

Bats Generic Action Plan

STATUS

Bats and their roost sites are fully protected by the Wildlife and Countryside Act 1981 (as amended 1985). They are listed on Annex IVa of the European Habitats Directive 1992 (EC Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora). All UK bat species are also listed on Appendix III of the Bern Convention (Convention on the Conservation of European Wildlife and Natural Habitats, 1982) and all except the Pipistrelle are listed in Appendix II. All UK bat species are protected under the Agreement on the Conservation of Bats in Europe (under the Bonn Convention on the Conservation of Migratory Species of Wild Animals).



WHAT ARE BATS?

Bats (Chiroptera) are flying mammals. They are nocturnal with a crepuscular activity pattern which means that they are active just after dusk and sometimes just before dawn. Bats are able to occupy a variety of roost sites, including man-made structures, such as churches, buildings, bridges, disused mines as well as caves and hollow trees. Bats forage for flying invertebrates and may travel up to 20km from their roost sites and therefore, can cover quite large areas. They require suitable feeding habitats as well as 'commuting' routes i.e. linear features, such as hedges, which enable them to navigate across open country and be sheltered from predators. Bats also occur in urban areas, gardens and parks, especially common pipistrelles (*Pipistrellus pipistrellus*).

Females congregate to form nursery colonies in late spring and young are born in June and July. They are weaned at about five weeks of age and the nursery roosts disperse around August. The young reach sexual maturity in their second year. Some bat colonies, particularly those of pipistrelles and noctules, can be mobile and move regularly, especially in the summer months. Other species, such as brown long-eared, whiskered and Natterer's bats are less mobile in terms of location of their colonies. All British bats hibernate during the winter when food is scarce. Lack of disturbance during hibernation or breeding is crucial for their survival.

Bats are harmless and generally cause no problems to the human tenants of buildings where they roost. Bats do not cause damage to property and problems of noise and smell from roosts are very uncommon.

WHERE ARE THEY FOUND IN THE UK?

Bats are widespread throughout the UK and are found in both urban and rural areas. Currently there are 16 species of bat breeding in Britain, with other species occurring as vagrants.

The south and west regions of the UK support the greatest species diversity of bats due to climate and landuse. The number of species declines towards the north. The most widespread and abundant species of bat is the common pipistrelle (*Pipistrellus pipistrellus*).

WHY ARE BATS OF CONSERVATION IMPORTANCE?

All bat species have shown a dramatic decline in numbers in the last fifty years. Records from Victorian naturalists reveal that they were once far more common than they are today. Currently no bat species can be considered to be "common". It is estimated that the common pipistrelle declined by 70% between 1978 and 1993 (National Bat Colony Survey).

Of the 16 species of bat which breed in the British Isles, two species are endangered. Most bat species in the British Isles evolved in forests. Today, with the woodland cover much reduced, some species still live and feed in woodlands, while others, such as the pipistrelle have taken to living in houses and other buildings. This has, inevitably, brought them into conflict with people through misunderstanding and mismanagement, although this situation has improved recently.

BATS IN THE DURHAM AREA

HOW HEALTHY ARE THE POPULATIONS OF BATS?

There are eleven species of bat known to occur in County Durham, of which eight are known to breed. The breeding species are as follows:-

1. Common Pipistrelle 45 kHz (*Pipistrellus pipistrellus*) - Status (UK) Not Threatened
2. Soprano Pipistrelle 55 kHz (*Pipistrellus pygmaeus*) - Status (UK) Not Threatened
3. Noctule bat (*Nyctalus noctula*) - Status (UK) Vulnerable
4. Daubenton's bat (*Myotis daubentonii*) - Status (UK) Not Threatened
5. Whiskered bat (*Myotis mystacinus*) - Status (UK) Vulnerable
6. Brandt's bat (*Myotis brandtii*) - Status (UK) Vulnerable
7. Natterer's bat (*Myotis natterii*) - Status (UK) Vulnerable
8. Brown long-eared bat (*Plecotus auritus*) - Status (UK) Not Threatened

Other species recorded:

Nathusius' Pipistrelle (*Pipistrellus nathusii*) - feeding sites, but no known roost - Status (UK) Rare
 Serotine bat (*Eptesicus serotinus*) - bat detector records only - Status (UK) Vulnerable
 Leisler's bat (*Nyctalus leisleri*) - bat detector records only - Status (UK) Vulnerable

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The pipistrelle is probably the most abundant and widespread species in the Durham area. Levels of knowledge concerning bats vary widely between different regions of the UK. Consequently, it is difficult to assess the relative health of Durham's bat populations. Also of relevance is the fact that the only information available about bats is comparatively recent. Bats have only been surveyed since 1981 and the first quantitative survey of bats was completed in 2000. Therefore, the data base is limited.

HOW MUCH DO WE KNOW ABOUT BATS IN THE DURHAM AREA ?

