

Bat Emergence Survey Report

LOCATION: Top Park, Westmill Lane, Hitchin, SG5 3RN

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Contents

1. Introduction	1
1.1. Background	1
1.2. Survey objectives	1
2. Legal protection of bats	1
3. Methodology	2
3.1. Limitations and constraints	3
4. Results	3
4.1. Survey conditions	3
4.2. Emergence survey results	
- 29 th July 2025	3
5. Impact assessment and mitigation recommendations	5
6. Conclusions	6
7. References	7
8. Appendix 1 – Legislation and policy	8
9. Appendix 2 – Night Vision Aids (NVA) darkest points	10
10. Appendix 3 – Guidance on artificial light	11

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1. Introduction

1.1. Background

A planning application Ref. 25/00990/FPH has been submitted to North Herts District Council involving a single storey rear extension including raised roof height. Alterations to existing attached garage fenestration following removal of garage doors to facilitate garage conversion and insertion of dormer windows at first floor to north-east and south-west elevations. Entrance porch. External cladding and alterations to fenestration.

Bat Tree Surveys undertook a Preliminary Roost Assessment (PRA) of building on the site in June 2025. The dwelling was considered to possess a low number of features on the exterior that could be utilised by individual roosting bats. These included lifted roof tile and gaps under lead flashing around the chimney.¹

In accordance with current best practice guidelines², a minimum of one dusk emergence survey was recommended for the main dwelling to establish the presence or absence of roosting bats, determine the likely impacts of the development on bats, and the conservation importance of the site for the species.

1.2. Survey objectives

The aim of the survey was to identify potential constraints and opportunities relating to roosting bats associated with the planned development of the site. The objectives were to:

- Determine presence or likely absence of bat roosts within the buildings
- If present, determine the species, size, and nature of the roost
- Determine potential impacts of the development on the local bat populations within the area
- If necessary, recommend further surveys, mitigation, compensation, or enhancement measures and licencing requirements to inform the planning application for the proposed development at the site

2. Legal protection of bats

All UK bat species and their roosts are legally protected under European and UK legislation (Conservation of Habitats and Species Regulations 2017, and the Wildlife and Countryside Act (1981). Provisions of these regulations include making it an offence to

- Deliberately kill, injure or take (capture) bats;
- Deliberately disturb bats in a way that would
 - (i) be likely to impair their ability to survive, breed, or rear or nurture their young, or to hibernate or migrate
 - (ii) significantly affect the local distribution or abundance of the species to which they belong
- Damage or destroy a breeding or resting place used by bats
- Intentionally or recklessly obstruct access to any place used by bats for shelter or protection (even if bats are not in residence at the time)

¹Bat Tree Surveys. Preliminary Bat Roost Assessment, Top Park, Westmill Lane, Hitchin, SG5 3RN

²Collins, J. (ed.) (2024) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn.) Bat Conservation Trust, London.

In accordance with the Habitats Regulations Natural England must apply the three derogation tests as part of the process of considering a licence application. These tests are:

- The activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety
- There must be no satisfactory alternative
- The favourable conservation status of the species concerned must be maintained

