

Bat Emergence Survey Report

Rose Cottage

High Street

Cuckfield

West Sussex, RH17 5EN

NGR: TQ30544 24972



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Sylvatica Ecology Ltd

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<i>Limitations and Liabilities</i>	3
1.0 SUMMARY	4
2.0 INTRODUCTION	5
<i>Aims and Objectives of this Study</i>	5
<i>Legal Status of Bats</i>	5
3.0 METHODOLOGY	6
<i>Lead Surveyor</i>	6
<i>Equipment Used</i>	6
<i>Survey Type</i>	7
4.0 RESULTS	8
<i>Survey Meta Data</i>	8
<i>Bat Survey Results</i>	8
5.0 DISCUSSION AND RECOMMENDATION	10
<i>Roost Categorisation</i>	10
<i>Impact Assessment</i>	11
<i>Mitigation Licencing</i>	11
6.0 REFERENCES	13
7.0 SUMMARY OF BAT ACTIVITY	14
8.0 CAMERA IMAGES	15
9.0 RECOMMENDED BAT BOXES	16

Limitations and Liabilities

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It should be borne in mind that the behaviour of animals can be unpredictable and may not conform to standard patterns recorded in scientific literature. Therefore, this report cannot predict with absolute certainty that animal species will occur in apparently suitable locations or habitats, or that they will not occur in locations or habitats that appear unsuitable.

In order to minimise the likelihood of adverse effects on protected animal species over time, it is accepted good practice, in accordance with Natural England (NE) (formerly English Nature) guidance for ecological surveys to be repeated should works be deferred for over 12 months from the date of initial survey.

It is the duty of the landowner, developer and operations managers to act responsibly and to comply with current environmental legislation if protected species are suspected or found prior to, or during works.

The recommendations and information contained within this report are based on the information provided on the development works prior to the surveys being carried out. Should the development proposals change then the findings and recommendations contained within would potentially require revision.

The findings within this report do not constitute legal advice. Should this be required, then a suitably qualified professional practitioner should be contacted.

Author	Signed	Contact
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1.0 SUMMARY

- 1.1 This report presents the findings of three bat emergence surveys carried out at Rose Cottage, High Street, Cuckfield, West Sussex, RH17 5EN, centered on NGR: TQ30544 24972. Works are proposed on the main building present at this location, which would involve the removal and replacement of the roof.
- 1.2 The survey work used the guidance detailed within Bat Surveys Guidelines for Professional Ecologists – Good Practice Guidelines (BCT 2023a) and the Interim Guidance Note on Surveys and Night Vision Equipment (BCT 2022) as the basis to the survey methodology.
- 1.3 A maximum of two common pipistrelle bats were observed emerging from under the hanging tiles on the southern face of the building and a maximum of one brown long eared bat being observed emerging and re-entering to and from under the eaves on the southeastern corner of the building. Both of these roosts were close to the eaves of the buildings, notably the brown long eared roost, which was likely to be within the roof void with egress and ingress *via* the eaves.
- 1.4 Removal of the roof tiles is likely to cause a disturbance of the brown long eared day roost and disturbance of the common pipistrelle day roost through the action of noise and vibration. Therefore, licence from natural England is required.
- 1.5 Without mitigation, any impact is likely to be permanent and would result in both the disturbance and likely destruction of the brown long eared roost and disturbance of the common pipistrelle roost. These carried out without licence would constitute an offence under the Wildlife and Countryside Act (1981).
- 1.6 Removal of the roof will cause the disturbance of the brown long eared roost, which is likely to resided in the roof void and likely to cause a disturbance of the common pipistrelle roost due to the proximity to the roof, notably if scaffolding is installed – potentially blocking access to this roost. In the absence of any licencing and mitigation, disturbance, damage and destruction of this roost would constitute a crime under the Wildlife and Countryside Act 1981, which in this case, the recommended licence would be the Low Impact Class Licence.

2.0 INTRODUCTION

Aims and Objectives of this Study

- 2.1 This report presents the findings of three bat emergence surveys carried out at Rose Cottage, High Street, Cuckfield, West Sussex, RH17 5EN, centered on NGR: TQ30544 24972. Works are proposed on the main building present at this location, which would involve the removal and replacement of the roof.

2.2 **Figure 1: Site Location in Wider Landscape**



Legal Status of Bats

- 2.3 The potential presence of bat roosts within a proposed development site has to be considered as all eighteen of the UK's bat species are protected under Section 9 of the Wildlife and Countryside Act (WCA) 1981 (as amended). The WCA states that '*a person is guilty of an offence if intentionally or recklessly they disturb [a bat] while it is occupying a structure or place which it uses for shelter or protection; or he obstructs access to any structure or place which [a bat] uses for shelter or protection*'.

