

Batty About Bats!



Horace the Horseshoe Bat

What is a bat?

Just like us, bats are mammals. They have hair and fur on their bodies, are warm blooded and suckle their young.

Where in the world do bats live?

All over the world! They live on all continents except Antarctica, ranging from the tiny 3cm bumblebee bat found in Thailand to the 'flying fox' fruit bats found in the tropics with 1.7m wingspans!

Which bats do we have in the UK?

We have 17 species in the UK: from the tiny common pipistrelle to the noctule bat which is as large as your hand!



Will bats get stuck in my hair?

No! Bats are very accurate fliers and will normally try and keep away from humans.

Where do bats live?

When they are not flying around foraging, bats roost in trees, caves, mines, bridges barns and houses. You might even have bats under your roof tiles or bargeboards!

What do bats eat?

All bats in the UK eat flying insects like moths, beetles, midges and mosquitoes. A common pipistrelle can eat 3000 midges a night! Some bats in other parts of the world eat fruit, flowers, fish, frogs and even cow blood!

How do bats hunt in the dark?

Bats have good eyesight however at night they use their ears and locate food through echolocation. This is a bit like sonar and works by bouncing sound waves from high-pitched squeaks off their surroundings..

Bats in Bath



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Which species of bat are found in Bath?

Surveys carried out by conservation groups like the Avon Bat Group and records sent in by the public tell us that we have colonies of 12 species of bats in Bath! These are:

- **Common pipistrelle** – Our smallest and commonest species
- **Soprano pipistrelle** – Pipistrelle bats roost commonly in houses
- **Nathusius' pipistrelle** – These bats can migrate long distances in autumn
- **Noctule** – Our biggest bat – see them flying high over fields
- **Leisler's bat** – A rare species, similar to the noctule and which roost in trees
- **Serotine** – Another big bat with a wingspan up to 30cm!
- **Daubenton's bat** – The 'water bat' which can hunt for insects just above the water's surface
- **Natterer's bat** – Can scoop insects up with their tail!
- **Whiskered** – DNA studies have found that this may actually be a group of several species
- **Brown long-eared** – Its ears are almost as long as its body! Good for sneaking up on moths.



Roosting lesser horseshoe bats

Bath is also lucky enough to be home to important colonies of the rare and endangered **greater horseshoe bat** and **lesser horseshoe bat**. These bats are only found in SW Britain and depend on cattle-grazed pasture fields where they can hunt for their favourite food – dung beetles! Horseshoe bats are amazing fliers – they are true acro-bats!

Studies show that all UK bat species are in decline due to roost loss, development, habitat degradation and changes in farming practises leading to insects being less abundant. All bat roosts are protected under UK and EU law to help combat this. Bats need your help more than ever **so why not make a bat box with us today?**



