



REVISED PLAN MARCH 2022

BATS

1. INTRODUCTION

Eighteen species of bat are currently known in Britain, with fourteen of these recorded in Warwickshire. A rare species, *Alcathoe*, which cannot easily be identified using bat detectors alone, has a distribution that includes Warwickshire but has not been recorded here. Moreover, a new species of bat has been identified and/or discovered to be resident in Britain approximately once every decade.



Brandt's bat from south Warwickshire by Ian Tanner, EcoLine

All British bats have some affinity with native broad-leaved woodlands, where they also often roost, but can be found foraging in great numbers in association with partially wooded rivers and pools. Bats are also found in association with areas of mixed farming, especially where robust hedgerows occur, and can occur in good numbers within suburban areas. Species such as common pipistrelle, soprano pipistrelle and brown long-eared bats often establish maternity roosts in houses, and this occasionally causes conflicts with home owners as well as being a significant consideration for developers where the demolition or modification of existing building is required.

Declines in bat numbers are difficult to assess, however massive population losses in the past have been attributed to the use of oil-based timber treatment such as *Lindane*, which wiped out entire bat colonies roosting in buildings. In more recent times, climate change, habitat loss, insensitive forestry operations, changes to agricultural practices, an increasing reliance on the agricultural application of pesticides, the increase use of bright ambient lighting, sealing of gaps on houses to improve insulation, road building and improvement schemes and housing developments (especially where this is an outward expansion to an existing suburban area) have had significant impacts upon bat populations.



Barbastelle bat by Ian Tanner, EcoLine

Generally, bats enter full hibernation from December but go into torpor during cold periods when invertebrates would not be active at night due to weather conditions. If temperatures increase sufficiently during the winter months bats can come out of hibernation and may even be found foraging during the daytime. Bats will emerge from hibernation once their hibernation location reaches a daytime temperature of about 10°C. Females will emerge and seek to recolonise their chosen maternity roost, although this may at times include the use of transitional roosts where females congregate

before moving to a roost where they give birth. Males often return to hibernation sites or choose roosting sites that allow them to remain in torpor until foraging becomes more optimal.

Female bats can give birth throughout the spring and early summer but most produce young in May with juveniles being completely dependent upon the mother for approximately six to eight weeks. Dispersal from maternity roosts occurs from August to October, although woodland roosting species often move roosts even when they have dependent young.

The following species have been identified in the sub-region:

Common Pipistrelle	A common species that feeds in gardens, parks, woodland, open water and hedgerows. Roosts in tree holes and buildings. Widespread throughout the sub-region and the most abundant species associated with urban areas.
Soprano Pipistrelle	A common species that feeds in gardens, parks, woodland and hedgerows, especially near rivers and other water features. Roosts in tree holes and buildings. Roosts numbering several hundred animals are relatively common. Also regularly found in bat boxes including during the hibernation period.
Nathusius' Pipistrelle	A rare migrant that feeds in association with open water and woodlands and often found in and parks that contain lakes. Roosts in trees holes or cracks but mating roosts in buildings have been observed.
Brown Long-eared	A common species that feeds along woodland edge and mixed farmland with robust hedgerows and in association with suburban areas. Roosts in trees and buildings with large roof voids close to woodland. Often discovered roosting in buildings with large open roofs and mainly hibernates in below ground features.
Noctule	A widespread species that feeds above woodland, areas of open water, over meadows and parkland. Roosts almost exclusively in tree holes. One of the largest bats in the UK with characteristic narrow wings and fast flight.
Daubenton's	A widespread species often identified feeding over water. Roosts in trees and buildings (including bridges) near water and can be found hibernating in wide stone bridges, caves and cellars.
Whiskered	A widespread species that feeds mainly in woodland and in association with mixed farmland with robust hedgerows. Roosts in trees and buildings.
Brandt's	A species that may have a more southerly distribution than the whiskered bat that feeds mainly in woodland. Roosts in trees and buildings
Natterer's	A species of restricted distribution in the sub-region that feeds mainly in association with species rich grassland and over open water woodlands. Roosts in trees and buildings, especially in large joints in old timbers and is found hibernating in caves and cellars.

