

Coniferous, deciduous and mixed woodlands can all be home to bats, providing there are suitable places to roost or feed.

In small to medium sized woodlands, noctule bats will use trees as roosts but they might forage up to 20 km from the woodland at night.

At the other extreme, Bechstein's bats will both roost and forage in a suitable

woodland of 25 to 50 hectares or more in size, and only rarely venture further afield.

Although Leisler's bats sometimes roost in houses in summer, they move to hibernate in woodland trees in winter. Greater and lesser horseshoe bats are unlikely to use trees as roosts, but frequently enter woodland to feed.

Often, woodland can be important at the end of summer. Although resident in

throughout the year. But breeding females prefer warmer roosts during spring and summer when raising a baby bat places high demands on their energy levels. Breeding females cluster together to retain body heat, but they also gain 'free' heat from tree roosts in two ways, to help them get through this challenging time:

1. Selecting naturally warm sites, such as sheltered trees receiving some sunshine during the day;
2. Selecting highly insulated sites, such as a tree hole with a small space and thick wood surrounding it.

Because bats are so sensitive to light, heat and humidity, you will need to consider

Bechstein's bats roost in this woodpecker hole (top), whilst barbastelle bats use this elbow crack (middle) and crawl beneath this peeling bark (bottom).

woodland all year round, male pipistrelles establish temporary mating roosts in trees, from where they will display to attract passing females.

Be aware that bats are also found in other structures within woodland, such as buildings, sheds and underground sites, for example mines and bunkers.

the impact of woodland management operations in the vicinity of trees with roosts.

For example, if a roost tree is isolated by clear-felling it will be exposed to extremes of light and heat. It may become too hot and dry for bats. Try to leave a buffer of other trees around a roost tree if you need to clear-fell. Also, try to ensure that roost trees remain linked to other parts of the woodland. Since shelter is further from isolated trees, the bats will be more vulnerable to predators when leaving the roost, so may be forced to exit later, when it is darker. These changes may compel them to abandon the roost.



Ideal homes for bats

The majority of Britain's bats evolved to live in trees. Bats use trees as roosts because they offer a wide variety of conditions that bats require at different times of the year. For example, bats are susceptible to dehydration in hot weather. By tucking up inside a damp rot hole they avoid desiccation.

Temperature and light are important factors when bats select roosts. Roost preferences depend on the bat species, the time of year and the breeding status of the bat. Male bats and non-breeding females tend to prefer cooler conditions

Woodland specialists

All of Britain's 17 species of bat are found in or around woodlands, but some species are woodland specialists.

Bechstein's bat (*Myotis bechsteinii*)

Bechstein's bats are found in central southern England and the southern Welsh borders. Breeding females form nursery colonies in old growth, ancient semi-natural woodlands of at least 25 hectares and, ideally, about 50 hectares in size. This might be composed of a network of well connected smaller woodlands.

Bechstein's bats most frequently roost in old woodpecker nest holes. Records so far indicate that oak and ash are important trees for roosts of this species. In general, Bechstein's bat prefers wet woodlands with small streams.

Bechstein's, barbastelle, and greater and lesser horseshoe bats receive additional protection under the European Habitats Directive.

Woodlands particularly important for these rare species may be considered for notification as Sites of Special Scientific Interest or Special Areas of Conservation, and may attract additional grants.

Barbastelle bat (*Barbastella barbastellus*)

