

Barbastelle

Barbastella barbastellus



© Hugh Clarke

The Barbastelle is one of the UK's rarest bats. It is a medium-sized with a distinctive pug-shaped nose, broad ears joined across its head and silky, long blackish-brown fur with white tips.

In Great Britain, the Barbastelle is listed as Vulnerable. The first official GB Red List for British Mammals based on the IUCN* criteria, produced by the Mammal Society for Natural England, Natural Resources Wales, NatureScot and the Joint Nature Conservation Committee in 2018, shows that four of the 11 mammal species native to Britain classified as being at imminent risk of extinction are bats. One of these bats is the Barbastelle.

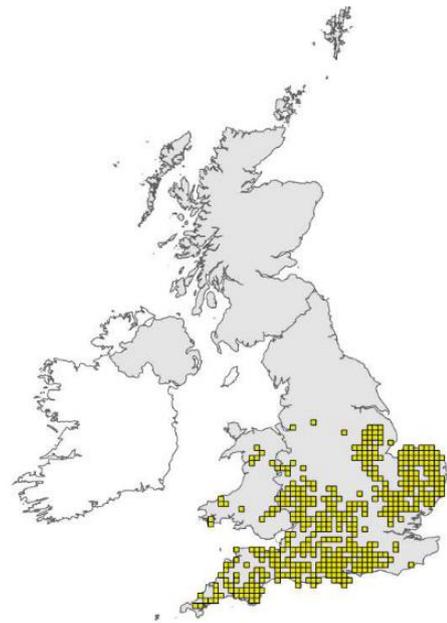
Distribution

Its distribution in the UK is scattered across the southern half of Britain.

Protection under the law

All bats in Britain and their roosts are protected by domestic and international legislation.

*International Union for Conservation of Nature



Barbastelle distribution in the United Kingdom

(Map taken from 4th Report under Article 17 on implementation of the Habitats Directive in the UK, JNCC 2019)

Barbastelle bat is protected by the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended). It is also listed under Annexes II and IV of the European Habitats Directive making it a European Protected Species. It is illegal to take, injure or kill a bat or disturb it in its roost, whether in trees or other structures. It is illegal to damage or destroy a roost even if the bats are not occupying the roost at the time. If work on trees or woodlands cannot be avoided, appropriate bat surveys should be undertaken before any work starts, to assess whether bats could be present and the potential risk to them from any tree/woodland work.



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Lifecycle

As temperatures rise in the spring bats become active. Female bats will start to gather in their maternity roosts in May. Maternity roosts, where the young are born, are relatively small, in most cases in the UK with less than 20 females. The young are born around July when a single pup is produced. Juvenile bats

can fly and forage for themselves by six weeks old. During the maternity period, males tend to live a solitary existence. Mating takes place in the autumn and the hibernation period starts during the cold winter months when the temperature drops. They can live into their early twenties although the average life span is less than this.

Habitat

Barbastelles tend to forage over a wide area, with a typical nightly foraging radius of 7km. They are fast, agile flyers and specialist foragers in a range of habitats. They consume mainly small moths, but also flies and beetles.

Upon emergence, they often feed within the woodland in which their roost tree is located until light levels fall. At this stage, they fly beyond the woodland to the wider countryside to forage in more open habitats like wood pasture, parklands, wetlands, over herb-rich meadows and alongside hedgerows and tree lines. They follow features in the landscape such as vegetated waterways or hedgerows to reach their foraging grounds. They will also forage in riparian vegetation, unimproved grassland, marsh and coastal grassland, while habitat features such as field margins are also important where they support high moth numbers. In poor weather, they will forage for longer in woodland interiors.

Barbastelles are crevice dwelling bats that predominantly roost in trees and are associated

with woodland that has a high proportion of standing deadwood or trees that are damaged or over-matured providing the cracks and crevices they prefer to use as roosts. The roosts are predominantly found behind loose bark (with oak trees favoured) or in splits and rot cavities of any tree species. They will occasionally use buildings where wooden parts of the structure replicate these roosting requirements.

Reasons for decline

Barbastelle populations can be hard to monitor and only relatively recently has detailed research work been carried out. This means we have no reliable evidence for the reasons for decline. However, it is likely that the loss of deciduous woodland and woodland and tree management that removed dead, dying, or damaged trees are a factor. Loss or fragmentation (for example through light pollution) of linear commuting routes such as hedgerows are likely to have had an impact. Reduction in prey species due to pesticide use and water quality issues would also be likely factors.



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Habitat management for Barbastelle

The conservation of Barbastelle requires consideration of both the woodland surrounding tree roosts and the wider landscape. *Woodland* – woodland management should seek to encourage characteristics of ancient or semi-natural broadleaved woodland with high numbers of mature and over-mature trees, particularly if the woodland is within a known roost area. It should also retain standing deadwood, canopy cover,

dense understorey and areas of minimum intervention especially in proximity to roost trees, streams or other water bodies. Oak trees are of particular value, providing thick plates of defoliating bark. However, such features are often short-lived, so a number of trees of varying ages and states of decay are required for the long-term provision of potential roosts within a woodland block.



Wood pasture – within a wood pasture environment, mature and veteran trees should be left alone to age and decline naturally so they continue to provide a range of potential roost features. Other trees should be allowed to mature and develop old-growth naturally. Tree surgery on trees found in wood pastures should be a last resort i.e. to reduce the collapse of a tree or to reduce the weight of the crown. If possible consider other methods like erecting fencing around the tree to protect the public from any falling branches. If work cannot be avoided, appropriate bat surveys should be undertaken by a professional ecologist.

Beyond the woodland, general advice – management should focus on promoting moth-rich foraging habitats within a range of 7km but the nearer the roost woodland the better. This will support the bats in accessing those habitats quickly and easily.

Wildflower-rich meadows and other unimproved grasslands should be maintained or restored.

Arable margins – Consider expanding unsprayed field margins and minimising the use of pesticides. These can enhance the productivity of moths.

Hedgerows – maintain a network of tall, bushy hedgerows. These are important for feeding and for providing cover as the bats head out from their roost woodland.

Other types of habitats - increase the availability and quality of wetland habitats, including ponds, streams, marshes and reedbeds. Increase riparian habitat alongside rivers and streams with native shrubs and broadleaved trees. These will be commuting corridors and foraging grounds. Landscape connectivity is of importance to Barbastelles; to commute to key foraging sites Barbastelles will make use of sheltered flight lines like shaded tracks, woodland edges, bushy hedgerows, and tree-lined watercourses.

A lot of what is recommended for the Barbastelle will also be beneficial to many other UK bat species, especially those that share similar ecological requirements.



Survey method

Barbastelle can be surveyed in the field using bat detectors to hear and record their echolocation calls, which are quite distinctive. This is best achieved using a static detector which will record the bat calls overnight. Placing these in woodlands, along woodland rides or linear features achieves the best results. Recorded calls can be analysed later on using sound analysis software.

The Back from the Brink Ancients of the Future project is led by Buglife in partnership with Plantlife and the Bat Conservation Trust.