Leisler's	A species of restricted distribution that feeds in similar habitat to noctule. Roosts in tree holes and also in buildings. Has been found in bat boxes in Ryton Wood and Snitterfield Bushes.
Serotine	A species of restricted distribution that feeds in association with pasture and large areas of disturbed ground, often dropping to the ground to feed on beetles. Roosts in trees and frequently in buildings, especially under ridge tiles.
Barbastelle	A rare species that feeds and roosts in woodland, particularly old wood and behind loose bark, making it very susceptible to disturbance due to forestry operations.
Lesser horseshoe	A species of restricted distribution that feeds in association with woodland, near open water and species rich pasture and can be found feeding within tunnels and wide bridges. Once a cave dwelling species, now mostly roosts in buildings but can be found in caves, mines and cellars during hibernation.
Bechstein's	A rare woodland species with a southern distribution that extends up to the Bristol Channel. It has been found in the south-west of the county since 2017 in very low numbers.

The following species may also be present:

Alcathoe	A new species only identified in 2010 that appears to occupy the same habitat as Whiskered and Brandt's bats but is physically smaller than these species. A species that appears to be found throughout England, but records are too rare to provide assurances that they are likely to occur in Warwickshire.
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2.	OBJECTIVES	TARGETS
All the 'Habitat' Action Plans are relevant to bats		
PLEASE CONSULT THE ' GENERIC SPECIES ' ACTION PLAN IN CONJUNCTION WITH THIS DOCUMENT FOR OBJECTIVES COMMON TO ALL SPECIES PLANS		
A.	Maintain and restore feeding habitats and associated flight lines.	2030
B.	Increase population size and range by maintaining and increasing opportunities for maternity and hibernation roosts.	2030
C.	Monitor specific bat populations at key sites in Warwickshire, Coventry & Solihull to supplement data from the National Bat Monitoring Programme.	ongoing

3. NATIONAL BAP OBJECTIVES & TARGETS

Six of Warwickshire's bats are on the current [UK Biodiversity Action Plan \(BAP\) Priority Species list](#), published in 2007 by the Joint Nature Conservation Committee. BAPs for the following six species were updated in 2010:

- Barbastelle bat
- Bechstein's bat
- Brown long eared bat
- Lesser horseshoe bat
- Noctule bat
- Soprano pipistrelle bat

4. CURRENT STATUS

Historically, bats have undergone severe declines. In a survey conducted by the [London Bat Group](#) between 1978 and 1993 they estimated that the pipistrelle bat population (which covers three of the 18 species) had decreased by at least 70%. At present sufficient data are collected by the [National Bat Monitoring Programme](#) (NBMP, 2020) to produce population trends for 11 of Great Britain's 17 breeding bat species. Of these species, all are considered to have been stable or to have increased since the baseline year of monitoring, 1999 for most species. Currently there is inadequate data on the population levels of bats in Warwickshire and trends are difficult to monitor, although anecdotal evidence suggests a general decline.

Currently there is inadequate data on the population levels of bats in Warwickshire and trends are difficult to monitor. Also recording technology has changed in the last decade, with more use of auto ID by consultants meaning that species are over/under-recorded at different rates. Maps showing the distribution of species records are available on the [Warwickshire Bat Group website](#) although these cannot necessarily be used to make assumptions about the distribution and frequency of the species themselves.

4.1 Legal and Policy Status

A wide range of species and habitats are protected under international and domestic laws, including the [Wild Birds Directive](#) (1979), the [Wildlife and Countryside Act](#) (1981), the [Conservation Regulations](#) (1994) and [EC Habitats Directive](#) (1992). Protection of sites is afforded nationally through [Sites of Special Scientific Interest](#) (SSSI) designation, [Special Areas of Conservation](#) (SAC) and [Local Nature Reserve](#) (LNR) statutory status. Other sites are offered recognition of their value through Local Wildlife Site status (LWS), Local Character Areas and identified Landscape Scale Areas. The [National Planning Policy Framework](#) (2021) paragraph 180 states conditions with regard to any development negatively affecting biodiversity, including protected sites, ancient woodland and other irreplaceable habitats. The Wildlife & Countryside Act and schedule 2 of the [Conservation of Habitats & Species Regulations](#) (EU exit ,2019) make it an offence to intentionally kill, injure, take, possess, sell, buy or transport a range of species.