- 2.4 Bats are also protected under the Conservation of Habitats and Species Regulations 2017. Bats are listed as European protected species under which it is an offence if;
- *a person deliberately captures, injures or kills any wild animal of a European protected species;*
 - *deliberately disturbs wild animals of any such species;*
 - *damages or destroys a breeding site or resting place of such an animal.*
- 2.5 Disturbances of animals include in particular any disturbance which is likely to impair their ability to;
- *survive, breed or reproduce, or to rear or nurture their young;*
 - *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.*

3.0 METHODOLOGY

- 3.1 The survey work used the guidance detailed within Bat Surveys Guidelines for Professional Ecologists – Good Practice Guidelines (BCT 2023a) and the Interim Guidance Note on Surveys and Night Vision Equipment (BCT 2022) as the basis to the survey methodology.

Lead Surveyor

- 3.2 The survey work and reporting has been led by Richard Law BSc MRes CEnv MCIEEM FLS. Richard has been undertaking ecological survey work within the last 18 years on many different locations throughout the United Kingdom, for a variety of protected species, including bats (Class 2 2015-12576), reptiles, amphibians including great crested newt (*Triturus cristatus*) (Class 1 2016-20290) and terrestrial mammals including dormice (*Muscardinus avellanarius*) (Class 1 2015-13188) and birds including barn owl (*Tyto alba*) licence (CL29/00236). Richard is also qualified in track and sign and trailing *via* an international system of assessment (www.tracker certification.com).

Equipment Used

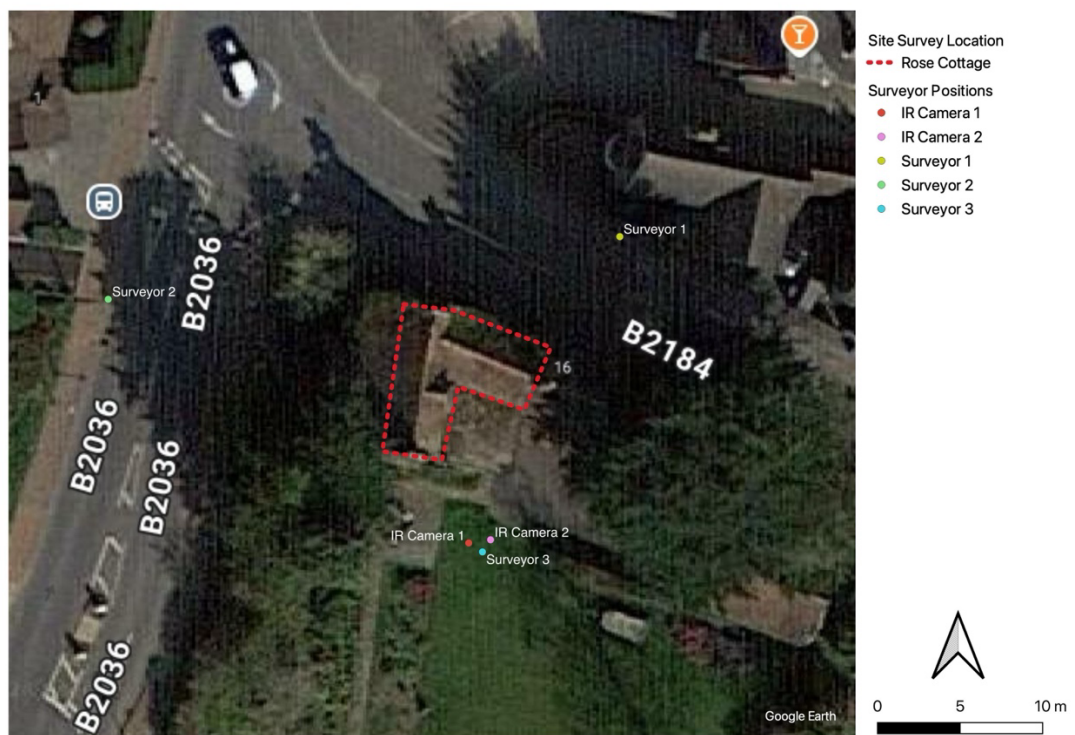
- 3.3 Echometer Pro 2 bat detector with iPad processor unit and Bat Box Duet detectors were used to detect bat echolocation. A mixture of night vision equipment was used including: Sionyx Aurora IR camera, a Pulsar Axion 30S thermal imaging camera and a set of Yukon Tracker night vision binoculars. Calls were analysed, when required, identifying species following Russ (2021).
- 3.4 The night vision observation equipment gave a view of the features of the building surveyed that was not possible with the naked eye, enabling effective observation to continue in the dark. The cameras were installed on tripods, which enabled the surveyor to work normally without having to hold the

camera steady. The Axion 30S enables a live feed to be viewed and recorded directly through a suitable tablet, which in this incidence was an iPad Pro. The Sionyx Aurora IR camera provide a wide angled view which is also recorded and fixed throughout the survey. The Yukon Tracker night vision are also head mounted, enabling handing free usage. All recorded footage is then reviewed following the survey

Survey Type

- 3.5 Emergence survey is undertaken to observe bats emerging from roost. In addition to observation, night vision and thermal imaging equipment was used to ensure that features can be effectively viewed in the dark and that any footage can be reviewed following the survey.