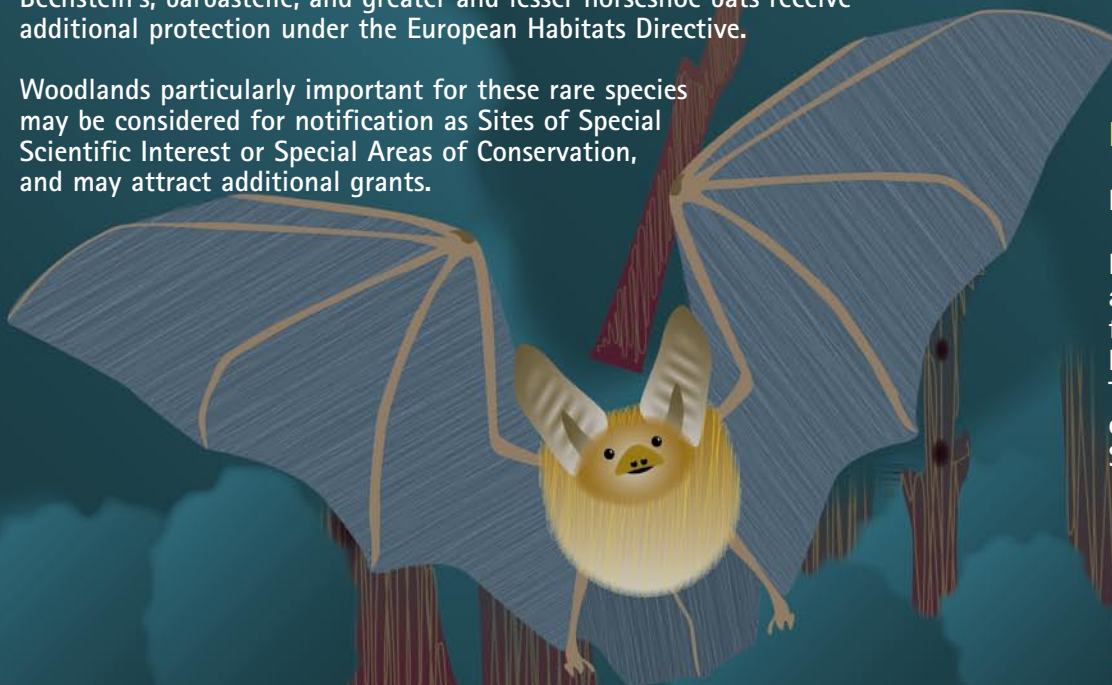
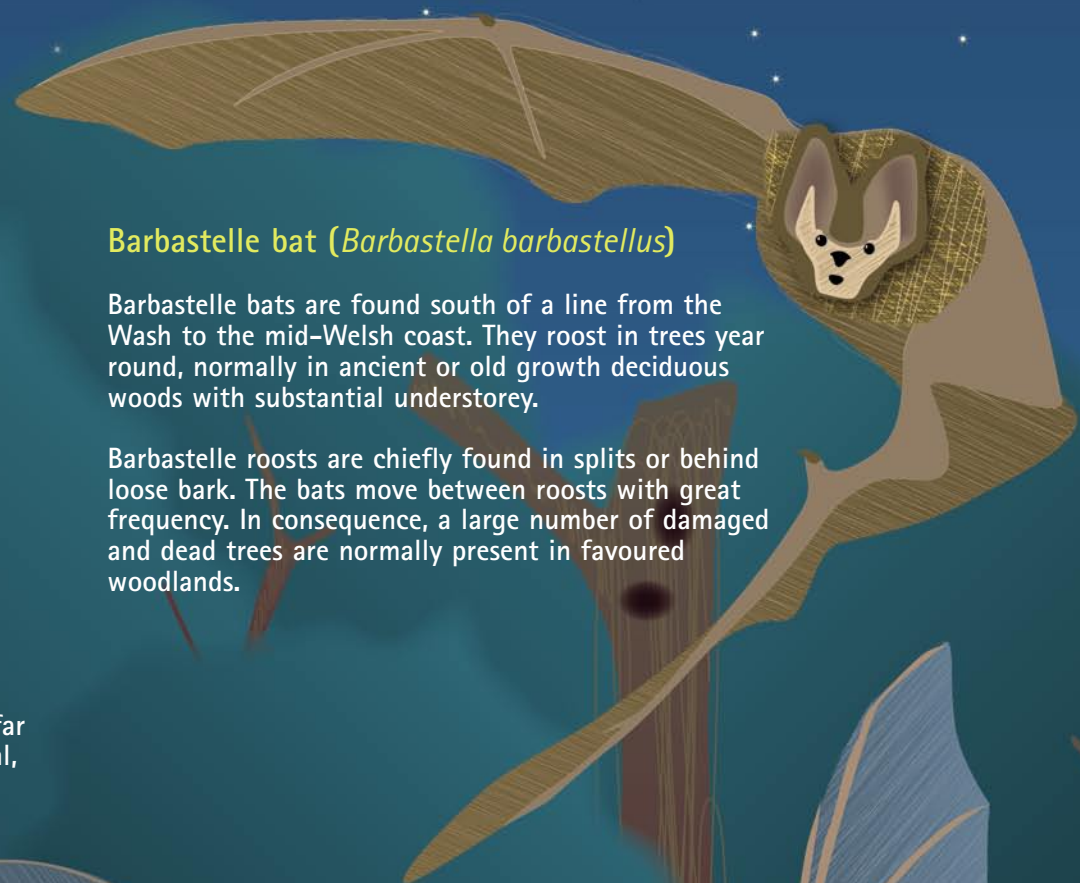
Barbastelle bats are found south of a line from the Wash to the mid-Welsh coast. They roost in trees year round, normally in ancient or old growth deciduous woods with substantial understorey.

Barbastelle roosts are chiefly found in splits or behind loose bark. The bats move between roosts with great frequency. In consequence, a large number of damaged and dead trees are normally present in favoured woodlands.

Natterer's bat (*Myotis nattereri*)

Natterer's bats are widespread throughout the UK.

In summer, they generally roost in trees (both deciduous and coniferous), in buildings or in bat boxes close to their feeding habitats. These may include broad-leaved woodland, hedgerows and treelines alongside agricultural land. They can also include conifer plantations of, for example, Corsican and Scots pine.



Noctule bat (*Nyctalus noctula*)

Noctule bats are fairly widespread throughout England and Wales.

They are primarily tree dwellers and live mainly in rot holes and woodpecker holes. A roost of breeding females can be particularly noisy on a hot summer's day.