Bats are protected nationally by the Wildlife & Countryside Act and under Schedule 2 of the Conservation of Habitats & Species Regulations. Internationally there are several

obligations. Firstly, in the EC Habitats Directive all species are included in Annex IVa and lesser horseshoe, greater horseshoe, greater mouse-eared, Bechstein's and barbastelle are included in Annex II. The [Bern Convention](#) (1979) lists all UK species in Appendix III, and all except the pipistrelle are listed in Appendix II. All species are included in the [Convention on the Conservation of Migratory Species of Wild Animals](#) (Bonn, 1980) and the [Agreement on the Conservation of Bats in Europe](#) (London, 1991).

Locally, impact on bats within the planning system can be limited by activities in accordance with PPS9 (Planning Policy Statement: [Biodiversity and Geological Conservation 2005](#)) and its accompanying [Circular 06/05: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System](#).

[Natural England](#) (NE) is the lead body on implementation of the legal protection with respect to issuing protected species derogation licences and the Police are the lead body on investigating wildlife crime.

4.2 Current Factors Affecting the Species

Legislation exists to protect bats from most threats but lack of awareness and difficulties enforcing the legislation often leads to the consultation process being ignored. There are a range of alterations to buildings that have the potential to damage, disturb or destroy roosts but do not require planning permission so can be done without anyone knowing if damage is done. Forestry operations may be carried out without full consideration of legislation protecting bats. Recent studies suggest that extensive tree felling impacts upon rare and common bat species even when roosts occur at a distance of 200m from felling operations. It is the combination of these factors that appear to have led to such severe population declines. Threats include:

- **Loss of summer roosts** - e.g. roof repairs, cavity wall insulation, barn conversions, replacement of hanging tiles, replacement of fascia and barge boarding, felling or surgery to trees with holes and crevices; repairs to bridges, expansion of urban areas blocking routes from roosts on the urban fringe to open habitats.
- **Loss of hibernation sites** - e.g. blocking of caves and capping of mines, heating of cellars, destruction of structures and the expansion of urban areas blocking routes from roosts on the urban fringe to open habitats.
- **Loss of and degradation of foraging habitats** - e.g. changes in land use, loss of woodland, destruction of ponds, reduction and contamination of the insect population by insecticides, the dissection of the landscape through road construction, road improvement schemes, railways etc. and the clear felling and/or introduction of rotational copping to semi-natural high forest woodlands.
- **Loss of linear landscape features**, in particular hedgerow removal, which can isolate a colony from its main foraging habitat.
- **Use of harmful roofing products** – in the 1900s, the use of certain timber pesticides that were toxic to bats caused the death of whole colonies. In the early 21st C. the worst of these were banned. Natural England maintains a database of timber treatments that have been checked for safe use in and around roosts (see **section 9**). Latterly a material originally termed “breathable roofing membrane” was introduced as an alternative to bitumen-coated roofing felt. This material caused the death of bats in loft spaces due to entanglement and mummification in the long fibres. There is

ongoing work to establish whether any non-bitumen coated roofing materials are safe for bats.

- **Inappropriate and insensitive management and harvesting of semi-natural, high-forest, broad-leaf woodlands**, includes the destruction of tree roosts and the disruption to canopy flightpaths of bats, leading to the abandonment of roosts and foraging habitats.

5. LOCAL ACTION

- Regular surveying and monitoring is being developed. [Warwickshire Bat Group](#) (WBG), Coombe Country Park rangers and interested individuals contribute to the National Bat Monitoring Programme (co-ordinated by the [Bat Conservation Trust](#)) at a number of sites across the County.
- Public awareness and educational activities are undertaken to improve the understanding and tolerance of bats. Various groups including the Warwickshire Bat Group, Warwickshire Country Parks, Coombe Country Park, and [Warwickshire Wildlife Trust](#) (WWT) organise bat walks.
- A consultation system of NE, FC and WBG volunteers exists to protect threatened roosts and important foraging areas. In 2012 there were 36 Higher Level Stewardship agreements in Warwickshire having the Schwegler Bat Box options, giving a total of 839 boxes in all. This option no longer exists but the 2020 Countryside Stewardship Scheme offers the following options in Category 1: Improve nectar and pollen sources for insect pollinators, which have the potential to increase populations of insect prey for bats:
 - AB1: Nectar flower mix
 - AB8: flower rich margins and plots
 - GS4: Legume and herb rich swards
- [Warwick District Council](#) (WDC): all bat boxes are checked once a year for security but not monitored; boxes erected at Abbey Fields by WBG were last checked in 2018; no bats or droppings were found.
- WWT:
 - boxes at Brandon Marsh were monitored by the WBG until 2012; no monitoring has been carried out since then.
 - [Canal and Rivers Trust](#) (CRT) carries out flight surveys at Earlswood Lakes, a WWT reserve.
 - 10 bat boxes were erected in the Dunsmore (now Princethorpe) Living Landscape complex (2014). In 2016 7 bat boxes were erected by the [Tame Valley Wetland Scheme](#).
- WBG:
 - historically bat boxes were installed in two WWT reserves and Council-owned parks but maintenance and monitoring has been limited. In 2021 WBG bought 30 double-chambered wooden bat boxes and distributed them