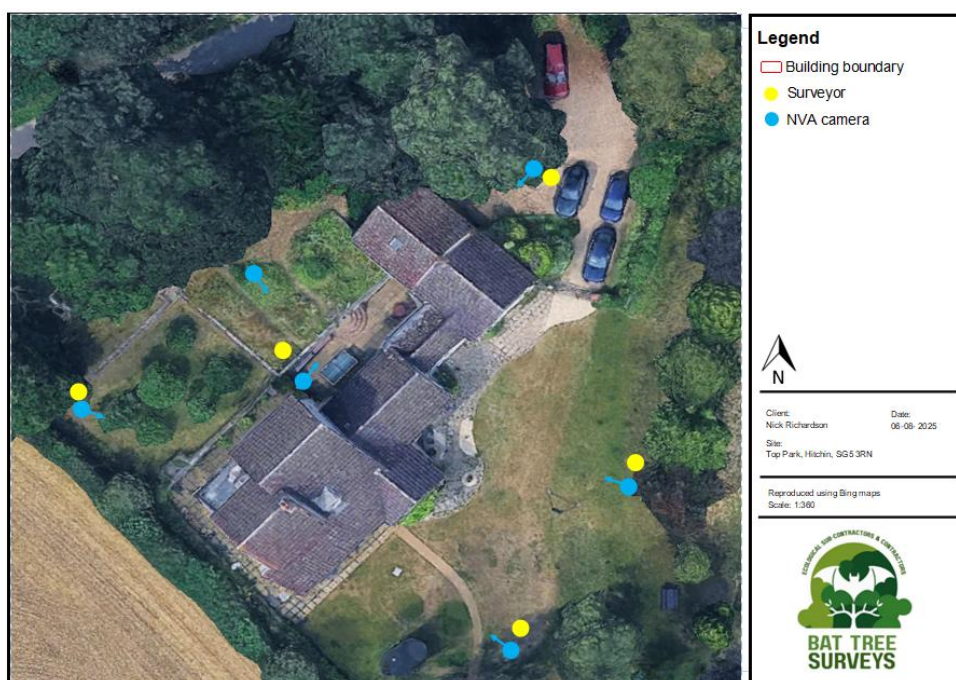
The results of this survey will assist in determining the need for a mitigation strategy to comply with UK law and wildlife legislation. Further details of legislation and legal protection of all British bat species are provided in Appendix 1.

3. Methodology

One bat emergence survey was undertaken on the 5th August by 5 experienced surveyors in accordance with methodology outlined by best practice guidelines². Surveyors were positioned to enable observation of all roosting features and access points identified in the initial scoping survey. One additional camera was used to ensure all elevations were covered. This along with all other footage was analysed to ensure no emergences were missed. Surveys were carried out 15 minutes before sunset until 90 minutes after.

All surveyors were equipped with an Echometer Touch 2, a Nightfox Whisker infrared camera, and Nightfox XB5 infrared torches. Surveyors recorded any bat activity or emergences/ re-entries at identified potential roosting entry/exit points. Species were identified by call frequencies using the full spectrum bat detectors. Following each survey, camera footage was systematically reviewed against bat registrations and from the point visibility was reduced due to darkness. This is to identify potential emergences of species such as the Brown long-eared bat (*Plecotus auritus*) who produce quiet echolocation calls. A map of surveyor positions during the surveys is shown in Figure 1 below.

Stills of the darkest point of the surveys taken from each infrared camera are shown in Appendix 2.



²Collins, J. (ed.) (2024) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn.) Bat Conservation Trust, London.

3.1. Limitations and constraints

The emergence surveys were undertaken during the period of peak bat emergence activity and in good weather conditions. The results are considered to be a good representation of bat roosting activity at the site at the time of the surveys.

However, it should be noted that surveys such as this provide a snapshot of bat roosting activity at the time of survey visits. Bat roosting patterns vary depending on weather conditions, breeding cycle, and levels of disturbance. Although the survey was carried out during the peak emergence period of May to September, bats can still roost in houses outside of this period. Important roosts such as maternity roosts will begin to form in late May and be occupied until approximately mid-August when they will begin to disperse.

4. Results

4.1. Survey conditions

Dates, times, and weather conditions for the survey are presented in Table 1 below.