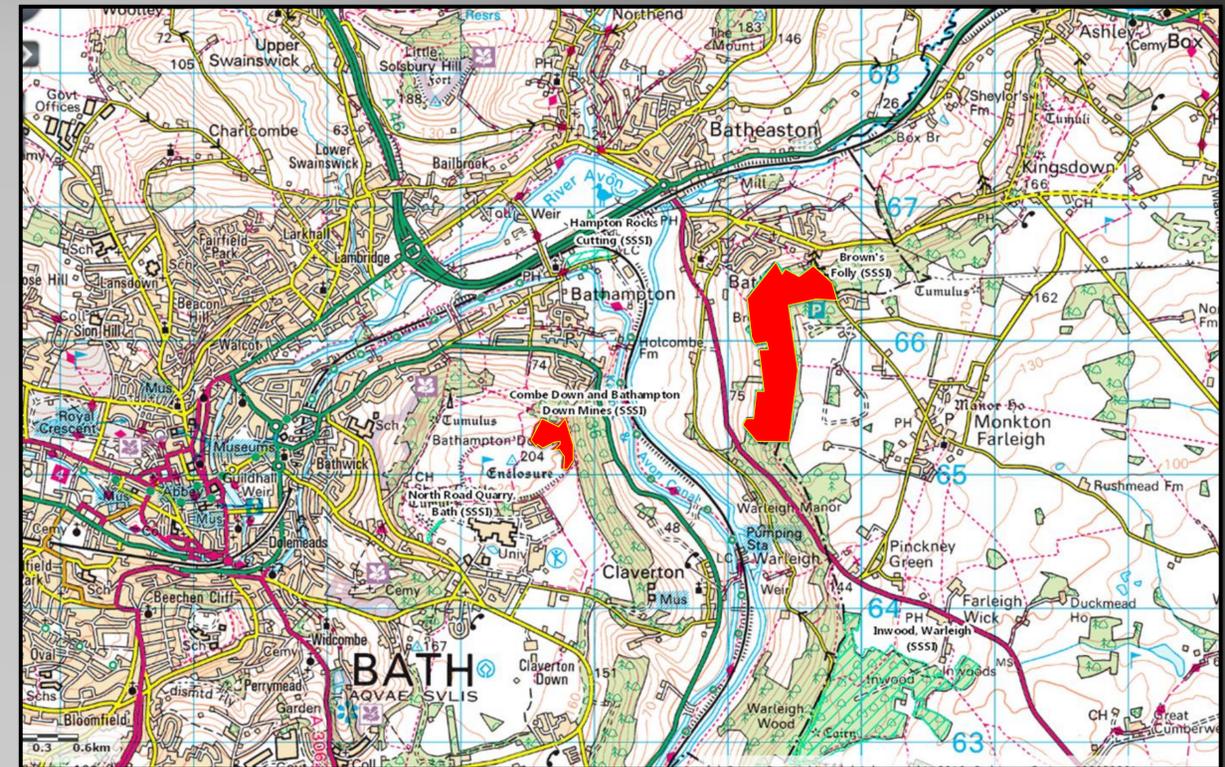
Greater horseshoe bat



Mother lesser horseshoe bat with pup



Brown long-eared bat roosting



Why is Bath So Important For Bats?

Bath has a unique mix of **old buildings** with **underground cavities**, **leafy parks**, the **river Avon** and easy access to countryside. It also has a diverse industrial heritage in the form of **mining**, **quarrying** and tunnelling into the surrounding limestone hills.

This network of disused underground mines includes **Combe Down and Bathampton Down Mines** (shown in red on the map above). These mines provide the perfect habitat for hibernating and breeding horseshoe bats along with several other species including brown long-eared bats. **The mines provide a cool, dark, undisturbed environment for bats to hibernate in over the winter.**

The countryside around and within Bath provides good foraging habitat in the form of **cattle grazed pasture** and **mature hedgerows** which attract the insects they feed upon.

This all means bats have managed to remain in Bath while the city has developed over the centuries, living **underground**, **in trees** or **in our houses** sometimes without us ever knowing.



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The River Avon Horseshoe Bats Study

What are we doing?

The river Avon in Bath is changing... Over the next few years, the development of the Bath City Riverside Enterprise Area will see **regeneration of derelict and industrial land** located alongside the river Avon in order to create jobs and to provide homes in areas of the city which have declined over time.

As all bats are **declining** in population, they are **protected** under UK and EU law. This means Bath and North East Somerset Council must consider **the impact of development** on protected species whenever planning applications are passed. So that B&NES and developers have the right information to base their designs and decisions on, Clarkson and Woods were asked to conduct a **long-term study** of the pattern of bat activity up and down the Bath Avon in 2016.

So, we have been carrying out detailed night-time surveys every month between **April and October** using five ecologists walking their own section of the Avon towpath. We have also set out remote bat detectors to monitor for bat activity. We have been using five types of **bat detectors** to make sure we don't miss a single bat and analysing all the recorded calls to build up a picture of **which** bat species are found **where, when** and in what kind of numbers...



The Results So Far...

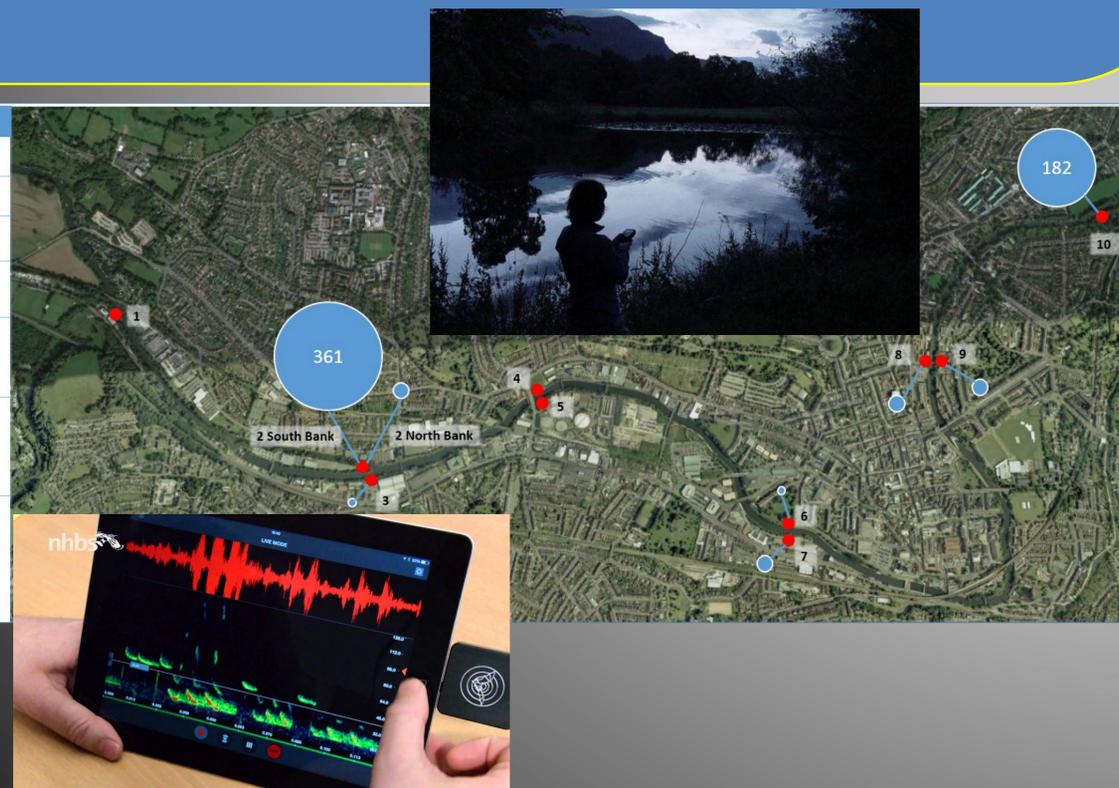
It's early days but we have already followed greater and lesser horseshoe bats using the river Avon corridor, particularly in the darkest parts with little lighting and plenty of tree cover. These species are not tolerant of high light levels so maintaining darkness at night will be crucial for planning 'bat-friendly routes' past developments.