Much of what is known about bats in the Durham area comes from the work of the Durham Bat Group. Some bat species in the Durham area, as a result of loss of woodland, use artificial roost sites such as roof spaces, and crevices, in buildings and houses. Enquiries from householders with regard to bats in and around their properties are an important source of information on the bats in the DBAP area. However, species which do not often roost in buildings are not included in this information. This, together with the inherent difficulties in finding bats in woodland means that some species are under-recorded. For example, Daubenton's bats can be seen and heard feeding over many stretches of inland water but relatively few roost sites are known. Natterer's bats roosts are difficult to locate but bat detectors surveys suggest that this species may be present in a number of woodland areas. Underground sites, whether natural or man-made, are important hibernacula sites in Europe. Surveys of similar sites in the Durham area have revealed only small numbers of visible animals. Though numerous pipistrelle summer roost sites are known, many with 100-200 bats present, only two winter hibernation roosts are known. One of these has up to 100 individuals present. However a lack of information about pipistrelle roosts across the UK makes it difficult to assess this in a national context.

WHERE HAVE BATS BEEN FOUND IN THE DURHAM AREA ?

The number of bat species present together with the number of roost sites and the size of colonies, all increase in the west of the county. Good bat habitat is found in Teesdale, the Wear and Derwent Valleys. Noctule and brown long-eared bats are sometimes present in wooded denes at Castle Eden Dene and Hawthorn Dene.

Soprano pipistrelles (55 kHz) are known to occur on the Tees, Wear and Derwent but are probably more widespread. Common pipistrelles (45kHz) are found on modern housing estates and are ubiquitous throughout the whole of the DBAP area. Nathusius' pipistrelle have been recorded over the Tees at Cotharstone, near Bowes and near Whitworth on the Wear. Noctule bats are localised in the area's mature woodland, in rural areas. Brown long-eared bats are reasonably widespread, but localised. They require large undisturbed roof spaces within flying distance of suitable woods. Whiskered bats are fairly widespread,

with a big roost present in Teesdale. This species is important in County Durham as there are only a few known roosts in southern England. Brandt's bat is much rarer and the roosts in the Durham area are of national importance. Natterer's bats roost in trees and large roof spaces, where they can warm up before leaving; this is one of Durham's rarer species. Daubenton's bats are widespread along the middle reaches of all the region's rivers.

There were three records of Leisler's bats in 2000 (two of these are from Teesdale). Their nearest known breeding site is in Sheffield. Like the Serotine bat it is likely that these records refer to animals indulging in post-breeding dispersal.

BATS ARE AT RISK FROM:

Habitat loss - decreasing areas of natural habitats including deciduous woodland, hedgerows, wetlands and grasslands reduce the availability of feeding and roosting sites. Loss and drainage of wetlands as well as inappropriate riparian management leads to loss of feeding and roosting areas. This loss of foraging habitat is one of the major threats to bat populations. Undeveloped land which does not meet the standards for designation as SSSIs or SNCIs probably forms the bulk of bats' foraging areas.

Fragmentation and changes in habitat composition - as areas of natural habitat become smaller, they also become more isolated. Bats are very susceptible to habitat fragmentation; the presence of linear features and wildlife corridors such as hedgerows and former railway lines between habitats can reduce the impact of fragmentation. In the Durham area, the distribution of bats is concentrated along the mid-altitude woodland of the three main river corridors i.e. the Derwent, the Wear and the Tees. The movement of bats from one valley to another is somewhat restricted by topography and, in lowland areas, anthropogenic factors notably intensive agriculture and industry.

Disturbance - disturbance in the summer may lead to the abandonment of young. Disturbance in the winter may arouse hibernating bats and force them to use up essential food reserves too quickly, with fatal consequences.

Tree felling and tidying of dead/hollow trees - all bat species, and particularly noctules, will use hollow trees for both summer and winter roosting. Ancient woodland sites and old trees are irreplaceable and their destruction forces bats to seek more artificial roost sites, such as in the roof spaces and crevices of buildings. Each bat species has its own specific temperature requirement when roosting; the temperature of a roost site is therefore critical.

Intensification of agriculture - this has led to the loss of high-quality feeding habitat as well as a reduction in insect biomass through the widespread use of pesticides. Larger bat species, such as the noctule, prey on

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larger invertebrates, especially large beetles and moths, which are now present in considerably reduced numbers. Cattle treatments for internal parasites using anthelmintics and the use of synthetic pyrethroid sheep dips have also contributed to this reduction in invertebrate numbers.

Lack of awareness - there is a tendency for the needs of bats to be under-emphasised during the planning process.

Listed Building Consent - consent for alteration and structural works on Listed Buildings can be obtained from Government Office North East (GONE) without the need for planning permission (which would be required for non-listed buildings). There is, at present, no monitoring system for this at GONE.

