

## MENDIP BAT SPECIES ACTION PLAN



### Action plan name

Mendip Bats (Group Action Plan) - Typical (*Vespertilionidae*) & Horseshoe (*Rhinolophidae*) species.

### Background and vision

Bats are considered good indicators of the health of the countryside and also of the 'greenness' of an urban environment. For some people bats have been the subject of misconception, often fuelled by films and fiction, for others they are charismatic.

Bats are nocturnal and emerge from their roosts at dusk to feed. In the UK all bat species feed on insects. A number of feeding sites are needed throughout the year as insect availability changes. They can forage several kilometres away from their roost site and often rely on hedgerows, woodland edge, tree lines, copses and watercourses acting as flight paths, to reach feeding areas. For successful foraging, bats require:

- Suitable habitat structures;
- High densities of insects; and
- Habitat corridors between roost sites and feeding areas.

Bats roost during the daytime in holes in trees, a variety of buildings (barns, lofts and cellars) and structures such as bridges, tunnels, caves, mines and small crevices.

Generally all roost sites have an integral role in the functioning of a bat colony. Roost sites can vary during the year and between males and females. Sometimes there are different roosts for mating, for resting at night time between feeding flights and hibernation roosts are often different to other roosts.

Bats are social animals that can live up to thirty years. A mature female may produce one offspring every year or so. During the summer months, female bats form maternity colonies to have their young. These roosts may be in a variety of natural or artificial structures, such as houses, trees or bridges depending on the species, and tend to be the same site every year. Maternity roosts usually disperse in September/October depending on species and weather conditions.

Night roosts are particularly important for some bat species and are used for resting, grooming, eating or sheltering in bad weather. Some bats, especially pregnant females, can extend their foraging range from the maternity roost by using such roosts.

Mating roosts have a vital function and are set up in autumn. In some species a single male holds a roost and females visit to mate. Other species swarm at underground sites or quarries, with females joining males from over a wide area.

Many bats hibernate in a different site from their summer roost sites, some species using caves, tunnels, bridges or mines or alternative tree sites. Some bat species use transitory roosts to gain weight prior to entering their hibernation roost site. However, some bats do use the same roost site all year round. If the weather is warm enough some bats will forage during the winter months.

There are currently 16 species of bat known to breed in the UK of which 13 are regularly recorded in Mendip District.

<b>Common Name</b>	<b>Roost site</b>	<b>Habitat Requirements</b>
Greater Horseshoe	<p>Summer - old buildings, undisturbed buildings with unrestricted access points, caves, disused mines, cellars and tunnels.</p> <p>Winter – underground in caves, mines, tunnels and cellars.</p>	<p>Pasture and meadows with broadleaved woodland and scrub.</p> <p>Flight path corridors between roost and feeding areas of woodland edge, large hedgerows, tree lines, vegetated stream banks.</p> <p>Night roosts (These can be open sided barns).</p>
Lesser Horseshoe	<p>Summer – lofts of old buildings, occasionally unused rooms and warm cellars.</p> <p>Winter – undisturbed caves, cellars and mines.</p>	<p>Woodland, parkland and large hedgerows over 5 metres high, with permanent pasture, also bankside vegetation.</p> <p>Flight path corridors between roost and feeding areas of large continuous hedgerows, tree lines, woodland edge, vegetated stream banks.</p> <p>Night roosts.</p>
Daubenton's	<p>Summer – predominately holes and fissures in trees but also buildings, tunnels and bridges. May use bat and bird boxes.</p> <p>Winter - caves, mines and cellars.</p>	<p>Smooth water sheltered by trees on both banks. Rivers, canals, lakes, reservoirs, also ponds, pools and ditches.</p> <p>Seasonally in broadleaved woodland.</p> <p>Corridors between roost and feeding areas of hedgerows and watercourses.</p>
Whiskered	<p>Summer - buildings and probably tree holes and crevices. May use bat and bird boxes.</p> <p>Winter - caves, mines, cellars and tunnels.</p>	<p>Narrow rivers, bankside vegetation, also woodland rides, parks and hedgerows.</p> <p>Corridors between roost and feeding areas of hedgerows, tree lines, woodland edge, vegetated stream banks.</p>
Brandt's	<p>Summer - buildings and probably tree holes and crevices. May use bat boxes.</p> <p>Winter - caves, mines, cellars and tunnels.</p>	<p>Woodland – damp areas or close to water. Both broadleaved and coniferous woodland, forest edge and clear felled areas.</p> <p>Corridors between roost and feeding areas of hedgerows and tree lines.</p>