As horseshoe bats have relatively weak echolocation they tend to follow linear features such as hedgerows, tree lines and the edge of rivers. This is why we need to plan to connect up areas of bat habitat (such as fields, gardens, parks, mines and farms) with 'green infrastructure' to allow them and other wildlife to move between our green spaces.

Other bats we have recorded in good numbers over the river so far include common and soprano pipistrelles, Daubenton's bats which roost under bridges, noctule and serotine bats.

We believe the Avon is a key route through the city for bats which helps their navigation. It also hosts abundant insect life on which they feed.

Number Lesser Horseshoe Passes	
•	1 - 10
•	11 - 30
•	31 - 50
•	51 - 100
•	101 - 150
•	150 - 200
•	200+

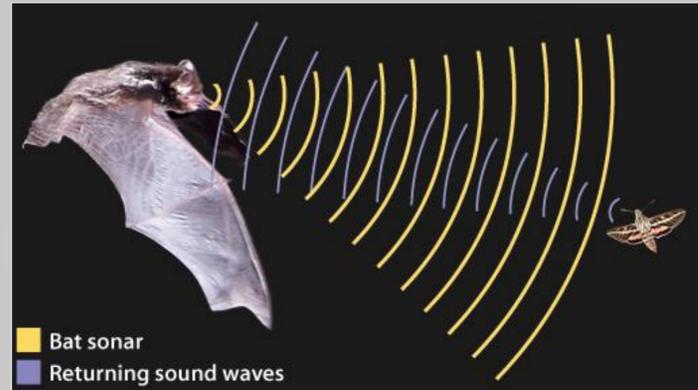




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What do bats eat?

Bats have big appetites because flying uses up a lot of energy. The tiny common pipistrelle can eat over 3000 insects in one night!



All British bats eat insects. Particularly moths, midges and mosquitoes. Each species has its favourite insects, hunting them in its own special way.

Some (like noctules and the greater horseshoe) chase moths and beetles, others glean insects from leaves and trees (long-eared bats), others eat midges and mosquitoes on-the-wing without stopping (pipistrelles) while others (horseshoes) take big items and shell their prey like a prawn whilst hanging in a roost!

The way we garden and farm affects insects and the bats that feed on them. What is good for insects is always good for bats. Organic farming reduces the use of pesticides and chemicals; leaving an unmown 'rough patch' in your garden encourages insects and planting trees and hedgerows in towns helps animals spread out.

Learn more about bat-friendly gardening at our stand today.

Young bats are nourished on a diet of milk for the first two or three months of their life.

Some bats can even catch prey in their tails and then bat it into their mouths!



Do you dare to eat like a bat?
Try one of our delicious insects!





The Greater Horseshoe Bat Year

Spring/Summer



Young are born

Pregnancy begins in spring upon awaking from hibernation. Maternity colonies move to summer roost sites. Only females look after young. Usually just one pup is born at a time.

Summer /Autumn



Transition

Bats explore feeding sites in open habitats. Young bats are weaned and begin to take to the wing independently. Farm buildings and derelict buildings are investigated as potential hibernation or mating sites.

Winter /Spring



Hibernation

Bats lower their body temperatures and enter a sleep like state called 'torpor' to save energy. May still emerge to feed during nights of mild weather. Hibernation sites tend to be damp with cool, stable temperatures.

Autumn/Winter



Mating

Adults begin to increase fat reserves before hibernation. Numbers of bats increase at mating sites.

Gardening for Bats

There is plenty you can do to make your garden bat-friendly.
A small garden can still be useful as a pit-stop for bats
passing through!

Let your grass grow
longer.



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Build a pond – any size!



Have an open compost heap



Keep cats indoors at night



Plant insect-attracting flowers



Plant a native tree
(or espalier fruit trees/climbers in
a small garden)



Turn off garden lighting



Don't use pesticides



Such as:

Honeysuckle

Ivy

Borage

Evening Primrose

Lobelia

Campion

Mint

Marjoram

Lavender

Chives

Cornflower

Foxgloves

Fennel