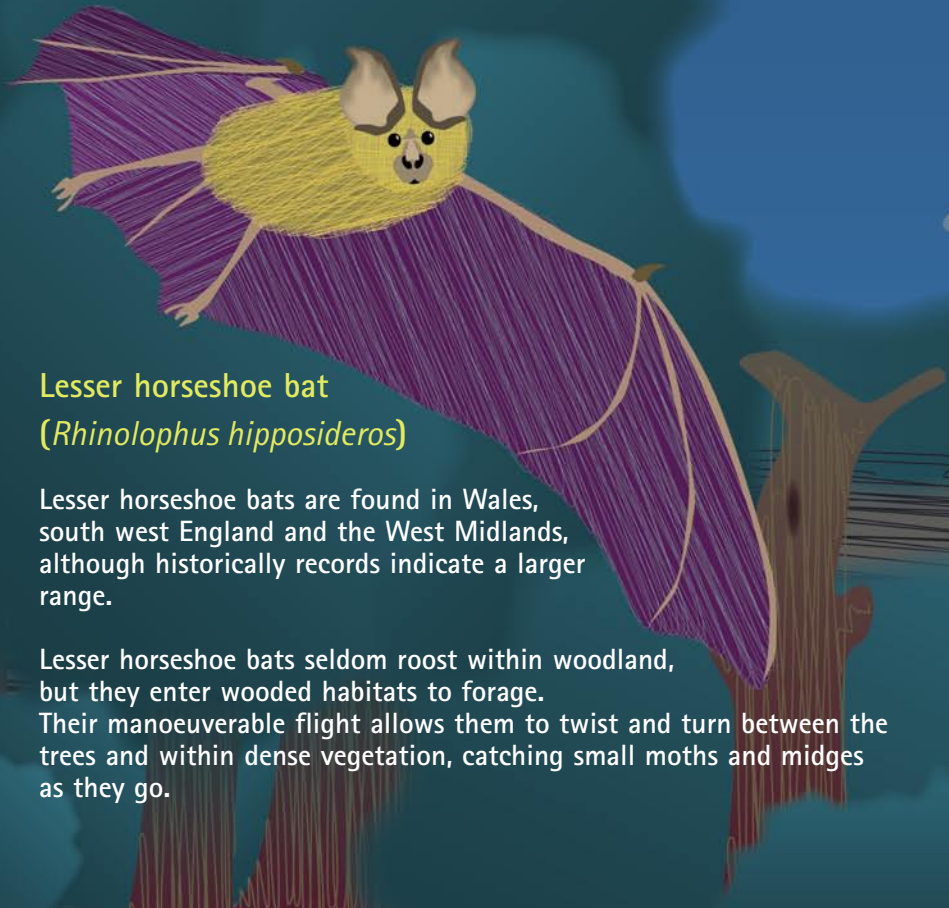
In late summer, single males establish mating roosts in tree holes. They defend these against other sexually mature males and emit shrill mating calls to attract a harem of females.



Lesser horseshoe bat (*Rhinolophus hipposideros*)

Lesser horseshoe bats are found in Wales, south west England and the West Midlands, although historically records indicate a larger range.

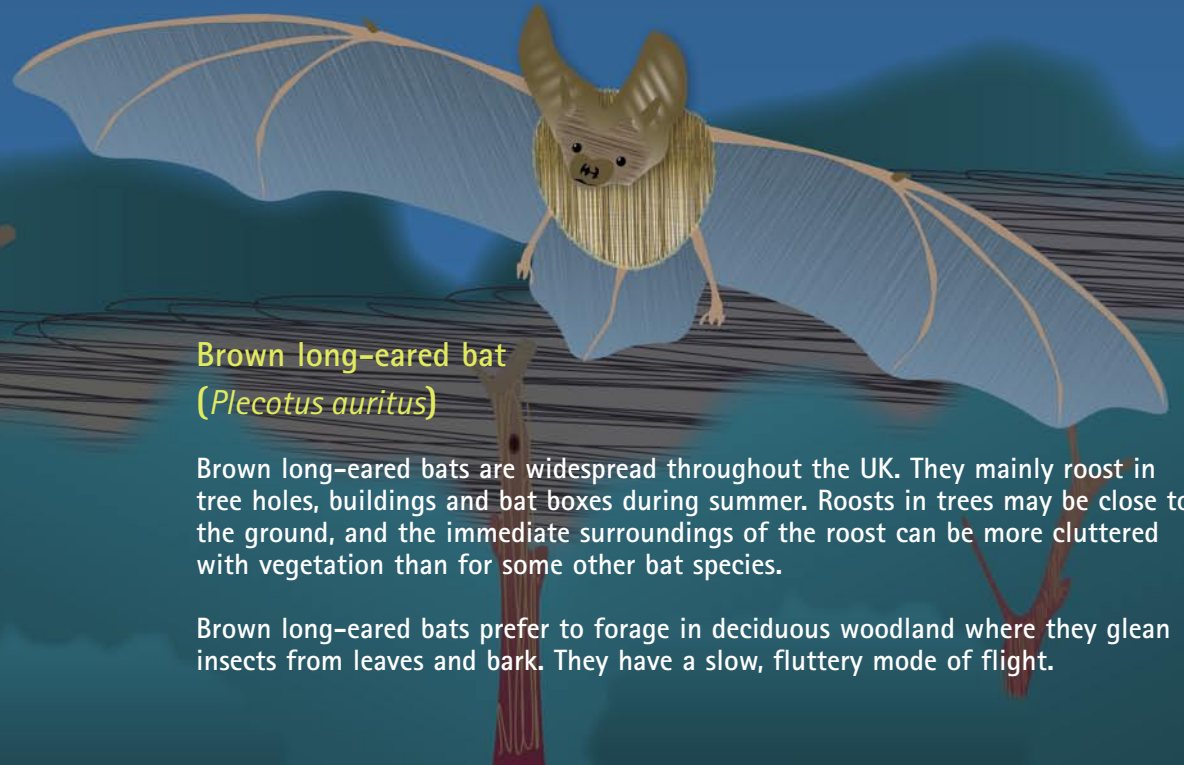
Lesser horseshoe bats seldom roost within woodland, but they enter wooded habitats to forage. Their manoeuvrable flight allows them to twist and turn between the trees and within dense vegetation, catching small moths and midges as they go.



Brown long-eared bat (*Plecotus auritus*)

Brown long-eared bats are widespread throughout the UK. They mainly roost in tree holes, buildings and bat boxes during summer. Roosts in trees may be close to the ground, and the immediate surroundings of the roost can be more cluttered with vegetation than for some other bat species.

