

Back from the Brink – Species summary

Barbastelle Bat

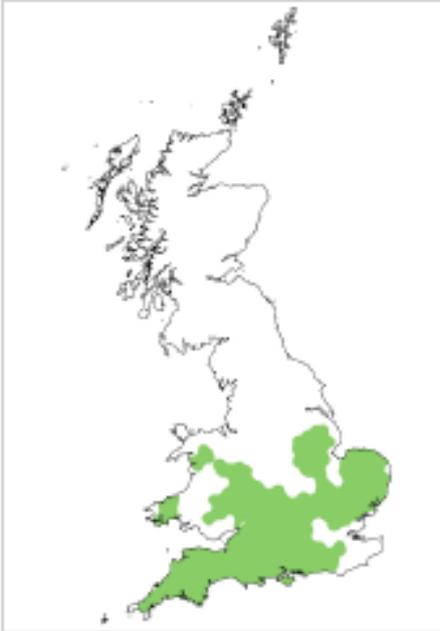
BftB project: IPO6 Roots of Rockingham

Project lead organisation: Butterfly Conservation

Contact: info@butterfly-conservation.org

Partner organisation for species: Bat Conservation Trust

Species name – common & scientific	Barbastelle bat (<i>Barbastella barbastellus</i>)
Photograph	 <p>© Hugh Clark, BCT / Back from the Brink</p>
Taxon group	CHIROPTERA
Conservation status	IUCN Red List (GB: VU; England: [VU]; Scotland: n/a; Wales: [VU]; Global: NT.). National Conservation Status (Article 17 overall assessment 2013. Annex II and IV; UK: Unknown England: Unknown; Scotland: n/a; Wales: Unknown).
UK distribution	Taken from A Review of the Population and Conservation Status of British Mammals: Technical Summary. MATHEWS, F., KUBASIEWICZ, L. M., GURNELL, J., HARROWER, C., MCDONALD, R. A. & SHORE, R. F. 2018. A review of the population and conservation status of British Mammals. A report by The Mammal Society under contract to Natural England, Natural Resources Wales and Scottish Natural Heritage.

	<p>Speotoc' distribution</p>  <p>Figure 10.16a Current range of the barbastelle bat in Britain. Range is based on presence data collected between 1995 and 2016. Areas that contain very isolated records may not have been included in the area of distribution — see Methods, Section 2.5, for more details.</p>
<p>Habitat associations</p>	<p>Dependent on broadleaved woodland. Favours high forest, veteran trees, dead wood, wood-pasture, parkland, closed canopy wet woodland. The bats form maternity colonies and hibernate in tree crevices and cavities, e.g. behind lifted bark. These sites are often in dark, humid areas (e.g. wet woodland and areas with dense shrub layer). The bat forages over large areas, sometimes flying long distances to feed in woodlands, wood-pasture, parklands, over herb-rich meadows and wetlands and alongside hedgerows and tree lines. It has a typical nightly foraging radius of 6km.</p>
<p>BftB work carried out:</p>	
<p>Survey & Monitoring</p>	<p>A woodland transect survey (focused on Barbastelle) following the NBMP Woodland Survey methodology was carried out at 10 primary and secondary sites from 2018 to 2020.</p> <p>Acoustic surveys were carried out at 11 primary and secondary woodland sites from 2018 – 2020, using AudioMoths and along 2 sites with interconnecting hedgerows. Some sites have never been surveyed, so these surveys have given the project a better understanding of Barbastelle distribution in the Rockingham Forest area. Two primary sites were also monitored using acoustic surveys (SM2) to look at impact of ride widening work on project bat species.</p> <p>In total 22 different sites were monitored by volunteers - 17 woodland sites (primary and secondary) and 5 woodland edge/hedgerow surveys. Trapping was carried out by Cambridgeshire Bat Group at 2 primary sites to ground truth the data collected by the project. They also monitor bat boxes at one of the primary sites.</p>