to community groups in South Warwickshire. 17 styrocrete boxes were installed at Oakley Wood as part of a WDC compensation scheme.

- radio-tracking surveys in 2009-13 searched for the rare barbastelle bat in a south Warwickshire woodland in a joint effort with Warwickshire County Council and other partners to locate roost and maternity sites, commuting routes, foraging areas, and to encourage the protection and enhancement of these habitats. Boxes were installed. In 2012-3 commuting routes for barbastelle bats were mapped by radio tracking 11 individual bats around the only known roost in the county, to highlight areas for enhancement, also to discover more about key feeding areas and new roosts. Evidence of breeding in bat boxes, erected in 2009. Habitat enhancement includes additional bat boxes, creation of wildflower meadows and hedgerow planting. Maintenance, replacement and monitoring of the boxes have continued.
- bats and roadside mammal surveys were initiated in 2005 to obtain bat records across the county which involves driving slowly with a detector pointing out of the window to record any bats in range. A further 8 routes were driven in 2016.
- as part of the NBMP, WBG organises 2 surveys of two lesser horseshoe bat roosts each summer.
- in 2019-2021 WBG used static detectors, deployed mostly in the southern half of the county, to try to obtain verifiable records of serotine bats. Only one location was found to have serotines but a number of other valuable records were created.
- every year WBG members give talks and lead bat walks for local groups and organisations in order to increase public understanding of bats and encourage a more positive attitude to them.
- EcoLine Environmental:
 - a bat cave was constructed with assistance from Smiths Concrete using the old conveyor under an access track off Paget's Lane from Bubbenhall Wood into Bubbenhall Meadows between 2010-2012 comprised the installation of a wide mesh metal grille with lockable gate and letterbox opening, internal wood panelling, modified drainage/ventilation and the installation of bat boxes, which are annually monitored by EcoLine Environmental. During the winter 2018/19 at least five brown long-eared bats were recorded in hibernation. Further enhancements to the site proposed during 2019.
 - the Princethorpe Woodland Bat Project confirmed a growing population of Leisler's bat at Ryton Wood. From 2019 an expansion to the existing project (the installation of 50 boxes at Ryton Wood) will try to determine whether a possible decline in noctule bats can explain the increase in Leisler's bat or whether this is just due to historic misidentification of these species during bat detector surveys.
- The [Warwickshire Biological Record Centre](#) (WBRC) is responsible for maintenance of bat records database, with WBG offering verification where needed. The Barbastelle Project, using SITA Trust funding, has carried out landscape enhancement for barbastelle bats, including the erection of additional bespoke bat boxes, creation of 1ha of wildflower meadow and the addition of standard trees to existing hedgerows. The planting of 1.1km of hedges has created an improvement in connectivity (2014).

Warwickshire, Coventry and Solihull Local Biodiversity Action Plan

- [Championing for the Farmed Environment](#) (CFE) with the NE: in 2014 a bat event in South Warwickshire was an evening farm walk at Woodlands Farm, Long Compton,, looking at all sorts of different bat habitats including flower rich field margins (establishment and management).
- [Butterfly Conservation Warwickshire](#): plans for a bat cave at Newton under one of the five arches bridge still needs serious thought although someone to do the metal work has been found (Mike Slater, 2021).
- The [Local Wildlife Sites Project](#) reports the discovery of a small number of Bechstein's bats in woodland during survey work carried out by an ecological consultancy to inform a development in the Long Marston area 2019-2020.