Brown long-eared bats prefer to forage in deciduous woodland where they glean insects from leaves and bark. They have a slow, fluttery mode of flight.



Roosting behaviour

A roost is defined as any place that a bat uses for shelter or protection.

It is rare for bats to restrict themselves to a single tree roost. An individual tree may be used by different species of bats, sometimes at the same time. Most bats change roost sites throughout the year in response to their individual needs. Some species change roosts every two to three days. Often, they are looking for small

differences in temperature and humidity. An individual bat might use 20 or so different tree roosts in a year.

Once a tree is used for roosting, there is a high likelihood of it being used again in subsequent years as bats are very long-lived. This is one reason why, in mixed age stands, older trees have a higher chance of containing roosts than younger trees.

Where should I expect to find roosts?


Your challenge as a woodland manager is to minimise the risk of disturbing bats or destroying their roosts. At the same time, you will need to juggle the sometimes conflicting interests of other priority species, habitat management and other owner objectives, such as timber and sport. Clearly, it is not practical to assess every tree – except in very small woodlands. Instead, you can reduce the risks by assessing stands of trees according to the likelihood that they will have bat roosts:

- Trees that have been damaged, irrespective of age, are very likely to offer roost sites. Young stands of trees that have been subject to significant windblow or damage from falling mature trees have a higher likelihood of bat roosts than stands of healthy, largely undamaged trees.
- Woodpecker holes – especially old ones – have a significant chance of

containing a roost, even in very small woodlands. They are likely to house species such as noctule and long-eared bats.

- Trees less than 80 years old are least likely to contain roosts, but may do so if they have woodpecker holes, rot holes, cracks, splits or loose bark.
- Trees more than 80 years old have a reasonable chance of containing roosts. The chances of trees containing a bat roost then increase significantly with tree age.
- Trees more than 120 years old have a high chance of containing bat roosts, because they offer so many possible roost sites.

Most species of tree can house bat roosts, including ash, elm and Scots pine, but oak and beech appear most suitable.



This noctule roost is in an old woodpecker hole in a pine tree. Noctules prefer an uncluttered exit hole so that they can fly to and from the roost easily.

Table 1: Bat indicators

Does my woodland have potential for bat roosts?

Almost certainly. If any trees within your woodland contain a space or cavity providing shelter from the elements and with an access hole of at least 10mm in diameter then roosting bats could be present. Woodpecker holes, rot holes, cracks, splits, loose bark and even behind ivy are examples of known

roosts. Potential for roosts generally increases with tree age, size and presence of damage. Unthinned, upland conifer plantations, recent plantations with a tree stem diameter of less than 20cm at chest height and freshly wind-damaged trees are poor indicators for bat roosts. Indicators of potential roosts are:

Very likely to attract bats

- All old trees
- Old woodpecker and rot holes
- Dead and dying wood and damaged trees
- Loose bark, splits, snags and cracks
- Ivy and other dense climbers such as honeysuckle
- Wide, shrub-edged rides, a diverse understorey
- Substantial hedgerows linking to other woodlands and feeding grounds
- Ponds, lakes, ditches and flushes, streams, rivers and canals
- Woods that are large, semi-natural, broad-leaved, mixed or under-managed
- Derelict buildings, underground structures, caves and mines, dry stone walls and bridges

Quite likely to attract bats

- Not over-tidied
- Linkages to other nearby woodlands
- Bat boxes
- History of bats

Preparing to protect bats

You may be worried that destroying a bat roost is inevitable because they roost in so many places. But there are strategies that you can adopt to minimise the risk.

If you keep a clear record of what you do, you should be able to show – if challenged – that your woodland management minimised the risk of harming bats or their roosts in a proportionate way.

Best case scenarios arise when the distribution of roosts is known and recorded. Work can then be based on an informed Management Plan for the

woodland and implemented through a Site Operations Plan.

Better still, if you proactively manage your woodland to benefit bats, you will be helping to offset the effects of unintentional roost disturbance and destruction and at the same time conserve many other species dependent on old trees and deadwood habitats.

Noctule bats' large teeth make them look fearsome, but are designed to crunch beetles. Bats open their mouths when echolocating.



Surveying for bats

By carrying out even simple, walk-through surveys, as part of your normal planning of operations, you can identify trees likely to contain roosts. Most checks can be done alongside other woodland operations and shouldn't take much time. Remember, though: the more survey work done, the lower the risk of inadvertent roost destruction, and you will be better able to decide how to manage your woodland for bats in future.

Here are some practical tips for checking your woodland for bats:

- Priority should be given to stands that are earmarked for work within the next

five years. Timber markets can change rapidly, so anticipate which stands might be demanded at short notice.

- In large woodlands, effort should focus on stands where roosts are most likely to occur. For example, stands of old or storm damaged trees.
- Plan ahead, ideally at least a year in advance of any planned work.
- Ideally, a roost survey has two phases: stands should be assessed once in winter, followed by a second assessment in summer.
- Once a stand has been surveyed for roosts, aim to repeat the survey after

five years. Then, survey every ten years or sooner if major changes have occurred, such as storm damage.

- Over time, even simple surveys can generate a lot of useful information. Bats are more likely to use existing roosts. So, once a roost has been identified, there's a good chance that it will remain as a roost for several years. Trees confirmed as regular bat roost trees must be retained.
- Combine surveys for bat roosts with other surveys and activities such as marking and tariffing for felling. This minimises the extra effort required. Training for field staff, particularly marking teams and supervisors of tree-

fellers, may be needed.