Table 1: Survey timings and conditions

Date	Survey start/end time	Weather conditions (start)	Weather conditions (end)
5 th August 2025	Sunset: 20:43 Start time: 20:28 End time: 22:13	Temperature: 18°C Relative humidity: 53% 50% cloud cover Light air (Beaufort scale 1) and dry	Temperature: 14°C Relative humidity: 64% 50% cloud cover Light air (Beaufort scale 1) and dry

4.2. Emergence survey results

- 5th August 2025

No bats were recorded emerging or entering the building at any time during the survey. The first registration was a Soprano pipistrelle (*Pipistrellus pygmaeus*) (SP) heard not seen (HNS) at 20:54, 8 minutes after sunset. Bat activity was moderate throughout the survey to the front of the property with intermittent Common pipistrelles (*Pipistrellus pipistrellus*) both heard, not seen (HNS) and seen (S) by the surveyors on those elevations. There was occasional commuting with *Pipistrelles* sp. flying south-west to north-east as well as some foraging recorded at 21:20. The last registration was heard at and 22:09. Table 2 below summarises the results during the survey.

Table 2 Results of dusk emergence survey 29th July 2025

Time	Activity
20:54	1 x SP HNS
20:55	1 x SP Seen overhead
21:07	1 x SP seen foraging above head
21:08	1 x SP commuting overhead north-west to south-west
21:12	1 x CP seen overhead
21:13	1 x CP seen flying south-west to north-east
21:14	1 x CP seen foraging
21:16	1 x CP several passes

21:20	1 x CP foraging
21:26	1 x CP HNS
21:29	1 x CP HNS
21:37	1 x CP HNS
21:39	1 x CP HNS
21:41	1 x CP HNS
21:44	1 x CP HNS
21:45	1 x SP HNS
21:53	1 x CP HNS
21:57	1 x CP HNS
21:58	1 x CP HNS
22:02	1 x CP HNS
22:05	1 x CP HNS
22:06	1 x CP HNS
22:09	1 x CP HNS

5. Impact assessment and mitigation recommendations

The bat emergence surveys did not reveal any bat roosts within the building surveyed. General bat activity was moderate over the survey. Common pipistrelles and Soprano pipistrelles were the only species encountered. Occasional foraging and commuting was observed to the rear and side elevations of the house, with some, but less, activity recorded to the rear of the property. According to the National Biodiversity Network, there are records of six different species within a 5km radius of the site. The most recent record being from 2023. (NBN, 2025). There have been two protected species licences granted within 2km of the property. Both were *Pipistrellus* sp.

With the information available, since no bats emerged from the house and no signs of historic or recent use, the presence of roosting bats in the house is considered unlikely. Therefore, a Natural England mitigation licence is not required for the development to proceed and there are no current restrictions to the proposed works.

In the event a bat roost is discovered during the works, all works must be paused, and advice must be sought from Natural England or a suitably qualified and licenced bat ecologist.

To avoid disturbing commuting and foraging bats at the rear of the property, the proposed development should incorporate a lighting scheme in line with the Bat Conservation Trust guidelines (see Appendix 4). Bright lights can disrupt bat activity and cause them to deviate from normal flight routes (Stone *et al.* 2015). Bright lighting should be directed away from the rear garden at night to retain suitable commuting and foraging habitats for bats. Other recommendations for lighting include:

- Use of hoods or directional lighting to avoid light directed at the sky or adjacent commuting hedgerows
- Set any security lighting on short timers with sensitivity to large moving objects only
- Use low-UV warm white LED bulbs which low illumination when possible

Although not required to compensate for the loss of a bat roost, enhancement measures such as the installation of bat boxes or integrated roosting features would improve biodiversity at the site (see Figures 2 and 3). The Biodiversity and Geological Conservation: Circular 06/2005 provides guidance to the application of planning policies relating to nature conservation (ODPM, 2005) (key points summarised in Appendix 2). Suitable bat boxes include Schwegler 1FF or 2F boxes, installed on a suitable tree within the vicinity of the site or on the building itself.

As well as roosting provision, the planting of species which attract night flying insects is encouraged as this will be of value to foraging bats, for example: evening primrose *Oenothera biennis*, goldenrod *Solidago virgaurea*, honeysuckle *Lonicera periclymenum* and fleabane *Pulicaria dysenterica*.



