

## Current Status - UK and Local

UK Biodiversity Status: UK Priority Species

LBAP Partnership area Status: Local Priority Species

Bats are the only true flying mammals. Like us, bats are warm-blooded, give birth, and suckle their young. They are also long-lived, intelligent, and have complex social lives. Britain's smallest bats, the Pipistrelles, are recorded from all across temperate Europe and extend far into Asia. They are the most frequently recorded and most common of the nine or ten bat species that occur across Scotland. However, the National Bat Colony Survey suggests a population decline of all bat species in Britain of around 70% between 1978 and 1993.

The special roosting requirements of bats and their population decline have led to them being given special protection by law and they are listed in the Red Data Book of Mammals, which lists threatened species. Little is known of the Pipistrelles' status within the LBAP Partnership area and, therefore, nothing definite is known of local population trends over the last century.

## Ecology and Management

There are two similar species of Pipistrelle bats, the soprano Pipistrelle and the common Pipistrelle, which can be distinguished by the frequencies of their echo-location calls.

Bats require a variety of habitats in order to meet the basic needs of feeding, breeding and hibernating. They are colony-forming animals and thus rely on safe roosts to hold the colony. Studies of genetic diversity between close and distant colonies suggest that there is little movement between distant colonies. This implies that individuals and local populations are sedentary and are therefore vulnerable to roost and habitat loss. As they move to different roost sites at various times of the year, summer, autumn and winter sites are all vital.

The Pipistrelle diet consists mainly of small insects. One bat is able to consume on average 3000 midges in one night as well as other insects. They therefore require insect rich feeding habitats.

Bats are relatively long-lived for their size, with a lifespan of up to 16 years. They are not prolific breeders, with females averaging less than one young per year. This makes them highly vulnerable to anything that reduces their reproductive success in any given year.

From about May to September, females congregate in summer maternity roosts, often located close to sources of heat such as chimneys and boilers. Holding all the breeding females from an area, as wide as 14 square miles, maternity colonies average around 150 bats. While some immature males may roost with the females, most males remain solitary during the summer. Due to the mobility of colonies, a large number of suitable roosts are necessary to maintain each social group.

Young are usually born from early June to mid July, and are suckled only by their mother. They remain in the roost while the females are out hunting. The adults disperse after young are weaned at six weeks old. As the young have been raised in confined spaces they take their first flight outside in unfamiliar surroundings and disoriented young bats can end up in houses. This results in many requests for advice about bat roosts. In general, more than 50% of known roosts are in houses under 30 years old. Their affinity for houses, large colony sizes and early (pre-dark) emergence time makes pipistrelles the most commonly observed bat and the cause of most enquiries from the public.

In autumn, males establish autumn breeding harems, taking territory and making song-flights nearby. From October Pipistrelles disperse to hibernate through the winter to March. They hibernate in humid areas with cool even temperatures such as in cellars, under slates and behind bargeboards.

## Factors Causing Loss or Decline

General threats to bats in the UK include:

### ★ Loss of Roosts

Bats are particularly vulnerable to the loss of roosts as the whole breeding population for a wide area can be congregated in one roost; however, in urban areas they may have many smaller roosts. Disturbance at or in a roost either in summer or during hibernation can have severe effects and lead to abandonment of the roost, or deaths of bats. Any change in conditions or loss of access to structures such as buildings, bridges and mines can pose a major threat. Development pressure can lead to loss of suitable roost sites and habitat: old buildings are often renovated or demolished, old trees and hedges are removed and feeding sites are built upon. Old mines and caves are sometimes used for landfill or are being filled as a result of concerns over public liability.

### ★ Habitat Change and Loss

Intensive modern farming practices and inappropriate management of riverbanks have led to a reduction in insect prey quantity and fragmentation of suitable habitat. The abundance of insects in marshes or open water habitats will attract bats but pollution, land drainage and the infilling of ponds have caused a significant loss of such habitats. Important source of insects include linear routes that follow hedgerows, woods along riverbanks and tree lines. They also act as travel routes to other feeding areas such as woodlands and old grasslands. These features are all in decline. Field sizes have increased and these relatively barren areas have now fragmented the remaining small patches of good habitat.

### ★ Pesticides

Herbicides are widespread and in removing 'weeds' they reduce plant diversity and subsequently the range of insect prey. Timber treatment chemicals, such as Lindane (now banned), have led to the loss of entire colonies of bats and remain as a residual toxic hazard for years afterwards. Safer chemicals now exist and information can be obtained from Scottish Natural Heritage (SNH) and the Bat Conservation Trust (BCT).