Development - the loss of rear gardens to small scale housing developments results in habitat loss and reduces the structural diversity of foraging habitats for bats. Development of so-called 'brown-field' sites is likely to lead to further habitat loss for bats.

Refurbishment and demolition of man-made structures and buildings - roost sites in cellars, roof spaces and under eaves in buildings are lost through building maintenance, renovation and the installation of cavity wall insulation. It is now thought that bats may use cavity walls as hibernation roost sites. Bats have very specific roost requirements, such as bridges for Daubenton's bats- it cannot be assumed that they will relocate to another apparently suitable site if a roost site is destroyed.

Remedial timber treatment - these can be poisonous to bats. Because of their communal nature, entire roosts may be lost due to insensitive timber treatment exercises. Lindane, a chemical which was widely used in the past, has been implicated in the eradication of entire bat colonies. Treatments carried out during the 1980s are still toxic today.

Recreation - there is a potential negative impact upon bats in crevices on cliff faces from climbers.

Cavers and mine researchers - these activities disturb hibernating bats in the winter and may also have an adverse effect in the autumn when the bats are swarming.

Persecution, intolerance of, and a lack of understanding of the protection afforded to bats. Many house holders are unwilling to host a bat roost in their homes because of misunderstandings with regard to the nature of the bats themselves and their perceived impact on their surroundings, particularly with regard to noise and droppings.

Ineffective wildlife legislation and enforcement, combined with a lack of common knowledge regarding legislation.

Cat predation - a significant number of bats are killed or injured by domestic cats.

Lack of knowledge - the extent of losses to bat populations due to destruction or exclusion from roosts are hard to quantify because knowledge of roost locations is so limited. Very little is known about the locations of winter hibernation roosts.

Climate change - the UK climate is predicted to become wetter; wet summers are known to reduce the ability of bats to forage, leading to the loss of young.

BATS BENEFIT FROM:

European legislative changes - the need for DEFRA licensing for all developers prior to obtaining planning permission to include refurbishment and barn conversions.

Habitat protection - no County Durham wildlife site or SSSI has been designated for bats, but most sites will hold some bat interest. The importance of wildlife corridors and linear landscape features for navigation between foraging and roosting sites highlights the necessity of an approach to bat conservation at a landscape level. The reconnection and de-fragmentation of semi-natural habitats by means of hedgerow establishment and tree planting provides navigational features as well as enhancing the countryside in terms of conservation value.

The sensitive management of semi-natural habitats - clean water courses, meadows, mature woodland and unimproved pastures all have high foraging value for bats. Particularly important in the Durham area are the wooded valleys. Structural management of habitats is important - the presence of rides, glades and ponds in woodlands greatly enhances their value for bats and other wildlife.

Reduction of the adverse effects of agriculture - the sensitive management of habitats that are beneficial to bats such as waterside land, historic features, old meadows and pastures, upland woodlands and field boundaries through Countryside Stewardship.

Education of planners, developers, builders, building regulators and engineers with regard to the law as it applies to bats and when it is appropriate to conduct surveys during development.

Education of pest-control officers and environmental health officers - these two groups are frequently approached by the public with enquiries about bats and must be able to provide correct information.

Bat-friendly gardening techniques - by encouraging insects to gardens e.g. by growing night-scented flowers and allowing part of the lawn to remain uncultured, new and improved foraging areas can be created. Trees and shrubs provide shelter and warmth as well

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as attracting insects. The provision of ponds, rockeries and habitat piles can all benefit bats.

The responsible use of timber treatments that are less detrimental to bats e.g. permethrin and cypermethrin. These are now widely used by reputable companies.

Changing public attitudes towards bats and making information available to people who may have bats in their homes or who find injured bats.

The presentation of correct information in the media - much of the information about bats on the internet is not correct, for example that concerning vampires, Hallowe'en, bats and disease etc. There is a need for accurate information to be made easily available to the public.

Education - there is a need to educate animal welfare organisations, who frequently deal with public enquiries, about bats, their protection and what is and is not permissible.

Increased awareness and implementation of the legislation that protects bats in the UK.

Further research, survey and monitoring work into current bat populations and trends.

Planting of coniferous woodland - some bat species, notably Natterer's and brown long-eared bats, flourish in areas of coniferous woodland, such as Hamsterley Forest.

The installation of bat boxes - the most beneficial way to utilise bat boxes is to install large numbers in areas such as coniferous woodland, where the other requirements of bats are already met but roost sites are lacking.