3.6 ***Figure 2: Surveyor Locations***



4.0 RESULTS

- 4.1 This section provides an account of the results from inspections and surveys carried out on the building. These findings will inform any further recommendations outlined within this report.

Survey Meta Data

- 4.2 **Table 1: Timings and Weather Conditions**

Date	Sunset/ Sunrise	Survey Start and End	Temp	Rain	Wind Speed (Beaufort Scale) and direction
31 st July 2024	20:51	20:30 to 22:30	24°C	None	Still
22 nd August 2024	20:07	19:40 to 21:40	21°C	Light showers during survey	SW (3)
16 th September 2024	19:15	18:45 to 20:45	16°C	None	S (2)

- 4.3 The bat surveys were conducted during the main activity season, with two surveys encompassing the maternity season (May to August). There were light showers during the second survey, but these do not appear to have affected the results of the surveys.

Bat Survey Results

- 4.4 **Table 2: 31st July 2024 – Emergence Survey**

Time	Species	Passes	Activity and Location
21:10	C.pip	1	Brief pass. Heard not seen
21:12	Noc	2	2 Bats commuting overhead, heading north.
21:20	C.pip	1	Brief pass. Heard not seen
21:36	C.pip	1	Brief pass. Heard not seen
21:39 – 22:08	C.pip	>50	Foraging activity around southern garden
21:40	S.pip	1	Brief call heard to the west of property. Heard not seen
21:44	S.pip	1	Call to the north of property. Heard not seen
21:56	C.pip	1	Brief pass. Heard not seen.
22:14	BLE	2	Commuting pass across southern garden
22:28	S.pip	1	Commuting pass across southern garden
C.pip = Common Pipistrelle (<i>Pipistrellus pipistrellus</i>) Noc = Noctule (<i>Nyctalus noctula</i>) S.pip = Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>) BLE = Brown Long Eared Bat (<i>Plecotus auritus</i>)			

- 4.5 No bats were observed emerging from the building during this survey. Foraging and commuting activity of common pipistrelle and soprano pipistrelle were observed, with a concentration of activity over the garden to the south. A single noctule commuting pass was also observed with two successive passes of brown long eared bat recorded.

4.6 **Table 3: 22nd August 2024 – Emergence Survey**

Time	Species	Passes	Activity and Location
20:18	Ser	1	Commuting pass from the east, heading west. Flying at 1.0m in height.
20:26	C.pip	1	Emergence from under hanging tile on southern face
20:48 – 21:40	BLE	Multiple	Repeated emergence and then re-entry within the hanging tiles on the southeastern face wall, located just below the roof ridge.
21:04 – 21:40	C.pip	>20	Foraging passes within the southern garden.
Ser = Serotine (<i>Eptesicus serotinus</i>) C.pip = Common Pipistrelle (<i>Pipistrellus pipistrellus</i>) BLE = Brown Long Eared Bat (<i>Plecotus auritus</i>)			

- 4.7 A brown long eared bat was observed emerging from the southeastern face of the building, with repeated cycles of emergence and re-entry throughout the survey. A single common pipistrelle was also observed emerging from under the hanging tiles on the southern face, just prior. Common pipistrelle foraging activity was observed around the southern garden. A single serotine commuting pass, flying low to the ground, was observed at the start of the survey.

4.8 **Table 4: 16th September 2024 – Emergence Survey**

Time	Species	Passes	Activity and Location
19:26	C.pip	2	Emergence from under hanging tile on southern face
19:39	C.pip	1	Foraging pass. Heard not seen
19:48	BLE	1	Brief call. Heard not seen
19:49 – 20:45	C.pip	>50	Multiple foraging passes around the southern garden
19:50	S.pip	1	Brief pass. Heard not seen.
C.pip = Common Pipistrelle (<i>Pipistrellus pipistrellus</i>) BLE = Brown Long Eared Bat (<i>Plecotus auritus</i>)			

- 4.9 Two common pipistrelle were observed emerging from under a hanging tile on the southern face of the building, early into the survey. Foraging activity of common pipistrelle was observed around the southern garden, with brief passes of soprano pipistrelle and brown long eared bat recorded.

