

# Bats at Coombe Bissett Down

*Coombe Bissett Down SSSI is well known for its botanical and invertebrate importance, but it is also important for bats! Not only do some of our commonest species live here, but some of our rarest species too. Bring a bat detector one evening and listen out at dusk.*

## Flight, feeding & identifying bats

All bats in the UK eat insects; some bats specialise on particular groups of insects, such as greater horseshoe bats favouring the dung beetles, and pipistrelle bats favouring small flies such as midges. Bats hunt their food using echolocation. Bats produce sound waves, often by "shouting", which bounce off objects and return to the bat, heard by the bat as echoes. Repeated quickly, these echoes provide information on the bat's surroundings enabling them to navigate in the dark, and to pursue and catch their insect prey. Some bat species use their sensitive hearing to listen for insect movement – this avoids the need to produce loud echolocation calls that some insects can hear and thereby can take evasive action to avoid hunting bats. Some bats, such as long-eared bats, echolocate very quietly but their large ears still allow them to hear their own echolocation.

## Using bat detectors

A bat's echolocation is mostly beyond the hearing range of humans (although children may hear some calls made by bats) and so we must use bat detectors to convert the high frequency sounds into sounds within our hearing range. A basic, hand-held bat detector (or heterodyne detector) will allow us to eavesdrop upon echolocating bats. Bats may produce calls characteristic of their species, flight behaviour and habitat, which can allow us to identify their calls. Using heterodyne detectors, we can listen in the field to bats, or with a recording device, record their calls to analyse them on a computer.

Heterodyne detectors are small, relatively cheap to buy, and easy to use, allowing us to eavesdrop on foraging bats and gain insights into their world. By tuning them to the strongest part of a bat's call, we can estimate their "peak frequency", useful information to determine which species can be heard.



Click the  
bat's name  
to hear what  
they often  
sound like!



## Common pipistrelle & Soprano pipistrelle

These species are perhaps our most abundant and widely spread species in the UK, and in Wiltshire. Watch them at sunset, leaving the nearby village of Coombe Bissett to forage along the hedgerows and over the downland. These are amongst our smallest bats in the UK, each one weighing about 5g (about the weight of the 20p coin) and yet together, they eat thousands of mosquitoes and midges each night.



Tune your bat detector to 50kHz and then tune upwards or downwards to hear where the echolocation sounds clearest; Soprano pips' peak frequency is 55kHz and common pips' peak frequency is 45kHz.

*Common pipistrelle © Daniel Hargreaves*



## Serotine bat & Noctule bat

Two of our largest bat species in the UK, these are fast and dynamic bats, with loud echolocation calls, that hawk on insects. Noctule bats can be seen flying high over the reserve, whilst Serotine bats use the shelter of the hedgerows in the bottom of the valley. Noctule bats mostly breed in small groups in holes in trees, whilst Serotines breed in larger groups in buildings such as houses and churches.



Noctules have a very loud echolocation when heard on a detector, peaking at 18-22kHz, repeatedly very slowly, like someone clapping. Serotine bats have a faster but equally loud echolocation, peaking at about 30kHz.

*Noctule bat © Daniel Hargreaves*



## Greater horseshoe bat

Another of the UK's largest bats, the greater horseshoe is very rare, and restricted to south-west England. The discovery of this species using the reserve is very exciting and is probably related to the livestock grazing the reserve – greater horseshoe bats like to forage on the dung beetles associated with grazing animals. They are named after the horseshoe-shaped nose-leaf.



Listen for them at 84kHz sounding exotic, warbling a bit like the Soup Dragon from the Clangers!

*Photograph © Daniel Hargreaves*

## Barbastelle bat

Their name means “starry beard” which references their pale-tipped black fur, which lends them a frosted appearance. The Barbastelle is a celebrity in the bat world, difficult to study and poorly understood, but everyone's favourite! Typically roosting in woodlands, they forage over greater distances each night than other bat species, specialising on small moth and flies.

They fly fast and often echolocate quietly as they target small moths. Listen for them at 33kHz, sounding quiet and like rapidly rattled castanets!

*Photograph © Daniel Hargreaves*



### **Acknowledgements**

With thanks to Bat Conservation Trust for supporting this factsheet with their sound recordings. Further information on bats can be found on their website; [www.bats.org.uk](http://www.bats.org.uk). Thank you to the sound recordists Philip Briggs (Soprano pipistrelle) Jules Agate (Barbastelle, common pipistrelle, Noctule bat, Serotine bat) and Darren Maynard (greater horseshoe bat). More information on using bat detectors to identify bats can be found here: [www.bats.org.uk/about-bats/bat-detectors-1](http://www.bats.org.uk/about-bats/bat-detectors-1)

Bats surveys were undertaken of the reserve in 2019 by Gareth Harris, Wiltshire Bat Group, generating the data under-pinning this factsheet. This leaflet was produced in partnership with Wiltshire Bat Group.

Image credits: Daniel Hargreaves

Further information about bats and other mammals in Wiltshire can be found on the Wiltshire Mammal Portal <https://wiltshiremammals.wordpress.com/> and in the recently-published [Mammals in Wiltshire \(2<sup>nd</sup> Edition\)](#)