Figure 2: Schwegler 2F and 1FF bat boxes. Constructed of 'woodcrete' (a mixture of cement and woodchip). Can be attached to trees or buildings



Figure 3: Integral bat roosting features including a bat access tile and a 2FR bat tube

6. Conclusions

No evidence of bat roosting was recorded during the visual inspection in June 2025 or during the dusk emergence survey in August 2025 at Top Park, Westmill Lane, Hitchin, SG5 3RN. There was a moderate level of bat activity recorded at the site during the dusk emergence survey; species encountered were Common and Soprano pipistrelle only. The desk study conducted by Bat Tree Surveys found there were 2 designated sites within 2km, Oughtonhead Lane SSSI and Oughtonhead Common LNR. There are just 2 granted EPS licences within 2km of the site.

It is likely the site holds low conservation value to bats, as such, a Natural England licence is not required to facilitate the development. No further survey effort is considered necessary provided the recommendations in this report are implemented and works begin within 12-24 months of the emergence survey date. If the works are to commence after this period, an updated survey effort may be required.

Works can proceed with caution and vigilance for the possibility of an unexpected bat roost. If bats are discovered, work must cease, and advice must be sought immediately.

Recommendations have been made to include the provision of roosting opportunities for bats to enhance the biodiversity of the site.

7. References

Bat Conservation Trust (2024). *Guidance Note 08/2023: Bats and Artificial Lighting at Night*. Institute of Lighting Professionals, Rugby.

Collins, J. (ed.) (2024) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edn). Bat Conservation Trust, London.

Miles, J., Ferguson, J., Smith, N. and Fox, H. (2018) *Bats and artificial lighting in the UK*. Bats and the Built Environment Series. Bat Conservation Trust and Institution of Lighting Professionals.

National Biodiversity Network (NBN) (2025) Available at:
<https://records.nbnatlas.org/explore/your-area#52.0277|-0.4754|12|Mammals>

ODPM (Office of The Deputy Prime Minister) (2005) *Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and Their Impact Within the Planning System*.

Reason, P.F. & Wray, S. (2023) *UK Bat Mitigation Guidelines: a guide to impact, assessment, mitigation and compensation for developments affecting bats*. CIEEM.

Stone, E.L., Harris, S. & Jones, G. (2015) 'Impacts of artificial lighting on bats: a review of challenges and solutions. *Mammal Biology*. 80, pp. 213-219.

8. Appendix 1 – Legislation and policy

Bats and their roosts receive legal protection under the Conservation of Habitats and Species Regulations 2017 (Habitats Regulations 2017) and the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019 (Habitats Regulations 2019). They receive further legal protection under the Wildlife and Countryside Act (WCA) 1981, as amended. This protection means that bats, and the places they use for shelter or protection, are capable of being a material consideration in the planning process.

Regulation 41 of the Habitats Regulations 2017, states that a person commits an offence if they:

- Deliberately capture, injure or kill a bat;
- Deliberately disturb bats;
- Damage or destroy a bat roost (breeding site or resting place).

Disturbance of animals includes any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong.

It is an offence under the Habitats Regulations 2017 for any person to have in his possession or control, to transport, to sell or exchange or to offer for sale, any live or dead bats, part of a bat or anything derived from bats, which has been unlawfully taken from the wild.

Changes have been made to parts of the Habitats Regulations 2017 so that they operate effectively from 1st January 2021. The changes are made by the Habitats Regulations 2019, which transfer functions from the European Commission to the appropriate authorities in England and Wales. All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant.

The obligations of a competent authority in the 2017 Regulations for the protection of species do not change. A competent authority is a public body, statutory undertaker, minister or department of government, or anyone holding public office.