<p>Site habitat management works</p>	<p>Further enhancements were installed during summer 2020 in ten air raid shelters at one site to provide additional crevices and gaps for bats like barbastelle to hibernate in. Improvements to one air raid shelter were also carried out by the landowner at a second site in 2021.</p> <p>Veteranisation techniques were trialled at Fineshade Wood within a minimum intervention area - a method where habitats and features (such as woodpecker holes, lightning strike features) that develop on ancient and veteran trees are created on young healthy trees (to give them a better chance of surviving) with handheld tools – so using tools instead of time. Work on 9 young trees (oak & beech) was carried out during winter 2020 and will be monitored by FE staff to see how the trees develop over time and by the local bat group with support from BCT, to see if the features are used by bats over time.</p> <p>Pinch points and scalloped edges were included in ride widening work carried out in Old Sulehay Wood, Southwick Wood (FE) and Castor Hanglands NNR, providing shelter for invertebrates, and therefore a potential foraging area for bats</p>
<p>Technical advice provision</p>	<p>Summary reports were produced for each site surveyed, together with habitat recommendations and links to further information including BCT Advice sheets and the Woodland Wildlife Toolkit. Advice provided on conversion of air raid shelters to bat hibernacula. Section on managing woodland for bats was included in each of the three landowner workshops and in the video ‘Managing woodlands for nature’ available on YouTube.</p>
<p>Links made with other taxa / conservation work?</p>	<p>Veteranisation trial will benefit other taxa including birds, fungi and a variety of invertebrates. Creation of scallops provides additional habitat for Lepidoptera, including Chequered Skipper, Dingy Skipper and Grizzled Skipper as well as a variety of invertebrates and the species that feed on them.</p>
<p>Wider engagement & advocacy activities?</p>	<p>Guided bat walks, bat & moth nights, children’s activities and family engagement events focused on bats, creative writing workshop focused on project bat species, species mentioned in talks</p>
<p>BftB results obtained:</p>	
<p>Recorded Distribution (in BftB focal areas)</p>	<p>Yes – for sites surveyed. Barbastelle recorded in 16 (of 17) woodlands surveyed and 5 (of 5) woodland edges/hedgerows surveyed.</p>
<p>Recorded Abundance of species populations</p>	<p>N/A It is not possible to estimate absolute bat abundance from acoustic data, as individual animals cannot be identified</p>
<p>Other results documented?</p>	<p>Monitoring of impact of ride widening work on Barbastelle via acoustic surveys ‘before’ and ‘after’ work carried out. Barbastelle activity appeared to marginally increase after work carried out, but longer term monitoring and data sets would be needed to fully evaluate any impact.</p>
<p>Species Recovery Curve progress made</p>	<p>Species recovery curve moved from 4 to 6. Recovery solutions being trialled across some sites including tree veteranisation and improvements to air raid shelters to increase availability of roost sites and scalloping to improve foraging habitat.</p>

<p>Recommendations for future work:-</p>	<p>Converted air raid shelters should be monitored by bat volunteers using the NBMP hibernation survey methodology.</p> <p>Pinch points and scallops should continue to be incorporated into forestry operations where rides are being widened.</p> <p>Veteranisation techniques trialled at Fineshade. Results won't be immediate, but monitoring should be carried out by FE and the local bat group long term with support from BCT.</p> <p>Monitoring of the two sites where before and after data was collected on impact of ride widening could be continued or repeated in a several years' time to look at effect of the work over a longer period of time.</p>
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Barbastelle Bat

BftB project: IP02 Ancients of the Future

Project lead organisation: Buglife

Contact: info@buglife.org.uk

Partner organisation for species: Bat Conservation Trust

Species name – common & scientific	Barbastelle bat (<i>Barbastella barbastellus</i>)
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Taxon group	Mammals - CHIROPTERA
Conservation status	IUCN Red List (GB: VU; England: [VU]; Scotland: n/a; Wales: [VU]; Global: NT.). National Conservation Status (Article 17 overall assessment 2013. Annex II and IV; UK: Unknown England: Unknown; Scotland: n/a; Wales: Unknown).
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	<p style="text-align: center;">Speotec' distribution</p>  <p style="text-align: center;"><small>Figure 10.16a Current range of the barbastelle bat in Britain. Range is based on presence data collected between 1995 and 2016. Areas that contain very isolated records may not have been included in the area of distribution — see Methods, Section 2.5, for more details.</small></p>
<p>Habitat associations</p>	<p>Dependent on broadleaved woodland. Favours high forest, veteran trees, deadwood, wood-pasture, parkland, closed canopy wet woodland. Forms maternity colonies and hibernates in tree crevices and cavities, e.g. behind lifted bark. These sites are often in dark, humid areas (e.g. wet woodland and areas with dense shrub layer). The bat forages over large areas, sometimes flying long distances to feed in woodlands, wood-pasture, parklands, over herb-rich meadows and wetlands and alongside hedgerows and tree lines. It has a typical nightly foraging radius of 7km.</p>
<p>BftB work carried out:</p>	
<p>Survey & Monitoring</p>	<p>Passive acoustic surveys of nine primary sites were carried out during the project, from 2019 – 2021 using AudioMoths that were deployed by volunteers. Primary sites were Knepp Estate (Repton Park), Hookland Farm (Knepp), Kemerton Estate, Lanydrock, Ethy Wood and Orchard, Dixon Wood, Brendon Hill NNR, Moccas Park and Savernake Forest.</p> <p>Barbastelle activity was detected at all the nine sites surveyed. A high level of activity was recorded at Moccas Park, indicating the survey point was near a roost tree, most likely one of the ancient trees nearby. Lots of activity was also detected near Lawn Pond. In addition, a decent number of barbastelle passes were consistently detected at Dixon Wood across several of the survey points selected. Low activity was detected at Ethy Wood, Ethy Orchard and Kemerton Estate Orchard. Only a handful of passes were detected at these sites.</p> <p>Also, a radiotracking survey was carried out during 2019 at Savernake Forest, to locate tree roosts and learn more about the bat foraging habits near wood pasture restoration work carried out by the Savernake Forest team. The survey successfully tagged a suitable female barbastelle and identified a 2nd barbastelle maternity colony and three new tree roosts - all mature oak trees. The work was carried out by the Wiltshire Bat Group.</p>