5.0 DISCUSSION AND RECOMMENDATION

- 5.1 A maximum of two common pipistrelle bats were observed emerging from under the hanging tiles on the southern face of the building and a maximum of one brown long eared bat was observed emerging and re-entering to and from under the eaves on the southeastern corner of the building. Both of these roosts were close to the eaves of the buildings, notably the brown long eared roost, which was likely to be within the roof void with egress and ingress via the eaves.

Roost Categorisation

- 5.2 **Table 5: Roost Type Definitions (BCT 2023a)**

Roost Type	Naturel England Definition
Day Roost	A place where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in the summer
Night Roost	A place where bats rest or shelter in the night but are rarely found in the day. May be used by a single individual on occasion or it could be used by the whole colony
Feeding Roost	A place where individual bats or a few individuals rest or feed during the night but are rarely present by day
Transitional/ Occasional Roost	Used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation.
Swarming Site	Where large numbers of males and females gather during later summer to autumn. Appear to be important mating sites.
Mating Sites	Where mating takes place from late summer and can continue through winter
Maternity Roost	Where female bats give birth and raise their young to independence
Hibernation Roost	Where bats may be found individually or together during winter. They have a constant cool temperature and high humidity
Satellite Roost	An alternative roost found in close proximity to the main nursery colony used by a few individual breeding females to small groups of breeding females throughout the breeding season.

- 5.3 A maximum count of two common pipistrelle bats were present in a single roost and a maximum count of one brown long eared observed. The number of bats present and the time of year that these roosts were observed indicates that these is highly unlikely to be maternity colonies of these species, but more likely to be day roost. This is indicative of these being roosts of relatively low conservation significance.

Impact Assessment

- 5.4 Removal of the roof tiles is likely to cause a disturbance of the brown long eared day roost and disturbance of the common pipistrelle day roost through the action of noise and vibration. Therefore, licence from Natural England is required.
- 5.5 Without mitigation, any impact is likely to be permanent and would result in both the disturbance and likely destruction of the brown long eared roost. These carried out without licence would constitute an offence under the Wildlife and Countryside Act (1981).

Mitigation Licencing

- 5.6 This licence would require the production of a method statement of works, which would include measures such as hand removal of the roof tiles and any cladding under the supervision of a licenced ecological consultant and the use of bitumen felt, rather than a semi-breathable membrane, under any tiles, so to avoid causing injury or death to bats through entanglement.
- 5.7 Avoidance is always the preferable course of action. If this can't be achieved, then replacement roosts would be required during the works, which would comprise of bat boxes installed on adjacent trees or buildings. Access into the roof void would also need to be maintained, notably for the brown long eared bat. This would be achieved, by the use, of an access tile, to permit ingress into the roof void. Temporary replacement of the common pipistrelle roost would also be required, which would take the form of a bat box installed on adjacent trees or structure, and this roost then re-instated on completion of the works, if the hanging tiles are to be removed and replaced.
- 5.8 To account for the foraging activity of bat species within the local area any lighting installed at the property will conform to the specifications which are outlined within BCT Guidance Note (2023b). This will reduce any light pollution would have on nocturnal activity of fauna, namely bat species, some of which are extremely sensitive to light pollution. Light spill into adjacent habitats will be reduced and avoided by the following:

- All luminaries will lack UV elements; metal halide and fluorescent sources will be avoided,
- A warm white light spectrum on external lighting will be adopted (<2700kelvin) to reduce the blue light component
- LED luminaries will be used where a sharp cut off is required to avoid light spill into adjacent habitat
- External luminaries will feature wavelengths higher than 550nm to avoid the component of light most disturbing to bats
- Column heights of external lighting will be limited

- Luminaries will be mounted on the horizontal plane, with no upwards tilt
- Security lighting will be set on motion sensors and on short timers (<1min)

Summary

5.9 Removal of the roof will cause the disturbance of the brown long eared roost, which is likely to resided in the roof void and likely to cause a disturbance of the common pipistrelle roost due to the proximity to the roof, notably if scaffolding is installed – potentially blocking access to this roost. In the absence of any licencing and mitigation, disturbance, damage and destruction of this roost would constitute a crime under the Wildlife and Countryside Act 1981, which in this case, the recommended licence would be the Low Impact Class Licence.

6.0 REFERENCES

BCT (2022) Interim Guidance: Use of night vision aids for bat emergence surveys and further comment on dawn surveys

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7.0 SUMMARY OF BAT ACTIVITY



8.0 CAMERA IMAGES

Plate 1: Common Pipistrelle Emergence



Plate 2: Brown Long Eared Bat Emergence



9.0 RECOMMENDED BAT BOXES

Schwegler General Purpose Bat Box



Bat Access Tile Set



Images from NHBS.com