Whilst broadly similar to the above legislation, the WCA 1981 (as amended) differs in the following ways:

- Section 9(1) of the WCA makes it an offence to *intentionally* kill, injure or take any protected species
- Section 9(4)(a) of the WCA makes it an offence to *intentionally or recklessly** damage or destroy, or obstruct access to, any structure or place which a protected species uses for shelter or protection
- Section 9(4)(b) of the WCA makes it an offence to *intentionally or recklessly** disturb any protected species while it is occupying a structure or place which it uses for shelter or protection.

*Reckless offences were added by the Countryside and Rights of Way (CROW) Act 2000.

As bats re-use the same roosts after periods of vacancy, legal opinion is that roosts are protected whether or not bats are present. The reader should refer to the original legislation for the definitive interpretation.

The following bat species are Species of Principal Importance for Nature Conservation in England: barbastelle bat *Barbastella barbastellus*, Bechstein's bat *Myotis bechsteinii*, noctule *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bat *Plecotus auritus*, greater horseshoe bat *Rhinolophus ferrumequinum* and lesser horseshoe bat *Rhinolophus hipposideros*. Species of Principal Importance for Nature Conservation in England are material considerations in the planning process. The list of species is derived from Section 41 list of the Natural Environmental and Rural Communities (NERC) Act 2006.

9. Appendix 2 – Night vision aids (NVA) darkest points

Stills taken on 5th August 2025







10. Appendix 3 – Guidance on artificial light

Bright external lighting can have a detrimental impact upon foraging and commuting bat flight paths, but more importantly can also cause bats to remain in their roosts for longer. Artificial lighting can also cause significant impacts to other nocturnal species, most notably moths and other nocturnal insects. It can also result in disruption of the circadian rhythms of birds, reducing their fitness.

Guidelines issued by the Bat Conservation Trust should be referred to when designing the lighting scheme. Note that lighting designs in very sensitive areas should be created with consultation from an ecologist and using up-to-date bat activity data where possible. The guidance contains techniques that can be used on all sites, whether a small domestic project or larger mixed-use, commercial or infrastructure development. Lighting design should be flexible and be able to fully consider the presence of protected species.

Where bat habitats and features are considered to be of lower importance or sensitivity to illumination, the need to provide lighting may outweigh the needs of bats. Consequently, a balance between a reduced lighting level appropriate to the ecological importance of each feature and species, and the lighting objectives for that area will need to be achieved. The following are techniques which have been successfully used on projects and are often used in combination for best results:

- Dark buffers, illuminance limits and zonation
- Sensitive site configuration, whereby the location, orientation and height of newly built structures and hard standing can have a considerable impact on light spill
- Consideration of the design of the light and fittings, whereby the spread of light is minimised ensuring that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required. Consideration should be given to the height of lighting columns. It should be noted that a lower mounting height is not always better. A lower mounting height can create more light-spill or require more columns. Column height should be carefully considered to balance task and mitigation measures. Consider no lighting solutions where possible such as white lining, good signage, and LED cats eyes. For example, light only high-risk stretches of roads, such as crossings and junctions, allowing headlights to provide any necessary illumination at other times
- Screening, whereby light spill can be successfully screened through soft landscaping and the installation of walls, fences and bunding
- Glazing treatments, whereby glazing should be restricted or redesigned wherever the ecologist and lighting professional determine there is a likely significant effect upon key bat habitat and features
- Creation of alternative valuable bat habitat on site, whereby additional or alternative bat flightpaths,
- Dimming and part-night lighting. Depending on the pattern of bat activity across the key features identified on site it may be appropriate for an element of on-site lighting to be controlled either diurnally, seasonally or according to human activity. A control management system can be used to dim (typically to 25% or less) or turn off groups of lights when not in use

The Bat Conservation Trust recommends the following specifications for lighting on developments to prevent disturbance:

- Lighting spectra: peak wavelength >550nm
- Colour temperature: <2700K (warm)
- Reduction in light intensity
- Minimal UV emitted
- Upward light ratio of 0% and good optical control.