- If your woodland could be used by rare species such as Bechstein's and barbastelle bats, you might consider a more thorough survey by experienced bat consultants or skilled volunteers. All survey work should be proportionate to the risks involved. The chances of finding roosts of rare species are limited but the effects of losing or disturbing such roosts are more significant.
- Consider involving local bat group volunteers. They have good local knowledge of bat populations and practical experience. The Bat Conservation Trust can put you in touch with your local bat group.

Keep a bat log

You might wish to keep a detailed record of your surveys and findings along with your other management plans. This will help your decision-making and can be vital evidence to show that you minimised the risk of harming bats.

Trees with the potential to contain roosts could be marked with numbered alloy

markers, paint or plastic ribbon. If you use GPS equipment, a fairly accurate location for the roost can be generated. A photograph of a roost tree and its features may also be helpful.

In larger woodlands, consider marking out those stands that are likely to contain bat roosts on site maps and in Site and Management Plans.

- In woodlands with public access, prioritise your survey around access routes. This is where tree surgery or felling to ensure public safety is most likely to occur at short notice.

- Always take the opportunity to look for new roosts during other routine work. Remember that even very intensive surveys for bat roosts will only find a small proportion of the roosts that are actually present in woodland.

Simple ways to survey

Simple, daytime, walk-through surveys to record likely roosts can be done by woodland managers. You do not require specialised equipment or expertise in bats. When you know the signs to watch out for, looking for roosts can be combined with other management planning, so should not add significantly to your costs.

Daytime winter survey for possible roosts

This is best carried out between November and April, when foliage is at a minimum. Use binoculars to inspect likely trees, large and small. Note trees with indicators of likely roost sites (see Table 1 on page 6). Any black staining under the roost entrance could be from bat droppings, but not all roosts have this.

A systematic approach produces the best results. Working methodically, in 100m² blocks, reduces the chance of missing roost trees. Depending on tree density and stand age, it may take between 30 minutes and two hours per hectare. Remember: you can look at the

same time as carrying out other activities for more efficient use of your time.

Daytime summer survey for actual roosts

This survey is most effective in stands where a high potential for bat roosts was identified in the winter. It is best done on hot days, particularly in July and August. Thirty minutes before sunset, walk through the wood listening for the high-pitched squeaks of bats as they prepare to leave the roost. In very hot conditions, bats can be noisy throughout the day and a walk around 2pm can produce results.

Loud bats, such as noctules and Leisler's, can be heard up to 50m away. Our hearing deteriorates with age, so this survey is best carried out by people who are sensitive to higher frequencies.

You may like to consider some training, including simple bat detector techniques, such as that provided by the Bat Conservation Trust. It will enhance your skill and make the work more interesting. You could even help to contribute to the long term monitoring of these extraordinary mammals.



Protecting bats

Through sensitive and proactive management, you can protect bats and a host of other wildlife.

Trees, unlike caves, are not permanent structures. They may fall apart when they age or be blown down in the wind, so bats have adapted to the loss of tree roosts. But woodland management can alter the woodland more dramatically and rapidly.

The simultaneous loss of multiple roosts, as a result of clear-felling, or the loss of a single maternity roost housing a breeding colony of females, would have a major impact on woodland bat populations.

How you proactively conserve bats

depends on the size of your woodland. But in every case, focus on the concept of creating a Natural Reserve – a specific group of trees or area of woodland that is carefully selected and set aside to provide continuity and security for bats and their roosts.

The Natural Reserve may be designated for the benefit of other biodiversity, too.

The presence of bats outside your Natural Reserve will not prevent you carrying out your normal operations, but

complement the overall aims of the site and other species' management.

Natural Reserves should contain or be left to develop a high number and diverse range of bat tree roosts. Because bats will favour Natural Reserve trees, they are less likely to use younger trees or stands that you may need for timber production. But you will still need to conserve individual trees containing bat roosts in your non-Natural Reserve areas.

The size, location and design of your Natural Reserve depends on wider management objectives and on where bats

This hedgerow, linking two woodlands, is a vital flight route for several bat species, including barbastelle bats.



these should be done with bats in mind to prevent damage to and loss of roosts. For example, where possible avoid all felling between May and September when females are gathered in roost trees to have their young. The best time to fell is October and November.

are most likely to be in your woodland, as revealed by an initial walk-through survey.

For example, mature and old oak woodland, particularly on ancient woodland sites, has a high chance of being used by bats and is likely to be important for many other species of conservation concern. Clear-felling large areas of old oak woodland should be avoided.

In coniferous plantations, consider establishing areas of native broad-leaved woodland to be set aside as Natural Reserves for bats and other wildlife in the long term. These areas could be sited

Sensitive management in the non-Natural Reserve areas of your woodland will also benefit bats and other wildlife by enhancing their feeding areas. Ancient trees offer the best prospects for regular roosts and rich feeding, and should be retained wherever they occur.

where other management is least likely to occur, such as steep, wet or inaccessible parts of the woodland.

To maintain a good environment for bats, review your Natural Reserve every five years. As trees are lost, new, native species should be established to provide the next generation of roost trees. If a substantial area of your Natural Reserve is lost suddenly, through storm damage for instance, you may wish to redesignate your Natural Reserve to a more suitable area of your woodland.

What is a Natural Reserve?

Natural Reserves consist of individual trees or areas of woodland managed with minimum intervention. Only low intensity intervention such as deer management may be necessary to maintain biodiversity.