### ★ Climate

Climate can seriously affect both wintering bats and foraging breeding females. A long cold winter will reduce fat reserves and threaten survival. However, a cold, windy and wet spring can pose an even greater threat by sapping the post-winter energy reserves. Bats are not able to replenish their food reserves as these conditions make it hard to fly and the availability of insects is greatly reduced.



Inverclyde  
Renfrewshire  
East Renfrewshire  
LBAP



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COMMON  
PIPISTRELLE BAT (*Pipistrellus pipistrellus* (45 kHz))

SOPRANO  
PIPISTRELLE BAT (*Pipistrellus pygmaeus* (55 kHz))

The pipistrelles are Britain's smallest bats. They vary in colour, but are usually medium to dark brown on the back and only slightly paler underneath. They are the most common species in towns.

Head and body length 35 - 45mm, Forearm length 28 - 35mm, Wingspan 190 - 250mm, Weight 3 - 8g, Colour Medium to dark brown

## ★ Predators and Disease

Loss through predation has been estimated as up to 11%. The main predators for bats are cats. Disease and parasites are not considered to be predominant factors.

## Opportunities and Current Action

All bats and their roosts are protected by law under the Wildlife and Countryside Act 1981 and by the Conservation (Natural Habitats, &c.) Regulations 1994. It is an offence to:

- ★ Intentionally or deliberately kill, injure, or capture (take) a bat
- ★ Deliberately disturb a bat (whether in a roost or not)
- ★ Damage, destroy or obstruct access to a bat roost.

Although this protection states that it is an offence to disturb bats and their roosts, it does not entirely preclude disturbance or alteration at all times. It does mean however that anyone proposing such an activity (e.g. maintenance work on a roof), must first seek the advice of SNH on whether or not the proposed activity should proceed and, if so, how and when. SNH can then advise on the best time to carry out the work and the most appropriate method for doing so. As bats return to the same places every year a bat roost is protected even if there are no bats there. For more details on this please refer to the Bats and People booklet published and available from SNH.

In addition, the presence of a protected species, such as pipistrelle, is a material consideration where a planning authority is considering a development proposal that can potentially cause significant impact to the species (NPPG14 Natural Heritage).

Current national initiatives include:

- ★ Roost count and foraging monitoring for the National Bat Monitoring Programme and National Bat Colony Survey
- ★ The National Bats and Habitats Survey
- ★ Provision of published guidance leaflets and advice from BCT, SNH etc on bats and their roosts
- ★ Ongoing research into the ecology of the 2 species at various University centres
- ★ Research into the prevalence of rabies in bats by SNH and the Scottish Executive
- ★ Study of heated bat boxes as a possible management

tool for 'relocating' excluded bat colonies (any species) (joint SNCO, MTUK and Aberdeen University Project)

Local Initiatives include:

- ★ A network facility to support injured bats, which includes local bat group members and Hessilhead Wildlife Centre
- ★ Educational work via schools and events
- ★ The Clyde Bat Group, which covers the LBAP area, monitors local roosts, collects records, promotes and carries out research, and runs bat box schemes
- ★ Raising awareness, within the appropriate departments of the Local Authorities, on the law and requirements regarding bats (i.e. distribution of SNH booklet)

## Action Plan

The main aim is to maintain and enhance the current population and range of Pipistrelle bats in the LBAP Partnership area.



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## Objectives and Targets

Objective 1	Establish baseline status (abundance & distribution) of Pipistrelles in LBAP area
Objective 2	Maintain and enhance the current populations and range of Pipistrelles in LBAP area
Objective 3	Maintain and enhance key Pipistrelle habitats
Objective 4	Establish population trends
Objective 5	Promote awareness and positive perception of bats by relevant stakeholders and the general public
Objective 6	Review this plan on an annual basis, beginning in 2004

## We will achieve these objectives by:

Action	Actioned by	Timescale
Recording known and reported maternity and hibernacula roost sites in the area.	Local Bat Groups, SNH	2004-05
Ensuring no net loss of species numbers or range.	SNH, LAs	2004-07
Developing policies that promote management practices that protect, enhance and restore habitat suitable for bats, including features used by insects in fresh water habitats, woodlands and pastures.	SNH LAs	2004-07
Monitoring population trends.	SNH Local Records Centre	Ongoing
Supporting educational and local community initiatives that increase the positive perception of bats.	LAs, SNH	2004-07
Monitoring and recording actions towards these objectives.	LBAP Officer Local records centre	2004-07

## Links with Other Action Plans

Broadleaved & Mixed Woodland, Rivers & Streams, Standing Open Water, Mires, Unimproved Grasslands.

Further Information can be obtained from The Biodiversity Officer 0141 842 5281