6. PROPOSED LOCAL ACTIONS

ACTION	Lead	Partners	By
PLEASE CONSULT THE '<i>GENERIC SPECIES</i>' ACTION PLAN IN CONJUNCTION WITH THIS DOCUMENT FOR ACTIONS COMMON TO ALL SPECIES PLANS			
Policy, Legislation & Protection			
PL1. Continue the monitoring of planning applications, in particular to protect the 3 known populations of lesser horseshoe and barbastelle bats.	WCC	LAs NE WWT WBG	ongoing
PL2. Introduce the monitoring of felling licensing and consultation with the FC over possible breaches in wildlife legislation.	WCC	NE WWT FC WBG	ongoing
PL3. Negotiate for better assurances that monitoring of development mitigation and compensation measures continue once developments are completed.	WCC	NE WWT WBG	ongoing
PL4. Encourage the creation of bat hibernation sites as part of planning conditions and as a result of opportunistic modifications to existing structures.	WCC	NE WWT WBG	ongoing
PL5. Provide guidance on the appropriate mitigation for roost loss and the severing of flight paths due to housing development.	WCC	BCT WBG WWT NE	ongoing
Site / Species Safeguard & Management			
SM1. Respond to threats to roosts and important foraging habitat from planning applications by appropriate action, eg. the need for survey and appropriate mitigation.	WCC	NE LAs	ongoing
SM2. Maintain, enhance and restore landscape elements e.g. hedgerows, trees, to provide flight lines, especially in locations where barbastelle and lesser	NE	WWT WBG WCC WBRC	2025

ACTION	Lead	Partners	By
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horseshoe bat roosts occur, using agri-environment schemes.			
SM3. Work with local authorities to protect potential underground hibernation sites.	WBG	NE LAs WWT BCW	2025
Advisory			
A1. Liaise with landowners and managers to alert them to the importance of significant roosts, feeding areas and hibernacula. Ensure that advice is available on conservation management of roosts and foraging habitat around roosts.	WBG	NE WWT FC LAs	ongoing
A2. Provide guidance on favourable management of roosts and foraging habitats where needed.	NE	BCT WBG WWT	ongoing
A3. Provide guidance to landowners on the appropriate style and positioning of bat boxes as part of agri-environment schemes.	WBG	NE WWT	ongoing
A5. Promote and develop good practice in consultation with the building industry, tree surgeons, foresters, highway department, vets, pest control firms, including timber treatment and the use of least toxic chemicals.	BCT	WWT LAs FC NE WBG	ongoing
Research & Monitoring			
RM1. Continue the survey and monitoring of the existing local bat population for targeted species including Bechstein's, lesser horseshoe, barbastelle, Leisler's, serotine and Nathusius' pipistrelle,	WBG	WWT CRT WCC	ongoing
RM2. Identify potential roosts for targeted species.	WBG	NE WWT	ongoing
RM3. Identify and survey potential underground hibernation sites.	WBG	NE WWT	ongoing
RM4. Continue to monitor bat boxes at key sites in Warwickshire, Coventry & Solihull and contribute records to the WBRC.	WBG	WBRC	ongoing
Communication & Publicity			
CP1. Increase public awareness of bat ecology and conservation via the delivery of bat walks, bat talks and stands at public events.	WBG	WWT NE WCC	ongoing

ACTION	Lead	Partners	By
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CP2. Support training schemes for volunteer bat workers.	WBG	BCT NE	ongoing

Abbreviations: BCT – Bat Conservation Trust, BCW – Butterfly Conservation Warwickshire, FC – Forestry Commission, LA s– Local Authorities, NE – Natural England, WBG – Warwickshire Bat Group, WBRC – Warwickshire Biological Record Centre, WCC – Warwickshire County Council, WWT – Warwickshire Wildlife Trust.

7. PROGRESS WITH ACTIONS

Progress with the 2013 version of this plan was reported on in 2015 in a rolling programme of 10 action plans per year from 2015 – 2021, with an annual summary of results. Progress with this plan, up to 2015, can be seen at <https://www.warwickshirewildlifetrust.org.uk/LBAP>.

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9. FURTHER INFORMATION

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10. CONTACT

[Warwickshire Bat Group](#) - click on 'Contact us'