Designate as large a Natural Reserve as possible, to ensure a mosaic of varying structure connected by a network of continuous canopy cover and old trees. In the long term, this is the most beneficial action for bats. If you are dealing with a site with a particular nature conservation interest, your Natural Reserve needs to



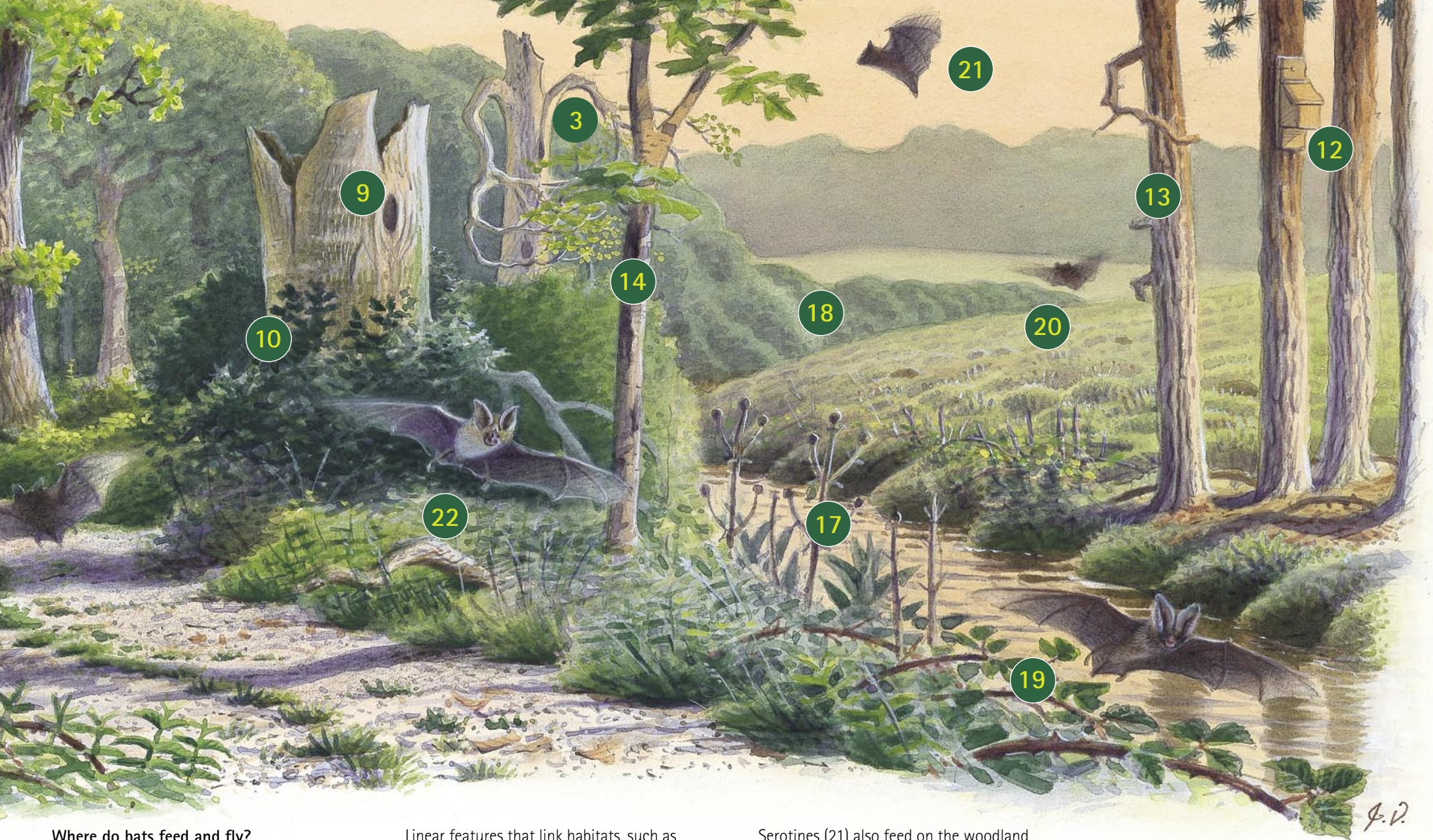
Where do bats roost?

Noctule and Daubenton's bats can roost communally (1) in rot holes that form above old woodpecker nests. Brown long-eared bats can use rot holes where branches have been lost (2). Noctules like exposed, dead trees on the edges of the wood (3), where they get plenty of warmth from the sun.

Brandt's bats (4) form nursery roosts in crevice-like tree holes and cracks in trunks. Bechstein's bats can be found roosting in cracks right at the base of a tree (5), but form maternity roosts in old green woodpecker holes (6) in oak wood with a closed canopy and a dense understorey (7).

In summer, barbastelle bats roost behind plates of peeling bark (8) and in elbow cracks. In winter, barbastelles roost deep inside massive, hollow trees (9). They also prefer a closed canopy and dense understorey. Dense plants such as holly (10) and ivy (11) help to control the micro-climate for bat roosts.

In conifer plantations, bat boxes (12) may encourage bats to roost, but leaving a few older trees to mature and rot (13) is better. Natterer's bats, like many others, change roosts frequently and can be found in holes even in small, rotting trees (14).



Where do bats feed and fly?

In the deeper, denser parts of the woodland, Bechstein's bats forage quietly in the canopy and are almost impossible to detect (15). Both Bechstein's and brown long-eared bats (16) "glean" insects from vegetation.