Common Name	Roost site	Habitat Requirements	
Natterer's	<p>Summer - old buildings, bridges, tree crevices, cattle sheds. May use bat and bird boxes.</p> <p>Winter - caves, mines, cellars, tunnels and bare rock</p>	<p>Broadleaved and wet woodland. Found along woodland edges, tree lines, inside large hedgerows, over water and around single trees - alongside agricultural land. Corridors between roost and feeding areas of large hedgerows, tree lines, woodland edge, vegetated stream banks. Field borders with mature trees to provide suitable night roosts.</p>	
Bechstein's	<p>Summer - tree holes and crevices. May use bat boxes.</p> <p>Winter - caves, mines, cellars and tunnels. Possibly tree holes and crevices.</p>	<p>Mainly deciduous and wet woodland, occasionally parkland. Mature coppice. Corridors between woodland blocks of tree lines and hedgerows. Retention of old trees.</p>	
Common Pipistrelle	<p>Summer - buildings including houses in semi urban areas, dead and decaying trees with ivy and loose bark. May use bat boxes.</p> <p>Winter - stone walls, wall cavities, caves, mines, cellars and tunnels.</p>	<p>Bankside habitats (particularly lakes, wide rivers and large ponds), parks, broadleaved woodland, hedgerows, tree lines. Will feed around white street lighting.</p>	<p>Corridors between roost and feeding areas of hedgerows and tree lines but may cross gaps of up to 200 metres.</p>
Soprano Pipistrelle		<p>As Common Pipistrelle but more often lakes and rivers.</p>	
Nathusius' Pipistrelle	<p>Summer - tree holes and crevices. May use bat and bird boxes.</p> <p>Winter - tree holes and crevices, buildings.</p>	<p>Large areas of water such as rivers, lakes and reservoirs. Woodland and tree lines. Stone walls used by males for territorial singing.</p>	

<b>Common Name</b>	<b>Roost site</b>	<b>Habitat Requirements</b>
Serotine	<p>Summer - buildings in rural and semi rural areas. Especially fond of roof spaces with a chimneybreast. May use bat boxes.</p> <p>Winter - caves, mines, cellars and tunnels. Occasionally in summer roost site.</p>	<p>Unimproved cattle pasture, unimproved grassland such as meadows, parkland, cemeteries, village greens, golf courses, and playing fields. Also woodland edge, hedgerow, tree lines, single trees, and areas of calm water.</p> <p>Night roosts. Will feed around white streetlights and sewage treatment works.</p>
Noctule	<p>Summer - tree holes, especially woodpecker holes in fungal infected trees. May use bat boxes.</p> <p>Winter - tree holes, especially woodpecker holes in fungal infected trees, occasionally buildings or rock crevices.</p>	<p>Over open areas such as open water and wetlands. Cattle pasture, open woodland, woodland edge, parks and open farmland near lakes.</p> <p>Mature trees. Dead wood with woodpecker holes. Freshwater habitat with good water quality. Will feed around white street lighting.</p>
Leisler's	<p>Summer - tree holes, such as woodpecker holes, and crevices. More rarely in buildings or between timbers. May use bat and bird boxes.</p> <p>Winter - tree holes, such as woodpecker holes, and crevices.</p>	<p>Over open habitats, such as rivers, lakes and ponds, coastal marshes, beaches, pasture and meadow, hedgerows and woodland clearings, above woodland canopies and along woodland edges. Will feed around white street lighting.</p>
Brown Long-eared	<p>Summer - tree holes, crevices and behind loose bark. Houses, other buildings. May use bat boxes.</p> <p>Winter - caves, mines and cellars. Tree holes.</p>	<p>Broadleaved woodland. Also wet woodland, small groups of trees, woodland edge, orchards, garden shrubs, bankside vegetation, parkland with scattered trees and coniferous woodland.</p> <p>Corridors between roost and feeding areas of large hedgerows, tree lines, woodland edge, vegetated stream banks.</p>
Grey Long-eared	<p>Summer - houses, especially lofts, other buildings. Caves and mines used by single males.</p> <p>Winter - rock crevices, caves, cellars or crevices in stone walls. Occasionally a house martin's nest.</p>	<p>Small open woods, woodland edges, parkland, orchards, gardens, open meadows, orchards and pasture with trees.</p> <p>Corridors between roost and feeding areas of hedgerows, tree lines, woodland edge, vegetated stream banks, fences.</p>

Common Name	Roost site	Habitat Requirements
Barbastelle	<p>Summer - cracks in trees and branches and spaces under bark, holly understorey. Occasionally buildings. Rarely uses bat boxes.</p> <p>Winter – crevices in trees and walls of buildings. Caves and old mines.</p>	<p>Wooded river valleys, over water and woodland edges. High overgrown hedgerows, scrub, uncut grassland and heather moorland, saltmarsh, gardens and areas with low lighting.</p> <p>Maintain woodland corridors between roost and feeding areas of hedgerows, watercourses and tree lines.</p>