IMPORTANT HABITATS FOR BATS:

Woodlands, including riparian woodlands
Wet woodland
Wetlands
Boundary habitats e.g. hedgerows, walls
Linear features e.g. disused railway lines
Parks and gardens
Man-made structures and buildings including bridges and tunnels
Old meadows - i.e. long established unimproved grasslands
Churches and churchyards
Caves and mines
Ice houses
Ponds

OTHER SPECIES AND HABITAT ACTION PLANS COVERING ISSUES RELEVANT TO BATS

<i>Hedgerows</i>	**
<i>The built environment</i>	*
<i>Parks and amenity grassland</i>	*
<i>Gardens and allotments</i>	*
<i>Ponds, lakes and reservoirs</i>	**
<i>Reedbeds, fen, swamp and marsh</i>	*
<i>Upland oak woods</i>	**
<i>Wet woodland</i>	*
<i>Urban habitats</i>	*
<i>Rivers and streams</i>	**

N.B. ** indicates action plan produced in 1998.

* indicates action plan produced in 2000.

*** indicates action plan produced in 2001

BATS AND THE LAW

All British bats and their roosts are given specific protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended 1985).

TARGETS FOR THE CONSERVATION OF BATS IN THE DURHAM AREA:

		DATE
Target 1	Maintain the current bat population in the Durham area.	ONGOING
Target 2	Seek to enhance bat populations in the Durham area by improving opportunities for roosting, hibernation and foraging. Target 5 key areas by 2005 and 10 by 2010.	2005 & 2010
Target 3	Maintain and extend the knowledge of bats in the DBAP area by at least maintaining the current survey and monitoring work.	ONGOING
Target 4	Raise awareness of bats and their needs, with local communities through a process of education by:	ONGOING
	• Distributing 1000 'bat awareness' leaflets	2003
	• Supporting 10 bat-themed events.	2006
	• Provision of advice regarding bats to the planning and other key sectors.	2005
Target 5	Increase the number of trained bat recorders by 10%.	2005

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BAT ACTIONS			
ACTION	DATE	POSSIBLE PARTNERS	MEETS TARGET NO.
<u>POLICY AND LEGISLATION</u>			
1. Ensure the needs of bats are taken into account in planning applications and nature conservation strategies.	ONGOING	DWT, DBG, LAs, DBAP, EN, DEFRA, RTPI	1, 2
2. Provide training for planners and developers.	2003	DBAP, DBG, LAs	1, 2
3. Raise awareness of the law with regard to bats and ensure it is enforced.	ONGOING	DWT, EN, DBG, Police Wildlife Liaison Officers	1, 2
4. Include effective measures to protect bats in local planning documents - Development Plans, Local Plans, Unitary Development Plans.	ONGOING	LAs, DWT, EN	1, 2
5. Include effective measures for site and species protection in non-statutory plans e.g. LEAPs, site management plans.	ONGOING	EA, DWT, LAs, DBG	1, 2
<u>SPECIES MANAGEMENT AND PROTECTION</u>			
6. Identify roost sites and make information available to local planning authorities.	ONGOING	DBG, DBAP, DWT	1, 2
7. Promote the use of less harmful, bat friendly timber treatments such as permethrin in building works.	ONGOING	EN, DWT, DBG	1, 2
8. Encourage people who find injured bats to contact their local bat group or Wildlife Trust for assistance.	ONGOING	DBG, DWT, Local Vet Practices	1, 2
9. Provide appropriate training for pest control officers, environmental health officers and animal welfare organisations.	2002	DBG, DBAP, DWT, LAs	1, 4
10. Establish mechanisms to link important areas for bats, such as the planting of native species hedgerows in appropriate areas.	2002	DBAP, GNF, DBG, LAs, DHP, Tees Forest, DEFRA, EN, EA, FWAG	1, 2
<u>RESEARCH AND MONITORING</u>			
11. Continue to record bat roost locations and bat numbers. Send records to the Durham Bat Group.	ONGOING	DBG, DWT, EN, LAs	3
12. Send all records to the Local Records Centre.	ONGOING	All Partners	3
<u>ADVISORY</u>			
13. Provide information and advice to the general public, land owners and managers, property developers, timber treatment companies and builders which will improve awareness of bats and relevant legislation. Liase with the Bat Conservation Trust	ONGOING	DBG, EN, DWT, DBAP, BCT	4
14. Maintain contact with police Wildlife Liaison Officers to ensure they are up to date with current legislation.	ONGOING	EN, DBG, DBAP, Police Wildlife Liaison Officer	1, 2
<u>COMMUNICATIONS AND PUBLICITY</u>			
15. Encourage public involvement in bat conservation such as roost counts and surveys.	ONGOING	DBG, LAs, DBAP	1, 2, 3, 4, 5
16. Promote the activities of the Durham Bat Group and encourage new members.	ONGOING	DBG, DWT, DWT, EN	4, 5
17. Produce information leaflets about bats.	2003	DBG, EN, EN	4, 5
18. Organise public events to raise awareness of bats and their conservation needs in order to change public perceptions.	ONGOING	DBG, DWT, LAs	4, 5