Linear features that link habitats, such as streams (17) and hedgerows (18) are vital bat corridors. Barbastelles (19) will feed in the gloom of a woodland before following a stream to feed over water meadows. Pipistrelles (20) will feed in a wood even before sunset, and then feed at the fringe.

Serotines (21) also feed on the woodland fringe and along wide rides, but rarely roost in woodlands. Lesser horseshoe bats (22) roost in caves and old buildings, but need woods nearby, where they forage in the dense understorey. Structural diversity in woodlands maximises habitat diversity for bats.

All bats, and Daubenton's bat in particular (23), like to feed near water because damp habitats support large numbers of insects. Both Brandt's and whiskered bats will forage along woodland rides (24), especially if they are close to ditches and streams.

Small woodlands (<5ha)

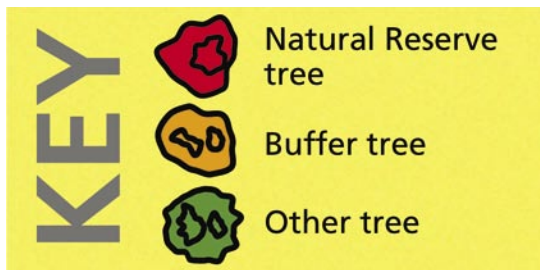
This option is for small woodlands less than five hectares in size. Small woodlands may be less likely to sustain many foraging bats, but they will provide roosts for bats that forage in the wider landscape.

In each hectare, set aside at least ten Natural Reserve trees that are most likely to contain bat roosts and which will remain standing for many years.

Natural Reserve trees may be scattered through the wood (A), clumped in groups (B) or occupy a corner of the wood (C). These trees should be loosely connected and remain linked to other woodlands by trees or hedgerows (D). They should include a range of environments, from the middle to the edge of the woodland.

Natural Reserve trees, with a buffer area of at least 1.5 times their canopy diameter, should ideally be left undisturbed to age and develop old growth habitat naturally. However, actions taken to prolong the life of a roost tree would be beneficial. Over time, the range of roosts will increase, so take care not to damage Natural Reserve trees or significantly change the conditions around them.

Maintain sufficient Natural Reserve areas and/or trees by identifying replacements well before existing trees collapse. Retain all ancient trees wherever they occur.



Medium to large woodlands

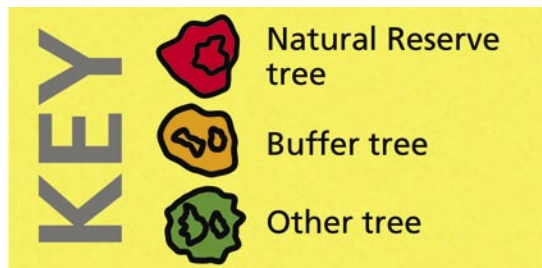
Medium and large woodlands are likely to provide foraging habitats for bats as well as roost sites.


First, set aside Natural Reserves in the woodland based on the results of your survey. Old stands and those with likely bat roosts should get priority (A). Stands in the wettest part of the woodland can be particularly attractive to both foraging and roosting bats (B).

Second, maintain links between Natural Reserve stands. Use networks of trees, particularly those following historic boundaries (C) and natural features such as streams (D) with a rich variety of tree and shrub species. Such areas are often where ancient trees of great value to bats are found.

Link Natural Reserves to natural features beyond the wood, too, such as hedgerows (E), historic parkland (F), tree-lined streams and lakes (G). During felling operations, retain and buffer your natural reserve trees (H).

Aim to have at least 5% of the woodland earmarked as a Natural Reserve. This percentage matches the minimum standard set by the UK Woodland Assurance Scheme for the area of semi-natural woodland set aside as Natural Reserve. Remember though that other trees with known bat roosts should be retained wherever they occur.





Brown long-eared bats are regular tree hole roosters and "glean" insects resting on the surfaces of leaves.

Managing problems and risk

Protecting the public

Occasionally, trees containing bat roosts may become unstable and pose a health and safety risk. In such a situation, what should you do?

Always contact the Statutory Nature Conservation Organisation (SNCO) for your country. In England, English Nature (which becomes part of Natural England in 2006), and in Wales, the Countryside Council for Wales, will advise you what to do. Give as much time as possible to secure this advice: a licence may be required and should be applied for well in advance of proposed operations.

Any work that is approved must be proportionate to the risk. If trees are considered to be a health and safety risk, it may be possible to make them safe by reducing the crown and/or removing limbs, whilst retaining the important roost area, rather than felling.

If you discover bats whilst felling or carrying out surgery on a tree, stop work immediately and contact the appropriate SNCO for advice on how to proceed. Continuing work without seeking this advice or against this advice would constitute an offence. If the SNCO is unavailable or you have bats in urgent need of care, contact the Bat Conservation Trust's Bat Helpline.

Protecting yourself

A small number of bats in the UK have been found with a bat rabies virus (European Bat Lyssavirus). In the event that bats are found, you should handle them only if absolutely necessary, and you should wear thick, leather gloves. If you are bitten or scratched by a bat or you come into contact with its blood or saliva you should seek immediate medical attention. If in doubt, contact the Bat Conservation Trust's Bat Helpline.

Bats and the law

The Wildlife and Countryside Act 1981 makes it an offence to disturb, damage or destroy bats or their roosts (even if bats are not present in the roost at the time of any incident). The Act applies in both England and Wales, and requires consultation with the appropriate SNCO before carrying out activities which might harm or disturb bats or their roosts (even if unoccupied).