### Plan species and habitats

- Field Boundaries (dry stone walls)
- Water and Wetlands (including rivers and streams)
- Hedgerows and Hedgerow Trees
- Wood Pasture, Parkland and Veteran Trees
- Woodland
- Calcareous and Neutral Grassland
- Otter (*Lutra lutra*)

### Associated species and habitats

- Common Dormouse (*Muscardinus avellanarius*)
- Invertebrates, including species of Neuroptera, Lepidoptera, Trichoptera, Diptera, Hymenoptera and Coleoptera

### Species status

- All bat species and their roost sites are protected under the Wildlife and Countryside Act 1981 (as amended). They are also included in Schedule 2 of the Conservation (Natural Habitats, & c.) Regulations 1994 (the 'Habitat Regulations') (amended 2007) which brought into UK law additional protection afforded under European community legislation by Directive 92/43/EEC on the 'Conservation of Natural Habitats and Wild Flora and Fauna' (the 'Habitats Directive') being listed in Annex IV. In addition four species – greater and lesser horseshoe, Bechstein's and barbastelle bats are also listed on Annex II.
- As a signatory to the Bonn Convention (Agreement on the Conservation of Bats in Europe 1999) the UK is also obliged to conserve bat habitats, requiring their identification and the protection

from damage or disturbance of important feeding areas.

- Greater and lesser horseshoe, pipistrelle, Bechstein's and barbastelle bats are listed under Section 74 of the Countryside and Rights of Way Act 2000 and are UK BAP priority species. Soprano pipistrelle (common pipistrelle having been removed), noctule and brown long-eared bat species were added to the UK BAP priority species list in 2007.
- Greater and lesser horseshoe, Bechstein's, serotine, and Barbastelle bats are priority species as these species are regarded as the species for which Mendip District is most important.
- There are three internationally important sites, designated as Special Areas of Conservation (SAC) under the provisions of the Habitat Regulations 1994 in Mendip District. Mells Valley is listed for its Greater horseshoe bat populations and Mendip Woodland and The Cheddar Valley both have important populations of Lesser Horseshoe, Greater horseshoe, Serotine, Bechstein's and Noctule bats.

The following table lists the status of bat species present within Mendip District. An estimate of the Mendip District population for each species is given in the comments column where known.

Common Name	Scientific Name	National Conservation Status	Mendip District Status	Comments
Greater Horseshoe	<i>Rhinolophus ferrumequinum</i>	Very rare and endangered	Widespread	The Mendip District has most of Somerset's Greater Horseshoe Bats although the species is scattered throughout the county.
Lesser Horseshoe	<i>Rhinolophus hipposideros</i>	Rare and endangered	Widespread	Significant increase of 45% since 1997. Elsewhere severe declines across Europe. Now mainly limited to the South West and Wales (a European stronghold) in the UK.
Daubenton's	<i>Myotis daubentonii</i>	Common	Widespread	27% increase since 1997. However, numbers are probably over estimated and trend is doubtful due to monitoring method. Number of roost sites is very low.
Whiskered	<i>Myotis mystacinus</i>	Locally distributed	Widespread	Treated as one species for monitoring. Whiskered are widespread but not frequently found whereas Brandt's are rare.
Brandt's	<i>Myotis brandtii</i>	Common in west and north, rare elsewhere	Rare	
Natterer's	<i>Myotis</i>	Fairly	Widespread	Has been subject to huge declines

Common Name	Scientific Name	National Conservation Status	Mendip District Status	Comments
	<i>nattereri</i>	Common		across Europe but significant increase of 36% in UK.
Bechstein's	<i>Myotis bechsteinii</i>	Very rare	Rare	Very few records.
Common Pipistrelle	<i>Pipistrellus pipistrellus</i>	Common	Common	64% increase since 1998 but number of colonies decreasing; by 33% since 1998.
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>	Common	Common	42% decline since 1998 but data is variable.
Nathusius' Pipistrelle	<i>Pipistrellus nathusii</i>	Rare	Very rare	Trend unknown.
Serotine	<i>Eptesicus serotinus</i>	Widespread	Local	Widespread throughout the Mendip District and possibly the largest roost in Europe is on the Mendip Hills with approximately 300 bats.
Noctule	<i>Nyctalus noctula</i>	Uncommon	Local	Decline of 25% since 1998. Of concern if decline continues. Very few roosts identified.
Brown Long-eared	<i>Plecotus auritus</i>	Common	Common	Decline of 24% since 1997. Of concern if decline continues.
Barbastelle	<i>Barbastella barbastellus</i>	Rare	Very rare	Very rare, not regularly recorded but probably under recorded.