Sites habitat management works	<p>Nothing directly has been identified or trialled for the barbastelle with regards to habitat management works. However, veteranisation techniques (woodpecker holes, splits, cracks) trialled for invertebrates, may in the long term also benefit barbastelle bats, who have a preference for some of the features that will develop over time. Pollarding and haloing work on young field maples at Knepp and pollarding of young oaks at Moccas Park for other target species will extend the life of the tree, potentially producing future mature trees that will support potential roost features that may be used by barbastelles. Habitat work (planting specimen nectar-source shrubs such as hawthorn, with the crate-like guards in Repton Park and along the River Andur river corridor) carried out at Knepp Estate will also benefit the barbastelle by improving foraging resources and will provide safe cover long term. Planting of nectar-rich shrubs will lead to greater insect diversity at Moccas Park and will provide an important foraging resource for barbastelle.</p>
Technical advice provision	<p>Survey summary reports for each site surveyed, together with habitat recommendations was provided to each site owner. Cross taxa advice, workshops and guidance provided further advice.</p>
Links made with other taxa / conservation work?	<p>Linked into work on other primary target taxa through the Ancients of the Future Project.</p>
Wider engagement & advocacy activities?	<ul style="list-style-type: none"> • Passive acoustic monitoring training was provided to volunteers from two sites. • Sound analysis training was provided to volunteers at one site. • Bats and Arbs (scoping survey) training was provided to arborists and land managers at Lanhydrock, Windsor and Knepp Estate. • Five Cross Taxa workshops were delivered online by the Ancients team during 2020
BftB results obtained:	
Recorded Distribution (in BftB focal areas)	<p>Yes - for sites surveyed. All nine sites recorded barbastelle activity (see above for more details)</p>
Species Recovery Curve progress made	<p>Yes - reached a score of 5. The score reflects that recovery solutions were trialled for other species and not specifically for barbastelle, even though there is a likelihood that these recovery solutions will be of benefit. However, management recommendations have been provided that would help to reduce species decline if implemented and has been articulated to the site owners/managers.</p>
Other measures of species recovery progress? e.g. FCS	<p>Recovery solutions were only recently trialled and were carried out for other species. They will take many years to establish, so we currently don't know if and how they benefit the barbastelle.</p> <p>In addition, many of the sites were monitored for one year only via passive acoustic survey, so further monitoring long term is needed in order to find out if the barbastelle is doing well following intervention and advice.</p>

Recommendations for future work:-	<p>The acoustic surveys provided a snapshot of activity from one night per deployment. If a better understanding of bat activity and the species using each site is required, further consecutive nights of passive acoustic monitoring are options to consider.</p> <p>BCT is developing new survey protocols using static detectors that are left onsite for a few nights, which requires minimal surveyor effort and little or no previous experience of bat monitoring. Passive Acoustic Surveys under NightWatch and the British Bat Survey will be rolled out during the summer of 2022 as part of the National Bat Monitoring Programme. As data from all nine sites were collected using a passive acoustic monitoring survey protocol, taking part in a monitoring scheme like the National Bat Monitoring Programme is recommended. Taking part long term will feed into a national dataset that is used to produce robust population trends.</p>
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