The Act is amended by the Countryside and Rights of Way Act 2000 in England and Wales. This adds 'recklessness' to the offence of damaging or destroying a place a bat uses for shelter or rest, or disturbing a bat while using a roost.

The Conservation (Natural Habitats &c.) Regulations 1994 implement the European Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna

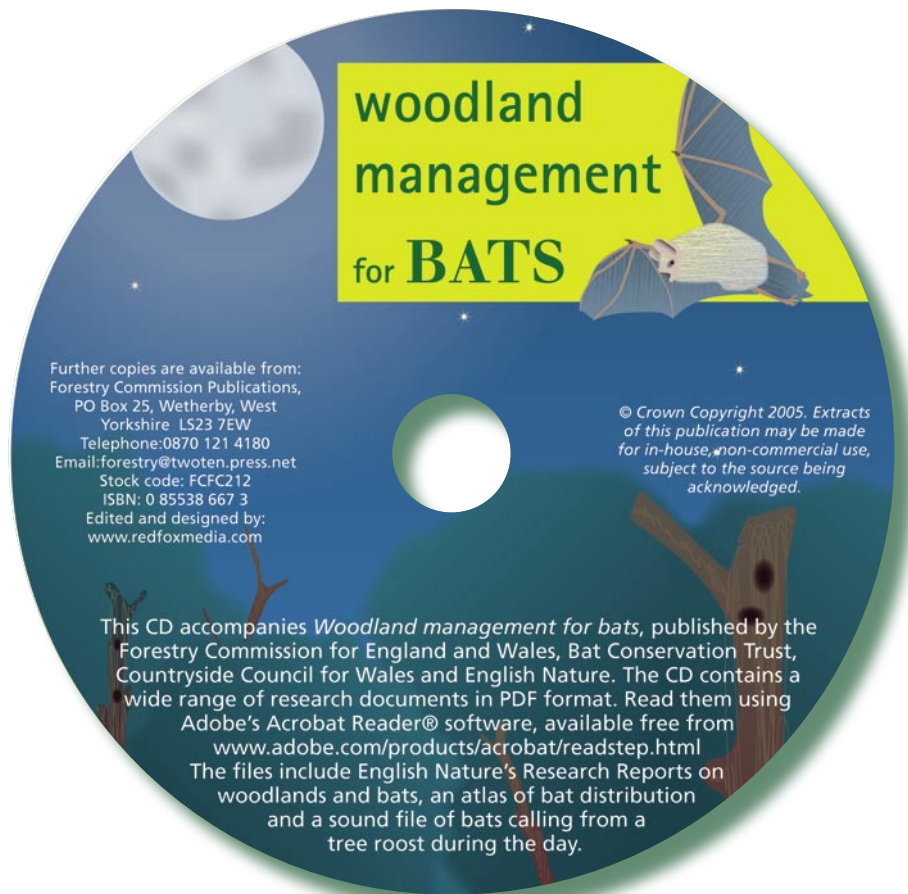
and Flora 1992. Under the Regulations, damaging or destroying a breeding site or resting place is an absolute offence, regardless of whether the act of doing so may be considered reckless or deliberate.

All UK bats are included in Schedule II of the Regulations, making them European Protected Species requiring strict protection under Annex IV of the Directive. Bechstein's, barbastelle, greater and lesser horseshoe bats are also listed on Annex II, which requires the creation of Special Areas of Conservation.

Useful contacts

- **Bat Conservation Trust**
www.bats.org.uk; enquiries@bats.org.uk
Bat Helpline: 0845 1300 228
- **Countryside Council for Wales**
www.ccw.gov.uk; enquiries@ccw.gov.uk;
0845 1306 229
- **English Nature**
www.english-nature.org.uk;
enquiries@english-nature.org.uk; 01733 455000
- **Forestry Commission England**
www.forestry.gov.uk/england;
fc.nat.off.eng@forestry.gsi.gov.uk; 01223 314546
- **Forestry Commission Wales**
www.forestry.gov.uk/wales;
fcwales@forestry.gsi.gov.uk; 0845 604 0845
- **The National Trust**
www.nationaltrust.org.uk;
enquiries@nationaltrust.org.uk; 01793 817400

Further information



Grants and training

- The Forestry Commission operates grant schemes for the stewardship and creation of woodlands in each English region and in Wales. Details of the grants available in your locality are available from the Forestry Commission's website or from your local Forestry Commission office.
- English Nature and the Countryside Council for Wales offer specific grants tailored to local and national biodiversity needs. The grant schemes on offer vary from year to year, according to funding availability. They may be issued through regional offices or through the national office. Explore the organisations' web sites and contact your local office for advice. Some local Planning Authorities also provide grants to support actions in their Local Biodiversity Action Plans.
- The Bat Conservation Trust has been running training courses since 2001. Several may be of relevance and interest to woodland managers including: *Bats and bat surveys*; *Planning and preparation of bat surveys*; *Using bat detectors*; and *Arboriculture and bats*. Contact the Bat Conservation Trust for details.

Further reading

- The CD-ROM accompanying this guide contains useful English Nature research notes including: *Development of good practice guidelines for woodland management for bats*, English Nature Research Report Number 661; *Woodland management advice for Bechstein's bat and barbastelle bat*, English Nature Research Report Number 658; and *Advice for the management of flightlines and foraging habitats of the barbastelle bat*, English Nature Research Report Number 659. The CD also contains a *Distribution atlas of bats in Britain and Ireland*, containing maps for each species, and a soundbite of bat social calls. If this CD is missing, contact Forestry Commission Publications (see back).

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