### **Specific impacts/threats**

- **Loss of feeding habitat** - habitats, such as woodland, pasture, hedgerows and ponds, supporting bat populations can be lost due to landtake required for development but also through changes in agricultural management or intensification. Both rural and urban streams support insect communities, which are affected by the state of vegetation on the riverbank and within the watercourse. These insects provide a valuable source of food for bats.
- **Loss or alteration of roost site** - the loss of any roost site could have a significant effect on a bat population as each has an integral role in supporting a colony. Roost sites can be lost due to alterations to old buildings, barn conversions, use of timber treatments, the felling of mature trees, tidying up trees or tree surgery.

- **Loss or fragmentation of flight lines** - most bat species are reliant on linear features traditionally used to commute between roost sites and feeding areas. Any breaks to these features could cause disruption to commuting patterns and threaten the viability of a colony. As bats fly some distance from their roost site fragmentation could affect bats several kilometres from the development.
- **Installation of street and other artificial lighting** - bat roosts may be disturbed and abandoned following the installation of lighting on streets or individual buildings (eg floodlighting of churches). Studies have shown that species such as *Rhinolophus*, *Plecotus* and *Myotis* species, will avoid artificial lighting. Street lighting can therefore cause habitat fragmentation and prevent bats from reaching feeding areas. Street lighting will also draw prey away from feeding areas that would otherwise be available to species averse to artificial lighting and would prevent safe exit from roost sites.
- **Disturbance** - development near roost sites, particularly during construction, may cause disturbance to bat behaviour, such as from increased noise. Tree roosting bats are particularly sensitive to works a couple of hundred metres from a roost and may result in it being deserted.
- **Road mortality** - bats are affected by road mortality. Lesser Horseshoe and Whiskered bats often fly 0.5-3 metres above road level across 20-40 metre gaps in hedgerows where they have been created by a road scheme. One road scheme in North Wales is reporting the loss of two Lesser Horseshoe bats per night resulting in mitigation costs of over £1 million that could have been avoided if considered at the design stage.
- **Wind farms and turbines** – a number of dead bats have been found under wind turbines on sites in Europe and in the USA. Turbines, even small individual wind turbines, may also have negative effects on prey availability and cause disruption or disturbance to feeding habitats and flight lines. Further research is required.

### **Proposed partners**

Bat Conservation Trust (BCT)  
 Woodland Trust (WT)  
 National Farmers Union (NFU)  
 Police Wildlife Officer  
 Mendip Caving Group (MCG)  
 Quarry owners  
 Somerset Hedge Group (SHG)

Wind farm developers

### **Confirmed partners**

Mendip District Council (MDC)  
Mendip Areas of Outstanding Natural Beauty (MAONB)  
Environment Agency (EA)  
Farming and Wildlife Advisory Group (FWAG)  
Forestry Commission (FC)  
National Trust (NT)  
Natural England (NE)  
Somerset Bat Group (SBG)  
Somerset County Council (SCC)  
Somerset Environmental Records Centre (SERC)  
Somerset Wildlife Trust (SWT)

### **Current action**

- Bat box scheme and monitoring by Somerset Bat Group
- Mendip Hills Living Landscape project
- Econet GIS mapping for all bat species

### **Target description and target goals**

1. Maintain all known existing maternity, swarming, hibernation and other roost sites  
**Goal:** Monitor existing sites (monitor at least 2 sites)
2. Provide new roost sites for bats  
**Goal:** Erection of new roost boxes, including those in development schemes (at least 20 boxes)
3. Maintain or increase the size of current bat populations  
**Goal:** Monitoring of selected bat populations particularly affected by development proposals (at least 1 developments)
4. Maintain or expand current geographical range of bat populations  
**Goal:** Promote stewardship schemes including habitat enhancement for bats (at least 3 schemes)
5. Increase current knowledge of bats and their habitat use in Mendip District.  
**Goal:** Complete surveys and report Harridge Woods lesser and greater horseshoe bat hibernation roost and for other sites
6. Record and make available data on use of the landscape by bats  
**Goal:** Econet mapping of sensitive bat landscape areas installed on all District and County Council GIS by spring 2008 and Bat Protection Zones included in LDF documents

7. Ensure that Mendip District Council take account of the needs of bats in determining planning applications  
**Goal:** Monitor outcomes of all applications relevant to bats (00% of requirements for bats)
8. To redress misconceptions about bats and secure their status as culturally valued species  
**Goal:** At least 2 publications by spring 2009

### **Key factors**

- Engagement with SAP partners
- Appropriate level of funding
- Commitment from SAP partners
- Awareness of district and county council staff in all departments, e.g. forward planning and highways, that bats have strategic or landscape level requirements
- Appropriate involvement of district and county council staff
- Awareness of householders and landowners with bat roosts
- Appropriate engagement of landowners and farmers